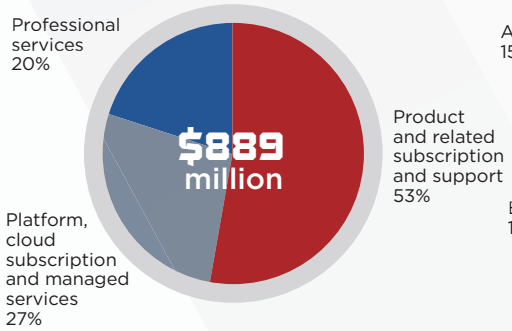
FIREEYE™

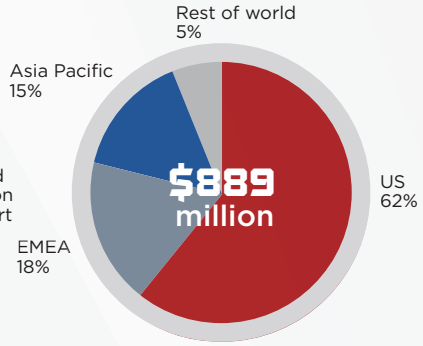
ANNUAL REPORT 2019

2019 HIGHLIGHTS

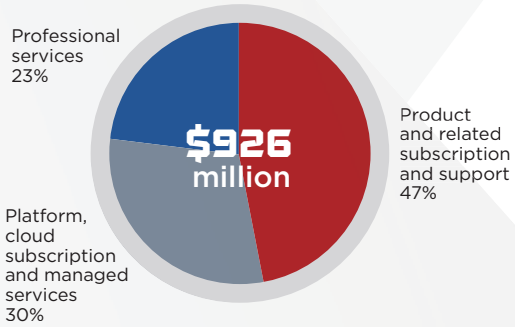
REVENUE BY CATEGORY



REVENUE BY REGION



BILLINGS[1] BY CATEGORY



SELECTED FINANCIAL DATA

Dollars in thousands	2017[2]	2018	2019
Revenue	**$779,648**	**$830,950**	**$889,152**
Billings[1]	**$761,999**	**$855,678**	**$926,141**
Deferred revenue	**$910,100**	**$934,828**	**$974,566**
Cash, cash equivalents and short term investments	**$896,802**	**$1,116,520**	**$1,039,558**
Cash flow from operations	**$17,640**	**$17,381**	**$67,537**
Total assets	**$2,458,837**	**$2,696,078**	**$2,890,486**
Total stockholders' equity	**$632,216**	**$650,394**	**$701,666**

Forward-looking statements

The letter to stockholders contains forward-looking statements, including statements related to expectations and beliefs regarding plans, expected growth, innovations, and the security market. These forward-looking statements involve risks and uncertainties, as well as assumptions which, if they do not fully materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. The risks and uncertainties that could cause such results to differ materially from those expressed or implied by such forward-looking statements include customer demand and adoption of FireEye's offerings; real or perceived defects, errors or vulnerabilities in FireEye's offerings; FireEye's ability to react to trends and challenges in its business and the markets in which it operates; FireEye's ability to anticipate market needs or develop new or enhanced offerings to meet those needs; FireEye's ability to hire and retain critical executives and key employees; and general economic conditions; as well as those risks and uncertainties included under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in FireEye's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 21, 2020, which is available on the Investor Relations section of the company's website at investors.FireEye.com and on the SEC website at www.sec.gov. All forward-looking statements in the letter are based on information available to FireEye as of the date hereof, and FireEye does not assume any obligation to update the forward-looking statements provided to reflect events that occur or circumstances that exist after the date on which they were made.

[1] Billings are a non-GAAP metric mathematically equivalent to revenue plus the change in deferred revenue less deferred revenue assumed. A reconciliation of billings to revenue can be found in the Key Business Metrics section of Management's Discussion and Analysis of Financial Condition and Results of Operations on page 62 of the Annual Report in this publication.

[2] FireEye adopted Accounting Standards Update 2014-09, Revenue from Contracts with Customers (Topic 606), effective January 1, 2018, using the full retrospective method. Certain prior period amounts have been adjusted as a result of adoption of the new standard.

To Our Stockholders

In 2019, we delivered record revenue, billings and operating cash flow as we accelerated our transformation to a comprehensive security solutions company. Revenue increased seven percent from 2018 to $889 million and billings increased eight percent from 2018 to $926 million. We were profitable on a non-GAAP basis for the second consecutive year, and we generated $68 million in cash flow from operations. Our balance sheet remained strong, with over $1 billion in cash, cash equivalents, and short-term investments and total deferred revenue of $975 million at 2019 year-end.

2019 marked a turning point in our multi-year transformation. Combined billings for our platform, cloud-based security solutions, managed services and strategic security consulting services increased 22% from 2018 and contributed more than half of our annual billings for the first time in our history. In late May, we acquired Verodin, an innovator and industry leader in security validation and attack simulation software. The Verodin solution complements our Helix platform, threat intelligence offerings, and consulting services, and extends our ability to operationalize our industry-leading threat intelligence and security expertise.

As worldwide events continue to unfold in 2020, I believe the need for effective and efficient cyber security will be greater than ever. The accelerated adoption of cloud-based platforms for communications and collaboration, including employees working from home during the coronavirus (COVID-19) pandemic, is changing the way many organizations work. In addition, cyber attackers have not shown signs of slowing down, while economic stress has driven management teams and boards of directors to more heavily scrutinize their organizations' spending on security controls.

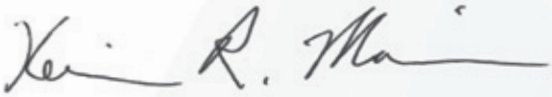
I believe FireEye is uniquely positioned to succeed in this environment. Our strategic advantage lies in our ability to continuously adapt our security-as-a-service model as the threat environment changes. We know from our incident response engagements that breached organizations are often retargeted by the same attackers again within a year. This tells us the market needs an evidence-based model that continuously validates security controls against new threats in customers' actual production environments. We are focusing our resources on this need, and by doing so, I believe we will be able to deliver growth consistent with industry leadership.[1]

Our mission to relentlessly protect our customers remains unchanged, and our objectives are clear:

1. First, be the best in the world at incident response, red teaming and threat intelligence. We intend to continue leading our industry in services and threat intelligence to ensure we know more about cyber attacks than any other company in our industry.
2. Second, continue to extend our dynamic threat detection and expertise to defend cloud-based infrastructures.
3. Third, deliver our expertise-on-demand seamlessly through our technology, making our experts available at the exact point in time when our customers need them most.
4. And finally, become the best in the world at security validation. The Verodin platform operationalizes our threat intelligence and expertise to help customers measure and test their security effectiveness. Only through a process of attack, measure, fix, and repeat can customers validate the continued effectiveness of their security controls, and FireEye intends to make this process simple, continuous, and commonplace.

I am excited for FireEye and look forward to reporting on our progress next year. On behalf of everyone at FireEye, thank you for your continued support.

Sincerely,



Kevin R. Mandia
Chief Executive Officer

[1] Cautionary statement regarding forward looking statements in this letter can be found on the inside front cover of this publication.

FIREEYE™

2020

PROXY STATEMENT

FIREEYE, INC.
601 McCarthy Blvd.
Milpitas, California 95035

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held at 2:00 p.m. Pacific Time on Thursday, May 28, 2020

Dear FireEye Stockholder:

You are cordially invited to attend the 2020 annual meeting of stockholders (the "Annual Meeting") of FireEye, Inc., a Delaware corporation ("FireEye"). The Annual Meeting will be held on **Thursday, May 28, 2020 at 2:00 p.m. Pacific Time**, at 601 McCarthy Blvd., Milpitas, California 95035, for the following purposes, as more fully described in the accompanying proxy statement:

1. To elect two Class I directors to serve until the 2023 annual meeting of stockholders and until their successors are elected and qualified;

2. To ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2020;

3. To conduct an advisory vote to approve the compensation of our named executive officers for our fiscal year ended December 31, 2019, as described in the proxy statement; and

4. To transact such other business as may properly come before the Annual Meeting or any adjournments or postponements thereof.

Our board of directors has fixed the close of business on March 30, 2020 as the record date for the Annual Meeting. Only stockholders of record on March 30, 2020 are entitled to notice of and to vote at the Annual Meeting. Further information regarding voting rights and the matters to be voted upon is presented in the accompanying proxy statement.

On or about April 13, 2020, we expect to mail to our stockholders a Notice of Internet Availability of Proxy Materials (the "Notice") containing instructions on how to access our proxy statement and our annual report. The Notice provides instructions on how to vote via the Internet or by telephone and includes instructions on how to receive a paper copy of our proxy materials by mail. The accompanying proxy statement and our annual report can be accessed directly at the Internet address listed on the Notice.

We currently intend to hold the Annual Meeting in person. However, depending on developments with respect to the coronavirus (COVID-19) pandemic, we might hold the Annual Meeting virtually on the above date and time instead of in person. If we determine that a change to a virtual meeting format is advisable or required, an announcement of such change will be made through a press release and on our Investor Relations website at investors.fireeye.com as promptly as practicable. We encourage you to check this website one week prior to the meeting date if you are planning to attend the Annual Meeting.

YOUR VOTE IS IMPORTANT. Whether or not you plan to attend the Annual Meeting, we urge you to submit your vote via the Internet, telephone or mail as soon as possible so that your shares can be voted at the Annual Meeting in accordance with your instructions.

Thank you for your continued support of FireEye.

By order of the Board of Directors,

Kevin R. Mandia
Chief Executive Officer

Milpitas, California
April 13, 2020

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PROXY SUMMARY

YOUR VOTE IS IMPORTANT

This proxy summary highlights information contained within this proxy statement. You should read the entire proxy statement carefully and consider all information before voting. Page references are supplied to help you find further, more detailed information within the proxy statement.

VOTE RECOMMENDATIONS AND RATIONALE

Voting Matter	Board Vote Recommendation
Proposal #1: Election of Class I Directors (page 27) Our Board of Directors and our Nominating and Corporate Governance Committee believe the two director nominees possess the skills and experience to effectively monitor performance, provide oversight, and advise management on our long-term business strategy.	FOR
Proposal #2: Ratification of Appointment of Independent Registered Public Accounting Firm (page 28) Our Board of Directors and our Audit Committee believe that the continued retention of Deloitte & Touche LLP for the fiscal year ending December 31, 2020 is in the best interests of the Company and its stockholders. Although not required by our bylaws, stockholders are asked to ratify the appointment of Deloitte & Touche LLP as a matter of good corporate governance.	FOR
Proposal #3: Advisory Vote to Approve Named Executive Officer Compensation (page 30) Our 2019 executive compensation program demonstrates the continued evolution of our "pay for performance" philosophy, and reflects industry standards and the intense competition for executive talent in the San Francisco Bay Area. The changes we have made to our executive compensation program reflect feedback received through our ongoing stockholder outreach and investor communications programs.	FOR

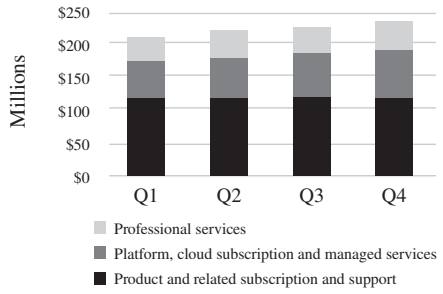
FISCAL 2019 BUSINESS HIGHLIGHTS

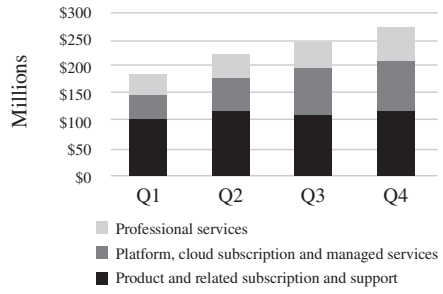
In 2019, we continued our evolution from a pioneer in advanced security products to a leading provider of a comprehensive security operations platform that blends our innovative technologies, threat intelligence, and expertise gained on the front lines of cyber conflict. During the year, we delivered innovations across our portfolio of products and solutions while continuing to deliver growth and improved operating performance. Revenue from our Platform, Cloud Subscription and Managed Services solutions accelerated through the year. Our services business, including our Mandiant incident response, red team engagements and strategic cyber security assessment services, also remained strong. In May 2019, we acquired Verodin, Inc., a leading provider of security validation and attack simulation software. The Verodin platform operationalizes our threat intelligence and expertise to help customers measure and test their security effectiveness. We believe this offering will be an important growth driver for our business in 2020 and beyond.

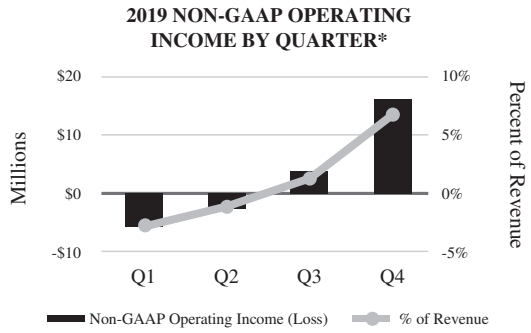
Highlights of our 2019 financial performance included:

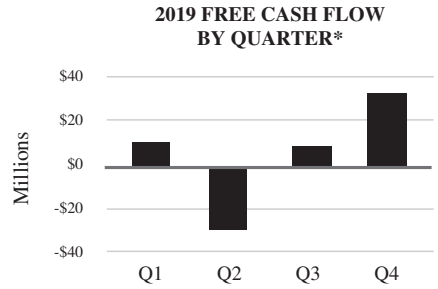
- Revenue was $889 million, an increase of 7% compared to 2018. Revenue from our Platform, cloud subscription and managed services category increased 28% from 2018 and accounted for 27% of our revenue in 2019. Revenue from professional services increased 26% from 2018 and accounted for 20% of our revenue in 2019. Our Product and related subscription and support revenue decreased 6% from 2018 and accounted for 53% of our revenue in 2019, compared to 60% of our revenue in 2018. The decline in our Product and related subscription and support category reflects a decrease in appliance hardware sales as customers migrated to virtual and cloud-based solutions.
- Billings were $926 million, an increase of 8% compared to 2018.* Billings from our Platform, cloud subscription, and managed services category increased 16% from 2018 and accounted for 30% of our billings in 2019. Billings for Professional services increased 31% from 2018 and accounted for 23% of our billings in 2019. Product and related subscription and support billings decreased 4% from 2018 and accounted for 47% of our billings in 2019, compared to 53% of our billings in 2018. Combined billings from our Platform, cloud subscription and managed services category and Professional services eclipsed billings from Product and related subscription and support for the first time in 2019 as we continued to transform our business.
- Annual recurring revenue ("ARR") was $587 million at the end of 2019, an increase of 6% compared to the end of 2018. ARR for our Platform, cloud subscription and managed services category increased 31% from the end of 2018 to $280 million at the end of 2019.
- Non-GAAP operating income was $12 million, compared to $24 million in 2018. Although non-GAAP operating profit for the year declined compared to 2018 due to higher investments in our platform and cloud subscription offerings, as well as our migration to public cloud hosting platforms, our profitability improved through the year. Fourth quarter non-GAAP operating income increased 43% from the fourth quarter of 2018 to a record $17 million.*
- Cash flow generated by operations was $68 million, compared to cash flow generated by operations of $17 million in 2018. Free cash flow (a non-GAAP metric calculated as cash flow generated by operations less capital expenditures) was $22 million, compared to $10 million in 2018.*

In 2019, we achieved top-line growth for revenue and billings, achieved positive non-GAAP operating profitability and generated positive free cash flow for the full year. The charts below illustrate our quarterly performance in 2019 against these key performance metrics.









* Billings, non-GAAP operating income and free cash flow are non-GAAP financial measures. A reconciliation of GAAP to non-GAAP financial measures is provided in Annex A included at the end of this proxy statement.

CORPORATE GOVERNANCE

We believe that strong corporate governance strengthens board and management accountability, leads to better business performance and aligns the long-term interests of our management team with our stakeholders, including our stockholders, our customers and our employees. We adopted numerous corporate governance "best practices" before our initial public offering, and we have continued to enhance our governance practices consistent with the highest standards since then. The Board of Directors and Corporate Governance section begins on page 16 and describes our policies and practices in detail.

Highlights of our current corporate governance policies and practices include:

• 100% independent committee members in Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee	• Recognition of the importance of diverse viewpoints when nominating and evaluating directors
• Separate Chairperson and CEO roles	• Stock ownership requirements for directors and executive officers
• Independent Chairperson	• Adoption of formal Corporate Governance Guidelines and Code of Business Conduct and Ethics policies for directors, officers and employees
• Regularly scheduled executive sessions for independent directors without management present	• Periodic review of committee charters and governance policies
• Board risk oversight by full board and committees, including strategic, financial, business and operational, legal and compliance and reputational risks	• Active and ongoing stockholder outreach/ engagement activities
• Majority voting for election of directors	• Director and executive officer succession planning

STOCKHOLDER ENGAGEMENT

We believe that effective corporate governance includes regular, constructive conversations with our stockholders, and we value our stockholders' continued opinions and feedback. We are committed to maintaining an active dialogue to understand the priorities and concerns of our stockholders on the topics of executive compensation and corporate governance policies and practices. In the last 12 months, as part of our stockholder engagement and communications, program, we have participated in more than 250 meetings with our institutional stockholders during which we engaged in substantive discussions on executive compensation, corporate governance, corporate performance and strategy.

Maintaining an active dialogue with our stockholders is consistent with our corporate values of transparency and accountability, and we intend to continue these efforts in the future.

EXECUTIVE COMPENSATION

To succeed in the rapidly evolving and competitive cybersecurity industry, we must attract and retain a highly talented executive team. We designed our executive compensation program to foster a "pay for performance" environment that aligns the long term-interests of our executives with those of our stockholders.

In response to stockholder feedback, as well as the views expressed by the major proxy advisory firms, we have continued to revise and enhance our executive compensation program while remaining consistent with our stated compensation objectives and corporate values. For example, in response to our 2018 say-on-pay vote, as well as feedback from our stockholders received through our ongoing stockholder engagement efforts and commentary from the major proxy advisory firms in their annual compensation analysis and voting recommendations, we made the following changes to our 2019 executive compensation program:

- For our 2019 annual cash incentive program, we removed non-GAAP operating income as one of the corporate performance measures. This change responded to specific feedback we received that we refrain from using the same performance measure for both our short-term and long-term incentive compensation programs.

- For the performance-based equity awards granted in 2019, we tied 80% of the awards to our billings and non-GAAP operating income performance over three separate consecutive annual performance periods (e.g., for the 80% portion, 1/3 is tied to 2019 performance, 1/3 is tied to 2020 performance and 1/3 is tied to 2021 performance), with any shares earned for a performance period vesting shortly after the completion of that performance period (so that the award, to the extent earned, will vest 1/3 per year). This differs from our prior practice where the awards were based on a single year's performance followed by time-based vesting of earned shares in subsequent years. This change responded to specific feedback we received that we shift more of our executive officers' long-term compensation toward sustained multi-year company performance.
- For the performance-based equity awards granted in 2019, we tied 20% of the awards to a new relative Total Shareholder Return ("rTSR") performance measure. The rTSR measure is based on our stock performance relative to the stock performance of companies in the Russell 2000 Index over a three-year performance period (2019-2021). Given that half of the equity awards granted to our executive officers in 2019 were performance-based equity awards, 10% of all such equity awards are based on the rTSR measure. The introduction of the rTSR measure responded to specific feedback we received that we shift more of our executive officers' compensation toward long-term stock performance.

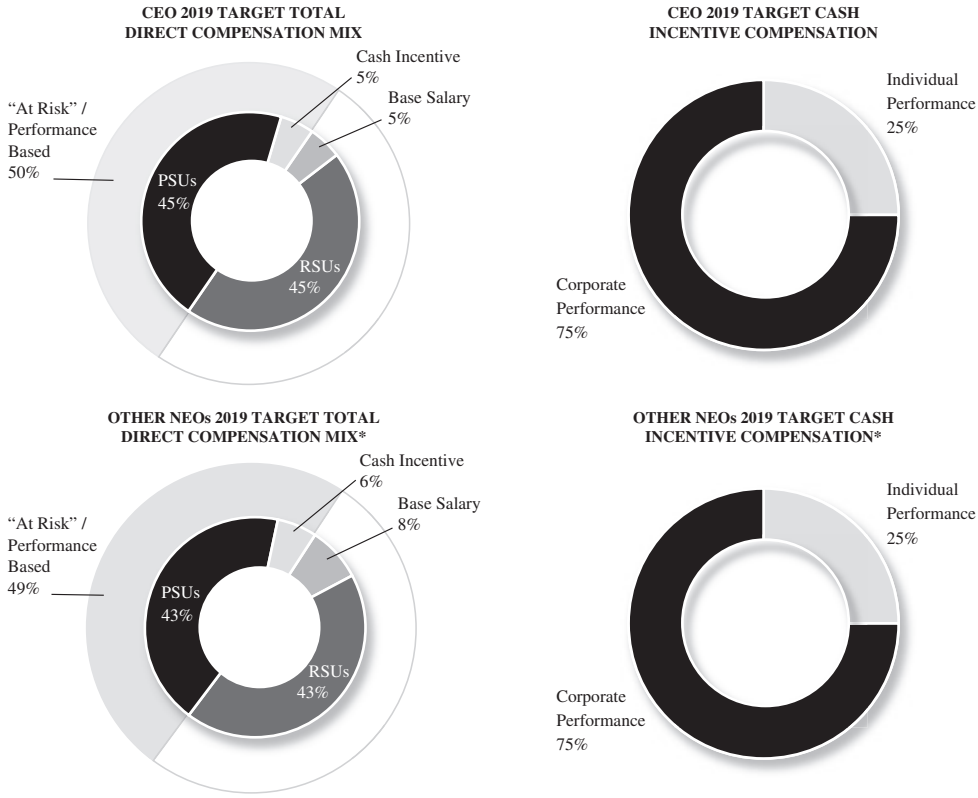
At our 2019 annual meeting of stockholders, our "say on pay" proposal received support from approximately 94% of the votes cast. As a result, we believe that our stockholders favorably viewed the structure of our executive compensation program. However, in response to feedback from our stockholders received through our ongoing stockholder engagement efforts, and due to competitive market conditions, we have made the following additional changes to our executive compensation program for 2020:

- For our 2020 annual cash incentive program, we added annual recurring revenue ("ARR") as an additional corporate performance measure. This change responded to specific feedback we received that we add ARR as a performance measure for our executive compensation program because investors generally place a higher relative value on companies with significant recurring revenues, and ARR aligns with how our customers are increasingly purchasing our solutions and services and how we are managing our business as we offer more and more solutions through subscriptions and services.
- For time-based equity awards granted in 2020 to our existing executive officers, but not any time-based equity awards granted in 2020 to any new executive officers, we provided that the awards are scheduled to vest quarterly in 16 equal installments over four years. This differs from our prior practice where 25% of the awards were scheduled to vest after one year, with the remaining portion being scheduled to vest quarterly in 12 equal installments thereafter over the following three years. This change was to help make our "follow-on" time-based equity awards more competitive with the practices of our competitors and is consistent with the practices of many companies in our compensation peer group.

Our executive compensation program is designed to (1) allow us to attract and retain highly qualified executive talent, (2) motivate our executives to achieve our short-term and long-term objectives for growth and profitability, and (3) reflect a "pay for performance" philosophy that aligns the long-term interests of our executive officers with those of our stockholders. Highlights of our executive compensation policies and practices include:

What we do:	**What we don't do:**
• Provide for performance-based cash and equity incentives, with approximately 50% of total compensation "at risk," based on achievement of corporate and individual performance measures	• No "single trigger" change of control payments or benefits
• Maintain a clawback policy for recovery of incentive compensation in the event of fraud or intentional misconduct	• No tax gross-up for change in control payments or benefits
• Maintain stock ownership guidelines for executive officers and non-employee directors	• No perquisites or other personal benefits to executive officers unless they serve a sound business purpose
• Maintain 100% independence of Compensation Committee members	• No short sales, hedging or transactions involving derivatives of our common stock by any FireEye personnel, and no pledging of stock ownership positions by any executive officers or non-employee directors
• Regularly review target total direct compensation of executive officers relative to peer companies of similar size and with similar operating characteristics	• No strict benchmarking of compensation to a specific percentile of our peer group
• Engage an independent compensation consultant to advise the Compensation Committee	• No guaranteed incentive compensation, indefinite contracts, or excessive severance payments
• Establish single and multi-year performance requirements that reflect our near- and long-term objectives of balanced growth, profitability and cash flow generation	• No repricing or reissuance of stock options without stockholder approval
• Require multi-year vesting periods for a significant portion of equity awards, consistent with current market practices and long-term value creation goals	• No pension, defined benefit retirement plans or non-qualified deferred compensation plans
• Align long-term interests of executive officers and stockholders and encourage value creation with a high percentage of target total direct compensation in the form of performance-based and time-based equity awards	

The charts below show the components of the 2019 target total direct compensation for our CEO and illustrate the mix of "at-risk" and performance-based pay. 2019 target total direct compensation for our other Named Executive Officers, as a group, was similar to that of our CEO with respect to the ratio of "at risk" to total compensation and the weighting of individual and corporate performance objectives.



* Average for all of our Named Executive Officers as a group.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This proxy statement contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements are all statements (and their underlying assumptions) included in this proxy statement that refer, directly or indirectly, to future events or outcomes and, as such, are inherently not factual, but rather reflect only our current projections for the future. Consequently, forward-looking statements usually include words such as "estimate," "intend," "plan," "predict," "seek," "may," "will," "should," "would," "could," "anticipate," "expect," "believe," or similar words, in each case, intended to refer to future events or circumstances. Our future results may differ materially from our past results and from those projected in the forward-looking statements due to various uncertainties and risks, including, but not limited to, those included under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K, as filed with the SEC on February 21, 2020. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof and are based upon information available to us at this time. These statements are not guarantees of future performance. We disclaim any obligation to update information in any forward-looking statement. Actual results could vary from our forward-looking statements due to the factors described in our Annual Report on Form 10-K, as well as other important factors.

FIREEYE, INC.

PROXY STATEMENT
FOR 2020 ANNUAL MEETING OF STOCKHOLDERS
To Be Held at 2:00 p.m. Pacific Time on Thursday, May 28, 2020

This proxy statement and the enclosed form of proxy are furnished in connection with the solicitation of proxies by our board of directors for use at our 2020 annual meeting of stockholders (the "Annual Meeting"), and any postponements, adjournments or continuations thereof. The Annual Meeting will be held on Thursday, May 28, 2020 at 2:00 p.m. Pacific Time, at 601 McCarthy Blvd., Milpitas, California 95035. The Notice of Internet Availability of Proxy Materials (the "Notice") containing instructions on how to access this proxy statement and our annual report is first being mailed on or about April 13, 2020 to all stockholders entitled to receive notice of and to vote at the Annual Meeting.

We currently intend to hold the Annual Meeting in person. However, depending on developments with respect to the coronavirus (COVID-19) pandemic, we might hold the Annual Meeting virtually on the above date and time instead of in person. If we determine that a change to a virtual meeting format is advisable or required, an announcement of such change will be made through a press release and on our Investor Relations website at investors.fireeye.com as promptly as practicable. We encourage you to check this website one week prior to the meeting date if you are planning to attend the Annual Meeting.

QUESTIONS AND ANSWERS ABOUT THE ANNUAL MEETING

The information provided in the "question and answer" format below addresses certain frequently asked questions but is not intended to be a summary of all matters contained in this proxy statement. Please read the entire proxy statement carefully before voting your shares.

What matters am I voting on?

You will be voting on:

- the election of two Class I directors to hold office until the 2023 annual meeting of stockholders and until their successors are elected and qualified;
- a proposal to ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2020;
- an advisory vote to approve named executive officer compensation; and
- any other business that may properly come before the Annual Meeting or any adjournments or postponements thereof.

How does our board of directors recommend that I vote?

Our board of directors recommends that you vote:

- FOR the two nominees for election as Class I directors;
- FOR the ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2020; and
- FOR the approval, on an advisory basis, of named executive officer compensation.

Will there be any other items of business on the agenda?

If any other items of business or other matters are properly brought before the Annual Meeting, your proxy gives discretionary authority to the persons named on the proxy card with respect to those items of business or other matters. The persons named on the proxy card intend to vote the proxy in accordance with their best judgment. Our board of directors does not intend to bring any other matters to be voted on at the Annual Meeting, and we are not currently aware of any matters that may be properly presented by others for consideration at the Annual Meeting.

Who is entitled to vote at the Annual Meeting?

Holders of our common stock at the close of business on March 30, 2020, the record date for the Annual Meeting (the "Record Date"), are entitled to notice of and to vote at the Annual Meeting. Each stockholder is entitled to one vote for each share of our common stock held as of the Record Date. As of the Record Date, there were 222,755,682 shares of common stock outstanding and entitled to vote. Stockholders are not permitted to cumulate votes with respect to the election of directors.

What is the difference between holding shares as a stockholder of record and as a beneficial owner?

Stockholder of Record: Shares Registered in Your Name. If, at the close of business on the Record Date, your shares were registered directly in your name with American Stock Transfer & Trust Company, LLC, our transfer agent, then you are considered the stockholder of record with respect to those shares. As the stockholder of record, you have the right to grant your voting proxy directly to the individuals listed on the proxy card or to vote in person at the Annual Meeting.

Beneficial Owners: Shares Registered in the Name of a Broker, Bank or Other Nominee. If, at the close of business on the Record Date, your shares were held, not in your name, but rather in a stock brokerage account or by a bank or other nominee on your behalf, then you are considered the beneficial owner of shares held in "street name." As the beneficial owner, you have the right to direct your broker, bank or other nominee how to vote your shares by following the voting instructions your broker, bank or other nominee provides. If you do not provide your broker, bank or other nominee with instructions on how to vote your shares, your broker, bank or other nominee may, in its discretion, vote your shares with respect to routine matters but may not vote your shares with respect to any non-routine matters. Please see "*What if I do not specify how my shares are to be voted?*" later in this section for additional information.

Do I have to do anything in advance if I plan to attend the Annual Meeting in person?

Stockholder of Record: Shares Registered in Your Name. If you were a stockholder of record at the close of business on the Record Date, you do not need to do anything in advance to attend and/or vote your shares in person at the Annual Meeting, but you will need to present government-issued photo identification for entrance to the Annual Meeting.

Beneficial Owners: Shares Registered in the Name of a Broker, Bank or Other Nominee. If you were a beneficial owner at the close of business on the Record Date, you may not vote your shares in person at the Annual Meeting unless you obtain a "legal proxy" from your broker, bank or other nominee who is the stockholder of record with respect to your shares. You may still attend the Annual Meeting even if you do not have a legal proxy. For entrance to the Annual Meeting, you will need to provide proof of beneficial ownership as of the Record Date, such as the notice or voting instructions you received from your broker, bank or other nominee or a brokerage statement reflecting your ownership of shares as of the Record Date, and present government-issued photo identification.

Please note that no cameras, recording equipment, large bags, briefcases or packages will be permitted in the Annual Meeting.

How do I vote and what are the voting deadlines?

Stockholder of Record: Shares Registered in Your Name. If you are a stockholder of record, you can vote in one of the following ways:

- **You may vote via the Internet or by telephone**. To vote via the Internet or by telephone, follow the instructions provided in the Notice of Internet Availability of Proxy Materials. If you vote via the Internet or by telephone, you do not need to return a proxy card by mail. Internet and telephone voting are available 24 hours a day. Votes submitted through the Internet or by telephone must be received by 11:59 p.m. Eastern Time on May 27, 2020. Alternatively, you may request a printed proxy card by telephone at 888-Proxy-NA (888-776-9962) or 718-921-8562 (for international callers), over the Internet at https://us.astfinancial.com/OnlineProxyVoting/ProxyVoting/RequestMaterials, or by email at info@astfinancial.com.
- **You may vote by mail**. If you have received printed proxy materials by mail and would like to vote by mail, you need to complete, date and sign the proxy card that accompanies this proxy statement and promptly mail it to the tabulation agent in the enclosed postage-paid envelope so that it is received no later than May 27, 2020. You do not need to put a stamp on the enclosed envelope if you mail it from within the United States. The persons named in the proxy card will vote the shares you own in accordance with your instructions on the proxy card you mail. If you return the proxy card, but do not give any instructions on a particular matter to be voted on at the Annual Meeting, the persons named in the proxy card will vote the shares you own in accordance with the recommendations of our board of directors. Our board of directors recommends that you vote **FOR** the two nominees for election as Class I directors, **FOR** the ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2020, and **FOR** the approval, on an advisory basis, of named executive officer compensation.
- **You may vote in person**. If you plan to attend the Annual Meeting, you may vote by delivering your completed proxy card in person or by completing and submitting a ballot, which will be provided at the Annual Meeting.

Beneficial Owners: Shares Registered in the Name of a Broker, Bank or Other Nominee. If you are the beneficial owner of shares held of record by a broker, bank or other nominee, you will receive voting instructions from your broker, bank or other nominee. You must follow the voting instructions provided by your broker, bank or other nominee in order to instruct your broker, bank or other nominee how to vote your shares. The availability of Internet and telephone voting options will depend on the voting process of your broker, bank or other nominee. **As discussed above, if you are a beneficial owner, you may not vote your shares in person at the Annual Meeting unless you obtain a legal proxy from your broker, bank or other nominee.**

Can I change my vote or revoke my proxy?

Stockholder of Record: Shares Registered in Your Name. If you are a stockholder of record, you may revoke your proxy or change your proxy instructions at any time before your proxy is voted at the Annual Meeting by:

- entering a new vote by Internet or telephone;
- signing and returning a new proxy card with a later date;
- delivering a written revocation to our Secretary at FireEye, Inc., 601 McCarthy Blvd., Milpitas, California 95035, by 11:59 p.m. Eastern Time on May 27, 2020; or
- attending the Annual Meeting and voting in person.

Beneficial Owners: Shares Registered in the Name of a Broker, Bank or Other Nominee. If you are the beneficial owner of your shares, you must contact the broker, bank or other nominee holding your shares and follow their instructions to change your vote or revoke your proxy.

What is the effect of giving a proxy?

Proxies are solicited by and on behalf of our board of directors. The persons named in the proxy have been designated as proxy holders by our board of directors. When a proxy is properly dated, executed and returned, the shares represented by the proxy will be voted at the Annual Meeting in accordance with the instructions of the stockholder. If no specific instructions are given, however, the shares will be voted in accordance with the recommendations of our board of directors. If any matters not described in this proxy statement are properly presented at the Annual Meeting, the proxy holders will use their own judgment to determine how to vote your shares. If the Annual Meeting is postponed or adjourned, the proxy holders can vote your shares on the new meeting date, unless you have properly revoked your proxy, as described above.

What if I do not specify how my shares are to be voted?

Stockholder of Record: Shares Registered in Your Name. If you are a stockholder of record and you submit a proxy but you do not provide voting instructions, your shares will be voted:

- FOR the two nominees for election as Class I directors (Proposal No. 1);
- FOR the ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2020 (Proposal No. 2);
- FOR the approval, on an advisory basis, of named executive officer compensation (Proposal No. 3); and
- In the discretion of the named proxy holders regarding any other matters properly presented for a vote at the Annual Meeting.

Beneficial Owners: Shares Registered in the Name of a Broker, Bank or Other Nominee. If you are a beneficial owner and you do not provide your broker, bank or other nominee that holds your shares with voting instructions, then your broker, bank or other nominee will determine if it has discretion to vote on each matter. Brokers do not have discretion to vote on non-routine matters. Proposal No. 1 (election of directors) and Proposal No. 3 (advisory vote to approve named executive officer compensation) are non-routine matters, while Proposal No. 2 (ratification of appointment of independent registered public accounting firm) is a routine matter. As a result, if you do not provide voting instructions to your broker, bank or other nominee, then your broker, bank or other nominee may not vote your shares with respect to Proposal No. 1 and Proposal No. 3, which would result in a "broker non-vote," but your broker, bank or other nominee may, in its discretion, vote your shares with respect to Proposal No. 2. For additional information regarding broker non-votes, see "*What are the effects of abstentions and broker non-votes?*" below.

What is a quorum?

A quorum is the minimum number of shares required to be present at the Annual Meeting for the meeting to be properly held under our bylaws and Delaware law. A majority of the shares of common stock outstanding and entitled to vote, in person or by proxy, constitutes a quorum for the transaction of business at the Annual Meeting. As noted above, as of the Record Date, there were a total of 222,755,682 shares of common stock outstanding, which means that 111,377,842 shares of common stock must be represented in person or by proxy at the Annual Meeting to have a quorum. If there is no quorum, a majority of the shares present at the Annual Meeting may adjourn the meeting to a later date.

What are the effects of abstentions and broker non-votes?

An abstention represents a stockholder's affirmative choice to decline to vote on a proposal. If a stockholder indicates on its proxy card that it wishes to abstain from voting its shares, or if a broker, bank or other nominee holding its customers' shares of record causes abstentions to be recorded for shares, these shares will be considered present and entitled to vote at the Annual Meeting. As a result, abstentions will be counted for

purposes of determining the presence or absence of a quorum and will also count as votes against a proposal in cases where approval of the proposal requires the affirmative vote of a majority of the shares present and entitled to vote at the Annual Meeting (*e.g.*, Proposal No. 2 and Proposal No. 3). However, because the outcome of Proposal No. 1 (election of directors) will be determined by the affirmative vote of shares representing a majority of the votes cast for each Class I director nominee, abstentions will have no impact on the outcome of such proposal as long as a quorum exists given abstentions are not considered as votes cast.

A broker non-vote occurs when a broker, bank or other nominee holding shares for a beneficial owner does not vote on a particular proposal because the broker, bank or other nominee does not have discretionary voting power with respect to such proposal and has not received voting instructions from the beneficial owner of the shares. Broker non-votes will be counted for purposes of calculating whether a quorum is present at the Annual Meeting but will not be counted for purposes of determining the number of votes cast. Therefore, a broker non-vote will make a quorum more readily attainable but will not otherwise affect the outcome of the vote on any proposal.

How many votes are needed for approval of each proposal?

- *Proposal No. 1:* To be elected, each Class I director nominee must receive the affirmative vote of shares representing a majority of the votes cast, meaning the number of votes "FOR" that nominee must exceed the number of votes "AGAINST" that nominee. You may vote FOR, AGAINST or ABSTAIN with respect to each nominee. If you ABSTAIN from voting on the election of any nominee, the abstention will have no effect on the election of that nominee.
- *Proposal No. 2:* The ratification of the appointment of Deloitte & Touche LLP requires an affirmative vote of a majority of the shares of our common stock present in person or by proxy at the Annual Meeting and entitled to vote thereon to be approved. You may vote FOR, AGAINST or ABSTAIN. If you ABSTAIN from voting on Proposal No. 2, the abstention will have the same effect as a vote AGAINST the proposal.
- *Proposal No. 3:* The approval, on an advisory basis, of named executive officer compensation requires an affirmative vote of a majority of the shares of our common stock present in person or by proxy at the Annual Meeting and entitled to vote thereon to be approved. You may vote FOR, AGAINST or ABSTAIN. If you ABSTAIN from voting on Proposal No. 3, the abstention will have the same effect as a vote AGAINST the proposal.

What happens if a director nominee who is duly nominated does not receive a majority vote?

Our board of directors only nominates for election candidates who have tendered, in advance of such nomination, an irrevocable, conditional resignation that will be effective only upon both (i) the failure to receive the required vote at the next stockholders' meeting at which they face reelection and (ii) our board of directors' acceptance of such resignation. In an uncontested election, our board of directors, after taking into consideration the recommendation of our nominating and corporate governance committee, will determine whether or not to accept the pre-tendered resignation of any nominee for director who receives a greater number of votes "AGAINST" such nominee's election than votes "FOR" such nominee's election. In the event of a contested election, the director nominee who receives the largest number of votes cast "FOR" his or her election will be elected as director.

How are proxies solicited for the Annual Meeting and who is paying for such solicitation?

Our board of directors is soliciting proxies for use at the Annual Meeting by means of the proxy materials. We will bear the entire cost of proxy solicitation, including the preparation, assembly, printing, mailing and distribution of the proxy materials. Copies of solicitation materials will also be made available upon request to brokers, banks and other nominees to forward to the beneficial owners of the shares held of record by such brokers, banks or other nominees. The original solicitation of proxies may be supplemented by solicitation by telephone, electronic communication, or other means by our directors, officers and employees. No additional

compensation will be paid to these individuals for any such services, although we may reimburse such individuals for their reasonable out-of-pocket expenses in connection with such solicitation. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners. We have hired Alliance Advisors, LLC ("Alliance Advisors") to help us solicit proxies. We expect to pay Alliance Advisors a solicitation fee of $13,000 plus reimbursement of reasonable out-of-pocket expenses.

If you choose to access the proxy materials and/or vote over the Internet, you are responsible for Internet access charges you may incur. If you choose to vote by telephone, you are responsible for telephone charges you may incur.

Why did I receive a Notice of Internet Availability of Proxy Materials instead of a full set of proxy materials?

In accordance with the rules of the Securities and Exchange Commission (the "SEC"), we have elected to furnish our proxy materials, including this proxy statement and our annual report, primarily via the Internet. Stockholders may request to receive proxy materials in printed form by mail or electronically by e-mail by following the instructions contained in the Notice. We encourage stockholders to take advantage of the availability of our proxy materials on the Internet to help reduce the environmental impact of our annual meetings of stockholders.

What does it mean if I received more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on each Notice to ensure that all of your shares are voted.

Is my vote confidential?

Proxy instructions, ballots and voting tabulations that identify individual stockholders are handled in a manner that protects your voting privacy. Your vote will not be disclosed either within FireEye or to third parties, except as necessary to meet applicable legal requirements, to allow for the tabulation of votes and certification of the vote, or to facilitate a successful proxy solicitation.

Will members of the board of directors attend the Annual Meeting?

We encourage, but do not require, our board members to attend the Annual Meeting. Those who do attend will be available to answer appropriate questions from stockholders.

I share an address with another stockholder, and we received only one paper copy of the proxy materials. How may I obtain an additional copy of the proxy materials?

We have adopted an SEC-approved procedure called "householding," under which we can deliver a single copy of the proxy materials and annual report to multiple stockholders who share the same address unless we received contrary instructions from one or more of the stockholders. This procedure reduces our printing and mailing costs. Stockholders who participate in householding will continue to be able to access and receive separate proxy cards. Upon written or oral request, we will promptly deliver a separate copy of the proxy materials and annual report to any stockholder at a shared address to which we delivered a single copy of any of these documents. To receive a separate copy, or, if you are receiving multiple copies, to request that we only send a single copy of next year's proxy materials and annual report, you may contact us as follows:

FireEye, Inc.
Attention: Secretary
601 McCarthy Blvd.
Milpitas, CA 95035
(408) 321-6300

Stockholders who hold shares in street name may contact their brokerage firm, bank, broker-dealer or other nominee to request information about householding.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us at that time, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an amendment to the Form 8-K to publish the final results.

What is the deadline to propose actions for consideration at next year's annual meeting of stockholders or to nominate individuals to serve as directors?

Stockholder Proposals

Stockholders may present proper proposals for inclusion in our proxy statement and for consideration at the next annual meeting of stockholders by submitting their proposals in writing to our Secretary in a timely manner. For a stockholder proposal to be considered for inclusion in our proxy statement for our 2021 annual meeting of stockholders, our Secretary must receive the written proposal at our principal executive offices not later than December 14, 2020. In addition, stockholder proposals must comply with the requirements of Rule 14a-8 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), regarding the inclusion of stockholder proposals in company-sponsored proxy materials. Stockholder proposals should be addressed to:

FireEye, Inc.
Attention: Secretary
601 McCarthy Blvd.
Milpitas, CA 95035

Our bylaws also establish an advance notice procedure for stockholders who wish to present a proposal before an annual meeting of stockholders but do not intend for the proposal to be included in our proxy statement. Our bylaws provide that the only business that may be conducted at an annual meeting is business that is (i) specified in our proxy materials with respect to such meeting, (ii) otherwise properly brought before the annual meeting by or at the direction of our board of directors, or (iii) properly brought before the annual meeting by a stockholder of record entitled to vote at the annual meeting who has delivered timely written notice to our Secretary, which notice must contain the information specified in our bylaws. To be timely for our 2021 annual meeting of stockholders, our Secretary must receive the written notice at our principal executive offices:

- not earlier than January 28, 2021; and
- not later than February 27, 2021.

In the event that we hold our 2021 annual meeting of stockholders more than 30 days before or more than 60 days after the first anniversary of the date of this Annual Meeting, then notice of a stockholder proposal that is not intended to be included in our proxy statement must be received no earlier than the close of business on the 120th day before such annual meeting and no later than the close of business on the later of the following two dates:

- the 90th day prior to such annual meeting; or
- the 10th day following the day on which public announcement of the date of such annual meeting is first made.

If a stockholder who has notified us of his, her or its intention to present a proposal at an annual meeting does not appear to present his, her or its proposal at such annual meeting, we are not required to present the proposal for a vote at such annual meeting.

Nomination of Director Candidates

You may propose director candidates for consideration by our nominating and corporate governance committee. Any such recommendations should include the nominee's name and qualifications for membership on our board of directors and should be directed to our Secretary at the address set forth above. For additional information regarding stockholder recommendations for director candidates, see the section titled "Board of Directors and Corporate Governance—Stockholder Recommendations for Nominations to the Board of Directors."

In addition, our bylaws permit stockholders to nominate directors for election at an annual meeting of stockholders. To nominate a director, the stockholder must provide the information required by our bylaws. In addition, the stockholder must give timely notice to our Secretary in accordance with our bylaws, which, in general, require that the notice be received by our Secretary within the time period described above under "Stockholder Proposals" for stockholder proposals that are not intended to be included in a proxy statement.

Availability of Bylaws

A copy of our bylaws may be obtained by accessing our public filings on the SEC's website at www.sec.gov. You may also contact our Secretary at our principal executive office for a copy of the relevant bylaw provisions regarding the requirements for making stockholder proposals and nominating director candidates.

BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

Our business affairs are managed under the direction of our board of directors, which is currently composed of seven members. Six of our directors are independent within the meaning of the independent director requirements of The NASDAQ Stock Market. Our board of directors is divided into three classes with staggered three-year terms. At each annual meeting of stockholders, a class of directors will be elected for a three-year term to succeed the same class whose term is then expiring. In addition, pursuant to our bylaws, at any time before, on or after the day of the Annual Meeting, our board of directors may increase the authorized number of directors and fill the vacancy or vacancies created thereby with one or more new directors.

There are two Class I directors whose current term of office expires at the Annual Meeting: Kimberly Alexy and Stephen Pusey. Our board of directors has nominated Ms. Alexy and Mr. Pusey for re-election at the Annual Meeting to serve as Class I directors until the 2023 annual meeting of stockholders and until their successors are elected and qualified.

The following table sets forth the names, ages as of March 30, 2020, and certain other information for the directors whose term expires at the Annual Meeting and for each of the directors whose terms do not expire at the Annual Meeting:

Name	Class	Age	Position(s)	Director Since	Current Term Expires	Expiration of Term For Which Nominated
1. Directors Whose Terms Expire at the Annual Meeting						
Kimberly Alexy(1)(2)	I	49	Director	2015	2020	2023
Stephen Pusey(3)	I	58	Director	2015	2020	2023
2. Directors Whose Terms Do Not Expire at the Annual Meeting						
Adrian McDermott(3)	II	51	Director	2019	2021	—
Robert E. Switz(1)(2)	II	73	Director	2017	2021	—
Ronald E. F. Codd(1)(2)(3)	III	64	Director	2012	2022	—
Kevin R. Mandia(4)	III	49	Chief Executive Officer and Director	2016	2022	—
Enrique Salem(3)(4)	III	54	Chairman of the Board	2013	2022	—

(1) Member of our audit committee
(2) Member of our nominating and corporate governance committee
(3) Member of our compensation committee
(4) Member of our government classified information and security committee

Nominees for Director

Kimberly Alexy has served as a member of our board of directors since January 2015. Ms. Alexy has served as the Principal of Alexy Capital Management, a private investment management firm that she founded, since June 2005. Ms. Alexy has served on the board of directors of Five9, Inc. since October 2013, the board of directors of Alteryx, Inc. since February 2017 and the board of directors of Western Digital Corporation since November 2018. She previously served on the board of directors of CalAmp Corp. from May 2008 to July 2019, the board of directors of SMART Modular Technologies (WWH), Inc. from September 2009 to August 2011, the board of directors of SouthWest Water Company from August 2009 to September 2010, the board of directors of Dot Hill Systems Corp. from December 2005 to May 2010, the board of directors of Maxtor Corporation from June 2005 to May 2006, and the board of directors of Microsemi Corporation from September 2016 to May

2018. From 2012 to 2014, Ms. Alexy served as an Adjunct Lecturer at San Diego State University in the Graduate School of Business. From 1998 to 2003, she served as Senior Vice President and Managing Director of Equity Research for Prudential Securities, where she served as principal technology hardware analyst for the firm. Prior to joining Prudential, Ms. Alexy served as Vice President of Equity Research at Lehman Brothers, where she covered the computer hardware sector, and Assistant Vice President of Corporate Finance at Wachovia Bank. Ms. Alexy is a Chartered Financial Analyst (CFA), and holds a B.A. from Emory University and an M.B.A. with a concentration in Finance and Accounting from the College of William and Mary. Our board of directors believes that Ms. Alexy possesses specific attributes that qualify her to serve as a director, including her accounting expertise, extensive experience on public company boards and her experience in the financial services industry as an investment professional.

Stephen Pusey has served as a member of our board of directors since June 2015. Mr. Pusey served as the Group Chief Technology Officer of Vodafone Group Plc from September 2006 to August 2015, and as a member of its board of directors from June 2009 to August 2015. From 1982 to August 2006, Mr. Pusey held various positions at Nortel Networks, most recently as Executive Vice President and President, Nortel EMEA. Mr. Pusey has served on the board of directors of Centrica plc since April 2015, and previously served on the board of directors of ARM Holdings plc from September 2015 to September 2017 and as a Vodafone representative board member of Verizon Wireless from January 2009 to September 2013. Mr. Pusey holds a TEC degree in Communications and Microelectronics from Uxbridge Technical College and a Higher TEC degree in Communications and Microelectronics from Acton Technical College and attended the Advanced Management Program at Harvard University. Our board of directors believes that Mr. Pusey possesses specific attributes that qualify him to serve as a director, including his more than 35 years of international business experience across a number of technology and service provider markets and the perspective and experience he brings as a former group chief technology officer and board member for a large international public company.

Other Directors

Ronald E. F. Codd has served as a member of our board of directors since July 2012. Mr. Codd has been an independent business consultant since April 2002. From January 1999 to April 2002, Mr. Codd served as President, Chief Executive Officer and a director of Momentum Business Applications, Inc., an enterprise software company. From September 1991 to December 1998, Mr. Codd served as Senior Vice President of Finance and Administration and Chief Financial Officer of PeopleSoft, Inc., a provider of human resource management systems. Mr. Codd has served on the board of directors of Veeva Systems Inc. since February 2012. Mr. Codd previously served on the board of directors of ServiceNow, Inc. from February 2012 to June 2019, the board of directors of Rocket Fuel Inc. from February 2012 to September 2017, and the boards of directors of numerous other technology companies, including most recently DemandTec, Inc., Interwoven, Inc. and Data Domain, Inc. Mr. Codd holds a B.S. in Accounting from the University of California, Berkeley and an M.M. in Finance and M.I.S. from the Kellogg Graduate School of Management at Northwestern University. Our board of directors believes that Mr. Codd possesses specific attributes that qualify him to serve as a director, including his extensive management and software industry experience, and his experience in finance.

Kevin R. Mandia has served as our Chief Executive Officer since June 2016 and as a member of our board of directors since February 2016. He previously served as our President from February 2015 to June 2016 and as our Senior Vice President and Chief Operating Officer from the date of FireEye's acquisition of Mandiant Corporation ("Mandiant"), in December 2013 through February 2015. Prior to joining FireEye, Mr. Mandia was the Chief Executive Officer of Mandiant and had served in that capacity since he founded Mandiant in 2004. Prior to forming Mandiant, Mr. Mandia served as the Director of Computer Forensics at Foundstone (later acquired by McAfee Corporation) from 2000 to 2003 and as the Director of Information Security for Sytex (later acquired by Lockheed Martin) from 1998 to 2000. From 1993 to 2000, Mr. Mandia was an officer in the United States Air Force, where he served in various capacities, including as a computer security officer in the 7th Communications Group at the Pentagon, and later as a special agent in the Air Force Office of Special Investigations (AFOSI). Mr. Mandia holds a B.S. in Computer Science from Lafayette College and an M.S. in

Forensic Science from The George Washington University. In 2011, Mr. Mandia was named Ernst & Young Entrepreneur of the Year for the Greater Washington area. He completed the Harvard Business School's Owner/ President Management Program in February 2013. Mr. Mandia has taught graduate level courses at Carnegie Melon University and The George Washington University and has co-authored two books on responding to security breaches: Incident Response: Performing Computer Forensics (McGraw-Hill, 2003) and Incident Response: Investigating Computer Crime (McGraw-Hill, 2001). Our board of directors believes that Mr. Mandia possesses specific attributes that qualify him to serve as a director, including the perspective and experience he brings as our Chief Executive Officer and his extensive senior management expertise in the network security industry.

Adrian McDermott has served as a member of our board of directors since February 2019. Mr. McDermott has served as the President of Products of Zendesk, Inc. since October 2016. He previously served as the Senior Vice President, Product Development of Zendesk, Inc. from July 2010 until October 2016. Mr. McDermott holds a B.Sc. in computer science from De Montfort University. Our board of directors believes that Mr. McDermott possesses specific attributes that qualify him to serve as a director, including his extensive product management, engineering and general business experience in technology markets as well as his expertise developed as a senior executive at a large public company in the technology industry.

Enrique Salem has served as a member of our board of directors since February 2013 and as our Chairman of the Board since March 2017. Mr. Salem previously served as our Lead Independent Director from February 2016 to March 2017. He has been a managing director of Bain Capital Ventures, a venture capital firm, since July 2014. Mr. Salem was president, Chief Executive Officer and a director of Symantec Corporation, a provider of information security, storage and systems management solutions, from April 2009 until July 2012. Mr. Salem was Chief Operating Officer of Symantec Corporation from January 2008 to April 2009, group President, Worldwide Sales and Marketing from April 2007 to January 2008, group President, Consumer Products from May 2006 to April 2007, Senior Vice President, Consumer Products and Solutions from February 2006 to May 2006, Senior Vice President, Security Products and Solutions from January 2006 to February 2006, and Senior Vice President, Network and Gateway Security Solutions from June 2004 to February 2006. Prior to Symantec, from April 2002 to June 2004, Mr. Salem served as President and Chief Executive Officer of Brightmail, Inc., an email filtering company, prior to its acquisition by Symantec in 2004. Mr. Salem also held senior leadership roles at Oblix Inc., Ask Jeeves Inc., Peter Norton Computing, Inc. and Security Pacific Merchant Bank. In March 2011, he was appointed to President Barack Obama's Management Advisory Board. Mr. Salem has served on the board of directors of Atlassian Corporation Plc since July 2013, the board of directors of DocuSign, Inc. since August 2013 and the board of directors of ForeScout Technologies, Inc. since September 2013. He previously served on the board of directors of Automatic Data Processing, Inc. from January 2010 to November 2013 and the board of directors of Symantec Corporation from April 2009 to July 2012. Mr. Salem also currently serves on the board of directors of multiple private companies. He received the Estrella Award from the Hispanic IT Executive Council in 2010 and was named Entrepreneur of the Year in 2004 by Ernst & Young. Mr. Salem holds an A.B. in Computer Science from Dartmouth College. Our board of directors believes that Mr. Salem possesses specific attributes that qualify him to serve as a director, including his extensive leadership experience, including oversight of global operations, as well as a strong background in information technology, data security, compliance and systems management.

Robert E. Switz has served as a member of our board of directors since September 2017. Mr. Switz served as the President and Chief Executive Officer of ADC Telecommunications, Inc. ("ADC"), a supplier of network infrastructure products and services, from August 2003 until December 2010, when Tyco Electronics Ltd. (now TE Connectivity Ltd.) acquired ADC. Mr. Switz served as Chairman of the Board of Directors of ADC from June 2008 to December 2010 and served on the board of directors of ADC from August 2003 until December 2010. From 1994 until August 2003, he served in various positions at ADC, including as Chief Financial Officer. Prior to ADC, he served in various positions at Burr-Brown Corporation, a multi-national manufacturer of precision micro-electronics and systems products, including as Chief Financial Officer, Vice President of European Operations, Ventures and Finance, and Director of the Ventures and Systems Business. Mr. Switz has

served on the board of directors of Micron Technology, Inc. since February 2006, and the board of directors of Marvell Technology Group Ltd. since May 2016. He previously served on the board of directors of Broadcom Corporation from May 2003 to February 2016, the board of directors of Cyan, Inc. from March 2011 to August 2015, the board of directors of GT Advanced Technologies Inc. from May 2011 to March 2016, the board of directors of Leap Wireless International, Inc. from July 2011 to March 2014, the board of directors of Pulse Electronics Corporation from June 2014 to April 2015, and the board of directors of Gigamon, Inc. from June 2015 to December 2017. Mr. Switz holds a B.S. in Business Administration from Quinnipiac University and an M.B.A. from the University of Bridgeport. Our board of directors believes that Mr. Switz possesses specific attributes that qualify him to serve as a director, including his extensive global operations, financial and general management experience and expertise developed as a senior executive at large public companies operating in the technology industry as well as his considerable directorial and governance experience developed through his service on several public company boards.

Director Independence

Our common stock is listed on The NASDAQ Global Select Market. Under the rules of The NASDAQ Stock Market, independent directors must comprise a majority of a listed company's board of directors. In addition, the rules of The NASDAQ Stock Market require that, subject to specified exceptions, each member of a listed company's audit, compensation, and nominating and corporate governance committees be independent. Under the rules of The NASDAQ Stock Market, a director will only qualify as an "independent director" if, in the opinion of the listed company's board of directors, the director does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act and the listing requirements of The NASDAQ Stock Market. In addition, compensation committee members must satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act and the listing requirements of The NASDAQ Stock Market.

Our board of directors has undertaken a review of the independence of each director and considered whether such director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. As a result of this review, our board of directors has determined that Ms. Alexy and Messrs. Codd, McDermott, Pusey, Salem and Switz are "independent directors" as defined under the applicable rules and regulations of the SEC and the listing requirements and rules of The NASDAQ Stock Market.

Board Leadership Structure

Our board of directors does not view any particular leadership structure as preferred and routinely reviews and considers the appropriate leadership structure. This consideration includes the pros and cons of alternative leadership structures in light of our operating and governance environment at the time, with the goal of achieving the optimal model for board leadership and effective oversight of management by our board of directors.

Our board of directors consists of seven directors. Our only management director is Mr. Mandia, our Chief Executive Officer. Enrique Salem, an independent director, holds the role of Chairman of the Board. Our board of directors believes this structure benefits the board of directors and us by enabling our Chief Executive Officer to focus on operational and strategic matters while enabling the Chairman of the Board to focus on board and governance matters.

In addition, each committee of our board of directors has a designated chairperson and, other than our government classified information and security committee, is comprised solely of independent directors.

Board Meetings and Committees

During 2019, our board of directors held 10 meetings (including regularly scheduled and special meetings), and each director attended at least 75% of the aggregate of (i) the total number of meetings of our board of directors held during the period for which he or she served as a director and (ii) the total number of meetings held by all committees of our board of directors on which he or she served during the periods for which he or she served.

It is the policy of our board of directors to regularly have separate meeting times for independent directors without management.

Although we do not have a formal policy regarding attendance by members of our board of directors at annual meetings of stockholders, we encourage, but do not require, our directors to attend. Six of the seven directors who served on the date of our 2019 annual meeting of stockholders attended the meeting.

Our board of directors has four standing committees: an audit committee, a compensation committee, a nominating and corporate governance committee and a government classified information and security committee. The composition and responsibilities of each of the committees of our board of directors are described below. Members will serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

Our audit committee is comprised of Kimberly Alexy, Ronald E. F. Codd and Robert E. Switz, each of whom is a non-employee member of our board of directors. Ms. Alexy is the chair of our audit committee. Our board of directors has determined that each of the members of our audit committee satisfies the requirements for independence and financial literacy under the rules and regulations of the SEC, including Rule 10A-3 under the Exchange Act, and the listing requirements of The NASDAQ Stock Market. Our board of directors has also determined that each of Ms. Alexy and Messrs. Codd and Switz qualify as an "audit committee financial expert" as defined in the SEC rules and satisfy the financial sophistication requirements of The NASDAQ Stock Market. This designation does not impose on Ms. Alexy and Messrs. Codd and Switz any duties, obligations or liabilities that are greater than those generally imposed on members of our audit committee and our board of directors. Our audit committee is responsible for, among other things:

- selecting and hiring our independent registered public accounting firm;
- evaluating the performance and independence of our independent registered public accounting firm;
- pre-approving any audit and non-audit services to be performed by our independent registered public accounting firm;
- reviewing the adequacy and effectiveness of our internal control policies and procedures and our disclosure controls and procedures;
- overseeing procedures for the treatment of complaints on accounting, internal accounting controls or audit matters;
- reviewing and discussing with management and the independent registered public accounting firm the results of our annual audit, our quarterly financial statements and our publicly filed reports;
- reviewing significant risk exposures and our processes around the management and monitoring of such risks, including but not limited to reviewing our programs, policies, practices and safeguards for information technology, cybersecurity and data security and reviewing periodic updates on such matters by our chief security officer;
- reviewing and approving related person transactions; and
- preparing the audit committee report that the SEC requires in our annual proxy statements.

Our audit committee operates under a written charter that satisfies the applicable rules and regulations of the SEC and the listing requirements of The NASDAQ Stock Market. A copy of the charter of our audit committee is available on our website at www.FireEye.com in the Governance section of our Investor Relations webpage. During 2019, our audit committee held 10 meetings.

Compensation Committee

Our compensation committee is comprised of Ronald E. F. Codd, Adrian McDermott, Stephen Pusey and Enrique Salem, each of whom is a non-employee member of our board of directors. Mr. Salem is the chair of our compensation committee. Our board of directors has determined that each member of our compensation committee meets the requirements for independence under the rules and regulations of the SEC, including Rule 10C-1 under the Exchange Act, and the listing requirements of The NASDAQ Stock Market, and is a "non-employee director" within the meaning of Rule 16b-3 under the Exchange Act. Our compensation committee is responsible for, among other things:

- reviewing and approving our Chief Executive Officer's and other executive officers' annual base salaries; incentive compensation plans, including the specific goals and amounts; equity compensation, employment agreements, severance arrangements and change in control agreements; and any other executive officer benefits, compensation or arrangements; provided that any approvals relating to our Chief Executive Officer's compensation will be subject to the ratification of our entire board of directors, with any non-independent directors not voting;
- administering our equity compensation plans; and
- overseeing our overall compensation philosophy, compensation plans and benefits programs.

Our compensation committee may form subcommittees and may delegate to such subcommittees such power and authority as our compensation committee deems appropriate. Our compensation committee operates under a written charter that satisfies the applicable rules and regulations of the SEC and the listing requirements of The NASDAQ Stock Market. A copy of the charter of our compensation committee is available on our website at www.FireEye.com in the Governance section of our Investor Relations webpage. During 2019, our compensation committee held seven meetings.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is comprised of Kimberly Alexy, Ronald E. F. Codd and Robert E. Switz, each of whom is a non-employee member of our board of directors. Mr. Codd is the chair of our nominating and corporate governance committee. Our board of directors has determined that each member of our nominating and corporate governance committee meets the requirements for independence under the listing requirements of The NASDAQ Stock Market. Our nominating and corporate governance committee is responsible for, among other things:

- evaluating and making recommendations regarding the composition, organization, and governance of our board of directors and its committees;
- evaluating and making recommendations regarding the creation of additional committees or the change in mandate or dissolution of committees;
- reviewing and making recommendations with regard to our corporate governance guidelines and compliance with laws and regulations; and
- reviewing and approving conflicts of interest of our directors and corporate officers, other than related person transactions reviewed by the audit committee.

Our nominating and corporate governance committee operates under a written charter that satisfies the listing standards of The NASDAQ Stock Market. A copy of the charter of our nominating and corporate governance committee is available on our website at www.FireEye.com in the Governance section of our Investor Relations webpage. During 2019, our nominating and corporate governance committee held five meetings.

Government Classified Information and Security Committee

Our government classified information and security committee is comprised of Kevin R. Mandia and Enrique Salem. Mr. Mandia is the chair of our government classified information and security committee. Our government classified information and security committee is responsible for, among other things:

- reviewing and making recommendations to our board of directors on matters concerning the Company that involve or relate to (i) information or activities that have been classified for purposes of national security by an agency or instrumentality of the government and (ii) the security of the Company's personnel, data and facilities; and
- assisting our board of directors in fulfilling its oversight responsibilities relating to such matters.

Our government classified information and security committee operates under a written charter. During 2019, our government classified information and security committee did not hold any meetings.

Compensation Committee Interlocks and Insider Participation

During 2019, Ronald E. F. Codd, Adrian McDermott, Stephen Pusey and Enrique Salem served as members of our compensation committee. None of the members of our compensation committee is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee, or other board committee performing equivalent functions, of any entity that has one or more executive officers serving on our compensation committee or our board of directors. We have had a compensation committee since November 2012. Prior to establishing the compensation committee, our full board of directors made decisions relating to the compensation of our executive officers.

Considerations in Evaluating Director Nominees

Our nominating and corporate governance committee uses a variety of methods for identifying and evaluating director nominees. In its evaluation of director candidates, our nominating and corporate governance committee will consider the composition of our board of directors, including, without limitation, issues of character, integrity, judgment, diversity, age, independence, expertise, length of service, understanding of our business and other commitments. Members of our board of directors are expected to prepare for, attend, and participate in all board of director and applicable committee meetings. Our nominating and corporate governance committee requires the following minimum qualifications to be satisfied by any nominee for a position on the board of directors: (i) the highest personal and professional ethics and integrity, (ii) proven achievement and competence in the nominee's field and the ability to exercise sound business judgment, (iii) skills that are complementary to those of the existing board of directors, (iv) the ability to assist and support management and make significant contributions to our success, and (v) an understanding of the fiduciary responsibilities that are required of a member of the board of directors and the commitment of time and energy necessary to diligently carry out those responsibilities. Other than the foregoing, there are no other stated minimum criteria for director nominees, although our nominating and corporate governance committee may also consider such other factors as it may deem, from time to time, are in our and our stockholders' best interests.

Although our board of directors does not maintain a specific policy with respect to board diversity, our board of directors believes that our board of directors should be a diverse body, and our nominating and

corporate governance committee considers a broad range of backgrounds and experiences. In making determinations regarding nominations of directors, our nominating and corporate governance committee may take into account the benefits of diverse viewpoints. Our nominating and corporate governance committee also considers these and other factors as it oversees periodic board of director and committee evaluations. After completing its review and evaluation of director candidates, our nominating and corporate governance committee recommends to our full board of directors the director nominees for selection.

Stockholder Recommendations for Nominations to the Board of Directors

Our nominating and corporate governance committee will consider candidates for directors recommended by stockholders holding at least one percent (1%) of the fully diluted capitalization of the company continuously for at least 12 months prior to the date of the submission of the recommendation. Our nominating and corporate governance committee will evaluate such recommendations in accordance with its charter, our bylaws, our policies and procedures for director candidates, as well as the regular director nominee criteria described above. This process is designed to ensure that our board of directors includes members with diversity of experience, skills and experience, including appropriate financial and other expertise relevant to our business. Stockholders wishing to recommend a candidate for nomination should contact our Secretary in writing. Such recommendations must include the candidate's name, home and business contact information, detailed biographical data, relevant qualifications, a signed letter from the candidate confirming willingness to serve on our board of directors, information regarding any relationships between the candidate and FireEye and evidence of the recommending stockholder's ownership of our common stock. Such recommendations must also include a statement from the recommending stockholder in support of the candidate, particularly within the context of the criteria for board of directors membership. Our nominating and corporate governance committee has discretion to decide which individuals to recommend for nomination as directors.

A stockholder can nominate a candidate directly for election to our board of directors by complying with the procedures in Section 2.4(ii) of our bylaws and the rules and regulations of the SEC. Any eligible stockholder who wishes to submit a nomination should review the requirements in the bylaws on nominations by stockholders. Any nomination should be sent in writing to our Secretary at FireEye, Inc., 601 McCarthy Blvd., Milpitas, California 95035. To be timely for our 2021 annual meeting of stockholders, our Secretary must receive the nomination no earlier than January 28, 2021 and no later than February 27, 2021. The notice must state the information required by Section 2.4(ii) of our bylaws and otherwise must comply with applicable federal and state law.

Communications with the Board of Directors

We have a practice of regularly engaging with our stockholders to seek their feedback, as further described in the section titled "Stockholder Engagement" below. Additionally, stockholders wishing to communicate with our board of directors or with an individual member of our board of directors may do so by writing to our board of directors or to the particular member of our board of directors, and mailing the correspondence to our General Counsel at FireEye, Inc., 601 McCarthy Blvd., Milpitas, CA 95035. Our General Counsel will review all incoming stockholder communications (excluding mass mailings, product complaints or inquiries, job inquiries, business solicitations and patently offensive or otherwise inappropriate material), and if deemed appropriate, the stockholder communications will be forwarded to the appropriate member or members of our board of directors, or if none is specified, to the chairman of our board of directors. This procedure does not apply to stockholder proposals submitted pursuant to Rule 14a-8 under the Exchange Act.

Corporate Governance Guidelines and Code of Business Conduct and Ethics

Our board of directors has adopted Corporate Governance Guidelines. These guidelines address items such as the qualifications and responsibilities of our directors and director candidates and corporate governance policies and standards applicable to us in general. In addition, our board of directors has adopted a Code of

Business Conduct and Ethics that applies to all of our employees, officers and directors, including our Chief Executive Officer, Chief Financial Officer, and other executive and senior financial officers. The full text of our Corporate Governance Guidelines and our Code of Business Conduct and Ethics is posted on our website at www.FireEye.com in the Governance section of our Investor Relations webpage. We intend to post any amendments to our Code of Business Conduct and Ethics, and any waivers of our Code of Business Conduct and Ethics for directors and executive officers, on the same website.

Risk Management

Risk is inherent with every business, and we face a number of risks, including strategic, financial, business and operational, legal and compliance, and reputational. We have designed and implemented processes to manage risk in our operations. Management is responsible for the day-to-day management of risks the company faces, while our board of directors, as a whole and assisted by its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are appropriate and functioning as designed.

Our board of directors believes that open communication between management and our board of directors is essential for effective risk management and oversight. Our board of directors meets with our Chief Executive Officer and other members of the senior management team at quarterly meetings of our board of directors, where, among other topics, they discuss strategy and risks facing the company, as well as at such other times as they deem appropriate.

While our board of directors is ultimately responsible for risk oversight, our board committees assist our board of directors in fulfilling its oversight responsibilities in certain areas of risk. Our audit committee assists our board of directors in fulfilling its oversight responsibilities with respect to risk management in the areas of internal control over financial reporting and disclosure controls and procedures, legal and regulatory compliance, and discusses with management and the independent auditor guidelines and policies with respect to risk assessment and risk management. Our audit committee also reviews our major financial, cybersecurity, information technology and data security risk exposures and the steps our management has taken to monitor and control these exposures, including the review of any programs and policies, as well as oversight of our enterprise risk management program. In addition, our audit committee monitors certain key risks on a regular basis throughout the fiscal year, such as risks associated with internal control over financial reporting, liquidity, cybersecurity, information technology and data security. Furthermore, our audit committee monitors compliance with legal and regulatory requirements and oversees the performance of our internal audit function. Our nominating and corporate governance committee assists our board of directors in fulfilling its oversight responsibilities with respect to the management of risk associated with board organization, membership and structure, and corporate governance. Our compensation committee assesses risks created by the incentives inherent in our compensation programs, policies and practices. Finally, our full board of directors reviews strategic and operational risk in the context of reports from the management team, receives reports on all significant committee activities at each regular meeting, and evaluates the risks inherent in significant transactions.

Stockholder Engagement

We believe that effective corporate governance includes regular, constructive conversations with our stockholders, and we value our stockholders' continued opinions and feedback. We are committed to maintaining an active dialogue to understand the priorities and concerns of our stockholders. In the last 12 months, as part of our ongoing stockholder engagement program, we have participated in more than 250 meetings with our institutional stockholders, during which we engaged in substantive discussions on our executive compensation, corporate governance, corporate performance and strategy. These discussions covered a variety of topics, including our executive compensation philosophy, the composition of our board of directors, our commitment to board diversity and our strategies to achieve and sustain profitable growth in the future.

Maintaining an active dialogue with our stockholders is consistent with our corporate values of transparency and accountability, and we intend to continue these efforts in the future.

Outside Director Compensation Policy

Members of our board of directors who are not our employees are eligible for awards under our Outside Director Compensation Policy, which our board of directors approved in August 2014 and subsequently amended in June 2016 and March 2017.

Under our Outside Director Compensation Policy, non-employee directors receive compensation in the form of equity awards, or a mixture of equity and cash awards, as described below:

Initial Award

Upon joining our board of directors, each new non-employee director elected or appointed will automatically receive an equity award of restricted stock units with a total value of $400,000. This award will vest as to 1/3 of the shares subject to the award annually over a three-year period, subject to continued service through each applicable vesting date.

Annual Awards

On the date of each annual meeting of stockholders, each non-employee director who has been a non-employee director for at least six months will be entitled to receive an annual fee with a total value based on board and other service as set forth in the following table, provided that no award will be granted to any non-employee director who is not continuing as a director following the applicable annual meeting of stockholders:

	Annual Fee	
Board Member:	$200,000	
Chairperson of the Board (if applicable):	$45,000	
Lead Independent Director (if applicable):	$20,000	
Committee Service:	Chair	Member
Audit:	$ 20,000	$7,000
Compensation:	$ 10,000	$5,000
Nominating and Corporate Governance:	$ 6,250	$2,500
Government Classified Information and Security:	$ 6,250	$2,500

Unless an eligible non-employee director elects to receive all of his or her annual fee in the form of an equity award of restricted stock units, 50% of an eligible non-employee director's annual fee will be awarded in the form of an equity award of restricted stock units and the other 50% of such non-employee director's annual fee will be awarded in the form of cash. All of a non-employee director's equity award of restricted stock units will be granted to him or her on the date of the annual meeting of stockholders and will fully vest upon the earlier of the first anniversary of the grant date or the day prior to the next annual meeting of stockholders, in each case, subject to his or her continued service through the vesting date. All of a non-employee director's cash, if any, will be paid to him or her in four equal installments on a quarterly basis, with one installment paid on the 15th day of each of the first four calendar quarters following the date of such annual meeting, in each case subject to his or her continued service through the applicable payment date.

For purposes of our Outside Director Compensation Policy, equity awards are valued at the fair market value of the shares subject to the award on the grant date of the award or such other methodology determined by our board of directors or our compensation committee.

2019 Director Compensation Table

The table below shows all compensation awarded to or paid in 2019 to our non-employee directors who served during 2019.

Name	Fees earned or paid in cash ($)(1)	Stock Awards ($)(2)	Total ($)
Kimberly Alexy(3)	55,625	222,497	278,122
Ronald E. F. Codd(4)	109,125	109,113	218,238
Adrian McDermott(5)	—	400,000	400,000
Stephen Pusey(6)	102,500	102,488	204,988
Enrique Salem(7)	—	257,497	257,497
Robert E. Switz(8)	—	209,488	209,488

(1) The amounts reported in this column represent the aggregate amount of quarterly cash awards paid in 2019 in accordance with the Outside Director Compensation Policy. In accordance with the Outside Director Compensation Policy, Ms. Alexy received quarterly cash awards in January 2019 and April 2019 because she did not elect to receive all of her 2018 annual fees in the form of awards of restricted stock units, and she did not receive quarterly cash awards in July 2019 or October 2019 because she elected to receive all of her 2019 annual fees in the form of awards of restricted stock units.

(2) On February 5, 2019, we granted an award of restricted stock units to Mr. McDermott upon his appointment to our board of directors, in accordance with the Outside Director Compensation Policy. Such award to Mr. McDermott vests over three years from the date of grant, with one-third of the shares subject to the award vesting on each anniversary of the date of grant, in each case subject to Mr. McDermott's continued service through the applicable vesting date. On May 23, 2019, we granted awards of restricted stock units to Ms. Alexy and Messrs. Codd, Pusey, Salem and Switz for service on our board of directors, in accordance with the Outside Director Compensation Policy. Each such award to Ms. Alexy and Messrs. Codd, Pusey, Salem and Switz fully vests upon the earlier of the first anniversary of the grant date or the day prior to our next annual meeting of stockholders that follows the grant date, in each case, subject to continued service through the vesting date. Ms. Alexy and Messrs. Salem and Switz elected to receive all of their 2019 annual fees in the form of awards of restricted stock units. The amounts reported in this column represent the aggregate grant date fair value of the awards as computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the awards reported in this column are set forth in the notes to our audited consolidated financial statements included in our Annual Report on Form 10-K, as filed with the SEC on February 21, 2020.

(3) As of December 31, 2019, Ms. Alexy held 15,581 shares of common stock issuable upon the vesting of restricted stock units.

(4) As of December 31, 2019, Mr. Codd held (i) options to purchase 118,000 shares of common stock at an exercise price of $2.48 per share, all of which were fully vested as of December 31, 2019, and (ii) 7,641 shares of common stock issuable upon the vesting of restricted stock units.

(5) As of December 31, 2019, Mr. McDermott held 21,645 shares of common stock issuable upon the vesting of restricted stock units.

(6) As of December 31, 2019, Mr. Pusey held 7,177 shares of common stock issuable upon the vesting of restricted stock units.

(7) As of December 31, 2019, Mr. Salem held 18,032 shares of common stock issuable upon the vesting of restricted stock units.

(8) As of December 31, 2019, Mr. Switz held 22,745 shares of common stock issuable upon the vesting of restricted stock units.

See the section titled "Executive Compensation" for information about the compensation of our Chief Executive Officer, who is both a director and one of our named executive officers for 2019.

PROPOSAL NO. 1
ELECTION OF DIRECTORS

Our board of directors is currently composed of seven members. In accordance with our certificate of incorporation, our board of directors is divided into three classes with staggered three-year terms. At the Annual Meeting, stockholders are being asked to elect two Class I directors for a three-year term to succeed the same class whose term is then expiring. Each director's term continues until the election and qualification of such director's successor, or such director's earlier death, resignation, or removal. This classification of our board of directors may have the effect of delaying or preventing changes in control of our company.

Nominees

Our nominating and corporate governance committee has recommended, and our board of directors has approved, Kimberly Alexy and Stephen Pusey as nominees for election as Class I directors at the Annual Meeting. If elected, each of Ms. Alexy and Mr. Pusey will serve as Class I directors until the 2023 annual meeting of stockholders and until their successors are elected and qualified. Each of the nominees is currently a director of our company. For information concerning the nominees, please see the section titled "Board of Directors and Corporate Governance."

If you are a stockholder of record and you sign your proxy card or vote over the Internet or by telephone but do not give instructions with respect to the voting of directors, your shares will be voted FOR the re-election of Ms. Alexy and Mr. Pusey. We expect that Ms. Alexy and Mr. Pusey will accept such nomination; however, in the event that a director nominee is unable or declines to serve as a director at the time of the Annual Meeting, the proxies will be voted for any nominee who shall be designated by our board of directors to fill such vacancy. If you are a beneficial owner of shares of our common stock and you do not give voting instructions to your broker, bank or other nominee, then your broker, bank or other nominee will leave your shares unvoted on this matter.

Vote Required

Our bylaws and Corporate Governance Guidelines provide for a majority voting standard in uncontested elections of directors. An uncontested election is one in which the number of nominees for director does not exceed the number of directors to be elected. The director election taking place at this meeting is uncontested, and therefore, the majority voting standard will apply. That means, in order for a nominee to be elected, the votes cast "FOR" such nominee's election must exceed the votes cast "AGAINST" such nominee's election. Abstentions and broker non-votes with respect to the election of any nominee will have no effect on such nominee's election. Under our Corporate Governance Guidelines, each director is required to submit in advance an irrevocable, conditional resignation that will be effective only upon both (1) the failure to receive the required vote at the next stockholders' meeting at which the director faces reelection and (2) our board of directors' acceptance of such resignation. If an incumbent director fails to receive the required vote for reelection, our nominating and corporate governance committee will act to determine whether to accept the director's resignation and will submit its recommendation to our board of directors for consideration.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE TWO NOMINEES NAMED ABOVE.

PROPOSAL NO. 2
RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Our audit committee has appointed Deloitte & Touche LLP ("Deloitte"), as our independent registered public accounting firm to audit our consolidated financial statements for our fiscal year ending December 31, 2020. Deloitte also served as our independent registered public accounting firm for our fiscal year ended December 31, 2019.

At the Annual Meeting, stockholders are being asked to ratify the appointment of Deloitte as our independent registered public accounting firm for our fiscal year ending December 31, 2020. Stockholder ratification of the appointment of Deloitte is not required by our bylaws or other applicable legal requirements. However, our board of directors is submitting the appointment of Deloitte to our stockholders for ratification as a matter of good corporate governance. In the event that this appointment is not ratified by the affirmative vote of a majority of the shares present in person or by proxy at the Annual Meeting and entitled to vote, such appointment will be reconsidered by our audit committee. Even if the appointment is ratified, our audit committee, in its sole discretion, may appoint another independent registered public accounting firm at any time during our fiscal year ending December 31, 2020 if our audit committee believes that such a change would be in the best interests of FireEye and its stockholders. A representative of Deloitte is expected to be present at the Annual Meeting, will have an opportunity to make a statement if he or she wishes to do so, and is expected to be available to respond to appropriate questions from stockholders.

Fees Paid to the Independent Registered Public Accounting Firm

The following table presents fees for professional audit services and other services rendered to us by Deloitte for our fiscal years ended December 31, 2019 and 2018.

	2019	2018
Audit Fees (1)	$3,135,628	$3,064,952
Audit-Related Fees (2)	—	—
Tax Fees (3)	—	—
All Other Fees	—	—
	$3,135,628	$3,064,952

(1) "Audit Fees" consist of fees for professional services rendered in connection with the audit of our annual financial statements, review of our quarterly financial statements, and services that are normally provided by Deloitte in connection with statutory and regulatory filings or engagements for those fiscal years. Fees for 2019 also included fees billed for professional services rendered in connection with our acquisition of Verodin in 2019 and Form S-8 consent issuances. Fees for 2018 also included fees billed for professional services rendered in connection with the adoption of ASC 842, Form S-8 consent issuance and our offering circular related to our convertible notes offering completed in the second quarter of 2018.

(2) "Audit-Related Fees" consist of fees for professional services for assurance and related services that are reasonably related to the performance of the audit or review of our consolidated financial statements and are not reported under "Audit Fees."

(3) "Tax Fees" consist of fees for professional services rendered by Deloitte for tax compliance, tax advice and tax planning.

Auditor Independence

In 2019, there were no other professional services provided by Deloitte that would have required our audit committee to consider their compatibility with maintaining the independence of Deloitte.

Audit Committee Policy on Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

Our audit committee has established a policy governing our use of the services of our independent registered public accounting firm. Under the policy, our audit committee is required to pre-approve all audit and permissible non-audit services performed by our independent registered public accounting firm in order to ensure that the provision of such services does not impair such accounting firm's independence. All fees paid to Deloitte for our fiscal years ended December 31, 2018 and 2019 were pre-approved by our audit committee.

Vote Required

The ratification of the appointment of Deloitte requires the affirmative vote of a majority of the shares of our common stock present in person or by proxy at the Annual Meeting and entitled to vote thereon. Abstentions will have the effect of a vote AGAINST the proposal.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF DELOITTE & TOUCHE LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR OUR FISCAL YEAR ENDING DECEMBER 31, 2020.

PROPOSAL NO. 3
ADVISORY VOTE TO APPROVE NAMED EXECUTIVE OFFICER COMPENSATION

In accordance with Section 14A of the Exchange Act and SEC rules, we are providing our stockholders with the opportunity to vote to approve, on an advisory (and non-binding) basis, the compensation of our named executive officers as disclosed in accordance with SEC rules in the "Executive Compensation" section of this proxy statement beginning on page 34 below. This proposal, commonly known as a "say-on-pay" proposal, gives our stockholders the opportunity to express their views on our named executive officers' compensation as a whole. This vote is not intended to address any specific item of compensation or any specific named executive officer, but rather the overall compensation of all of our named executive officers and the philosophy, policies and practices described in this proxy statement.

The say-on-pay vote is advisory, and therefore not binding on FireEye, our compensation committee or our board of directors. The say-on-pay vote will, however, provide information to us regarding investor sentiment about our executive compensation philosophy, program, policies and practices, which our compensation committee will be able to consider when determining executive compensation for the remainder of the current fiscal year and beyond. Our board of directors and our compensation committee value the opinions of our stockholders and to the extent there is any significant vote against our named executive officers' compensation as disclosed in this proxy statement, we will consider our stockholders' concerns and our compensation committee will evaluate whether any actions are necessary to address those concerns.

We believe that the information we have provided in the "Executive Compensation" section of this proxy statement, and in particular the information discussed in "Executive Compensation—Compensation Discussion and Analysis—Compensation Philosophy and Objectives" beginning on page 39 below, demonstrates that our executive compensation program was designed appropriately and is working to ensure the retention of key management talent and that management's interests are aligned with our stockholders' interests to support long-term value creation. Accordingly, we ask our stockholders to vote "FOR" the following resolution at the Annual Meeting:

"RESOLVED, that FireEye's stockholders approve, on an advisory basis, the compensation paid to the named executive officers, as disclosed in FireEye's proxy statement for the 2020 annual meeting pursuant to the compensation disclosure rules of the SEC, including the compensation discussion and analysis, compensation tables and narrative discussion, and other related disclosure."

Vote Required

The approval, on an advisory basis, of named executive officer compensation requires an affirmative vote of a majority of the shares of our common stock present in person or by proxy at the Annual Meeting and entitled to vote thereon to be approved. Accordingly, abstentions will have the effect of a vote AGAINST the proposal. Broker non-votes will have no effect on this proposal.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE APPROVAL, ON AN ADVISORY BASIS, OF THE COMPENSATION PAID TO OUR NAMED EXECUTIVE OFFICERS AS DISCLOSED IN THIS PROXY STATEMENT.

AUDIT COMMITTEE REPORT

The information contained in the following Audit Committee Report shall not be deemed to be soliciting material or to be filed with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that FireEye, Inc., or the Company, specifically incorporates it by reference in such filing.

The audit committee has reviewed and discussed the Company's audited consolidated financial statements with management and Deloitte & Touche LLP ("Deloitte"), the Company's independent registered public accounting firm. The audit committee has discussed with Deloitte the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board and the Securities and Exchange Commission.

The audit committee has received and reviewed the written disclosures and the letter from Deloitte required by the applicable requirements of the Public Company Accounting Oversight Board regarding Deloitte's communications with the audit committee concerning independence, and has discussed with Deloitte its independence.

Based on the review and discussions referred to above, the audit committee recommended to the board of directors that the Company's audited consolidated financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019 for filing with the Securities and Exchange Commission.

Respectfully submitted by the members of the audit committee of the board of directors:

Kimberly Alexy (Chair)
Ronald E. F. Codd
Robert E. Switz

EXECUTIVE OFFICERS

The following table identifies certain information about our executive officers as of March 30, 2020. Each executive officer serves at the discretion of our board of directors and holds office until his or her successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

Name	Age	Position(s)
Peter Bailey	47	Executive Vice President and Chief Operating Officer
Alexa King	52	Executive Vice President, General Counsel and Secretary
Kevin R. Mandia	49	Chief Executive Officer and Director
William T. Robbins	52	Executive Vice President, Chief Revenue Officer and General Manager of Products
Frank E. Verdecanna	49	Executive Vice President, Chief Financial Officer and Chief Accounting Officer

Peter Bailey has served as our Executive Vice President and Chief Operating Officer since February 2020. He previously served as our Executive Vice President of Corporate Strategy and Planning from December 2019 to February 2020. Prior to joining FireEye, Mr. Bailey served in various positions at Vertical Communications, Inc. ("Vertical Communications"), including as Chief Executive Officer from May 2011 to December 2019, as President from October 2009 to December 2019, as Chief Operating Officer from October 2009 to May 2011, and as Senior Vice President from October 2004 to October 2009. He has served on the board of directors of Vertical Communications since May 2011. Mr. Bailey holds a B.A. in English from Princeton University.

Alexa King has served as our General Counsel and Secretary since April 2012 and as our Executive Vice President since May 2016. She previously served as our Senior Vice President from April 2012 to May 2016. Prior to joining FireEye, Ms. King was Vice President, General Counsel and Secretary of Aruba Networks, Inc. from December 2005 to April 2012. From 2000 to 2005, Ms. King served as Senior Director of Legal at Siebel Systems, Inc. and her early career included working at Pillsbury Madison & Sutro (now Pillsbury Winthrop) and Fenwick & West. Ms. King has served on the board of directors of Vocera Communications, Inc. since July 2016. Additionally, Ms. King served as founding director of Pathbrite, Inc. (f/k/a RippleSend, Inc.) from 2008 to 2009 and as advisor from 2009 to 2011. Ms. King graduated magna cum laude from Harvard College with a degree in Eastern European Studies and received her J.D. from the University of California, Berkeley, School of Law, where she was named to the Order of the Coif.

Kevin R. Mandia has served as our Chief Executive Officer since June 2016 and as a member of our board of directors since February 2016. He previously served as our President from February 2015 to June 2016 and as our Senior Vice President and Chief Operating Officer from the date of our acquisition of Mandiant in December 2013 through February 2015. Prior to joining FireEye, Mr. Mandia was the Chief Executive Officer of Mandiant and had served in that capacity since he founded Mandiant in 2004. Prior to forming Mandiant, Mr. Mandia served as the Director of Computer Forensics at Foundstone (later acquired by McAfee Corporation) from 2000 to 2003 and as the Director of Information Security for Sytex (later acquired by Lockheed Martin) from 1998 to 2000. From 1993 to 2000, Mr. Mandia was an officer in the United States Air Force, where he served in various capacities, including as a computer security officer in the 7th Communications Group at the Pentagon, and later as a special agent in the Air Force Office of Special Investigations (AFOSI). Mr. Mandia holds a B.S. in Computer Science from Lafayette College and an M.S. in Forensic Science from The George Washington University. In 2011, Mr. Mandia was named Ernst & Young Entrepreneur of the Year for the Greater Washington area. He completed the Harvard Business School's Owner/President Management Program in February 2013. Mr. Mandia has taught graduate level courses at Carnegie Melon University and The George Washington University and has co-authored two books on responding to security breaches: Incident Response: Performing Computer Forensics (McGraw-Hill, 2003) and Incident Response: Investigating Computer Crime (McGraw-Hill, 2001).

William T. Robbins has served as our Executive Vice President, Chief Revenue Officer and General Manager of Products since February 2020. He previously served as our Executive Vice President of Worldwide Sales from November 2016 to February 2020. Prior to joining FireEye, Mr. Robbins was Executive Vice President of Worldwide Sales of Nuance Communications, Inc. from December 2013 to November 2016. From January 2013 to December 2013, Mr. Robbins served as Chief Operating Officer of [24]7. From May 2005 to December 2012, Mr. Robbins held various positions at Symantec Corporation, most recently as Executive Vice President, Worldwide Sales & Services. Mr. Robbins holds both a B.S. in Economics and a B.B.A. in Finance from Southern Methodist University.

Frank E. Verdecanna has served as our Executive Vice President and Chief Financial Officer since February 2017 and as our Chief Accounting Officer since August 2016. He previously served as our Senior Vice President of Finance from November 2015 to February 2017, as our interim Chief Financial Officer from August 2015 to September 2015 and as our Vice President of Finance from November 2012 to November 2015. Prior to joining FireEye, Mr. Verdecanna was the Chief Financial Officer of Apptera, Inc., a mobile communications and advertising company, from February 2010 to November 2012. From October 2000 to July 2009, Mr. Verdecanna held various finance positions, most recently as Vice President and Chief Financial Officer, at iPass Inc., a publicly traded global provider of mobility software and services. Mr. Verdecanna holds a B.S. in Business Administration from California Polytechnic State University-San Luis Obispo.

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

This Compensation Discussion and Analysis provides information regarding the 2019 compensation of our principal executive officer, our principal financial officer, and the three executive officers (other than our principal executive officer and our principal financial officer) who were our most highly-compensated executive officers as of the end of 2019. These individuals were:

- Alexa King, our Executive Vice President, General Counsel and Secretary;
- Kevin R. Mandia, our Chief Executive Officer (our "CEO");
- Travis M. Reese, our President;
- William T. Robbins, our Executive Vice President of Worldwide Sales; and
- Frank E. Verdecanna, our Executive Vice President, Chief Financial Officer and Chief Accounting Officer.

These individuals (with the applicable titles described above as of the end of 2019) were our named executive officers (our "Named Executive Officers") for 2019.

Management Changes

After the end of 2019, Mr. Robbins was promoted to the offices of Executive Vice President, Chief Revenue Officer and General Manager of Products effective February 4, 2020 and Mr. Reese retired effective March 1, 2020.

Overview

This Compensation Discussion and Analysis describes the material elements of our executive compensation program during the fiscal year ended December 31, 2019. It also provides an overview of our executive compensation philosophy, as well as our principal compensation policies and practices. Finally, it analyzes how and why the Compensation Committee of our Board of Directors (the "Compensation Committee") arrived at the specific compensation decisions for our executive officers, including our Named Executive Officers, in 2019, and discusses the key factors that the Compensation Committee and our Board of Directors considered in determining the compensation of our Named Executive Officers.

Executive Summary, Strategic Context and 2019 Business Highlights

We provide a broad portfolio of cybersecurity solutions and services that allow organizations to prepare for, prevent, respond to, investigate and remediate cyber attacks. Our products include detection and prevention solutions for network, email, endpoint and cloud security, forensics appliances, our security validation platform, subscription-based threat intelligence and analytics solutions, and our Helix security platform. These products are complemented by our technology-enabled managed detection and response subscription services and our Mandiant incident response and strategic cyber security consulting services. Our portfolio of cybersecurity solutions and services is designed to minimize the risk of costly cyber security breaches by detecting and preventing advanced, targeted attacks and other evasive threats missed by other security controls. Our security validation platform allows organizations to test the effectiveness of their security environments against cyber attacks. Our Helix security platform enables more efficient management of security operations, including alert management and guided investigations and response when a breach occurs.

The cybersecurity industry is highly competitive. We believe the market opportunity is substantial, but we must adapt rapidly to changes in the threat environment and the development of new technologies to be successful.

Our long-term business strategy is based on the fundamental belief that our hands-on cybersecurity expertise and threat intelligence, combined with our innovative technologies, can protect our customers from the catastrophic consequences of cyber attacks. Our real-time knowledge of the threat landscape and the tools and techniques used by today's threat actors allows us to establish trusted advisor relationships with our customers, contributing to high customer retention and follow-on purchases of additional solutions. Additionally, we apply our threat intelligence and the expertise gained on the front lines of cyber conflict in a unique learning system and innovation cycle that guides our product development efforts and helps our Managed Defense and Mandiant consulting teams identify, respond to and remediate breaches.

Since 2013, we have evolved our business from a focus on appliance-based detection and prevention of advanced threats in customers' on-premise networks by expanding our portfolio of products and services to help our customers improve their resilience to all types of cyber threats across on-premise, cloud, and critical infrastructure environments.

In 2019, we continued to modernize our solutions and transform our business to achieve sustainable growth and profitability. For example, in May 2019, we acquired Verodin, Inc. ("Verodin"), a leading provider of security validation and attack simulation software. The Verodin platform adds significant new capabilities to our portfolio by identifying gaps in security effectiveness due to equipment misconfiguration, changes in the IT environment, evolving attacker tactics, and more. As a result of our efforts in 2019, billings for our solutions in the Platform, Cloud, and Services categories business exceeded our mature on-premise appliance business for the first time in the third quarter of 2019, and this continued and increased in the fourth quarter of 2019 as our solutions business accelerated. In addition, we achieved non-GAAP operating profitability, positive operating cash flow, and free cash flow for the year.

2019-Related Executive Compensation Actions

Consistent with our performance and compensation objectives, the Compensation Committee or our Board of Directors, as applicable, approved the following actions related to the 2019 compensation for our Named Executive Officers:

- *Base Salary*. Increased the annual base salary of Ms. King by 4% to reflect competitive market conditions. The annual base salaries of our other Named Executive Officers, including our CEO, remained unchanged from their 2018 levels;
- *Target Cash Incentive Compensation Opportunities*. Increased the target annual cash incentive compensation opportunity of Ms. King to reflect increases in her annual base salary, with the increased target being equal to 50% of her annual base salary. The target annual cash incentive compensation opportunities of our other Named Executive Officers, including our CEO, remained unchained from their 2018 levels;
- *Short-Term Incentive Compensation*. Based upon the levels of achievement of the corporate performance objectives and individual performance objectives established under our Employee Incentive Plan for the 2019 target annual cash incentive compensation opportunities of our Named Executive Officers, approved cash payouts ranging from $133,571 to $296,438, with a cash payout for our CEO in the amount of $296,438 (representing 70% of his 2019 target annual cash incentive compensation opportunity);
- *Long-Term Incentive Compensation*. Continued the practice of providing long-term incentive compensation in the form of restricted stock unit ("RSU") awards and performance-based restricted stock unit ("PSU") awards for shares of our common stock;
- *Equity Awards*. Granted a combination of RSU and PSU awards to our Named Executive Officers, subject to a time-based vesting requirement in the case of the RSU awards and both a performance condition and a time-based vesting requirement in the case of the PSU awards. 20% of the PSU awards

granted in 2019 were tied to a new relative Total Shareholder Return (rTSR) performance measure based on our stock performance relative to the stock performance of companies in the Russell 2000 Index over a three-year performance period (2019-2021). The aggregate grant date fair value of the equity awards granted to our Named Executive Officers ranging from $2,521,530 to $7,004,250, with the aggregate grant date fair value of our CEO's equity awards being $7,004,250; and

- *Payout of PSU Awards Granted in 2019*. Based upon the level of achievement of the performance conditions for the portion of the PSU awards granted in 2019 that were tied to 2019 corporate performance measures, determined that 46.9% of the target number of shares of our common stock subject to such portion of the PSU awards had been earned, subject to the continued service of the applicable Named Executive Officers through the applicable vesting date (*i.e.*, February 2020).

Pay for Performance

A significant portion of the target total direct compensation provided to our Named Executive Officers each year is at-risk and subject to our achieving our operating results as follows:

- Our short-term incentive compensation program requires achievement of corporate and/or individual objectives for any payment to be made thereunder.
- A significant portion (*i.e.*, 50%) of the equity awards granted in 2019 to our Named Executive Officers were both at-risk and subject to achievement of pre-established performance objectives. If the performance objectives were not achieved at a threshold level, then none of the shares of our common stock subject to the PSU awards would be earned.

Executive Compensation-Related Policies and Practices

We endeavor to maintain sound executive compensation policies and practices, including compensation-related corporate governance standards that are consistent with our executive compensation philosophy. During 2019, we maintained the following executive compensation policies and practices, including both policies and practices we have implemented to drive performance and policies and practices that either prohibit or minimize behavior that we do not believe serve our stockholders' long-term interests:

What We Do

- *Independent Compensation Committee.* We maintain a Compensation Committee comprised solely of independent directors who have established effective means for communicating with our stockholders regarding their executive compensation opinions and concerns.
- *Independent Compensation Advisors*. We enable the Compensation Committee to engage and retain its own advisors. During 2019, the Compensation Committee engaged Compensia, Inc., a national compensation consulting firm, to assist with its responsibilities.
- *Annual Executive Compensation Review.* We support the Compensation Committee in its annual review of our executive compensation strategy, including its review of the compensation peer group used for comparative purposes and, to help avoid creating compensation-related risks that would be reasonably likely to have a material adverse effect on us, its annual review of our compensation-related risk profile.
- *Equity-Based Compensation with Multi-Year Vesting Requirements*. The Compensation Committee designs the equity awards granted to our executive officers to be consistent with current market practice. A significant portion of the equity awards vest over multi-year periods, which serves our long-term value creation goals and retention objectives.
- *Prohibition on Hedging, Pledging, and Short Sales*. We prohibit short sales, hedging and transactions in derivatives of FireEye securities for all FireEye personnel, including directors, officers, employees,

independent contractors and consultants. In addition, we prohibit our executive officers and the non-employee members of our Board of Directors from pledging their equity securities or using such securities as collateral for a loan.

- *Annual Succession Planning*. We support our Board of Directors in its review of the risks associated with our key executive positions on an annual basis so that we have an adequate succession strategy and plans are in place for our most critical positions.
- *Stock Ownership Guidelines*. We maintain formal stock ownership guidelines for our executive officers and the non-employee members of our Board of Directors to support these individuals acting as owners of the Company.
- *Clawback Policy*. We maintain a clawback policy which provides that, in the event we are required to prepare an accounting restatement as a result of fraud or intentional misconduct, we may recover from those current and former executive officers who are subject to the reporting requirements of Section 16 of the Exchange Act and were involved in the fraud or misconduct any incentive compensation erroneously paid or awarded in excess of what would have been paid pursuant to the restated financial statements.

What We Do Not Do

- *No Retirement Plans Other than Standard 401(k) Offered to All Employees.* We do not offer pension arrangements, defined benefit retirement plans, or nonqualified deferred compensation plans to our executive officers.
- *No Repricing or Reissuance of Stock Options.* We do not reprice or reissue options to purchase shares of our common stock without stockholder approval.
- *Limited Perquisites.* We do not provide perquisites and other personal benefits to our executive officers unless they serve a sound business purpose.
- *No "Single Trigger" Change of Control Payments or Benefits.* We do not provide "single trigger" change of control payments or benefits to our executive officers.
- *No Tax Gross-up for Change in Control Payments or Benefits.* We do not provide tax gross-ups for change in control payments or benefits to our executive officers.
- *No Strict Benchmarking of Compensation.* We do not benchmark compensation to a specific percentile of our peer group.
- *No Guaranteed Compensation.* We do not provide guaranteed incentive compensation, indefinite contracts, or excessive severance payments to our executive officers.

Response to Stockholder Advisory Vote on Named Executive Officer Compensation

The Compensation Committee considers the results of the annual stockholder advisory vote on the compensation of our named executive officers, as well as stockholder feedback on our executive compensation program, as part of its annual executive compensation review. In response to stockholder feedback, as well as the views expressed by the major proxy advisory firms in their annual compensation review and voting recommendations, we continue to revise and enhance our executive compensation program while remaining consistent with our compensation objectives, "pay for performance" philosophy and corporate values.

In 2018, we asked our stockholders to approve, on a non-binding advisory basis, the compensation of our named executive officers for the year ended December 31, 2017. This "say on pay" proposal received support from approximately 62% of the votes cast. In response to our 2018 say-on-pay vote, as well as feedback from our stockholders received through our ongoing stockholder engagement efforts and commentary from the major

proxy advisory firms in their annual compensation analysis and voting recommendations, we made the following changes to our 2019 executive compensation program:

- For our 2019 annual cash incentive program, we removed non-GAAP operating income as one of the corporate performance measures. This change responded to specific feedback we received that we refrain from using the same performance measure for both our short-term and long-term incentive compensation programs.
- For the performance-based equity awards granted in 2019, we tied 80% of the awards to our billings and non-GAAP operating income performance over three separate consecutive annual performance periods (e.g., for the 80% portion, 1/3 is tied to 2019 performance, 1/3 is tied to 2020 performance and 1/3 is tied to 2021 performance), with any shares earned for a performance period vesting shortly after the completion of that performance period (so that the award, to the extent earned, will vest 1/3 per year). This differs from our prior practice where the awards were based on a single year's performance followed by time-based vesting of earned shares in subsequent years. This change responded to specific feedback we received that we shift more of our executive officers' long-term compensation toward sustained multi-year company performance.
- For the performance-based equity awards granted in 2019, we tied 20% of the awards to a new relative Total Shareholder Return ("rTSR") performance measure. The rTSR measure is based on our stock performance relative to the stock performance of companies in the Russell 2000 Index over a three-year performance period (2019-2021). Given that half of the equity awards granted to our executive officers in 2019 were performance-based equity awards, 10% of all such equity awards are based on the rTSR measure. The introduction of the rTSR measure responded to specific feedback we received that we shift more of our executive officers' compensation toward long-term stock performance.

At our 2019 annual meeting of stockholders, our "say on pay" proposal received support from approximately 94% of the votes cast. As a result, we believe that our stockholders favorably viewed the structure of our executive compensation program. However, in response to feedback from our stockholders received through our ongoing stockholder engagement efforts, and due to competitive market conditions, we have made the following additional changes to our executive compensation program for 2020:

- For our 2020 annual cash incentive program, we added annual recurring revenue ("ARR") as an additional corporate performance measure. This change responded to specific feedback we received that we add ARR as a performance measure for our executive compensation program because investors generally place a higher relative value on companies with significant recurring revenues, and ARR aligns with how our customers are increasingly purchasing our solutions and services and how we are managing our business as we offer more and more solutions through subscriptions and services.
- For time-based equity awards granted in 2020 to our existing executive officers, but not any time-based equity awards granted in 2020 to any new executive officers, we provided that the awards are scheduled to vest quarterly in 16 equal installments over four years. This differs from our prior practice where 25% of the awards were scheduled to vest after one year, with the remaining portion being scheduled to vest quarterly in 12 equal installments thereafter over the following three years. This change was to help make our "follow-on" time-based equity awards more competitive with the practices of our competitors and was consistent with the practices of many companies in our executive compensation peer group.

The Compensation Committee will continue to consider best practices from a stockholder and corporate governance perspective when it designs our executive compensation program. Further, the Compensation Committee will continue to consider feedback received through our stockholder engagement efforts, as well as the results of the annual advisory vote on our executive compensation program and policies, and use this feedback in shaping our future executive compensation program.

Compensation Philosophy and Objectives

Compensation Philosophy

As a cybersecurity provider, we operate in a rapidly evolving and intensely competitive industry sector. To succeed in this environment, we must attract and retain a highly talented executive team, including executive officers with strong leadership skills who can run our business functions, achieve results that meet our clients' objectives, and sell our products, subscriptions and services. We compete with other companies in our industry and other technology companies in the San Francisco Bay Area to attract and retain a skilled management team. We have designed our executive compensation program to accomplish our goals in the highly competitive area for top talent, while at the same time fostering a "pay for performance" environment that aligns the long-term interests of our executive officers with the interests of our stockholders.

Compensation Program Objectives

To be successful in our industry requires that we continually build on our expertise in the cybersecurity space, expand the breadth and quality of our solutions, continuously enhance our technology platforms, and manage our expanding operations efficiently and effectively. Our executive compensation program is designed to achieve these objectives so that we are able to:

- attract and retain talented and experienced executive officers, who possess the knowledge, skills, and leadership criteria critical to our success;
- motivate these executive officers to achieve our business objectives and uphold our core values;
- promote teamwork within the executive team, while also recognizing the unique role each executive officer plays in our success; and
- ensure the alignment of the long-term interests of our executive officers with the interests of our stockholders.

As we continue to grow as a publicly-traded company, we will evaluate our compensation philosophy and program objectives as circumstances require. At a minimum, we expect the Compensation Committee to review executive compensation annually. Further, as part of this review process, we expect the Compensation Committee to apply our values and the objectives described above, while considering the compensation levels needed to ensure that our executive compensation program remains competitive.

Compensation-Setting Process

Role of Compensation Committee

The Compensation Committee oversees our executive compensation and other compensation and benefit programs, administers our equity compensation plans, and reviews, formulates, and determines the design and amount of compensation for our executive officers, including our Named Executive Officers, except that any approvals by the Compensation Committee relating to the compensation of our Chief Executive Officer are subject to the ratification of our Board of Directors (with any non-independent directors abstaining from the vote).

At the beginning of each year, the Compensation Committee reviews our executive compensation program, including any incentive compensation plans and arrangements to determine whether they are appropriate, properly coordinated, and achieve their intended purposes and makes any modifications to existing plans and arrangements or adopts new plans or arrangements. The Compensation Committee also conducts an annual review of our executive compensation strategy to ensure that it is appropriately aligned with our business strategy and the achievement of our desired objectives. Further, the Compensation Committee reviews market trends and changes in competitive compensation practices, as further described below. Based on its review and assessment, the Compensation Committee, from time to time, makes changes in our executive compensation program or recommends changes to our Board of Directors.

The factors considered by the Compensation Committee in determining the compensation of our executive officers and developing its recommendations to our Board of Directors for 2019 included:

- the recommendations of our Chief Executive Officer (except with respect to his own compensation) as described below;
- our corporate growth and other elements of financial performance;
- the individual achievement of each executive officer against his or her management objectives;
- a review of the relevant competitive market data (as described below);
- the expected future contribution of the individual executive officer; and
- internal pay equity based on the impact on our business and performance.

The Compensation Committee does not weigh these factors in any predetermined manner, nor does it apply any formulas in developing its compensation determinations and recommendations. Rather, in making its determinations and recommendations, the members of the Compensation Committee consider all of this information in light of their individual experience, knowledge of the Company, knowledge of the competitive market, knowledge of each executive officer, and business judgment.

The Compensation Committee's authority, duties, and responsibilities are described in its charter, which is reviewed annually and revised and updated as warranted. The charter is available on our website at www.FireEye.com in the Governance section of our Investor Relations webpage.

Role of Management

Our Chief Executive Officer works closely with the Compensation Committee in determining the compensation of our other executive officers, including our other Named Executive Officers. Typically, our Chief Executive Officer works with the Compensation Committee to recommend the structure of the annual cash incentive compensation opportunities, to identify and develop corporate and individual performance objectives for such cash incentive compensation opportunities, and to evaluate actual performance against the selected measures. Our Chief Executive Officer also makes recommendations to the Compensation Committee as described in the following paragraph and is involved in the determination of compensation for the respective executive officers who report to him.

At the beginning of each year, our Chief Executive Officer reviews the performance of our other executive officers for the previous year, and then shares these evaluations with, and makes recommendations to, the Compensation Committee for each element of compensation. These recommendations concern the base salary, annual cash incentive compensation, and long-term incentive compensation for each of our executive officers (other than himself) based on our results, the individual executive officer's contribution to these results, and his or her performance toward achieving his or her individual performance objectives. The Compensation Committee then reviews these recommendations and considers the other factors described above and makes decisions as to the target total direct compensation of each executive officer (other than our Chief Executive Officer), as well as each individual compensation element.

While the Compensation Committee considers our Chief Executive Officer's recommendations, it only uses these recommendations as one of several factors in making its decisions with respect to the compensation of our executive officers. In all cases, the final decisions on compensation matters are made by the Compensation Committee or our Board of Directors (with any non-independent directors abstaining from the vote). Moreover, no executive officer participates in the determination of the amounts or elements of his or her own compensation.

At the request of the Compensation Committee, our Chief Executive Officer typically attends a portion of each Compensation Committee meeting in which executive compensation is discussed, including meetings at which the Compensation Committee's compensation consultant is present.

Role of Compensation Consultant

Pursuant to its charter, the Compensation Committee has the authority to retain the services of one or more executive compensation advisors, as it determines in its sole discretion, including compensation consultants, legal counsel, accounting, and other advisors, to assist in the creation of our compensation plans and arrangements and related policies and practices. The Compensation Committee makes all determinations regarding the engagement, fees, and services of these external advisors, and any such external advisor reports directly to the Compensation Committee.

During 2019, the Compensation Committee engaged Compensia, Inc., a national compensation consulting firm, to provide information, analysis, and other assistance relating to our executive compensation program on an ongoing basis. The nature and scope of the services provided to the Compensation Committee by Compensia in 2019 were as follows:

- conducted a review and updating of the compensation peer group;
- conducted an analysis of the levels of overall compensation and each element of compensation for our executive officers;
- provided advice with respect to compensation best practices and market trends for our executive officers and the non-employee members of our Board of Directors; and
- provided *ad hoc* advice and support throughout the year.

The Compensation Committee may replace its compensation consultant or hire additional advisors at any time. Representatives of Compensia attend meetings of the Compensation Committee, as requested, and communicate with the Compensation Committee Chair and with management as circumstances warrant. All decisions regarding the compensation of our executive officers, however, are made by the Compensation Committee (provided that any approvals by the Compensation Committee relating to the compensation of our Chief Executive Officer are subject to the ratification of our Board of Directors, with any non-independent directors abstaining from the vote) or our Board of Directors (with any non-independent directors abstaining from the vote).

Compensia reports directly to the Compensation Committee. The Compensation Committee has assessed the independence of Compensia taking into account, among other things, the enhanced independence standards and factors set forth in Exchange Act Rule 10C-1 and the applicable NASDAQ Listing Standards, and concluded that that there are no conflicts of interest with respect to the work that Compensia performs for the Compensation Committee.

Use of Competitive Market Data

As one of many factors in its deliberations on compensation matters, the Compensation Committee considers competitive market data on executive compensation levels and practices and a related analysis of such data, but does not use this data for setting compensation levels to meet specific percentiles. This market data is drawn from a select group of peer companies developed by the Compensation Committee.

At the direction of the Compensation Committee, Compensia developed a revised compensation peer group in October 2018 to ensure that our executive compensation decisions for 2019 were positioned to be competitive with comparable peer companies. This updated peer group was based on an evaluation of companies that the Compensation Committee believed were comparable to us, taking into consideration the size of each company (based on revenues and market capitalization) and the following additional factors:

- the comparability of the company's business model;
- the company's business services focus;
- the comparability of the company's operating history;

- the comparability of the company's organizational complexities and growth attributes;
- the stage of the company's maturity curve (which increases its likelihood of attracting the type of executive talent for whom we compete);
- the companies we most often compete with for talent when hiring; and
- the comparability of the company's operational performance (for consistency with our strategy and future performance expectations).

Based on these criteria, the Compensation Committee approved an updated compensation peer group consisting of 20 publicly-traded business services and related technology companies. At the time Compensia updated the peer group, the selected companies had revenues ranging from approximately $344 million to approximately $2.1 billion, with a median of $662 million, and market capitalizations ranging from approximately $1.7 billion to approximately $19.6 billion, with a median of $5.5 billion. The companies comprising the compensation peer group were as follows:

Aspen Technology	Imperva	Splunk
Box	LendingClub	Tableau Software
Commvault Systems	LogMeIn	Twilio
Cornerstone OnDemand	Medidata Solutions	Ultimate Software Group
Envestnet	Palo Alto Networks	Yelp
Fortinet	Progress Software	Zendesk
Guidewire Software	Proofpoint	

Of the 20 companies in our 2019 compensation peer group, 17 were carried over from 2018 (Aspen Technology, Box, Cornerstone OnDemand, Envestnet, Fortinet, Guidewire Software, LendingClub, Medidata Solutions, Palo Alto Networks, Progress Software, Proofpoint, Splunk, Tableau Software, Twilio, Ultimate Software Group, Yelp and Zendesk). The turnover of our compensation peer group was a result of the evaluation and selection criteria described above.

The Compensation Committee believes that information regarding the compensation practices at other companies is useful in at least two respects. First, the Compensation Committee recognizes that our compensation policies and practices must be competitive in the marketplace. Second, this information is useful in assessing the reasonableness and appropriateness of individual executive compensation elements and of our overall executive compensation packages. This information is only one of several factors that the Compensation Committee considers, however, in making its decisions with respect to the compensation of our executive officers.

Compensation Elements

Our executive compensation program consists primarily of three elements: base salary, short-term incentive compensation in the form of cash awards, and long-term incentive compensation in the form of equity awards. Our executive officers also participate in several Company-wide welfare and health benefit plans, which are consistent with the arrangements offered to our other employees in the United States. Finally, our executive officers are eligible to receive certain post-employment compensation arrangements.

We use these compensation elements to make up our executive compensation program because (i) they are consistent with the programs of other companies in our competitive market and allow us to effectively compete for highly-qualified talent, (ii) each element supports achievement of one or more of our compensation objectives, and (iii) collectively, they have been and, we believe, will continue to be, effective means for motivating our executive officers. We view the three primary compensation elements as related, but distinct, components of our total compensation program. We do not believe that total compensation should be derived from a single element, or that significant compensation from one element should negate or reduce compensation from other elements.

Each of these compensation elements is discussed in detail below, including a description of the particular element and how it fits into our overall executive compensation and a discussion of the amounts of compensation paid to our Named Executive Officers in 2019 under each of these elements.

Base Salary

We believe that a competitive base salary is necessary to attract and retain a stable executive team. Base salaries for our executive officers are also intended to be competitive with those received by other individuals in similar positions at the companies with which we compete for talent, as well as equitable across the executive team.

Generally, we establish the initial base salaries of our executive officers through arm's-length negotiation at the time we hire the individual executive officer, taking into account his or her position, qualifications, experience, prior salary level, and the base salaries of our other executive officers.

Thereafter, the Compensation Committee or our Board of Directors reviews the base salaries of our executive officers, including our Named Executive Officers, at least annually and makes adjustments to base salaries as it determines to be necessary or appropriate.

In January 2019, the Compensation Committee reviewed the base salaries of our executive officers, taking into consideration a competitive market analysis performed by Compensia and the recommendations of our CEO (except with respect to his own base salary), as well as the other factors described above. Following this review, the Compensation Committee determined that an adjustment was necessary and appropriate in the case of Ms. King to maintain the competitiveness of her target total cash compensation and decided to increase her base salary compared to her 2018 level, effective as of January 1, 2019.

The ending base salaries of our Named Executive Officers for 2019 compared to 2018 levels were as follows:

Named Executive Officer	Ending 2018 Base Salary	Ending 2019 Base Salary	Amount Increase	Percentage Increase
Ms. King	$366,667	$383,000	$16,333	4%
Mr. Mandia	$425,000	$425,000	—	—
Mr. Reese	$400,000	$400,000	—	—
Mr. Robbins	$462,500	$462,500	—	—
Mr. Verdecanna	$400,000	$400,000	—	—

The base salaries earned by our Named Executive Officers for 2019 are set forth in the "Summary Compensation Table for Fiscal Year 2019" below.

Annual Cash Incentive Compensation—Overview

We use annual cash incentive compensation paid under our Employee Incentive Plan (the "Incentive Plan") to motivate our executive officers, including our Named Executive Officers, and other designated employees to achieve our short-term financial and operational objectives while making progress towards our longer-term growth and other goals. Consistent with our executive compensation philosophy, this annual cash incentive compensation is intended to help us deliver a competitive total direct compensation opportunity to our executive officers.

Under the Incentive Plan, the Compensation Committee or our Board of Directors establishes annual performance measures and related target levels applicable to any cash incentive compensation opportunity under the Incentive Plan each year. Performance objectives that involve our financial results may be determined in accordance with GAAP or may consist of non-GAAP financial measures, and any actual results may be adjusted

by the Compensation Committee or our Board of Directors for one-time items or unbudgeted or unexpected items when determining whether the performance objectives have been met. Individual performance objectives may be established on the basis of any factors the Compensation Committee or our Board of Directors determines relevant, and may be adjusted on an individual, divisional, business unit, or Company-wide basis. The performance objectives may differ from participant to participant and from cash incentive compensation opportunity to cash incentive compensation opportunity.

The Compensation Committee or our Board of Directors may, in its sole discretion and at any time, increase, reduce, or eliminate a participant's actual cash payment, and/or increase, reduce, or eliminate the amount of cash allocated for a particular performance period. The actual cash payment may be below, at, or above a participant's target cash incentive compensation opportunity, in the Compensation Committee's or our Board of Directors' sole discretion. The Compensation Committee or our Board of Directors may determine the amount of any reduction or increase on the basis of such factors as it deems relevant, and it is not required to establish any allocation or weighting with respect to the factors it considers.

Actual cash incentive compensation is paid only after it is earned.

The Compensation Committee and our Board of Directors have the authority to amend, alter, suspend, or terminate annual performance measures and related target levels, provided that such action does not impair the existing rights of any participant with respect to any earned cash incentive compensation.

Target Cash Incentive Compensation Opportunities

The Compensation Committee or our Board of Directors reviews the performance of each executive officer, including each of our Named Executive Officers, relative to his or her target cash incentive compensation opportunity objectives at its regularly scheduled first quarter meeting. Based on this review, the Compensation Committee (with respect to each executive officer other than our CEO) or our Board of Directors determines and approves the cash payment for each of our eligible executive officers.

In January 2019, the Compensation Committee reviewed the annual target cash incentive compensation opportunities of our executive officers, and our Board of Directors (with our sole non-independent director not present at the meeting) also reviewed the annual target cash incentive compensation opportunities of our CEO, taking into consideration a competitive market analysis performed by Compensia and the recommendations of our CEO (except with respect to his own annual target cash incentive compensation opportunity), as well as the other factors described above. Following its review, the Compensation Committee determined that an adjustment was necessary and appropriate in the case of Ms. King to maintain the competitiveness of her target total cash compensation and decided to increase her annual target cash incentive compensation opportunity compared to her 2018 level, effective as of January 1, 2019. Following its review, our Board of Directors determined not to make any adjustments to the target cash incentive compensation opportunity for our CEO.

Additionally, in January 2019, under the terms of the Incentive Plan, the Compensation Committee established annual performance measures and related target levels for potential 2019 cash incentive compensation for our executive officers (the "2019 Incentive Compensation Plan"). The 2019 Incentive Compensation Plan provided the eligible executive officers with an opportunity to receive cash incentive compensation in February 2020, subject to the achievement of corporate and individual performance objectives in 2019.

The annual target cash incentive compensation opportunities of our Named Executive Officers under the 2019 Incentive Compensation Plan were as follows:

Named Executive Officer	2018 Target Cash Incentive Compensation Opportunity	2019 Target Cash Incentive Compensation Opportunity	Amount Increase	Percentage Increase	2019 Target Cash Incentive Compensation Opportunity (as a percentage of ending 2019 annual base salary)
Ms. King	$183,333	$191,500	$8,167	4%	50%
Mr. Mandia	$425,000	$425,000	—	—	100%
Mr. Reese	$320,000	$320,000	—	—	80%
Mr. Robbins	$362,500	$362,500	—	—	78%
Mr. Verdecanna	$200,000	$200,000	—	—	50%

Short-Term Incentive Compensation

Weighting of Target Cash Incentive Compensation Opportunities

Under the 2019 Incentive Compensation Plan, the target cash incentive compensation opportunities of our Named Executive Officers were weighted 75% to corporate performance objectives and 25% to individual performance objectives.

The Compensation Committee determined these allocations to be appropriate to focus our executive officers on our short-term financial objectives as reflected in our annual operating plan while, at the same time, recognizing their contributions to the achievement of these objectives and the successful execution of their individual roles and responsibilities.

Corporate Performance Objectives

For 2019, the Compensation Committee selected revenue and free cash flow as the corporate performance measures for the 2019 Incentive Compensation Plan.[1] Unlike the prior year, the Compensation Committee did not include non-GAAP operating income as one of the corporate performance measures based on specific feedback we received from stockholders that we refrain from using the same performance measure for both our short-term and long-term incentive compensation programs. The Compensation Committee believed revenue and free cash flow performance measures were appropriate for our business because they provided a balance between generating revenue, generating cash and growing our business, which it believes directly influences long-term stockholder value. At the same time, for each of these measures, the Compensation Committee established target performance levels that it believed would be challenging, but attainable, through the successful execution of our annual operating plan.

[1] Free cash flow is a non-GAAP financial measure. A reconciliation of GAAP to non-GAAP financial measures is provided in Annex A included at the end of this proxy statement.

For the 2019 Incentive Compensation Plan, each of these corporate performance measures was equally weighted. The actual cash payment with respect to each measure was to be determined independently, in accordance with the following schedules (each, a "2019 Incentive Compensation Plan Payout Schedule"):

Achievement Level of 2019 Revenue	Payment Factor
110% or greater	150%
At least 101% but less than 110%	5:1 Addition from 101% to 110% achievement
At least 94% through 100%	10:1 Addition from 94% to 100% achievement
93%	30%
Less than 93%	0%

Achievement Level of 2019 Free Cash Flow	Payment Factor
180% or greater	150%
At least 101% but less than 180%	0.625:1 Addition from 101% to 180% achievement
At least 51% through 100%	1:1 Addition from 51% to 100% achievement
50%	50%
Less than 50%	0%

Under the 2019 Incentive Compensation Plan, our Board of Directors or Compensation Committee could adjust the target or achievement levels for each corporate performance measure in the event a merger, acquisition or other unforeseeable future event occurred.

In January 2019, the Compensation Committee established target levels for the corporate performance measures based on revenue and free cash flow under the 2019 Incentive Compensation Plan. In July 2019, the Compensation Committee updated these target levels due to our acquisition of Verodin, Inc. in May 2019, to account for the planned impact of the acquisition on our 2019 financial performance. The initial and updated target levels for the corporate performance measures under the 2019 Incentive Compensation Plan were as follows:

Financial Measure	Initial Fiscal 2019 Target Level	Updated Fiscal 2019 Target Level	Percentage of 2019 Target Cash Incentive Compensation Opportunity Based on Two Financial Measures
Revenue	$895.0 million	$915.2 million	37.5%
Free cash flow	$ 58.0 million	$ 46.5 million	37.5%

Individual Performance Objectives

In addition to the corporate performance objectives, the annual cash incentive compensation for our executive officers was also based on each executive officer's achievement against his or her individual performance objectives. The individual performance objectives for our Named Executive Officers were established by the Compensation Committee in discussions with our CEO (except with respect to his own individual performance objectives). The individual performance objectives could be quantitative or qualitative goals, depending on the organizational priorities for a given year, and typically focused on key departmental or operational objectives or functions. Most of these objectives were intended to provide a set of common goals that facilitated collaborative management and engagement, although our executive officers could also be assigned individual goals. These objectives set expectations for what our Chief Executive Officer and the Compensation Committee anticipated would be the means by which the individual component of cash incentive compensation were determined. In all cases, the individual performance objectives were intended to be challenging, but attainable, and designed to produce annual cash incentive payments that reflect meaningful performance requirements.

The individual performance objectives for our Named Executive Officers under the 2019 Incentive Compensation Plan were established at the beginning of 2019, were qualitative in nature and were closely linked to their roles at the time.

- *Ms. King:* Ms. King's specific goals included managing our privacy function, supporting our mergers and acquisition activity, developing and building our patent portfolio and trademarks, managing our equity program, and managing the legal function with respect to commercial, employment, corporate and securities matters.
- *Mr. Mandia:* Mr. Mandia's specific goals included customer engagement activities, participating in media and press engagements, providing product strategy and vision overall, and other goals related to achieving our externally-communicated financial targets.
- *Mr. Reese:* Mr. Reese's specific goals included customer engagement activities, business planning activities, and translating global business priorities into operational tactics for our products, subscriptions and services.
- *Mr. Robbins:* Mr. Robbins' specific goals included driving our global sales efforts, assisting with business planning activities, and customer engagement activities.
- *Mr. Verdecanna:* Mr. Verdecanna's specific goals included business planning activities, public financial reporting activities, investor relations activities, and identifying additional opportunities for corporate performance optimization.

The evaluation of our CEO under the 2019 Incentive Compensation Plan was based on an assessment by our Board of Directors (with our CEO not present at the meeting) against his individual performance objectives for the year. The evaluation of each of our other executive officers under the 2019 Incentive Compensation Plan was based on an assessment by our CEO against their respective individual performance objectives for the year. Because our CEO is closest to the performance of the other executive officers, he determined if the individual performance objectives were met, how they were met and whether there were other objectives that were more relevant indicators of performance for that individual. Our CEO then made his recommendations about achievement for the individual performance objectives to the Compensation Committee and our Board of Directors, which they then took into consideration. The Compensation Committee and our Board of Directors had complete discretion to accept our CEO's recommendation, or to increase, reduce, or eliminate this aspect of an executive officer's cash incentive compensation based on any factors they deemed relevant.

In January 2020, the level of achievement and payment associated with the individual performance objectives established for each executive officer (other than our CEO) were determined by our CEO and then submitted to the Compensation Committee and our Board of Directors for review and approval. Payments for the individual performance component of the 2019 Incentive Compensation Plan could be up to 150% of the portion of each executive officer's target cash incentive compensation opportunity allocated to individual performance.

2019 Performance Results and Award Decisions

In February 2020, our Board of Directors (with our sole non-independent director not present at the meeting and therefore not voting) determined the levels of our achievement, and corresponding payout levels pursuant to the 2019 Incentive Compensation Plan Payout Schedules, with respect to the corporate performance objectives under the 2019 Incentive Compensation Plan, and approved the following payout levels:

Corporate Performance Objective	2019 Target Level	Actual 2019 Achievement	Corresponding Payout Level	Approved Payout Level
Revenue	$915.2 million	$889.2 million	70%	70%
Free cash flow	$ 46.5 million	$ 26.0 million	56%	56%

(1) Free cash flow for purposes of the 2019 Incentive Compensation Plan excluded $4.1 million in restructuring costs paid by the Company in 2019.

Also in February 2020, our Board of Directors determined (with our sole non-independent director not present at the meeting and therefore not voting) that the individual performance objectives had been attained at the following percentage levels:

Named Executive Officer	Individual Performance Objectives Attainment Level
Ms. King	90%
Mr. Mandia	90%
Mr. Reese	70%
Mr. Robbins	90%
Mr. Verdecanna	90%

Additionally, in February 2020, based on its review of our overall performance in 2019 against the corporate performance objectives and, to the extent applicable, the achievement of individual performance objectives of our Named Executive Officers as described above, our Board of Directors determined (with our sole non-independent director not present at the meeting and therefore not voting) to award cash payments under the 2019 Incentive Compensation Plan as follows to our Named Executive Officers:

Named Executive Officer	2019 Target Cash Incentive Compensation Opportunity	Amount Related to Corporate Financial Objectives	Amount Related to Individual Performance Objectives	Actual Cash Incentive Payment	Percentage of Target Cash Incentive Compensation Opportunity
Ms. King	$191,500	$143,625	$ 47,875	$133,571	70%
Mr. Mandia	$425,000	$318,750	$106,250	$296,438	70%
Mr. Reese	$320,000	$240,000	$ 80,000	$207,200	65%
Mr. Robbins	$362,500	$271,875	$ 90,625	$252,844	70%
Mr. Verdecanna	$200,000	$150,000	$ 50,000	$139,500	70%

The cash amounts paid to our Named Executive Officers under the 2019 Incentive Compensation Plan are set forth in the "Summary Compensation Table for Fiscal Year 2019" below under the heading "Non-Equity Incentive Plan Compensation."

Long-Term Incentive Compensation

We believe that if our executive officers own shares of our common stock in amounts that are significant to them, they will have an incentive to act to maximize long-term stockholder value. As discussed in the section "Other Compensation Policies" below, we use stock ownership guidelines to complement our long-term incentive compensation arrangements, so our executive officers maintain a strong link to the interests of our stockholders and to the movements in our stock price. We also believe that long-term incentive compensation in the form of equity awards is an integral component of our efforts to attract and retain exceptional executive officers. In the past six years, we have relied on RSU awards that may be settled for shares of our common stock and PSU awards pursuant to which shares of our common stock may be earned as the principal vehicles for delivering long-term incentive compensation opportunities to our executive officers. We believe this approach enables us to attract and retain key talent in our industry and aligns our executive team's interests with the long-term interests of our stockholders.

Generally, in determining the size of the equity awards granted to our executive officers, the Compensation Committee or our Board of Directors, as applicable, takes into consideration the recommendations of our Chief Executive Officer (except with respect to his own equity awards), as well as a competitive market analysis performed by Compensia and the factors described above. The Compensation Committee or our Board of Directors, as applicable, also considers the dilutive effect of our long-term incentive compensation practices, and the overall impact that these equity awards, as well as awards to other employees, will have on stockholder value.

2019 Awards

In February 2019, our Board of Directors granted equity awards to our Named Executive Officers, in recognition of our financial results and their individual performance for 2018 and, in the case of our CEO, his continued effectiveness in overseeing the efforts of our executive officers to achieve our short-term and long-term business objectives. In determining the amount of the equity awards for our Named Executive Officers (other than our CEO), our Board of Directors took into consideration the recommendations of our CEO, as well as the factors described above. With respect to the equity awards for our CEO, our Board of Directors took into consideration the factors described above and determined that, given his responsibilities and importance to us, our CEO's equity awards should be larger than the awards of the other executive officers to reflect his greater role and responsibilities. Our Board of Directors also considered a competitive market analysis performed by Compensia and the existing equity holdings of our Named Executive Officers, including the current economic value of their unvested equity awards and the ability of these unvested holdings to satisfy our retention objectives.

The equity awards granted to our Named Executive Officers in February 2019 consisted of both RSU and PSU awards, and the total number of shares of our common stock underlying all of the RSU awards and the target and maximum number of shares of our common stock underlying all of the PSU awards granted in February 2019 were as follows:

	RSU Awards	PSU Awards	
Named Executive Officer	**Number of Shares**	**Target Number of Shares under PSU Awards**	**Maximum Number of Shares (assuming overachievement)**
Ms. King	67,500	67,500	101,250
Mr. Mandia	187,500	187,500	281,250
Mr. Reese	162,500	162,500	243,750
Mr. Robbins	112,500	112,500	168,750
Mr. Verdecanna	107,500	107,500	161,250

The RSU awards were subject to a time-based vesting requirement. Pursuant to this vesting requirement, with respect to all of the RSU awards, one-fourth of the shares of our common stock subject to the RSU awards will vest on February 15, 2020, and the remaining shares subject to the RSU awards vesting quarterly thereafter in 12 generally equal installments, with the vesting in each case being subject to the executive officer's continued service with us through the applicable vesting date.

The PSU awards were subject to both performance conditions and time-based vesting requirements, and had three components:

- 50% of the target number of shares of our common stock that could be earned under each PSU award was based on our billings performance over three separate consecutive annual performance periods (e.g., for the 50% portion, 1/3 was tied to 2019 performance, 1/3 was tied to 2020 performance and 1/3 was tied to 2021 performance), with any shares earned for a performance period vesting in the February following the completion of that performance period (so that the 50% portion, to the extent earned, will vest 1/3 per year), subject to the executive officer's continued service with us through the applicable vesting date.
- 30% of the target number of shares of our common stock that could be earned under each PSU award was based on our non-GAAP operating income performance over three separate consecutive annual performance periods (e.g., for the 30% portion, 1/3 was tied to 2019 performance, 1/3 was tied to 2020 performance and 1/3 was tied to 2021 performance), with any shares earned for a performance period vesting in the February following the completion of that performance period and determination of the performance results by the Compensation Committee (so that the 30% portion, to the extent earned, will vest 1/3 per year), subject to the executive officer's continued service with us through the applicable vesting date.

- 20% of the target number of shares of our common stock that could be earned under each PSU award was based on a relative Total Shareholder Return ("rTSR") performance measure. The rTSR measure is based on our stock performance relative to the stock performance of companies in the Russell 2000 Index over a three-year performance period (2019-2021). Any shares earned will vest shortly after the completion of the performance period (so that the 20% portion, to the extent earned, will vest on February 2022), subject to the executive officer's continued service with us through the vesting date.

The following table summarizes the performance measures and related target share percentages by performance period underlying the PSU awards granted to our executive officers in 2019:

Performance Measure	Target Number of Shares under PSU Awards Tied to 2019 Performance	Target Number of Shares under PSU Awards Tied to 2020 Performance	Target Number of Shares under PSU Awards Tied to 2021 Performance	Target Number of Shares under PSU Awards Tied to rTSR for 2019-2021	Total
Billings	17%	17%	17%	—	50%
Non-GAAP operating income	10%	10%	10%	—	30%
Relative Total Shareholder Return	—	—	—	20%	20%
Total	**27%**	**27%**	**27%**	**20%**	**100%**

Pursuant to the performance conditions under each PSU award, the number of shares of our common stock that could be earned with respect to a performance measure for a performance year or three-year performance period, as applicable, was based on pre-established threshold, target, and maximum performance levels for such performance measure for such performance year or three-year performance period, as applicable.

The PSU awards provided that, for the performance period commencing on January 1, 2019 and ending on December 31, 2019, the number of shares of our common stock earned with respect to the 2019 billings performance measure or the 2019 non-GAAP operating income performance measure would be determined independently, in accordance with the following payout schedules (each, a "2019 PSU Payout Schedule"):

Achievement Level of 2019 Billings	Payment Factor
110% or greater	150%
At least 101% but less than 110%	5:1 Addition from 101% to 110% achievement
At least 91% through 100%	5:1 Addition from 91% to 100% achievement
90%	50%
Less than 90%	0%

Achievement Level of 2019 Non-GAAP Operating Income	Payment Factor
200% or greater	150%
At least 101% but less than 200%	0.5:1 Addition from 101% to 200% achievement
At least 51% through 100%	1:1 Addition from 51% to 100% achievement
50%	50%
Less than 50%	0%

The PSU awards further provided that, for the three-year performance period commencing on January 1, 2019 and ending on December 31, 2021, the number of shares of our common stock earned with respect to the rTSR performance measure would be determined independently, in accordance with the following payout schedule:

3-Year (2019-2021) rTSR Performance Relative to Indexed Companies	Payment Factor*
At or above 75th percentile	150%
Above 55th percentile but below 75% percentile	2.5:1 Addition from 56th to 75th percentile
55th percentile	100%
Above 25th percentile but below 55% percentile	3.33:1 Addition from 26th to 55th percentile
At or below 25th percentile	0%

* Payment factor is capped at 100% if rTSR is negative.

In February 2019, our Board of Directors established target levels for the 2019 performance measures under the PSU awards. In July 2019, the Compensation Committee updated these target levels due to our acquisition of Verodin, Inc. in May 2019, to account for the planned impact of the acquisition on our 2019 financial performance. The initial and updated target levels for the 2019 performance measures under the PSU awards granted in 2019 were as follows:

2019 Performance Measure[2]	Initial Fiscal 2019 Target Level	Updated Fiscal 2019 Target Level
Billings	$950.0 million	$970.0 million
Non-GAAP operating income	$ 50.0 million	$ 48.6 million

Payout of 2019 PSU Awards for 2019 Performance

In February 2020, our Board of Directors determined that, with our actual billings in 2019 being $926.1 million, the 2019 billings performance measure under the applicable PSU awards described above was achieved at the 95% level, equating to 75% of the target number of shares of our common stock being earned pursuant to the performance requirements for the portions of the PSU awards tied to 2019 billings performance.

Our Board of Directors also determined that, with our actual non-GAAP operating income in 2019 being $11.8 million, the 2019 non-GAAP operating income performance measure under the applicable PSU awards described above was achieved at the 24% level, equating to none of the target number of shares of our common stock earned pursuant to the performance requirements for the portions of the PSU awards tied to 2019 non-GAAP operating income performance.

For the portions of the PSU awards which were measured on 2019 billings performance *(i.e.,* 17% of the total PSU awards) and 2019 non-GAAP operating income performance (*i.e.,* 10% of the total PSU awards), the blended payout for both measures represented 46.9% of the target number of shares of our common stock under such portions of the PSU awards being earned.

[2] Billings and non-GAAP operating income are non-GAAP financial measures. A reconciliation of GAAP to non-GAAP financial measures is provided in Annex A included at the end of this proxy statement.

The following table sets forth the number of shares earned and approved for settlement and release, and the corresponding number of shares cancelled, for the portion of the PSU awards granted in 2019 to our Named Executive Officers that were tied to 2019 performance:

Named Executive Officer	Target Number of Shares under PSU Awards Tied to 2019 Billings Performance and 2019 Non-GAAP Operating Income Performance	Approved Payout Level for PSU Awards Tied to 2019 Billings Performance and 2019 Non-GAAP Operating Income Performance	Actual Number of Shares Approved for Release under PSU Awards Tied to 2019 Billings Performance and 2019 Non-GAAP Operating Income Performance	Number of Shares Cancelled under PSU Awards Tied to 2019 Billings Performance and 2019 Non-GAAP Operating Income Performance
Ms. King	18,000	46.9%	8,437	9,563
Mr. Mandia	50,000	46.9%	23,437	26,563
Mr. Reese	43,333	46.9%	20,312	23,021
Mr. Robbins	30,000	46.9%	14,062	15,938
Mr. Verdecanna	28,666	46.9%	13,437	15,229

The equity awards granted in 2019 to our Named Executive Officers are set forth in the "Summary Compensation Table for Fiscal Year 2019" and the "Grants of Plan-Based Awards Table for Fiscal Year 2019" below.

2016 Award for Mr. Robbins

In December 2016, in connection with Mr. Robbins joining FireEye, the Compensation Committee granted him a PSU award with a target of 50,000 shares of our common stock to be earned based on 2019 company performance. While the entire award originally was based on a billings performance measure, in April 2018 it was amended to instead be based half on our billings in 2019 and the other half on our non-GAAP operating income in 2019 in order to align with the two performance measures and payout schedules for the PSU awards granted in 2018 to our executive officers. The PSU award was further amended in February 2019 to replace the payout tables with the 2019 PSU Payout Schedules, so that the payout schedules for all of Mr. Robbins' PSU awards tied to 2019 performance would be consistent.

Pursuant to the performance condition under the PSU award, half of the number of shares of our common stock that could be earned for the 2019 performance year was based on pre-established threshold, target, and maximum performance levels for our billings in 2019, and the other half of the number of shares of our common stock that could be earned for the 2019 performance year was based on pre-established threshold, target, and maximum performance levels for our non-GAAP operating income in 2019. The target performance levels were the same as for the PSU award granted to Mr. Robbins in February 2019, and were similarly updated by the Compensation Committee in July 2019 to account for the planned impact of our May 2019 acquisition of Verodin on our 2019 financial performance.

The PSU award provided that, for the 2019 performance year, the number of shares earned would be determined in accordance with the 2019 PSU Payout Schedules. Pursuant to the vesting requirement, the PSU award provided that the shares earned for the 2019 performance year would vest in February 2020, subject to Mr. Robbin's continued service with us through the vesting date.

In February 2020, our Board of Directors determined that, with our actual billings in 2019 being $926.1 million, the 2019 billings performance measure under the PSU award was achieved at the 95% level, equating to 75% of the target number of shares of our common stock being earned pursuant to the performance requirements for the portion of the PSU award tied to 2019 billings performance. Our Board of Directors also

determined that, with our actual non-GAAP operating income in 2019 being $11.8 million, the 2019 non-GAAP operating income performance measure under the PSU award was achieved at the 24% level, equating to none of the target number of shares of our common stock earned pursuant to the performance requirements for the portion of the PSU award tied to 2019 non-GAAP operating income performance. As a result, the approved payout under the PSU award for both measures was 18,750 shares of our common stock, which represented 37.5% of the target number of shares of our common stock under the PSU award being earned, and 31,250 shares of our common stock underlying the PSU award were cancelled.

Welfare and Health Benefits

We maintain a tax-qualified retirement plan (the "FireEye 401(k) plan") under Section 401(k) of the Internal Revenue Code (the "Code") for our executive officers and other employees who satisfy certain eligibility requirements, including requirements relating to age and length of service. The FireEye 401(k) plan provides eligible employees with an opportunity to save for retirement on a tax-advantaged basis. This plan is intended to qualify under Sections 401(a) and 501(a) of the Code so that contributions by employees to the plan, and income earned on plan contributions, are not taxable to employees until distributed from the plan. In addition, all contributions are deductible by us when made.

All participants' interests in their deferrals are 100% vested when contributed under the FireEye 401(k) plan. Pre-tax contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. In 2019, we made no matching contributions into the FireEye 401(k) plan.

In addition, we provide other benefits to our executive officers on the same basis as all of our full-time employees. These benefits include health, dental and vision benefits, health and dependent care flexible spending accounts, short-term and long-term disability insurance, accidental death and dismemberment insurance, and basic life insurance coverage. We also provide flexible time off and other paid holidays to all employees, including our executive officers. We do not offer our employees a non-qualified deferred compensation plan or defined benefit pension plan.

We design our employee benefits programs to be affordable and competitive in relation to the market, as well as compliant with applicable laws and practices. We adjust our employee benefits programs as needed based upon regular monitoring of applicable laws and practices, the competitive market and our employees' needs.

Perquisites and Other Personal Benefits

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide perquisites to our executive officers, except in situations where we believe it is appropriate to assist an individual in the performance of his or her duties, to make our executive officers more efficient and effective, for recruitment and retention purposes, or consistent with benefits provided to our other full-time employees. For example, we may ask executive officers and their spouses to participate in our annual President's Club events offered as rewards to certain other employees for excellent sales or other performance. We treat the expenses of spouses as taxable income to the executive officers. Because spousal participation is at our request and can be disruptive to other plans they may have, we provide a tax "gross up" payment on that imputed income.

In the future, we may provide perquisites or other personal benefits to our executive officers in limited circumstances, such as where we believe it is appropriate to assist an individual executive officer in the performance of his or her duties, to make our executive officers more efficient and effective, for recruitment, motivation or retention purposes, or consistent with benefits provided to our other full-time employees. We do not expect that these perquisites or other personal benefits will be a significant aspect of our executive compensation program. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by the Compensation Committee.

Employment Arrangements

We have entered into written employment offer letters with each of our Named Executive Officers. Each of these arrangements was approved on our behalf by our Board of Directors or the Compensation Committee, as applicable. We believe that these arrangements were appropriate to induce these individuals to forego other employment opportunities or leave their current employer for the uncertainty of a demanding position in a new and unfamiliar organization.

In filling these executive positions, our Board of Directors or the Compensation Committee, as applicable, was aware that it would be necessary to recruit candidates with the requisite experience and skills to manage a growing business in a dynamic and ever-changing industry. Accordingly, it recognized that it would need to develop competitive compensation packages to attract qualified candidates in a highly-competitive labor market. At the same time, our Board of Directors or the Compensation Committee, as applicable, was sensitive to the need to integrate new executive officers into the executive compensation structure that it was seeking to develop, balancing both competitive and internal equity considerations.

Each of these employment offer letters provides for "at will" employment and sets forth the initial compensation arrangements for our Named Executive Officer, including an initial base salary, an annual target cash incentive compensation opportunity, and, in some instances, a recommendation for an equity award.

For a summary of the material terms and conditions of the employment offer letters with each of our Named Executive Officers, see the section titled "—Employment Agreements for Executive Officers" below.

Post-Employment Compensation

Prior to July 2013, the employment offer letters that we entered into with certain of our executive officers provided for certain payments and benefits in the event of their termination of employment under specified circumstances, including following a change in control of the Company. We believed that these arrangements were significant factors in the recruitment of these executive officers and would help these individuals maintain continued focus and dedication to their responsibilities to help maximize stockholder value if there was a potential transaction that could involve a change in control of the Company.

In July 2013, the Compensation Committee adopted a Change of Control Severance Policy for Officers (the "Severance Policy"), a standardized approach for the payment of severance and change in control benefits to our executive officers. Under the Severance Policy, the rights of our executive officers upon an involuntary termination of employment, including an involuntary termination of employment following a change in control of the Company, were established on a uniform basis. In addition, the post-employment compensation and benefits of our executive officers were established separately from their other compensation elements. The Severance Policy is applicable to all new executive officers hired since July 2013. In addition, our executive officers were given the opportunity to waive the existing severance and change in control protections in their employment offer letters in favor of the Severance Policy. Ms. King, our only Named Executive Officer who was an executive officer at July 2013, agreed to relinquish the severance payments and benefits otherwise provided in her employment offer letter in exchange for eligibility to receive payments and benefits under the Severance Policy.

We believe the Severance Policy serves several objectives. First, it eliminates the need to negotiate separation payments and benefits on a case-by-case basis. It also helps assure an executive officer that his or her severance payments and benefits are comparable to those of other executive officers with similar levels of responsibility. Further, it acts as an incentive for our executive officers to remain employed and focused on their responsibilities during the threat or negotiation of a change-in-control transaction, which we believe will help preserve our value and the potential benefit to be received by our stockholders in any such transaction. Finally, the Severance Policy is easier for us to administer, as it requires less time and expense.

The Severance Policy contemplates that the payments and benefits in the event of a change in control of the Company are payable only upon a "double trigger"; that is, only following a change in control and a qualifying termination of employment, including a termination of employment without cause or a resignation for good reason, and in each case requires that the executive officer execute a general release of claims in favor of the Company. In addition, the Severance Policy provides payments and benefits to our executive officers for qualified terminations of employment unrelated to a change in control of the Company.

For a summary of the material terms and conditions of the Severance Policy, as well as an estimate of the potential payments and benefits that our Named Executive Officers would have been eligible to receive if a hypothetical change in control or other trigger event had occurred on December 31, 2019, see the sections titled "—Change of Control Severance Policy for Officers" and "—Potential Payments upon a Change of Control, upon Termination or upon Termination Following a Change of Control" below.

Other Compensation Policies

Stock Ownership Guidelines

We believe that stock ownership by our executive officers and the non-employee members of our Board of Directors is important to link the risks and rewards inherent in stock ownership of these individuals and our stockholders. Our Board of Directors has adopted formal stock ownership guidelines that require our executive officers and the non-employee members of our Board of Directors to own a minimum number of shares of our common stock. These mandatory ownership levels are intended to create a clear standard that ties a portion of these individuals' economic interests to the performance of our stock price. Compliance is evaluated on an annual basis, as determined by the Compensation Committee, and not on an ongoing basis. Shares of our common stock underlying time-based RSU awards, shares of our common stock that have been earned under PSU awards, and the shares of our common stock subject to vested stock options (on a net exercise basis) count toward meeting the requirements. The current required ownership levels are as follows:

Individual Subject to Ownership Guidelines	Minimum Required Level of Stock Ownership
Chief Executive Officer	6x base salary
Other Executive Officers	1x base salary
Non-employee members of Board of Directors	3x annual retainer

During any year in which an individual's required ownership level is not met, he or she is required to retain at least 50% of the net shares following the exercise of stock options, the vesting of RSU awards or the vesting of PSU awards until the required ownership level has been met. The guidelines provide that in the event the annual retainer (or any portion thereof) is paid to a non-employee member of our Board of Directors in equity instead of cash, the annual retainer (or applicable portion thereof) means the grant date fair value of the annual equity award (or applicable portion thereof) for regular service on our Board of Directors.

In March 2020, the Compensation Committee evaluated executive officer and director compliance with the guidelines for 2019 and determined that our CEO, each of our other executive officers and five non-employee members of our Board of Directors had satisfied his or her required stock ownership level. Mr. McDermott, who is a non-employee member of our Board of Directors, is within a grace period, defined as five years from the date of first becoming subject to the guidelines, and, thus, is still in the process of satisfying his required stock ownership level.

Clawback Policy

Our Board of Directors has adopted a clawback policy allowing it to require the repayment or forfeiture of all or part of any performance-based cash incentive compensation, performance-based equity award or other performance-based award paid or granted to our executive officers where the payment, grant or vesting of such compensation or award was based on the achievement of financial results that were subsequently the subject of a financial restatement and where the restatement was intended to correct the result of fraud or intentional misconduct. This policy only applies to current and former executive officers subject to the reporting requirements of Section 16 of the Exchange Act who were involved in the fraud or misconduct. In addition to the foregoing, our Chief Executive Officer and our Chief Financial Officer are subject to the compensation recovery provisions of Section 304 of the Sarbanes-Oxley Act.

Equity Award Grant Policy

We maintain an Equity Award Grant Policy that provides the following guidelines to be observed by the Compensation Committee and our Board of Directors when granting equity awards under the Company's equity compensation plans:

- Any equity awards granted by the Compensation Committee to our Chief Executive Officer are subject to the ratification of our Board of Directors (with any non-independent directors abstaining from the vote).
- Generally, equity awards for new hires will be granted on a monthly basis. An equity award granted to a new hire may not have a grant date prior to such individual's first date of bona fide employment or service.
- The Compensation Committee, our Board of Directors, and/or the Equity Award Committee (a committee, consisting of our Chief Financial Officer and our General Counsel, to which the Compensation Committee has delegated non-exclusive authority to grant equity awards to employees below Vice President level where the award falls within prescribed guidelines approved by the Compensation Committee) has the authority to grant occasional retention, promotion, or merit equity awards during the year in a manner that is consistent with the terms of this policy.
- Equity awards should not be timed in relation to the release of material non-public information, and it is the intent of the policy to specify the timing of effectiveness of equity award grants to avoid such timing.

Under our current equity compensation plan, the exercise price of any option to purchase shares of our common stock may not be less than the fair market value of our common stock on the date of grant.

Derivatives Trading, Hedging, and Pledging Policies

Our insider trading policy prohibits short sales, hedging and transactions in derivatives of FireEye securities for all FireEye personnel, including directors, officers, employees, independent contractors and consultants. In addition, our insider trading policy prohibits our executive officers and the non-employee members of our Board of Directors from pledging their equity securities or using such securities as collateral for a loan.

Risk Assessment and Compensation Practices

Our management assesses and discusses with the Compensation Committee our compensation policies and practices for our employees as they relate to our risk management, and based upon this assessment, we believe that, for the following reasons, any risks arising from such policies and practices are not reasonably likely to have a material adverse effect on us in the future:

- Our annual incentive plan considers a multiple of corporate and individual performance factors and allows the Compensation Committee to review performance on a holistic basis minimizing risk related to our short-term variable compensation; and
- Our equity awards include multi-year vesting and/or performance schedules requiring a long-term employee commitment.

Tax and Accounting Considerations

Deductibility of Executive Compensation

Section 162(m) of the Code limits the amount of compensation that we may deduct in any one year for compensation paid to the Chief Executive Officer and certain other highly compensated executive officers (including the Chief Financial Officer for compensation earned after 2017) to $1 million. While the Compensation Committee considers the deductibility of compensation as a factor in making compensation decisions, the Compensation Committee retains the flexibility to provide compensation that is consistent with our goals for our executive compensation program even if such compensation is not fully tax deductible. Accordingly, the Compensation Committee may make decisions that result in compensation expense that is not fully deductible under Section 162(m) of the Code.

Taxation of Nonqualified Deferred Compensation

Section 409A of the Code requires that amounts that qualify as "nonqualified deferred compensation" satisfy requirements with respect to the timing of deferral elections, timing of payments, and certain other matters. Generally, the Compensation Committee intends to administer our executive compensation program and design individual compensation components, as well as the compensation plans and arrangements for our employees generally, so that they are either exempt from, or satisfy the requirements of, Section 409A. From time to time, we may be required to amend some of our compensation plans and arrangements to ensure that they are either exempt from, or compliant with, Section 409A.

Taxation of "Parachute" Payments

Sections 280G and 4999 of the Code provide that executive officers and directors who hold significant equity interests and certain other service providers may be subject to significant additional taxes if they receive payments or benefits in connection with a change in control of the Company that exceeds certain prescribed limits, and that the Company (or a successor) may forfeit a deduction on the amounts subject to this additional tax. We are not obligated to provide any Named Executive Officer with a "gross-up" or other reimbursement payment for any tax liability that he or she may owe as a result of the application of Sections 280G or 4999 in the event of a change in control of the Company.

Accounting for Stock-Based Compensation

The Compensation Committee takes accounting considerations into account in designing compensation plans and arrangements for our executive officers and other employees. Chief among these is Financial Accounting Standards Board Accounting Standards Codification Topic 718 ("ASC Topic 718"), the standard which governs the accounting treatment of stock-based compensation awards.

ASC Topic 718 requires us to recognize in our financial statements all share-based payment awards to employees, including grants of options to purchase shares of our common stock and restricted stock awards that may be settled for shares of our common stock to our executive officers, based on their fair values. For certain performance-based stock awards, we also must apply judgment in determining the periods when, and if, the achievement of the related performance targets becomes probable.

ASC Topic 718 also requires us to recognize the compensation cost of our share-based payment awards in our income statement over the period that an employee, including our executive officers, is required to render service in exchange for the award (which, generally, will correspond to the award's vesting schedule).

Compensation Committee Report

The information contained in the following Compensation Committee Report shall not be deemed to be soliciting material or to be filed with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Company specifically incorporates it by reference in such filing.

Our compensation committee has reviewed and discussed the Compensation Discussion and Analysis required by 402(b) of Regulation S-K with management. Based on this review and discussion, our compensation committee recommended to our board of directors that the Compensation Discussion and Analysis be included in this proxy statement and incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

Respectfully submitted by the members of the compensation committee of our board of directors:

Enrique Salem (Chair)
Ronald E. F. Codd
Adrian McDermott
Stephen Pusey

Summary Compensation Table for Fiscal Year 2019

The following table provides information regarding the compensation awarded to, or earned by, our Named Executive Officers (with the applicable titles described below as of the end of 2019) during 2017, 2018 and 2019.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)(1)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)	Total ($)
Kevin R. Mandia,	2019	425,000	—	7,004,250	—	296,438	2,478	7,728,166
Chief Executive Officer	2018	418,750	—	5,668,000	—	425,000	32,918	6,544,668
	2017	350,000	—	6,095,000	—	353,500	990	6,799,490
Frank E. Verdecanna,								
Executive Vice President, Chief	2019	400,000	—	4,015,770	—	139,500	2,014	4,557,284
Financial Officer and Chief	2018	397,500	—	2,479,750	—	200,000	1,320	3,078,570
Accounting Officer	2017	360,833	—	3,801,250	—	186,850	1,757	4,350,690
Alexa King,	2019	383,000	—	2,521,530	—	133,571	2,212	3,040,313
Executive Vice President, General	2018	366,667	—	1,417,000	—	183,333	1,518	1,968,518
Counsel and Secretary	2017	337,500	—	2,111,250	—	185,166	990	2,634,906
Travis M. *Reese,*	2019	400,000	—	6,070,350	—	207,200	990	6,678,540
President(3)	2018	394,583	—	4,251,000	—	320,000	990	4,966,573
	2017	335,000	—	3,275,534	—	270,680	108,250	3,989,464
William T. Robbins,	2019	462,500	—	4,202,550	—	252,844	9,511(4)	4,927,405
Executive Vice President of	2018	461,458	—	3,220,280	—	362,500	17,678	4,061,916
Worldwide Sales	2017	450,000	—	—	—	353,500	1,848	805,348

(1) The amounts reported in this column represent the aggregate grant date fair value of time-based restricted stock units ("RSUs") and performance-based restricted stock units ("PSUs") as computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the awards reported in this column are set forth in the notes to our audited consolidated financial statements included in our Annual Report on Form 10-K, as filed with the SEC on February 21, 2020. The PSUs were valued based on the probable (target) outcome of performance-based conditions (i.e., based on 100% achievement). If the PSUs were instead valued based on the maximum outcome of performance-based conditions (i.e., based on 150% achievement), the total amount represented in this column for 2019 would be as follows: Ms. King: $3,158,595; Mr. Mandia: $8,773,875; Mr. Reese: $7,604,025; Mr. Robbins: $5,264,325; and Mr. Verdecanna: $5,030,355.

(2) The amounts reported in this column represent amounts paid under the Employee Incentive Plan.

(3) Mr. Reese's employment with us terminated upon his retirement on March 1, 2020.

(4) This includes $7,415 in tax gross-up payments relating to travel expenses for Mr. Robbins' spouse for our President's Club sales awards event.

Grants of Plan-Based Awards Table for Fiscal Year 2019

The following table provides information regarding the amount of equity awards granted to our Named Executive Officers during 2019.

		Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1)			Estimated Future Payouts Under Equity Incentive Plan Awards(2)		All Other Stock Awards: Number of Shares of Stock or Units(#)(3)	Grant Date Fair Value of Stock and Option Awards($)(4)
Name	Grant Date	Threshold ($)	Target ($)	Maximum ($)	Target (#)	Maximum (#)		
Alexa King	—	—	191,500	287,250	—	—	—	—
	2/5/19	—	—	—	67,500	101,250		1,274,130
	2/5/19	—	—	—	—	—	67,500	1,247,400
Kevin R. Mandia	—	—	425,000	637,500	—	—	—	—
	2/5/19	—	—	—	187,500	281,250	—	3,539,250
	2/5/19	—	—	—	—	—	187,500	3,465,000
Travis M. Reese	—	—	320,000	480,000	—	—	—	—
	2/5/19	—	—	—	162,500	243,750	—	3,067,350
	2/5/19	—	—	—	—	—	162,500	3,003,000
William T. Robbins	—	—	362,500	543,750	—	—	—	—
	2/5/19	—	—	—	112,500	168,750	—	2,123,550
	2/5/19	—	—	—	—	—	112,500	2,079,000
Frank E. Verdecanna	—	—	200,000	300,000	—	—	—	—
	2/5/19	—	—	—	107,500	161,250	—	2,029,170
	2/5/19	—	—	—	—	—	107,500	1,986,600

(1) The amounts reported in the Estimated Future Payouts Under Non-Equity Incentive Plan Awards columns relate to amounts payable for the achievement of the 2019 performance metrics established by our compensation committee under our Employee Incentive Plan. The target column assumes the achievement of the corporate performance metrics and the individual performance metrics at the target level. The maximum column assumes the achievement of the corporate performance metrics and the individual performance metrics at the maximum level. Notwithstanding the level of performance achieved by our Named Executive Officers, our compensation committee reserves the right to increase, reduce or eliminate any incentive compensation in its discretion. The actual amounts paid to our Named Executive Officers are set forth in the Summary Compensation Table for Fiscal Year 2019 above. For more information, see the section titled "Compensation Discussion and Analysis—Compensation Elements" above.

(2) Represents performance-based restricted stock unit awards which were granted under the FireEye, Inc. 2013 Equity Incentive Plan. For more information, see the section titled "Compensation Discussion and Analysis—Compensation Elements" above.

(3) Represents restricted stock unit awards which were granted under the FireEye, Inc. 2013 Equity Incentive Plan.

(4) The amounts reported in this column represent the aggregate grant date fair value of the award as computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the awards reported in this column are set forth in the notes to our audited consolidated financial statements included in our Annual Report on Form 10-K, as filed with the SEC on February 21, 2020.

Outstanding Equity Awards at 2019 Fiscal Year-End Table

The following table presents certain information concerning equity awards held by our Named Executive Officers as of December 31, 2019.

		Option Awards				Stock Awards(1)			
Name	Grant Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock that have not Vested (#)	Market Value of Shares or Units of Stock that have not Vested ($)(2)	Equity incentive plan awards: number of unearned shares, units or other rights that have not vested(#)	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested($)(2)
Alexa King	5/5/16(3)	—	—	—	—	1,250	20,663	—	—
	5/5/16(4)	—	—	—	—	6,250	103,313	—	—
	2/9/17(3)	—	—	—	—	36,249	599,196	—	—
	2/9/17(5)	—	—	—	—	31,250	516,563	—	—
	2/7/18(6)	—	—	—	—	32,811	542,366	—	—
	2/7/18(7)	—	—	—	—	37,500	619,875	—	—
	2/5/19	—	—	—	—	8,437(8)	139,464	49,500(9)	818,235
	2/5/19(10)	—	—	—	—	67,500	1,115,775	—	—
Kevin R. Mandia	5/3/16(3)	—	—	—	—	6,250	103,313	—	—
	5/3/16(11)	—	—	—	—	31,250	516,563	—	—
	3/23/17(3)	—	—	—	—	96,666	1,597,889	—	—
	3/23/17(5)	—	—	—	—	83,334	1,377,511	—	—
	2/7/18(6)	—	—	—	—	131,250	2,169,563	—	—
	2/7/18(7)	—	—	—	—	150,000	2,479,500	—	—
	2/5/19	—	—	—	—	23,437(12)	387,414	137,500(9)	2,272,875
	2/5/19(10)	—	—	—	—	187,500	3,099,375	—	—
Travis M. Reese(13)	1/24/13(14)	20,657	—	7.92	1/23/23	—	—	—	—
	11/16/13(14)	93,961	—	9.56	11/15/23	—	—	—	—
	5/5/16(3)	—	—	—	—	6,250	103,313	—	—
	5/5/16(11)	—	—	—	—	31,250	516,563	—	—
	2/9/17(3)	—	—	—	—	56,241	929,664	—	—
	2/9/17(5)	—	—	—	—	48,484	801,441	—	—
	2/7/18(6)	—	—	—	—	98,436	1,627,147	—	—
	2/7/18(7)	—	—	—	—	112,500	1,859,625	—	—
	2/5/19	—	—	—	—	20,312(15)	335,757	119,167(9)	1,969,831
	2/5/19(10)	—	—	—	—	162,500	2,686,125	—	—
William T. Robbins	12/27/16	—	—	—	—	18,750(16)	309,938	50,000(17)	826,500
	12/27/16(18)	—	—	—	—	50,000	826,500	—	—
	2/7/18(6)	—	—	—	—	49,218	813,574	—	—
	2/7/18(7)	—	—	—	—	56,250	929,813	—	—
	2/18/18(6)	—	—	—	—	16,404	271,158	—	—
	2/18/18(7)	—	—	—	—	18,750	309,938	—	—
	2/5/19	—	—	—	—	14,062(19)	232,445	82,500(9)	1,363,725
	2/5/19(10)	—	—	—	—	112,500	1,859,625	—	—
Frank E. Verdecanna	11/11/12(14)	29,497	—	3.66	11/10/22	—	—	—	—
	11/11/12(14)	58,495	—	3.66	11/10/22	—	—	—	—
	2/9/16	—	—	—	—	—	—	8,000(20)	132,240
	2/1/17(3)	—	—	—	—	29,000	479,370	—	—
	2/1/17(5)	—	—	—	—	25,000	413,250	—	—
	7/31/17(3)	—	—	—	—	24,166	399,464	—	—
	7/31/17(21)	—	—	—	—	20,833	344,369	—	—
	2/7/18(22)	—	—	—	—	57,421	949,169	—	—
	2/7/18(7)	—	—	—	—	65,625	1,084,781	—	—
	2/5/19	—	—	—	—	13,437(23)	222,114	78,834(9)	1,303,126
	2/5/19(10)	—	—	—	—	107,500	1,776,975	—	—

(1) Unless otherwise described in the footnotes below, represents (i) restricted stock unit awards and (ii) performance based restricted stock unit awards, in each case that remained unvested and/or unearned as of December 31, 2019. If the holder of an award ceases to provide services to us prior to the date on which all shares subject to the award have vested in accordance with the applicable vesting schedule described in the footnotes below, we have a right to cancel the then unvested portion of the award.

(2) The market value of unvested shares is calculated by multiplying the number of unvested shares held by the applicable Named Executive Officer by the closing market price of our common stock on The NASDAQ Global Select Market on December 31, 2019, which was $16.53 per share.

(3) Represents the actual number of shares issuable upon the vesting of restricted stock units. 100% of the amount earned, which was based on the achievement of certain performance conditions, vested on February 15, 2020.

(4) 100% of the shares subject to the restricted stock unit award will vest on May 15, 2020, subject to the holder's continuous status as a service provider on such vesting date.

(5) 100% of the shares subject to the restricted stock unit award vested on February 15, 2020.

(6) Represents the actual number of shares issuable upon the vesting of restricted stock units. One-third of the amount earned, which was based on the achievement of certain performance conditions, vested on February 15, 2020, and the remaining amount earned will vest annually in two equal installments on the anniversary of such date, subject to the holder's continuous status as a service provider on each such vesting date.

(7) One-third of the shares subject to the restricted stock unit award vested on February 15, 2020, and the remaining shares subject to the restricted stock unit award will vest annually in two equal installments on the anniversary of such date, subject to the holder's continuous status as a service provider on each such vesting date.

(8) Upon the achievement of certain performance conditions, 8,437 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

(9) Upon the achievement of the target outcome of certain performance conditions, approximately 36.4% of the eligible restricted stock units will vest on February 15, 2021, and approximately 63.6% of the eligible restricted stock units will vest on February 15, 2022, subject to the holder's continuous status as a service provider on each such vesting date.

(10) 25% of the shares subject to the restricted stock unit award vested on February 15, 2020, and the remaining shares subject to the restricted stock unit award will vest quarterly thereafter in 12 generally equal installments, subject to the holder's continuous status as a service provider on each such vesting date.

(11) 100% of the shares subject to the restricted stock unit award will vest on June 15, 2020, subject to the holder's continuous status as a service provider on such vesting date.

(12) Upon the achievement of certain performance conditions, 23,437 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

(13) Mr. Reese's service terminated upon his retirement on March 1, 2020, at which time all then unvested restricted stock units previously granted to him were forfeited.

(14) The stock option is fully vested and immediately exercisable.

(15) Upon the achievement of certain performance conditions, 20,312 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

(16) Upon the achievement of certain performance conditions, 18,750 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

(17) Upon the achievement of the target outcome of certain performance conditions, 100% of the eligible restricted stock units will vest on February 15, 2021, subject to the holder's continuous status as a service provider on such vesting date.

(18) 25% of the shares subject to the restricted stock unit award vested on February 15, 2020, and the remaining shares subject to the restricted stock unit award will vest quarterly thereafter in three equal installments, subject to the holder's continuous status as a service provider on each such vesting date.

(19) Upon the achievement of certain performance conditions, 14,062 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

(20) This restricted stock unit award forfeited on February 15, 2020, and none of the restricted stock units were earned or vested as the performance conditions were not achieved.

(21) 100% of the shares subject to the restricted stock unit award will vest on August 15, 2020, subject to the holder's continuous status as a service provider on such vesting date.

(22) Represents the actual number of shares issuable upon the vesting of restricted stock units. 19,141 shares of the amount earned, which was based on the achievement of certain performance conditions, vested on February 15, 2020, and the remaining amount earned will vest annually in two equal installments on the anniversary of such date, subject to the holder's continuous status as a service provider on each such vesting date.

(23) Upon the achievement of certain performance conditions, 13,437 of the eligible restricted stock units relating to the 2019 performance year were earned and vested on February 15, 2020.

Option Exercises and Stock Vested for Fiscal Year 2019 Table

The following table sets forth the number of shares acquired and the value realized upon the exercise of stock options and the vesting of restricted stock unit awards during 2019 by each of our Named Executive Officers.

	Option Awards		Stock Awards	
Name	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise ($)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)(1)
Alexa King	—	—	117,603	2,051,558
Kevin R. Mandia	—	—	359,166	6,205,551
Travis M. Reese	—	—	244,202	4,175,558
William T. Robbins	—	—	140,624	2,383,701
Frank Verdecanna	—	—	142,046	2,404,395

(1) Based on the market price per share of the Company's common stock on the vesting date, multiplied by the number of shares vested.

Employment Agreements for Executive Officers

Kevin R. Mandia

Effective December 30, 2013, we entered into an employment offer letter with Kevin R. Mandia, our Chief Executive Officer. The offer letter is for no specific term and provides that Mr. Mandia is an "at-will" employee. Mr. Mandia's current annual base salary is $440,000, and he is eligible for annual target incentive payments equal to $440,000 for 2020. Mr. Mandia is also eligible for severance payments and benefits under our Change of Control Severance Policy for Officers.

The offer letter also contains certain covenants regarding external consulting and other activities that Mr. Mandia cannot engage in while providing services to us.

Peter Bailey

Effective February 11, 2020, we entered into a confirmatory employment offer letter with Peter Bailey, our Executive Vice President and Chief Operating Officer. The offer letter is for no specific term and provides that Mr. Bailey is an "at-will" employee. Mr. Bailey's current annual base salary is $400,000, and he is eligible for annual target incentive payments equal to $225,000 for 2020. Mr. Bailey is also eligible for severance payments and benefits under our Change of Control Severance Policy for Officers.

Alexa King

Effective August 1, 2013, we entered into a confirmatory employment offer letter with Alexa King, our Executive Vice President, General Counsel and Secretary. The offer letter is for no specific term and provides that Ms. King is an "at-will" employee. Ms. King's current annual base salary is $395,000, and she is eligible for annual target incentive payments equal to $197,500 for 2020. Ms. King is also eligible for severance payments and benefits under our Change of Control Severance Policy for Officers.

William T. Robbins

Effective November 14, 2016, we entered into an employment offer letter with William T. Robbins, our Executive Vice President, Chief Revenue Officer and General Manager of Products. The offer letter is for no specific term and provides that Mr. Robbins is an "at-will" employee. Mr. Robbins' current annual base salary is $475,000, and he is eligible for annual target incentive payments equal to $380,000 for 2020. Mr. Robbins is also eligible for severance payments and benefits under our Change of Control Severance Policy for Officers.

Frank E. Verdecanna

Effective February 20, 2018, we entered into a confirmatory employment offer letter with Frank E. Verdecanna, our Executive Vice President, Chief Financial Officer and Chief Accounting Officer. The offer letter is for no specific term and provides that Mr. Verdecanna is an "at-will" employee. Mr. Verdecanna's current annual base salary is $410,000, and he is eligible for annual target incentive payments equal to $246,000 for 2020. Mr. Verdecanna is also eligible for severance payments and benefits under our Change of Control Severance Policy for Officers.

Other Employment Agreements

Travis M. Reese

Effective July 20, 2016, we entered into an amended and restated employment offer letter with Travis M. Reese, our former President. The offer letter is for no specific term and provided that Mr. Reese was an "at-will" employee. Mr. Reese's employment with us terminated in March 2020 upon his retirement.

On February 4, 2020, we entered into a consulting agreement with Mr. Reese. Under the consulting agreement, Mr. Reese agreed to provide ongoing advice and consulting services to us for a period of one year commencing on March 3, 2020, in consideration of (i) a cash payment of $50,000, provided that Mr. Reese remains a service provider of the Company through the end of the one-year period, and (ii) the grant of a restricted stock unit award covering 7,500 shares of the Company's common stock, which will vest at the end of the one-year period provided that Mr. Reese remains a service provider of the Company through such vesting date.

Change of Control Severance Policy for Officers

In July 2013, our compensation committee adopted and approved a Change of Control Severance Policy for Officers (the "Severance Policy"). All of our executive officers and certain of our non-executive officers (collectively referred to as "eligible employees") are generally eligible for severance payments and benefits under the Severance Policy, subject to the conditions described below. Each eligible employee may receive payments and benefits upon a qualified termination of employment anytime from three months prior to a change of control through 12 months following a change of control of the Company (the "change of control period"). In addition, eligible employees may receive severance payments and benefits for qualified terminations of employment unrelated to a change of control. The payments and benefits in the Severance Policy vary based on whether an eligible employee is an executive officer, or Tier 1 Executive, or a non-executive officer, or Tier II Executive.

In the event of a termination of employment without "cause" or a resignation for "good reason" (as such terms are generally defined below), in each case, during the change of control period, an eligible employee will receive the following:

- Tier I Executive or Tier II Executive:
  - lump-sum 12 months base salary payment;
  - pro-rata bonus for the year of termination;
  - 100% acceleration of unvested equity awards with unvested performance awards vesting at maximum level; and
  - paid COBRA continuation for 12 months.

In the event of a termination of employment without "cause" (as generally defined below) outside of the change of control period, an eligible employee will receive the following:

- Tier I Executive:
  - lump-sum 12 months base salary payment; and
  - paid COBRA continuation for 12 months.
- Tier II Executive:
  - lump-sum six months base salary payment; and
  - paid COBRA continuation for six months.

To be an eligible employee, the participant must enter into a participation agreement with us. Also, all severance payments and benefits under the Severance Policy are subject to the eligible employee executing a release of clams in favor of the Company. Payments and benefits under the Severance Policy replace any then-existing severance and/or change of control payment and benefit arrangements that an eligible employee had previously. All of our Named Executive Officers have entered into a participation agreement with us.

For purposes of the Severance Policy, "cause" means generally:

- the unauthorized use or disclosure of our confidential information or trade secrets, which use or disclosure causes material harm to us;
- the material breach of any agreement between us and the named executive officer;
- the material failure to comply with our written policies or rules;
- the conviction of, or plea of "guilty" or "no contest" to, a felony under the laws of the United States or any State;
- gross negligence or willful misconduct in the performance of the named executive officer's duties;
- the continuing failure to perform assigned duties after receiving written notification of the failure from our Chief Executive Officer; or
- the failure to cooperate in good faith with a governmental or internal investigation of the company or our directors, officers or employees, if we have requested such cooperation;

provided, however, that "cause" will not be deemed to exist in certain of the events above unless the named executive officer has been provided with (i) 30 days' written notice by our board of directors of the act or omission constituting "cause" and (ii) 30 days' opportunity to cure such act or omission, if capable of cure.

For purposes of the Severance Policy, "good reason" means generally any of the following without an eligible employee's consent:

- a material reduction in duties, authority, reporting relationship, or responsibilities;
- a material reduction in annual cash compensation;
- a requirement to relocate to a location more than 20 miles from the eligible employee's then-current office location;
- a material breach by us of the eligible employee's employment agreement or any other agreement between the eligible employee and us; or
- a failure by any successor entity to assume the Severance Policy.

Potential Payments upon a Change of Control, upon Termination or upon Termination Following a Change of Control

Potential Payments Upon Termination of Employment Outside of the Change of Control Period

The table below shows the estimated payments and benefits that each Named Executive Officer would have received under the Severance Policy if his or her employment had been terminated without cause on December 31, 2019, assuming that such termination occurred outside of a change of control period.

Name	Salary Continuation($)	Value of Continued Health Care Premiums($)(1)	Total($)
Alexa King	383,000	26,547	409,547
Kevin R. Mandia	425,000	26,547	451,547
Travis M. Reese	400,000	19,365	419,365
William T. Robbins	462,500	26,547	489,047
Frank E. Verdecanna	400,000	26,547	426,547

(1) Estimates of COBRA value are based on coverage in effect as of December 31, 2019.

Potential Payments Upon Termination of Employment During the Change of Control Period

The table below shows the estimated payments and benefits that each Named Executive Officer would have received under the Severance Policy if his or her employment had been terminated without cause, or he or she had resigned for good reason, on December 31, 2019, assuming that such termination or resignation for good reason occurred within a change of control period.

			Acceleration			
Name	Salary Continuation($)	Pro rata Cash Incentive($)(1)	Option Awards($)	Stock Awards($)	Value of Continued Health Care Premiums($)(2)	Total($)
Alexa King	383,000	191,500	—	5,191,412	26,547	5,792,459
Kevin R. Mandia	425,000	425,000	—	15,992,775	26,547	16,869,322
Travis M. Reese(3)	400,000	320,000	—	12,553,064	19,365	13,292,429
William T. Robbins	462,500	362,500	—	10,279,544	26,547	11,131,091
Frank E. Verdecanna	400,000	200,000	—	8,245,081	26,547	8,871,628

(1) Represents amount of target annual cash incentive opportunity as of December 31, 2019.
(2) Estimates of COBRA value are based on coverage in effect as of December 31, 2019.
(3) Amounts to Mr. Reese reflect amounts payable upon a qualifying termination on December 31, 2019. Mr. Reese's employment with us terminated in March 2020 due to his retirement. He will receive only the payments described in his consulting agreement.

Equity Compensation Plan Information

The following table provides information as of December 31, 2019 with respect to shares of our common stock that may be issued under our existing equity compensation plans. The table does not include information with respect to shares of our common stock subject to outstanding stock options that were assumed by us in connection with our acquisitions of Mandiant, nPulse Technologies or Verodin, which originally granted those stock options. However, footnote 3 to the table sets forth the total number of shares of our common stock issuable upon the exercise of those assumed options as of December 31, 2019, and the weighted average exercise price of those assumed stock options.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted Average Exercise Price of Outstanding Options, Warrants and Rights(1)	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Equity compensation plans approved by stockholders(2)	24,058,907	$13.4773	15,074,048
Equity compensation plans not approved by stockholders(3)	—	—	—
Total	24,058,907	$13.4773	15,074,048

(1) The weighted average exercise price is calculated based solely on outstanding stock options. It does not take into account restricted stock units, which have no exercise price.

(2) Includes the following plans: FireEye, Inc. 2008 Stock Plan, FireEye, Inc. 2013 Equity Incentive Plan ("2013 Plan") and FireEye, Inc. 2013 Employee Stock Purchase Plan ("ESPP"). Our 2013 Plan provides that on the first day of each fiscal year, the number of shares available for issuance thereunder is automatically increased by a number equal to the least of (i) 12,100,000 shares of common stock, (ii) five percent (5.0%) of the aggregate number of shares of common stock outstanding on December 31st of the preceding fiscal year, or (iii) such other amount as may be determined by our board of directors. Our ESPP provides that on the first day of each fiscal year, the number of shares available for issuance thereunder is automatically increased by a number equal to the least of (i) 3,700,000 shares of common stock, (ii) one percent (1.0%) of the aggregate number of shares of common stock outstanding on such date, or (iii) such other amount as may be determined by our board of directors. On January 1, 2020, the number of shares available for issuance under our 2013 Plan and our ESPP increased by 10,971,095 shares and 2,194,219 shares, respectively, pursuant to these provisions. These increases are not reflected in the table above.

(3) The table does not include information for the Mandiant Corporation 2011 Equity Incentive Plan, nPulse Technologies, Inc. 2012 Stock Incentive Plan and Verodin, Inc. 2015 Equity Incentive Plan, which are equity compensation plans governing stock options assumed by us in connection with the acquisitions of Mandiant, nPulse Technologies and Verodin. As of December 31, 2019, there were a total of 2,078,809 shares subject to outstanding stock options assumed by us in connection with the acquisitions of Mandiant, nPulse Technologies and Verodin. Those outstanding stock options had a weighted average exercise price of $4.1619 per share. No additional awards may be made under those plans.

CEO Pay Ratio

As required by Item 402(u) of Regulation S-K, we are providing the following information about the relationship of the annual total compensation of our employees and the annual total compensation of our Chief Executive Officer:

For 2019, our last completed fiscal year:

- the median of the annual total compensation of all employees of our company (other than our Chief Executive Officer) was $156,004; and
- the annual total compensation of our Chief Executive Officer, as reported in the Summary Compensation Table presented elsewhere in this proxy statement, was $7,728,166.

Based on this information, for 2019, the ratio of the annual total compensation of our Chief Executive Officer to the median of the annual total compensation of all other employees was approximately 50 to 1. This pay ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K.

To identify the median of the annual total compensation of all our employees, as well as to determine the annual total compensation of the "median employee," the methodology and the material assumptions, adjustments and estimates that we used were as follows:

- We selected December 31, 2019, which is the last day of our fiscal year, as the date upon which we would identify the median employee.
- As of December 31, 2019, our employee population consisted of 3,429 individuals.
- To identify the "median employee" from our employee population we used payroll and equity plan records for January 1, 2019 through December 31, 2019 (the "compensation measurement period").
  - The compensation measure included the following: base salary, bonus payments, grant date fair value of equity awards, and sales commissions. Such cash amounts reflected amounts, if any, actually paid during the compensation measurement period.
  - We did not annualize any amounts for employees who were hired in fiscal year 2019 but did not work for us or our subsidiaries for the entire fiscal year.
  - We did not exclude any non-U.S. employee under the *de minimis* exception set forth in Item 402(u) of Regulation S-K.
  - We did not include the amount of non-cash tax gross ups for relocation benefits and employee recognition awards.
  - Amounts paid in foreign currency were converted into United States dollars using exchange rates in effect as of December 31, 2019.
  - Because we had an even number of employees when not including the CEO, there were two employees for whom the number of employees with greater annual total compensation equaled the number of employees with less annual total compensation. From those two employees, we selected as the "median employee" the employee who had been employed by us for the full year, rather than the other employee who started with us in March 2019, in order to identify a more representative employee whose compensation reflects a full year of employment.
- With respect to the annual total compensation of the "median employee," we identified and calculated the elements of such employee's compensation for 2019 in accordance with the requirements of Item 402(c)(2)(x) of Regulation S-K, resulting in annual total compensation of $156,004.
- With respect to the annual total compensation for our Chief Executive Officer, we used the amount reported in the "Total" column of our Summary Compensation Table for Fiscal Year 2019.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of March 30, 2020 for:

- each of our directors and nominees for director;
- each of our Named Executive Officers;
- all of our current directors and current executive officers as a group; and
- each person or group who is known by us to be the beneficial owner of more than 5% of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC and the information is not necessarily indicative of beneficial ownership for any other purpose. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned, subject to community property laws where applicable.

We have based our calculation of the percentage of beneficial ownership on 222,755,682 shares of our common stock outstanding as of March 30, 2020. We have deemed shares of our common stock subject to stock options that are currently exercisable or exercisable within 60 days of March 30, 2020, or issuable pursuant to restricted stock units that are subject to vesting conditions expected to occur within 60 days of March 30, 2020, to be outstanding and to be beneficially owned by the person holding the stock option or restricted stock units for the purpose of computing the percentage ownership of that person. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o FireEye, Inc., 601 McCarthy Blvd., Milpitas, CA 95035.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
5% Stockholders:		
The Vanguard Group(1)	19,035,095	8.5%
Shapiro Capital Management LLC(2)	15,168,014	6.8%
Clearbridge Investments, LLC(3)	13,373,010	6.0%
Directors and Named Executive Officers:		
Alexa King(4)	373,851	*
Kevin R. Mandia(5)	3,286,044	1.5%
Travis M. Reese(6)	790,408	*
William T. Robbins(7)	136,078	*
Frank E. Verdecanna(8)	351,135	*
Kimberly Alexy(9)	64,277	*
Ronald E. F. Codd(10)	245,490	*
Adrian McDermott(11)	7,215	*
Stephen Pusey(12)	34,035	*
Enrique Salem(13)	257,096	*
Robert E. Switz(14)	42,977	*
All current directors and current executive officers as a group (11 persons)(15)	4,798,198	2.2%

* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of our common stock.

(1) As of December 31, 2019, the reporting date of The Vanguard Group's filing with the SEC on February 12, 2020 pursuant to Section 13(g) of the Exchange Act, The Vanguard Group, as investment advisor, has sole voting power with respect to 120,613 shares of our common stock, shared voting power with respect to

43,332 shares of our common stock, sole dispositive power with respect to 18,898,979 shares of our common stock and shared dispositive power with respect to 136,116 shares of our common stock. Vanguard Fiduciary Trust Company, a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 92,784 shares of our common stock as a result of its serving as investment manager of collective trust accounts. Vanguard Investments Australia, Ltd., a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 71,161 shares of our common stock as a result of its serving as investment manager of Australian investment offerings. The principal business address of The Vanguard Group is 100 Vanguard Blvd., Malvern, PA 19355.

(2) As of December 31, 2019, the reporting date of the filing by Shapiro Capital Management LLC with the SEC on February 14, 2020 pursuant to Section 13(g) of the Exchange Act, Shapiro Capital Management LLC, as investment advisor, has sole voting power with respect to 14,063,409 shares of our common stock, shared voting power with respect to 1,104,605 shares of our common stock, sole dispositive power with respect to 15,168,014 shares of our common stock and shared dispositive power with respect to zero shares of our common stock. The principal business address of Shapiro Capital Management LLC is 3060 Peachtree Road, Suite 1555 N.W., Atlanta, GA 30305.

(3) As of December 31, 2019, the reporting date of the filing by Clearbridge Investments, LLC with the SEC on February 14, 2020 pursuant to Section 13(g) of the Exchange Act, Clearbridge Investments, LLC, as investment advisor, has sole voting power with respect to 12,938,851 shares of our common stock, shared voting power with respect to zero shares of our common stock, sole dispositive power with respect to 13,373,010 shares of our common stock and shared dispositive power with respect to zero shares of our common stock. The principal business address of Clearbridge Investments, LLC is 620 8th Avenue, New York, NY 10018.

(4) Consists of (i) 359,476 shares of our common stock held of record by Ms. King and David Yamamoto as community property with the right of survivorship and (ii) 14,375 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020. Ms. King has shared voting and investment power with respect to the shares held of record by Ms. King and David Yamamoto as community property with the right of survivorship.

(5) Consists of (i) 2,776,950 shares of our common stock held of record by Mr. Mandia, (ii) 24,218 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020, (iii) 340,691 shares of our common stock held of record by Kevin R. Mandia 2011 Irrevocable Trust Dated July 29, 2011, and (iv) 144,185 shares of our common stock held of record by Mr. Mandia's wife. Mr. Mandia's wife, as trustee, has shared voting and investment power with respect to the shares held of record by the Kevin R. Mandia 2011 Irrevocable Trust dated July 29, 2011. Mr. Mandia disclaims beneficial ownership of the shares held of record by the Kevin R. Mandia 2011 Irrevocable Trust dated July 29, 2011 and the shares held of record by Mr. Mandia's wife.

(6) Represents shares held as of March 1, 2020, Mr. Reese's last day of employment with us, consisting of (i) 499,090 shares of our common stock held of record by Mr. Reese, (ii) 114,618 shares of our common stock issuable pursuant to outstanding stock options exercisable as of the last date of his employment, all of which were fully vested as of such date, (iii) 121,585 shares of our common stock held of record by the Travis M Reese Family Trust, for which Mr. Reese and his wife serve as trustees, (iv) 35,000 shares of our common stock held of record by the Travis M. Reese Revocable Trust, for which Mr. Reese serves as a trustee, and (v) 20,115 shares of our common stock held of record by Mr. Reese's wife. Mr. Reese's wife, as trustee, has shared voting and investment power with respect to the shares held of record by the Travis M Reese Family Trust. Mr. Reese disclaims beneficial ownership of the shares held of record by his wife.

(7) Consists of (i) 109,515 shares of our common stock held of record by Mr. Robbins and (ii) 26,563 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(8) Consists of (i) 250,956 shares of our common stock held of record by Mr. Verdecanna, (ii) 87,992 shares of our common stock issuable pursuant to outstanding stock options exercisable within 60 days of March 30, 2020, all of which were fully vested as of such date, and (iii) 12,187 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(9) Consists of (i) 48,696 shares of our common stock held of record by Ms. Alexy and (ii) 15,581 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(10) Consists of (i) 119,849 shares of our common stock held of record by the Codd Revocable Trust Dtd March 6, 1998, (ii) 118,000 shares of our common stock issuable pursuant to outstanding stock options exercisable within 60 days of March 30, 2020, all of which were fully vested as of such date, and (iii) 7,641 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020. Mr. Codd, as trustee, has shared voting and investment power with respect to the shares held of record by the Codd Revocable Trust Dtd March 6, 1998.

(11) Consists of 7,215 shares of our common stock held of record by Mr. McDermott.

(12) Consists of (i) 26,858 shares of our common stock held of record by Mr. Pusey and (ii) 7,177 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(13) Consists of (i) 239,064 shares of our common stock held of record by Mr. Salem and (ii) 18,032 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(14) Consists of (i) 28,307 shares of our common stock held of record by Mr. Switz and (ii) 14,670 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

(15) Consists of (i) 4,451,762 shares of our common stock beneficially owned by our current directors and current executive officers, (ii) 205,992 shares of our common stock issuable pursuant to outstanding stock options exercisable within 60 days of March 30, 2020, all of which were fully vested as of such date, and (iii) 140,444 shares of our common stock issuable upon the vesting of restricted stock units within 60 days of March 30, 2020.

RELATED PERSON TRANSACTIONS

We describe below transactions and series of similar transactions, since the beginning of our last fiscal year, to which we were or will be a party, in which:

- the amounts involved exceeded or will exceed $120,000; and
- any of our directors, nominees for director, executive officers or holders of more than 5% of our outstanding capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities, had or will have a direct or indirect material interest.

Other than as described below, there has not been, nor is there any currently proposed, transactions or series of similar transactions to which we have been or will be a party.

Indemnification Agreements

We have also entered into standard indemnification agreements with our directors and certain of our executive officers. The indemnification agreements and our certificate of incorporation and bylaws require us to indemnify our directors and officers to the fullest extent permitted by Delaware law.

Policies and Procedures for Related Party Transactions

Our audit committee has adopted a formal written policy providing that our audit committee is responsible for reviewing "related party transactions," which are transactions (i) in which we were, are or will be a participant, (ii) in which the aggregate amount involved exceeds or may be expected to exceed $50,000, and (iii) in which a related person had, has or will have a direct or indirect material interest. For purposes of this policy, a related person is defined as a director, nominee for director, executive officer, or greater than 5% beneficial owner of our common stock and their immediate family members. Under this policy, all related party transactions may be consummated or continued only if approved or ratified by our audit committee. In determining whether to approve or ratify any such proposal, our audit committee will take into account, among other factors it deems appropriate, (i) whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and (ii) the extent of the related party's interest in the transaction. The policy grants standing pre-approval of certain transactions, including (i) certain compensation arrangements of executive officers, (ii) certain director compensation arrangements, (iii) transactions with another company at which a related party's only relationship is as a non-executive employee, director or beneficial owner of less than 10% of that company's shares and the aggregate amount involved does not exceed the greater of $500,000 or 2% of the company's total annual revenue, (iv) transactions where a related party's interest arises solely from the ownership of our common stock and all holders of our common stock received the same benefit on a pro rata basis, and (v) transactions available to all U.S. employees generally.

CEO Travel Policy

Our board of directors adopted a travel reimbursement policy in May 2016. Under the policy, as amended by our board of directors in April 2017, the individual serving as our Chief Executive Officer is eligible for reimbursement of expenses incurred in traveling by private aircraft if and when, on the infrequent occasion, such method of travel is reasonably necessary for FireEye business trips. The total reimbursement for all eligible expenses with respect to private aircraft travel is capped at $1 million per year. For fiscal 2019, our Chief Executive Officer did not incur any such expenses.

OTHER MATTERS

Available Information

Our financial statements for our fiscal year ended December 31, 2019 are included in our Annual Report on Form 10-K. This proxy statement and our annual report are posted on the Investor Relations section of our website at investors.FireEye.com and are available from the SEC at its website at www.sec.gov. You may also obtain a copy of our annual report without charge by sending a written request to FireEye, Inc., Attention: Investor Relations, 601 McCarthy Blvd., Milpitas, California 95035.

Company Website

We maintain a website at www.FireEye.com. Information contained on, or that can be accessed through, our website is not intended to be incorporated by reference into this proxy statement, and references to our website address in this proxy statement are inactive textual references only.

* * *

Our board of directors does not know of any other matters to be presented at the Annual Meeting. If any additional matters are properly presented at the Annual Meeting, the persons named on the enclosed proxy card will have discretion to vote the shares of common stock they represent in accordance with their own judgment on such matters.

It is important that your shares of common stock be represented at the Annual Meeting, regardless of the number of shares that you hold. You are, therefore, urged to vote over the Internet or by telephone as instructed on the enclosed proxy card or execute and return, at your earliest convenience, the enclosed proxy card in the envelope that has also been provided.

THE BOARD OF DIRECTORS

Milpitas, California
April 13, 2020

ANNEX A

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

RECONCILIATION OF NON-GAAP BILLINGS TO REVENUE
(in thousands)

	2018	Q1'19	Q2'19	Q3'19	Q4'19	2019
Revenue	$830,950	$210,544	$217,608	$225,914	$235,086	$889,152
Plus: change in deferred revenue	24,728	(28,638)	6,559	22,658	39,160	39,739
Less: deferred revenue assumed	—	—	(2,750)	—	—	(2,750)
Non-GAAP billings	$855,678	$181,906	$221,417	$248,572	$274,246	$926,141

RECONCILIATION OF NON-GAAP BILLINGS TO REVENUE BY CATEGORY
(in thousands)

	2018	2019		2018	2019		2018	2019
Product and related subscription and support revenue	$498,992	$467,823	Platform, cloud subscription and managed services revenue	$188,390	$241,013	Professional services revenue	$143,568	$180,316
Plus: change in deferred revenue	(47,019)	(33,290)	Plus: change in deferred revenue	55,513	43,435	Plus: change in deferred revenue	16,234	29,594
Less: deferred revenue assumed	—	—	Less: deferred revenue assumed	—	(2,210)	Less: deferred revenue assumed	—	(540)
Product and related subscription and support non-GAAP billings	$451,973	$434,533	Platform, cloud subscription and managed services non-GAAP billings	$243,903	$282,238	Professional services non-GAAP billings	$159,802	$209,370

RECONCILIATION OF NON-GAAP OPERATING INCOME (LOSS) TO GAAP OPERATING INCOME (LOSS)
(in thousands)

	2018	Q1'19	Q2'19	Q3'19	Q4'19	2019
Operating loss	$(182,402)	$(63,489)	$(56,743)	$(54,716)	$(35,086)	$(210,034)
Stock-based compensation expense	153,675	40,323	40,151	36,688	36,355	153,517
Amortization of stock-based compensation capitalized in software development costs	1,828	793	847	916	968	3,524
Amortization of intangible assets	50,328	12,126	12,952	14,334	14,531	53,943
Acquisition related costs	264	—	597	—	—	597
Restructuring charges	—	3,799	—	6,481	(15)	10,265
Non-GAAP operating income (loss)	$ 23,693	$ (6,448)	$ (2,196)	$ 3,703	$ 16,753	$ 11,812

RECONCILIATION OF NON-GAAP FREE CASH FLOW TO GAAP OPERATING CASH FLOW
(in thousands)

	2018	Q1'19	Q2'19	Q3'19	Q4'19	2019
Net cash provided by (used in) operating activities	$ 17,381	$ 24,453	$(14,929)	$ 18,497	$39,516	$ 67,537
Plus: deemed repayment of convertible senior notes attributable to accreted debt discount	43,575	—	—	—	—	—
Less: purchase of property and equipment and demonstration units	(50,831)	(13,503)	(14,737)	(10,375)	(6,990)	(45,605)
Non-GAAP free cash flow	$ 10,125	$ 10,950	$(29,666)	$ 8,122	$32,526	$ 21,932

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FIREEYE™

2019
ANNUAL REPORT

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number 001-36067

FireEye, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**20-1548921**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

601 McCarthy Blvd.
Milpitas, CA 95035
(408) 321-6300
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	FEYE	The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☐
	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates was approximately $3.1 billion, based on the closing sales price of such stock reported for such date on The NASDAQ Global Select Market. This calculation does not reflect a determination that persons are affiliates for any other purposes.

The number of outstanding shares of the registrant's common stock was 222,619,096 as of February 18, 2020.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2019 are incorporated by reference into Part III of this Annual Report on Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections entitled "Business," "Risk Factors," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. The words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan" "expect," the negative and plural forms of these words and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements. These forward-looking statements include, but are not limited to, statements concerning the following:

- *the evolution of the threat landscape facing our customers and prospects;*
- *our ability, and the effects of our efforts, to educate the market regarding the advantages of our security solutions;*
- *our ability to continue to grow revenues, in particular annual recurring revenues from cloud and subscriptions;*
- *our expected rate of decline in mature appliance revenues and associated subscription and support revenues;*
- *our future financial and operating results;*
- *our business plan and our ability to effectively manage our growth and associated investments;*
- *our beliefs and objectives for future operations;*
- *our ability to maintain our leadership position in advanced network security;*
- *our ability to attract and retain customers and to expand our solutions footprint within each of these customers;*
- *our expectations concerning customer retention rates as well as expectations for the value of subscriptions and services renewals;*
- *our ability to maintain our competitive technological advantages against new entrants in our industry;*
- *our ability to timely and effectively scale and adapt our existing technology;*
- *our ability to innovate new products and bring them to market in a timely manner;*
- *our ability to maintain, protect, and enhance our brand and intellectual property;*
- *our ability to expand internationally;*
- *the effects of increased competition in our market and our ability to compete effectively;*
- *cost of revenue, including changes in costs associated with products, manufacturing and customer support;*
- *trends in operating expenses, including changes in research and development, sales and marketing, and general and administrative expenses;*
- *anticipated income tax rates;*
- *potential attrition and other impacts associated with restructuring;*
- *sufficiency of cash to meet cash needs for at least the next 12 months;*
- *our ability to generate cash flows from operations and free cash flows;*
- *our ability to capture new, and renew existing, contracts with the United States and international governments;*

- *our expectations concerning relationships with third parties, including channel partners and logistics providers;*
- *the release of new products;*
- *economic and industry trends or trend analysis;*
- *the attraction, training, integration and retention of qualified employees and key personnel;*
- *future acquisitions of or investments in complementary companies, products, subscriptions or technologies;*
- *our expectations, beliefs, plans, intentions and strategies related to our acquisition of Verodin, Inc. ("Verodin"); and*
- *the effects of seasonal trends on our results of operations*

These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including those described in "Risk Factors" included in Part I, Item 1A and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties, and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur, or unanticipated events or circumstances that we did not foresee may materialize, either of which could cause actual results to differ materially and adversely from those anticipated or implied in our forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this Annual Report on Form 10-K to conform these statements to actual results or to changes in our expectations, except as required by law.

You should read this Annual Report on Form 10-K and the documents that we reference in this Annual Report on Form 10-K and have filed with the SEC as exhibits to this Annual Report on Form 10-K with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

PART I

Item 1. Business

General

We provide comprehensive intelligence-based cybersecurity solutions that allow organizations to prepare for, prevent, investigate, respond to and remediate cyber attacks, including attacks targeting on-premise, cloud, hybrid and critical infrastructure environments. Our portfolio of cybersecurity products and services helps customers minimize the risk of costly cyber security breaches by:

- validating the effectiveness of existing cybersecurity controls before an attack occurs,
- detecting and preventing advanced, targeted and other evasive attacks missed by other security controls,
- enabling more efficient management of security operations, including alert management, investigation and response when a breach occurs, and
- providing assessment, training and other strategic security consulting services that help organizations improve their resilience to attack.

We accomplish this through the integration of our core competitive advantages in solutions and services. Our core competitive advantages include:

- Our technologies, including our machine-learning, behavioral-based, and rules-based threat detection, analysis and correlation technologies, our proprietary Multi-vector Virtual Execution ("MVX") engine, and our security validation, security orchestration, automation and response ("SOAR"), and cloud visibility technologies,
- Our intelligence on threats and threat actors based on the continuous flow of machine-based, attacker-based and victim-based threat data from our global network of threat sensors and virtual machines, as well as threat intelligence gathered by our security analysts, consultants and incident responders, and
- Our accumulated security expertise derived from responding to thousands of significant breaches over the past 15 years.

Our portfolio of cybersecurity solutions includes network, email, endpoint and cloud security detection and prevention solutions, threat intelligence solutions, security validation solutions, threat analysis and management solutions, and managed detection and response services. We design our cyber security solutions to rapidly incorporate new threat intelligence and adapt to changes in the threat environment in a cycle of intelligence-driven innovation.

Our products are complemented by our strategic security consulting and incident response services. Our services leverage our products and technologies to assess customers' security controls and processes, investigate security incidents and help customers respond to and remediate breaches. We believe that the combination of our technologies, threat intelligence and security expertise allows us to deliver more effective cyber security solutions and build long-term relationships with our customers.

We were founded in 2004 to address the inability of signature-based security solutions to detect the new generation of dynamic, stealthy and targeted cyber attacks, known as advanced persistent threats ("APTs"). To meet the challenges of detecting these previously unknown threats, for which there were no signatures, we developed our MVX engine. MVX is a virtual machine-based threat detection and analysis engine that works in conjunction with our machine-learning and behavioral analysis capabilities to detect and prevent both known and unknown threats in customers' on-premise networks, emails, endpoints and in the cloud, while minimizing costly false positive alerts.

Since 2013, we have evolved our business from a focus on appliance-based detection and prevention of APTs in customers' on-premise networks by expanding our portfolio of products and services to help our customers improve their resilience to all types of cyber threats across on-premise, cloud, and critical infrastructure environments.

In December 2013, we acquired Mandiant Corporation, a leading provider of advanced endpoint security, cloud-based threat analysis, and security incident response management solutions. As a result of the Mandiant acquisition, we expanded our threat intelligence to include contextual information on cyber attackers' tools and techniques, augmented our threat detection technologies with endpoint detection and forensic capabilities, and added a comprehensive suite of cyber security consulting and incident response services.

In January 2016, we acquired iSIGHT Security, Inc. and Invotas International Corporation, which increased our threat intelligence capabilities to include pre-attack adversary intelligence and added security orchestration and automation technology, respectively.

In May 2019, we acquired Verodin, Inc., a leading provider of security validation and attack simulation software.

In January 2020, we acquired Cloudvisory LLC, a provider of cloud visibility and control solutions.

As of December 31, 2019, we had approximately 8,800 end-customers, including more than 50% of the Forbes Global 2000. Our customers include leading enterprises in a diverse set of industries, including telecommunications, technology, financial services, public utilities, healthcare and oil and gas, as well as leading U.S. and international governmental agencies.

For 2019, 2018 and 2017, our revenue was $889.2 million, $831.0 million and $779.6 million, respectively, representing year-over-year growth of 7% for 2019 and 7% for 2018, and our net losses were $257.4 million, $243.1 million and $285.2 million, respectively.

We were incorporated in Delaware in February 2004 under the name NetForts, Inc., and changed our name to FireEye, Inc. in September 2005. Our principal executive offices are located at 601 McCarthy Blvd., Milpitas, California 95035, and our telephone number is (408) 321-6300. Our website is www.fireeye.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this report, and you should not consider information on our website to be part of this report. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on the Investor Relations portion of our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov. The contents of these websites are not incorporated into this filing.

Investors and others should note that we announce material financial information to our investors using our investor relations website (https://investors.fireeye.com), SEC filings, press releases, public conference calls and webcasts. We use these channels, as well as social media, to communicate with the public about our company, our services and other issues. It is possible that the information we post on social media could be deemed to be material information.

Our Cybersecurity Solutions and Services

Our solutions and services are designed to help small-to-mid sized enterprises, large enterprises and public sector entities improve their resilience to cyber attacks and reduce the risk of a costly breach. Our products include detection and prevention solutions for network, email, endpoint and cloud security, security validation

platform, cloud-based threat intelligence and analytics solutions, our Helix security platform, and managed detection and response services. These products are complemented by our technology-enabled professional services, including incident response and strategic cyber security consulting services.

Customers may choose to deploy our detection and prevention solutions integrated on optimized appliance hardware, as virtual sensors, as a cloud-based service, or in hybrid deployments of all three options. Our detection and prevention solutions require subscriptions to our Dynamic Threat Intelligence ("DTI") cloud and to our technical support, which are priced either as a percentage of the appliance hardware or included in an all-inclusive subscription. Subscriptions are typically offered for one- or three-year terms. We typically invoice customers for the full term of the subscriptions up-front.

Our cloud-based security solutions, Helix security platform, security validation platform and managed detection and response services are offered in one- or three-year subscriptions and are priced based on appropriate use metrics. These subscriptions are invoiced either up-front for the full term of the subscription or annually, based on customer preference. Our security validation platform is also available as a term license, typically for a one-year term.

Our strategic security consulting and incident response services are invoiced according to pre-determined contract terms for consulting services and on a time-and-materials basis for incident response. Expertise-on-Demand is offered as a pre-paid one-year subscription.

Product, Subscription and Support

Threat Detection and Prevention Solutions

Our detection and prevention solutions utilize our advanced threat detection technologies, including our machine learning and behavioral analysis technologies and our MVX engine, to identify malicious content embedded in Internet and network traffic, emails, software downloads, files, and other data transfers and electronic communications. Our portfolio encompasses solutions for network security, email security, endpoint security and cloud security that are available in a variety of form factors and deployment options, including integrated in optimized appliance hardware, on a virtual appliance, and as cloud-based software. Additionally, customers can deploy our MVX analysis engine as a cloud-based service in distributed, cloud and hybrid architectures. Our network, email, endpoint and cloud security solutions correlate alerts and other operational data, such as activity logs, through our Helix security platform to provide situational awareness and identify and protect against cyber attacks.

- ***Network Security and Network Forensics Solutions.***

  Network security. Our network security solutions utilize our detection technologies and our MVX engine in a two-phase approach to detect, validate and block advanced, targeted and other evasive attacks missed by other security controls, such as network firewalls. Our network security solutions may be deployed at the network perimeter to detect threats embedded in inbound Internet traffic as well as data exfiltration in outbound Internet traffic or across network segments to detect threats embedded in internal network traffic, such as ransomware. Additionally, our network security solutions can be deployed in the cloud to detect threats embedded in cloud-based traffic or stored in cloud-based files. All our network security solutions require subscriptions to our DTI cloud for up-to-date threat data and to our technical support services to maintain high detection efficacy.

  Network forensics. Our network forensics solutions capture, store and index full network packets at rapid speeds to allow organizations to investigate and resolve security incidents. Our network forensics solutions require a subscription to our technical support services.

- ***Email Security Solutions.*** Our email security solutions detect and stop spear phishing, ransomware, sender impersonation, credential phishing, typo-squatting, and other email-based attacks. We offer our

email security in a Server Edition with multiple deployment options, or as a cloud-based service. Both versions utilize our malicious URL detection technologies, our machine-learning technologies and our MVX engine to inspect emails for zero-day exploits, malicious URLs, behavioral anomalies and other malware hidden in attachments. If an attack is confirmed, the malicious email is quarantined for further analysis and deletion.

Email Security - Server Edition is an on-premises appliance-based email security solution that can be deployed with an integrated MVX analysis engine or in a distributed architecture with our MVX analysis engine as a centralized service. Email Security-Server Edition requires subscriptions to our DTI cloud, our URL and malicious attachment database, and our technical support services.

Email Security - Cloud Edition is a cloud-based secure email gateway designed to integrate with cloud-based email systems such as Microsoft Office 365 with Exchange Online Protection and Google Mail. Email Security - Cloud Edition provides the same advanced correlation, analytics and MVX threat validation as Email Security - Server Edition, and also includes anti-spam and antivirus protection to defend against conventional signature-based threats. Email Security - Cloud Edition is offered as a subscription on a per user basis.

- ***Endpoint Security Solutions.*** Our endpoint security solution consists of a centralized management application, available through an on-premise appliance or as a cloud-based user interface, and lightweight endpoint agents deployed on desktops, laptops, servers and other end-user devices. The solution combines signature-based detection of known threats with machine-learning, behavior-based analytics, and advanced endpoint detection and response (EDR) capabilities to provide a comprehensive detection, protection and response solution in a single agent. The endpoint security agent also enables rapid containment, collects forensic data necessary for post-breach investigation and enables analysis of attacks.

  Our endpoint security solutions include subscriptions to our DTI cloud for up-to-date threat data and our technical support services and are priced on a per user or per agent basis.

- ***Cloud Security Solutions.*** Our Cloud Security solutions include Detection-on-Demand MVX analysis security-as-a-service, cloud-native network security, and cloud visibility software. Our cloud security solutions are designed to help organizations track and secure decentralized accounts, detect threats embedded in data and files stored in cloud services, prevent misconfiguration in public cloud platforms, provide visibility and control across multiple cloud environments, and enable centralized reporting for compliance.

- ***Customer Support and Maintenance Services***. We require technical support on all our appliance-based threat detection and protection solutions. We offer subscriptions to multiple levels of support, which are priced either as a percentage of an integrated appliance or included in an all-inclusive subscription with virtual appliances and cloud-based solutions. We have regional support centers located across the globe to help customers solve technical challenges they may encounter. In addition to providing regular software updates and post-sales support activities, our support organization works with our product management and engineering teams to ensure the attainment of defined pre-requisite quality levels for our products and services prior to release.

Security Validation and Security Operations Management Solutions

- ***Helix Security Platform.*** Our Helix security platform is a cloud-hosted security platform that combines security alerts generated by our network, email, endpoint, and cloud security solutions, as well as alerts from more than 550 third-party security and IT products, with our contextual threat intelligence, threat analytics, and orchestration capabilities within a unified interface.

  By enriching raw security event data with our contextual threat intelligence and our user and entity behavior analytics, Helix provides situational awareness and helps identify and prioritize critical

alerts, including multi-vector, non-malware-based threats. Helix also serves as a management console for FireEye detection and prevention solutions and as an investigative platform with case management and workflow tools, as well as pre-loaded playbooks to automate and orchestrate the response to security incidents across an organization. Helix also provides customizable dashboards to aggregate, search and present security data and provides detailed reporting for compliance purposes.

- ***Security Validation Platform.*** Our Mandiant security validation platform (formerly Verodin Security Instrumentation Platform) uses the latest threat intelligence to test the effectiveness of existing security controls against cyber attacks. Our security validation platform includes a management and reporting console (the "Director") and distributed agents ("Actors") for network, endpoint, email and cloud security controls. The Director instructs Actors to run tests using known attacks and then aggregates, analyzes and reports on detection, prevention and alerts data to identify equipment misconfigurations, opportunities for optimization and environmental drift within the IT environment. Our security validation platform is available in multiple form factors and deployment options and includes integrations with our network, email, endpoint and cloud security solutions, as well as with security solutions from more than 50 third party vendors.

Threat Intelligence Solutions

- ***Dynamic Threat Intelligence Cloud.*** Our DTI cloud is a bi-directional cloud-based service that collects, correlates and anonymizes machine-generated security data from our network, email, endpoint and cloud security solutions. DTI also distributes updated threat detection and prevention algorithms and software updates to our network, email, endpoint and cloud security solutions based on new threat intelligence and an evolving attack landscape. A subscription to our DTI cloud is required for all network, email, endpoint and cloud security solutions.
- ***Mandiant Threat Intelligence.*** Mandiant Threat Intelligence includes subscriptions to the latest threat intelligence reports, based on the active monitoring of attacker personas, including nation-state sponsored groups. The resulting intelligence on adversaries is codified in reports and distributed through our Threat Intelligence Portal to enable organizations to proactively defend against new and emerging cyber threats before an attack is launched.

On-Demand and Managed Service-as-a-Service Solutions

- ***Mandiant Managed Defense*** is a technology-enabled managed detection and response service that utilizes our latest adversary, machine-based, and victim threat intelligence to detect, investigate, and proactively hunt for known and previously undetected threats in our customers' environments.
- ***Mandiant Digital Threat Monitoring*** uses customer-defined key words and our automated web reconnaissance technology to analyze content on the open and dark web for credential leakage, public data exposure and other potential threats.
- ***Mandiant Expertise-on-Demand*** is a prepaid annual subscription that provides flexible, pay-per-use access to our threat intelligence and expertise as microservices. Customers purchase packages of units based on their anticipated needs and use the units to access threat intelligence and Mandiant services at pre-determined unit values. Unused units typically expire one year after purchase.

Professional Services

- ***Mandiant incident response and strategic security consulting services.*** Our cybersecurity experts help customers identify, investigate and respond to cyber breaches. Our portfolio of services includes incident response, response readiness assessments, cyber insurance assessments, red team and purple team assessments, and other strategic security services for on-premise, cloud, hybrid and critical infrastructure environments. We also provide litigation support and perform forensic analyses.

- ***Cyber Threat Intelligence and Cyber Defense Center Services.*** Our cyber threat intelligence services design and build cyber threat intelligence and incident response processes and solutions within customers' security operations.
- ***Education Services.*** We offer instructor-led and self-paced online courses to our customers and channel partners through our training department and authorized training partners.

For contributions to total revenue by significant category of revenues, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Part II, Item 7 of this Annual Report on Form 10-K.

Our Technologies

We have developed proprietary technologies related to machine-based threat detection, behavioral analysis, virtual machine-based threat analysis, endpoint protection and containment, security validation and security orchestration. Our technologies leverage intelligence about threat actors' tools and techniques, gathered through analysis of our machine-based threat intelligence, our incident response engagements, and our network of security researchers, to adapt to new threats and changes in the threat environment. We believe these technologies, combined with our threat intelligence and security expertise, differentiate our products and enable the delivery of our services.

Advanced Threat Detection and Prevention Technologies. Our network, email, endpoint and cloud security solutions utilize multiple proprietary correlation and analytics engines, including our MalwareGuard machine-learning detection engine, behavior- and rules-based detection modules, signature matching engines and our proprietary, purpose-built MVX analysis engine.

We have built our detection, correlation and analysis technologies over 15 years of research and development, and we believe they represent a significant competitive advantage for us. They first identify suspicious flows using intelligence-driven rules and analysis, including machine-learning and behavioral analysis, and then, through a separate process, use our MVX engine to determine whether such suspicious flows are malicious. This allows our network, email, endpoint and cloud security solutions to detect known and unknown threats missed by signature- and policy-based security solutions with negligible false-positive rates.

Our advanced threat detection technologies can be deployed on a single integrated appliance, as a cloud-based service, or in a hybrid appliance/cloud architecture.

Advanced Endpoint Validation and Containment. Our endpoint security solution includes proprietary technologies that enable (i) automatic creation of indicators of compromise coupled with rapid enterprise-wide search, (ii) exploit detection and prevention, (iii) malware detection and prevention, (iv) forensic data capture and (v) rapid containment and investigation for connected and unconnected endpoints. Additionally, we have developed our endpoint technologies to correlate and consume threat intelligence from our other security solutions.

Security Validation. Our security validation software includes proprietary agents or "actors" and a central analysis and reporting engine designed to assess security effectiveness against new cyber attacks in production IT environments.

Evolved Security Architecture and Security Orchestration. Our solutions are designed to operate as part of a comprehensive security architecture to defend organizations against today's cyber threats and minimize the business impact of cyber attacks through efficient security operations and validation of security effectiveness. The ability to monitor and inspect network and email traffic, as well as stored files and forensic data, cloud activity, and equipment configurations is critical to detecting cyber threats and reducing the risk of a costly cyber

breach. We combine this visibility with our dynamic, contextual and strategic threat intelligence, advanced analytics and case management tools to enable rapid, prioritized responses to critical alerts. Our SOAR tools and technologies integrate with Helix to extend security processes and response activities across the IT infrastructure. Our Helix security platform utilizes machine learning and artificial intelligence to baseline "normal" behavior and create alerts when anomalies and deviations occur. Our security validation platform complements our detection, SOAR, and other technologies by testing the effectiveness of our customers' security controls and processes.

Customers

Our customer base has grown to approximately 8,800 end-customers as of December 31, 2019, including more than 50% of the Forbes Global 2000. We provide products, subscriptions and services to customers of varying sizes, including enterprises, governmental agencies and educational and nonprofit organizations. Our customers include leading enterprises in a diverse set of industries, including telecommunications providers, financial services entities, Internet search engines, social networking sites, stock exchanges, electrical grid operators, networking vendors, oil and gas companies, healthcare and pharmaceutical companies and leading U.S. and international governmental agencies. Our business is not dependent on any particular end-customer as no end-customer represented more than 10% of our revenue for any of the years ended December 31, 2019, 2018 or 2017. For the years ended December 31, 2019, 2018 and 2017, one reseller represented 14%, 15% and 13%, respectively, of our total revenue. For the years ended December 31, 2019, 2018 and 2017, one distributor represented 13%, 20% and 19%, respectively, of our total revenue. Another distributor represented 10% of our total revenue for the year ended December 31, 2019, but did not represent 10% or greater of our total revenue for either of the years ended December 31, 2018 and 2017.

Backlog

Orders for our appliances, software, subscriptions and services are typically shipped and billed in their entirety shortly after receipt of the order, even when the delivery term for the subscription or service extends over multiple periods. These amounts are included in deferred revenue, although the timing of revenue recognition for subscriptions and services may vary depending on the contractual service period or when services are rendered. In certain instances, a customer may request periodic billing on a multi-period subscription or service contract or we may not have a contractual right to bill at period end. In these instances, the amount billed is included in deferred revenue and the amount to be billed in the future periods is included in backlog. Subscription and services backlog has historically represented less than 2% of our annual deferred revenue and revenue. As a result, we do not believe that our backlog at any particular time is meaningful because it does not represent a material component of future revenue in any given period.

We expect that the amount of backlog relative to the total value of our contracts will change from year to year due to several factors, including the amount invoiced early in the contract term, the timing and duration of customer agreements, varying invoicing cycles of agreements and changes in customer financial circumstances. Accordingly, we believe that fluctuations in backlog are not a reliable indicator of future revenues and we do not utilize backlog internally as a key management metric.

Sales and Marketing

Sales. Our sales organization consists of in-house sales teams who work in collaboration with external channel partners to identify new sales prospects, sell additional products, subscriptions and services, and provide post-sale support. Our field sales team is organized by territory and is responsible for enterprise and government accounts within their region. Our inside sales organization is responsible for sales to medium-sized and smaller organizations, and for renewal of existing subscriptions.

We also have a dedicated team focused on channel sales who manage the relationships with our value-added reseller and distributor partners and work with these channel partners to win and support customers. We believe this hybrid direct/channel sales approach allows us to leverage the benefits of broader market coverage provided by a reseller channel while maintaining a direct connection with many of our customers, including key enterprise and government accounts.

We have also cultivated alliances with non-traditional partners to generate customer referrals and extend our technologies, services and sales coverage to new market segments. These relationships include relationships with insurance providers, large systems integrators, and managed service providers, and we have engaged in joint solution development with leading providers of engineering services, payment systems, and public cloud platforms.

As part of our sales strategy, we often provide prospective customers with our on-premise and cloud security detection and prevention solutions for a short-term evaluation period, typically ranging from one week to several months. During this period, the prospective customer conducts evaluations with the assistance of our sales engineers and members of our security research team. We believe that by providing proof of concept evaluations to potential customers, we are able to demonstrate the effectiveness of our solutions by identifying suspicious and potentially malicious content in their actual IT environments. For our cloud-based email security and endpoint security solutions, we allow customers to submit emails and other content previously scanned by their existing security provider for analysis by our advanced detection technologies.

Additionally, our Mandiant consultants use our products and technologies in their incident response and strategic security consulting engagements, providing de facto proof of concept evaluations in the customer's environment and often resulting in follow-on sales of our solutions. Our sales cycle varies by industry and can be long and unpredictable, but is typical of large, complex enterprise sales cycles that can last several months or more. However, some transactions can close in a few weeks when an active breach is discovered.

Our sales organization is supported by sales engineers with deep technical domain expertise who are responsible for pre-sales technical support, solutions engineering for our customers, proof of concept work and technical training for our channel partners. Our sales engineers also act as the liaison between customers and our marketing and product development organizations.

Marketing. Our marketing is focused on fostering our thought leadership in cyber security, building our brand reputation and market awareness for our solutions, driving customer demand and a strong sales pipeline, and working with our channel partners around the globe. Our marketing team consists primarily of corporate marketing, product marketing, channel marketing, account/lead development, marketing operations, and corporate communications.

Marketing activities include demand generation, advertising, product pricing and launch activities, managing our corporate website and partner portal, trade shows and conferences, press and analyst relations, and customer awareness. We are also actively engaged in driving global thought leadership programs through blogs, media appearances, and social media and developing rich digital content such as our annual M-Trends report, our Vision digital magazine, and our webinars, podcasts and threat reports.

Technology Alliance Partners

FireEye has built a robust ecosystem of technology alliance partners that extends the breadth and depth of our solutions. Spanning multiple technology categories, including network monitoring vendors, security information and event management vendors, network equipment vendors, forensic software vendors, web application firewall vendors, cloud platform providers, and more. These partnerships provide for threat intelligence sharing, cross-vendor technology integrations, joint go-to-market efforts and solution development collaborations.

Our technology alliances accelerate the time to realize value from FireEye solutions and help ease the complexity organizations face implementing and managing multi-layered, multi-vendor security solutions. Technology integrations between our solutions and those of our technology alliance partners are available for free download from the FireEye Market, our website that serves as a centralized resource for tools, product extensions, applications and plug-in software developed to extend our solutions and integrate our technologies, threat intelligence and security processes into existing security workflows.

Government Affairs

We maintain relationships with several governments around the globe. Our visibility into the threat landscape, knowledge of threat actors' activities, and thought leadership in defending against cyber threats has helped to shape the legislative, regulatory and policy environment to enhance these governments' individual and collective cyber posture. As part of this effort, we contribute to the evolving standard-making processes, help define best practices in various jurisdictions and help organizations of all sizes better understand the cyber threat landscape. We also help governments identify future needs and requirements. Through these and related activities, we engage on the front lines of emerging cybersecurity related public policy and use our knowledge and insight to improve the cybersecurity of our government and industry customers.

Manufacturing

The manufacturing of our security appliances is outsourced to principally one third-party contract manufacturer. This approach allows us to reduce our costs as it reduces our manufacturing overhead and inventory and also allows us to adjust quickly to changing customer demand. Our manufacturing partner assembles our products using design specifications, quality assurance programs, and standards that we establish, and it procures components and assembles our products based on our demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analysis from our sales and product management functions as adjusted for overall market conditions.

Our primary contract manufacturer is Flex Ltd. ("Flex"). The manufacturing agreement we entered into with Flex does not provide for any minimum purchase commitments and had an initial term of one year, which automatically renews for one-year terms, unless either party gives written notice to the other party not less than 90 days prior to the last day of the applicable term. Additionally, this agreement may be terminated by either party (i) with advance written notice provided to the other party, subject to certain notice period limitations, or (ii) with written notice, subject to applicable cure periods, if the other party has materially breached its obligations under the agreement.

Research and Development

We invest substantial resources in research and development to develop new solutions, enhance our detection, analysis and correlation engines, expand our threat intelligence, build add-on functionality to our products, and improve our core technologies. We believe that adapting our hardware, software and cloud-based technologies to changes in the threat environment is critical to maintaining and expanding our leadership in the cyber security industry. We are also investing in security validation, security operations management, and orchestration and automation capabilities to provide security effectiveness testing, unified reporting, automated response and security orchestration features to customers in a single dashboard.

Our engineering teams have deep networking, security and data management expertise and work closely with our customers and our Mandiant consultants to identify current and future needs. Our Mandiant consultants use our products in their incident response and security assessment engagements and provide continual feedback to our engineering, product management and product marketing teams on product performance, detection efficacy, evasion techniques and attack trends. This continuous feedback mechanism allows us to adapt our solutions as the threat environment evolves.

In addition to our focus on platform expansion and enhancement, our research and development teams are focused on developing automation tools and machine learning techniques to reduce the time to discover and distribute threat intelligence, as well as generate efficiencies across our product and services offerings.

We maintain research and development activities across the globe with teams located in India, Ireland, Singapore and the United States.

Competition

We operate in the intensely competitive IT security market which is characterized by constant change and innovation. Changes in the threat landscape and broader IT infrastructures result in evolving customer requirements for cyber security. Several vendors have either introduced new products or incorporated features into existing products that compete with our solutions. Our current and potential future competitors fall into six general categories:

- large networking vendors such as Cisco and Juniper that may emulate or integrate security features similar to ours into their own products;
- large companies such as IBM, Oracle and HPE that have acquired security solutions and have the technical and financial resources to bring competitive solutions to the market;
- independent security vendors such as Palo Alto Networks, Proofpoint and CrowdStrike that offer products or features that claim to perform similar functions to our platform;
- small and large companies, including new market entrants, that offer niche security solutions that compete with some of the features present in our solutions;
- providers of traditional signature-based security solutions, such as McAfee; and
- other providers of incident response and compromise assessment services.

As our market grows and a larger share of IT budgets is allocated to cybersecurity, it will attract more highly specialized vendors as well as larger technology vendors that may continue to acquire or bundle their products more effectively. The principal competitive factors in our market include:

- ability to deliver the combination of technology, intelligence and expertise necessary to combat the current threat landscape;
- ability to detect and prevent known and unknown threats by overcoming the limitations of signature-based approaches, while maintaining a low rate of false-positive alerts;
- scalability, throughput and overall performance of our detection and prevention technologies;
- solution breadth to provide visibility into all stages of an attack, especially the exploit phase;
- ability to consolidate features onto a single platform, thereby reducing the complexity of maintaining solutions from multiple vendors;
- the ability to integrate with third-party IT providers to enable an orchestrated solution of products and services that detect, prevent and resolve cybersecurity threats across multiple attack vectors;
- breadth and richness of the shared threat intelligence, including dynamic and contextual threat intelligence on cyber crime, cyber espionage, hacktivism, attacks on critical infrastructure and nation-state attacks;
- flexible deployment options, including on-premise appliances, cloud-based software or a hybrid of both, as well as “as-a-service” options;
- ability to measure and validate the effectiveness of security controls;

- brand awareness and reputation;
- strength and effectiveness of sales and marketing efforts;
- product extensibility and ability to integrate with other technologies in the network infrastructure;
- ease of use and customer experience; and
- price and total cost of ownership.

We believe we compete favorably with our competitors on the basis of these factors as a result of the features and performance of our platform, the ease of integration of our products in diverse IT environments, the breadth of our services and solution offerings, the relatively low total cost of ownership of our products and the reputation of our Mandiant consulting organization. However, many of our competitors have substantially greater financial, technical and other resources, greater name recognition, larger sales and marketing budgets, deeper customer relationships, broader distribution, and larger and more mature intellectual property portfolios.

Intellectual Property

Our success depends in part upon our ability to protect our core technologies and intellectual property. We rely on, among other things, patents, trademarks, copyrights and trade secret laws, confidentiality safeguards and procedures, and employee non-disclosure and invention assignment agreements to protect our intellectual property rights. We file patent applications to protect our intellectual property and believe that the duration of our issued patents is sufficient when considering the expected lives of our products. We cannot assure you whether any of our patent applications will result in the issuance of a patent or whether the examination process will result in patents of valuable breadth or applicability. In addition, any patents that may be issued may be contested, circumvented, found unenforceable or invalidated, and we may not be able to prevent third parties from infringing them. We also license software from third parties for integration into our products, including open source software and other software available on commercially reasonable terms.

We control access to and use of our proprietary software, technology and other proprietary information through the use of internal and external controls, including contractual protections with employees, contractors, end-customers and partners, and our software is protected by U.S. and international copyright, patent and trade secret laws. Despite our efforts to protect our software, technology and other proprietary information, unauthorized parties may still copy or otherwise obtain and use our software, technology and other proprietary information. In addition, we intend to expand our international operations, and effective patent, copyright, trademark, and trade secret protection may not be available or may be limited in foreign countries.

Our industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding patent and other intellectual property rights. If we become more successful, we believe that competitors will be more likely to try to develop products that are similar to ours and that may infringe our proprietary rights. It may also be more likely that competitors or other third parties will claim that our products infringe their proprietary rights. In particular, large and established companies in the IT security industry have extensive patent portfolios and are regularly involved in both offensive and defensive litigation. From time-to-time, third parties, including certain of these large companies and non-practicing entities, may assert patent, copyright, trademark, and other intellectual property rights against us, our channel partners, or our end-customers, whom our standard license and other agreements obligate us to indemnify against such claims. Successful claims of infringement by a third party, if any, could prevent us from distributing certain products or performing certain services, require us to expend time and money to develop non-infringing solutions, or force us to pay substantial damages (including, in the United States, treble damages if we are found to have willfully infringed patents), royalties or other fees. We cannot assure you that we do not currently infringe, or that we will not in the future infringe, upon any third-party patents or other proprietary rights. See "Risk Factors—Risks Related to Our Business and Our Industry—Claims by others that we infringe their proprietary technology or other rights could harm our business" for additional information.

Business Seasonality

For discussion of seasonal trends, see our quarterly results of operations discussion within "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Part II, Item 7 of this Annual Report on Form 10-K.

Employees

As of December 31, 2019, we had approximately 3,400 employees. None of our employees are represented by a labor organization or are a party to any collective bargaining arrangement. We have never had a work stoppage, and we consider our relationship with our employees to be good.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties including those described below. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, also may become important factors that affect us. If any of the following risks or others not specified below materialize, our business, financial condition and results of operations could be materially adversely affected. In that case, the trading price of our common stock could decline.

Risks Related to Our Business and Our Industry

If the IT security market does not continue to adopt our security solutions, our sales will not grow as quickly as anticipated, or at all, and our business, results of operations and financial condition would be harmed.

Our future success depends on market adoption of our unique approach to IT security, which combines our technology, threat intelligence and security expertise in solutions that detect and prevent threats, measure security effectiveness, investigate and respond to breaches and enable customers to adapt to changes in the threat environment. We are seeking to disrupt the IT security market with our security solutions. Our solutions interoperate with, but do not replace, other IT security products. Enterprises and governments that use other security products, including signature-based and advanced products, for their IT security may be hesitant to purchase our security solutions if they believe their existing products provide a level of IT security that is sufficient to meet their needs. Currently, many enterprises and governments have not allocated a fixed portion of their budgets to separate advanced security products, standalone threat intelligence or solutions that evaluate security effectiveness. As a result, to expand our customer base, we need to convince potential customers to allocate a portion of their discretionary budgets to purchase our technology, threat intelligence and expertise. However, even if we are successful in doing so, any future deterioration in general economic conditions may cause our customers to cut their overall IT spending, and such cuts may fall disproportionately on solutions like ours. If we do not succeed in convincing customers that our solutions should be an integral part of their overall approach to IT security and that a fixed portion of their annual IT budgets should be allocated to our solutions, our sales will not grow as quickly as anticipated, or at all, which would have an adverse impact on our business, results of operations and financial condition.

Even if there is significant demand for security solutions like ours, if our competitors include functionality that is, or is perceived to be, better than or equivalent to that of our solutions, we may have difficulty increasing the market penetration of our solutions. Furthermore, even if the functionality offered by other IT security providers is different and more limited than the functionality of our solutions, organizations may elect to accept such limited functionality in lieu of adding solutions and services from additional vendors like us, especially if competitor offerings are free or available at a lower cost.

In addition, changes in customer requirements could reduce customer demand for our security solutions. For example, if customers were to reduce their number of web egress points or migrate their workloads to a cloud

platform, they would not need to purchase as many of our network and email security appliances, which currently account for a significant portion of our revenue. Similarly, if one or more governments share, on a free or nearly free basis, threat intelligence with other governmental agencies or organizations, such as critical infrastructure companies, then those agencies or organizations might have less demand for additional threat intelligence and may purchase less of our standalone threat intelligence offerings.

If enterprises and governments do not continue to adopt our security solutions for any of the reasons discussed above or for other reasons not contemplated, our sales would not grow as quickly as anticipated, or at all, and our business, results of operations and financial condition would be harmed.

We have had operating losses each year since our inception, and may not achieve or maintain profitability in the future.

We have incurred operating losses each year since our inception, including net losses of $257.4 million, $243.1 million and $285.2 million during the year ended December 31, 2019, 2018 and 2017, respectively. Any failure to increase our revenue and manage our cost structure as we grow our business could prevent us from achieving or, if achieved, maintaining profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. If we are unable to become and remain profitable, the value of our company could decrease and our ability to raise capital, maintain our research and development efforts, and expand our business could be negatively impacted.

We face intense competition and could lose market share to our competitors, which could adversely affect our business, financial condition and results of operations.

The market for security products and services is intensely competitive and characterized by rapid changes in technology, customer requirements, industry standards, threat vectors and frequent new product introductions and improvements. We anticipate continued challenges from current competitors, which in many cases are more established and enjoy greater resources than us, as well as by new entrants into the industry. If we are unable to anticipate or effectively react to these competitive challenges, our competitive position could weaken, and we could experience a decline in our growth rate or revenue that could adversely affect our business and results of operations.

Our competitors and potential competitors include large networking vendors such as Cisco Systems and Juniper Networks that may emulate or integrate security features similar to ours into their own products; large companies such as IBM, Oracle and HPE that have acquired security solutions in recent years and have the technical and financial resources to bring competitive solutions to the market; independent security vendors such as Palo Alto Networks, Proofpoint and CrowdStrike that offer products or features that claim to perform similar functions to our platform; small and large companies, including new market entrants, that offer niche security solutions that compete with some of the features present in our solutions; providers of traditional signature-based security solutions, such as Symantec and McAfee; and other providers of incident response and compromise assessment services. Other IT providers offer, and may continue to introduce, security features that compete with our platform, either in stand-alone security products or as additional features in their network infrastructure products. Many of our existing competitors have, and some of our potential competitors could have, substantial competitive advantages such as:

- greater name recognition, longer operating histories and larger customer bases;
- larger sales and marketing budgets and resources;
- broader distribution and established relationships with channel and distribution partners and customers;
- greater customer support resources;
- greater resources to make acquisitions or enter into strategic partnerships;

- lower labor and research and development costs;
- larger and more mature intellectual property portfolios; and
- substantially greater financial, technical and other resources.

In addition, some of our larger competitors have substantially broader product offerings and may be able to leverage their relationships with distribution partners and customers based on other products or incorporate functionality into existing products to gain business in a manner that discourages users from purchasing our products, subscriptions and services, including by selling at zero or negative margins, product bundling or offering closed technology platforms. Potential customers may also prefer to purchase from their existing suppliers rather than a new supplier regardless of product performance or features. As a result, even if the features of our platform are superior, customers may not purchase our products. In addition, new innovative start-up companies, and larger companies that are making significant investments in research and development, may invent similar or superior products and technologies that compete with our platform. Our current and potential competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their resources. Further, as our customers refresh the security products bought in prior years, they may seek to consolidate vendors, which may result in current customers choosing to purchase products from our competitors on an ongoing basis.

Some of our competitors have made or could make acquisitions of businesses that allow them to offer more competitive and comprehensive solutions. As a result of such acquisitions, our current or potential competitors may accelerate the adoption of new technologies that better address end-customer needs, devote greater resources to bring these products and services to market, initiate or withstand substantial price competition, or develop and expand their product and service offerings more quickly than we do. These competitive pressures in our market or our failure to compete effectively may result in price reductions, fewer orders, reduced revenue and gross margins, and loss of market share.

If we are unable to compete successfully, or if competing successfully requires us to take costly actions in response to the actions of our competitors, our business, financial condition and results of operations could be adversely affected.

Real or perceived defects, errors or vulnerabilities in our products or services, the misconfiguration of our products, the failure of our products or services to block malware or prevent a security breach, or the failure of customers to take action on attacks identified by our products could harm our reputation and adversely impact our business, financial position and results of operations.

Because our products and services are complex, they have contained and may contain design or manufacturing defects or errors that are not detected until after their deployment. Our products also provide our customers with the ability to customize a multitude of settings, and it is possible that a customer could misconfigure our products or otherwise fail to configure our products in an optimal manner. Such defects and misconfigurations of our products could cause our products or services to be vulnerable to security attacks, cause them to fail to secure networks and detect and block threats, or temporarily interrupt the networking traffic of our customers. In addition, because the techniques used by computer hackers to access or sabotage networks change frequently and generally are not recognized until launched against a target, there is a risk that an advanced attack could emerge that our products and services are unable to detect or prevent. Moreover, as our products and services are adopted by an increasing number of enterprises and governments, it is possible that the individuals and organizations behind advanced malware attacks will focus on finding ways to defeat our products and services. If this happens, our networks, products, services and subscriptions could be targeted by attacks specifically designed to disrupt our business and undermine the perception that our products and services are capable of providing superior IT security, which, in turn, could have a serious impact on our reputation as a provider of security solutions. In addition, defects or errors in our subscription updates or our products could result in a failure of our subscriptions to effectively update customers' hardware and cloud-based products. Our

data centers and networks may experience technical failures and downtime, may fail to distribute appropriate updates, or may fail to meet the increased requirements of a growing installed customer base, any of which could temporarily or permanently expose our customers' networks, leaving their networks unprotected against the latest security threats. Moreover, our products must interoperate with our customers' existing infrastructure, which often have different specifications, utilize multiple protocol standards, deploy products from multiple vendors, and contain multiple generations of products that have been added over time. As a result, unanticipated failures could occur if a customer deploys our products in an untested configuration. Similarly, if we inadvertently update our products with an erroneous configuration or untested detection content, invalid detections or product downtime could occur. Any of these situations could result in negative publicity to us, damage to our reputation, declining sales, increased expenses and customer relations issues, and therefore adversely impact our business, financial position and results of operations.

If any of our customers becomes infected with malware after using our products or services, such customer could be disappointed with our products and services, regardless of whether our products or services blocked the theft of any of such customer's data or would have blocked such theft if configured properly. Similarly, if our products detect attacks against a customer but the customer has not permitted our products to block the theft of customer data, customers and the public may erroneously believe that our products were not effective. For any security breaches against customers that use our services, such as customers that have hired us to monitor their networks and endpoints through our own or our co-branded security operation centers, breaches against those customers may result in customers and the public believing that our products and services failed. Furthermore, if any enterprises or governments that are publicly known to use our products or services are the subject of an advanced cyber attack that becomes publicized, our other current or potential customers may look to our competitors for alternatives to our products and services. Real or perceived security breaches of our customers' networks could cause disruption or damage to their networks or other negative consequences and could result in negative publicity to us, damage to our reputation, declining sales, increased expenses and customer relations issues.

Furthermore, our products and services may fail to detect or prevent malware, ransomware, viruses, worms or similar threats for any number of reasons, including our failure to enhance and expand our products and services to reflect industry trends, new technologies and new operating environments, the complexity of the environment of our clients and the sophistication of malware, viruses and other threats. In addition, from time to time, firms test our products against other security products. Our products may fail to detect or prevent threats in any particular test for a number of reasons, including misconfiguration. To the extent potential customers, industry analysts or testing firms believe that the occurrence of a failure to detect or prevent any particular threat is a flaw or indicates that our products or services do not provide significant value, our reputation and business could be harmed. Failure to keep pace with technological changes in the IT security industry and changes in the threat landscape could adversely affect our ability to protect against security breaches and could cause us to lose customers. In addition, in the event that a customer suffers a cyber attack, we could be subject to claims based on a misunderstanding of the scope of our contractual warranties or the protection afforded by the Support Anti-Terrorism by Fostering Effective Technologies Act of 2002 (the "SAFETY Act").

In addition, we cannot assure you that any limitation of liability provisions in our customer agreements, contracts with third-party vendors and service providers or other contracts would be enforceable or adequate or would otherwise protect us from any liabilities or damages with respect to any particular claim relating to a security breach or other security-related matter. While our insurance policies include liability coverage for certain of these matters, if we experienced a widespread security breach or other incident that impacted a significant number of our customers to whom we owe indemnity obligations, we could be subject to indemnity claims or other damages that exceed our insurance coverage. We also cannot be certain that our insurance coverage will be adequate for data handling or data security liabilities actually incurred, that insurance will continue to be available to us on economically reasonable terms, or at all, or that any future claim will not be excluded or otherwise be denied coverage by any insurer. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies,

including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, operating results and reputation.

Any real or perceived defects, errors or vulnerabilities in our products and services, or any other failure of our products and services to detect an advanced threat, could result in:

- a loss of existing or potential customers or channel partners;
- delayed or lost revenue and harm to our financial condition and results of operations;
- a delay in attaining, or the failure to attain, market acceptance;
- the expenditure of significant financial and product development resources in efforts to analyze, correct, eliminate, or work around errors or defects, to address and eliminate vulnerabilities, or to identify and ramp up production with alternative third-party manufacturers;
- an increase in warranty and other claims, or an increase in the cost of servicing warranty and other claims, either of which would adversely affect our gross margins;
- harm to our reputation or brand; and
- claims and litigation, regulatory inquiries, or investigations, enforcement actions, and other claims and liabilities, all of which may be costly and burdensome and further harm our reputation.

A network or data security incident against us, whether actual, alleged or perceived, may harm our reputation, create liability and adversely impact our financial results.

Increasingly, companies are subject to a wide variety of attacks on their networks on an ongoing basis. In addition to traditional computer "hackers," malicious code (such as viruses and worms), phishing attempts, employee theft or misuse, and denial of service attacks, sophisticated nation-state and nation-state supported actors engage in intrusions and attacks (including advanced persistent threat intrusions) and add to the risks to our internal networks, cloud deployed enterprise and customer facing environments and the information they store and process. We and/or our third-party service providers may face security threats and attacks from a variety of sources. Our data, corporate systems, third-party systems and security measures may be breached due to the actions of outside parties, employee error, malfeasance, a combination of these, or otherwise, including social engineering and employee and contractor error or malfeasance, and, as a result, an unauthorized party may obtain access to our systems, networks, or data. We may face difficulties or delays in identifying or otherwise responding to any attacks or actual or potential breaches of security. Furthermore, as a well-known provider of security solutions, we may be a more attractive target for such attacks. A breach in our data security or an attack against our service availability, or that of our third-party service providers, could impact our networks or networks secured by our products and subscriptions, creating system disruptions or slowdowns and exploiting security vulnerabilities of our products, and the information stored on our networks or those of our third-party service providers could be accessed, publicly disclosed, altered, lost, or stolen, which could result in a loss of intellectual property or loss of data and subject us to liability and cause us financial harm.

Any actual, alleged or perceived breach of network security in our systems or networks, or any other actual, alleged or perceived data security incident we or our third-party service providers suffer, could result in damage to our reputation, negative publicity, loss of channel partners, customers and sales, loss of competitive advantages over our competitors, increased costs to remedy any problems and otherwise respond to any incident, regulatory investigations and enforcement actions, costly litigation, and other liability. In addition, we may incur significant costs and operational consequences of investigating, remediating, eliminating and putting in place additional tools and devices designed to prevent actual or perceived security breaches and other security incidents, as well as the costs to comply with any notification obligations resulting from any security incidents. Any of these negative outcomes could adversely impact the market perception of our products and subscriptions and end-customer and investor confidence in our company and could seriously harm our business or operating results.

Our results of operations may vary significantly from period to period, which could cause the trading price of our common stock to decline.

Our results of operations have varied significantly from period to period, and we expect that our results of operations, including, but not limited to our GAAP and non-GAAP measures, will continue to vary as a result of a number of factors, many of which are outside of our control and may be difficult to predict, including:

- our ability to attract new and retain existing customers or sell additional solutions to our existing customers;
- our ability to offset decreases in appliance sales (and attached support) with increases in software, subscription and services sales;
- potential adverse impacts from our re-allocation of resources from our mature appliance-based products to our cloud security and platform solutions;
- changes in our mix of products, subscriptions and services sold, including changes in the average contract length for subscriptions and support;
- the timing and success of new platform, subscription or service introductions by us or our competitors;
- real or perceived reductions in the efficacy of our solutions by our customers or in the marketplace;
- budgeting cycles, seasonal buying patterns and purchasing practices of customers;
- the timing of new contracts or shipments of our products and length of our sales cycles;
- changes in customer, distributor or reseller requirements or market needs;
- changes in the growth rate of the IT security market, particularly the market for advanced threat detection and protection products, solutions that measure security effectiveness, or managed detection and response services;
- any change in the competitive landscape of the IT security market, including consolidation among our customers or competitors and strategic partnerships entered into by and between our competitors;
- deferral of orders from customers in anticipation of new products or product enhancements announced by us or our competitors;
- our ability to successfully and continuously expand our business domestically and internationally;
- reductions in customer retention rates for our subscriptions and support;
- decisions by organizations to purchase IT security solutions from larger, more established security vendors or from their primary IT equipment vendors;
- changes in our pricing policies or those of our competitors;
- any disruption in, or termination of, our relationships with channel partners;
- our inability to fulfill our customers' orders due to supply chain delays or events that impact our manufacturers or their suppliers;
- the timing and costs related to the development or acquisition of technologies or businesses or strategic partnerships;
- the lack of synergy or the inability to realize expected synergies, resulting from acquisitions or strategic partnerships;
- our inability to execute, complete or integrate efficiently any acquisition that we may undertake;
- increased expenses, unforeseen liabilities, or write-downs and any impact on our operating results from any acquisitions we consummate;

- insolvency or credit difficulties confronting our customers, affecting their ability to purchase or pay for our products, subscriptions and services, or confronting our key suppliers, particularly our sole source suppliers, which could disrupt our supply chain;
- the cost and potential outcomes of future litigation;
- seasonality or cyclical fluctuations in our business;
- political, economic and social instability;
- future accounting pronouncements or changes in our accounting policies or practices;
- the amount and timing of operating costs and capital expenditures related to the maintenance and expansion of our business, operations and infrastructure;
- the amount and timing of costs related to any cost reduction initiatives and the impact of such initiatives; and
- increases or decreases in our revenues and expenses caused by fluctuations in foreign currency exchange rates.

Any of the above factors, individually or in the aggregate, may result in significant fluctuations in our financial and other operating results from period to period. For example, as we offer more and more solutions through subscriptions and services, it becomes increasingly difficult for us to predict whether customers will purchase our solutions as a product, a subscription or a service. If customers purchase our solutions through subscriptions and services that have less profit associated with them than our products, our operating results could be harmed. Changes in the mix of offerings sold impacts the timing of recognition of revenue for our sales. Consequently, given the different revenue recognition policies associated with sales of our products, subscriptions and services, customers purchasing more of our subscription and services offerings and less of our product offerings than we anticipated could result in our actual revenue falling below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in our stock price.

As a result of this variability, our historical results of operations should not be relied upon as an indication of future performance. Moreover, this variability and unpredictability could result in our failure to meet our operating plan or the expectations of investors or analysts for any period. If we fail to meet such expectations for these or other reasons, the market price of our common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

If we are unable to retain our customers, renew and expand our relationships with them, and add new customers, we may not be able to sustain revenue growth and we may not achieve or maintain profitability in the future.

From the year ended December 31, 2010 to the year ended December 31, 2019, our revenue grew from $11.8 million to $889.2 million, which represents a compounded annual growth rate of approximately 62%. Although we have experienced rapid growth in the past, we may not continue to grow in the future. Any success that we may experience in the future will depend, in large part, on our ability to, among other things:

- maintain, renew and expand our existing customer base;
- win new customers to our solutions;
- increase revenues from existing customers through increased use of our products, subscriptions and services within their organizations;
- improve the capabilities of our products and subscriptions through research and development;
- continue to develop our cloud-based solutions;

- maintain the rate at which customers purchase our subscriptions and support;
- continue to successfully expand our business domestically and internationally; and
- successfully compete with other companies.

If we are unable to maintain consistent or increasing revenue growth or if our revenues decline, it may be difficult to achieve and maintain profitability and our business and financial results could be adversely affected. Our revenue for any prior quarterly or annual periods should not be relied upon as any indication of our future revenue or revenue growth.

If we are unable to sell additional products, subscriptions and services, as well as renewals of our subscriptions and services, to our customers, our future revenue and operating results will be harmed.

Our future success depends, in part, on our ability to expand the deployment of our platform with existing customers by selling them additional products, subscriptions and services, such as our FireEye Helix platform. This may require increasingly sophisticated and costly sales efforts and may not result in additional sales. In addition, the rate at which our customers purchase additional products, subscriptions and services depends on a number of factors, including the perceived need for additional IT security, general economic conditions, and our customers' level of satisfaction with our existing solutions they have previously purchased. If our efforts to sell additional products, subscriptions and services to our customers are not successful, our business may suffer.

Further, existing customers that purchase our platform have no contractual obligation to renew their subscriptions and support and maintenance services after the initial contract period, and given our limited operating history, we may not be able to accurately predict our retention rates. Our customers' retention rates may decline or fluctuate as a result of a number of factors, including the level of their satisfaction with our platform, our customer support, customer budgets and the pricing of our platform compared with the products and services offered by our competitors. If our customers renew their subscriptions, they may renew for shorter contract lengths or on other terms that are less economically beneficial to us. We cannot assure you that our customers will renew their subscriptions, and if our customers do not renew their subscriptions or renew them on less favorable terms, our revenue may grow more slowly than expected, not grow at all, or even decline.

We also depend on our installed customer base for future support and maintenance revenue. We offer our support and maintenance agreements for terms that generally range between one and five years. If customers choose not to renew their support and maintenance agreements or seek to renegotiate the terms of their support and maintenance agreements prior to renewing such agreements, our revenue may grow more slowly than expected, not grow at all, or even decline.

Recent, past and future acquisitions and investments could disrupt our business and harm our financial condition and operating results.

Our success will depend, in part, on our ability to expand our platform and grow our business in response to changing technologies, customer demands and competitive pressures. In some circumstances, we may decide to do so through the acquisition of complementary businesses and technologies rather than through internal development, including, for example, our acquisitions of Clean Communications Limited (d/b/a The Email Laundry) ("The Email Laundry"), X15 Software Inc ("X15"), Verodin, Inc. ("Verodin") and Cloudvisory LLC ("Cloudvisory").

The identification of suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete acquisitions that we target in the future. The risks we face in connection with acquisitions, including our acquisitions of The Email Laundry, X15, Verodin and Cloudvisory include:

- diversion of management time and focus from operating our business to addressing acquisition integration challenges;

- our ability to successfully achieve billings and revenue targets of acquired businesses;
- coordination of research and development and sales and marketing functions;
- integration of product and service offerings;
- retention of key employees from the acquired company;
- changes in relationships with strategic partners as a result of product acquisitions or strategic positioning resulting from the acquisition;
- cultural challenges associated with integrating employees from the acquired company into our organization;
- integration of the acquired company's accounting, management information, human resources and other administrative systems, as well as the acquired operations, technology and rights into our offerings, and any unanticipated expenses related to such integration;
- the need to implement or improve controls, procedures, and policies at a business that prior to the acquisition may have lacked sufficiently effective controls, procedures and policies;
- financial reporting, revenue recognition or other financial or control deficiencies of the acquired company that we don't adequately address and that cause our reported results to be incorrect;
- liability for activities of the acquired company before the acquisition, including intellectual property infringement claims, violations of laws, commercial disputes, tax liabilities and other known and unknown liabilities;
- completing the transaction and achieving or utilizing the anticipated benefits of the acquisition within the expected timeframe, or at all;
- unanticipated write-offs or charges; and
- litigation or other claims in connection with the acquired company, including claims from terminated employees, customers, former stockholders or other third parties which may differ from or be more significant than the risks our business faces.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and investments could cause us to fail to realize the anticipated benefits of these acquisitions or investments, cause us to incur unanticipated liabilities, and harm our business generally. Future acquisitions could also result in dilutive issuances of equity securities. For example, in October 2017, we issued 259,425 shares of common stock in connection with our acquisition of The Email Laundry; in January 2018, we issued 1,016,334 shares of common stock in connection with our acquisition of X15; and in May 2019, we issued 8,404,609 shares of common stock in connection with our acquisition of Verodin.

There is also a risk that future acquisitions will result in the incurrence of debt, contingent liabilities, amortization expenses, incremental operating expenses or the write-off of goodwill, any of which could harm our financial condition or operating results.

If we are unable to maintain successful relationships with our channel partners and technology alliance partners, or if our channel partners or technology alliance partners fail to perform, our ability to market, sell and distribute our platform will be limited, and our business, financial position and results of operations will be harmed.

In addition to our direct sales force, we rely on our indirect channel partners to sell and support our platform. We derive a substantial portion of our revenue from sales of our products, subscriptions and services through, or with the assistance of, our indirect channel, and we expect that sales through channel partners will continue to be a significant percentage of our revenue. We also partner with our technology alliance partners to design go-to-market strategies that combine our platform with products or services provided by our technology alliance partners.

Our agreements with our channel partners and our technology alliance partners are generally non-exclusive, meaning our partners may offer customers products from several different companies, including products that compete with ours. If our channel partners do not effectively market and sell our platform, choose to use greater efforts to market and sell their own products or those of our competitors, or fail to meet the needs of our customers, our ability to grow our business and sell our platform may be adversely affected. Our channel partners and technology alliance partners may cease marketing our platform with limited or no notice and with little or no penalty, and new channel partners require extensive training and may take several months or more to achieve productivity. The loss of a substantial number of our channel partners, our possible inability to replace them, or the failure to recruit additional channel partners could materially and adversely affect our results of operations. In addition, sales by channel partners are more likely than direct sales to involve collectability concerns, particularly in developing markets. Our channel partner structure could also subject us to lawsuits or reputational harm if, for example, a channel partner misrepresents the functionality of our platform to customers or violates applicable laws or our corporate policies.

Our ability to achieve revenue growth in the future will depend in part on our success in maintaining successful relationships with our channel partners, and in training our channel partners to independently sell and deploy our platform. If we are unable to maintain our relationships with these channel partners or otherwise develop and expand our indirect sales channel, or if our channel partners fail to perform, our business, financial position and results of operations could be adversely affected.

Fluctuating economic conditions make it difficult to predict revenue for a particular period, and a shortfall in revenue may harm our business and operating results.

Our revenue depends significantly on general economic conditions and the demand for products in the IT security market. Economic weakness, customer financial difficulties, and constrained spending on IT security may result in decreased revenue and earnings. Such factors could make it difficult to accurately forecast our sales and operating results and could negatively affect our ability to provide accurate forecasts to our contract manufacturers and manage our inventory purchases, contract manufacturer relationships and other costs and expenses. In addition, concerns regarding the effects of the U.K.'s decision to exit the EU, commonly referred to as "Brexit", uncertainties related to changes in public policies such as domestic and international regulations, taxes, or international trade agreements, international trade disputes, government shutdowns, geopolitical turmoil and other disruptions to global and regional economies and markets in many parts of the world, have and may continue to put pressure on global economic conditions and overall spending on IT security. General economic weakness may also lead to longer collection cycles for payments due from our customers, an increase in customer bad debt, restructuring initiatives and associated expenses, and impairment of investments. Furthermore, the continued uncertainty in worldwide credit markets, including the sovereign debt situation in certain countries in the EU may adversely impact the ability of our customers to adequately fund their expected capital expenditures, which could lead to delays or cancellations of planned purchases of our platform.

Uncertainty about future economic conditions also makes it difficult to forecast operating results and to make decisions about future investments. Future or continued economic weakness for us or our customers, failure of our customers and markets to recover from such weakness, customer financial difficulties, and reductions in spending on IT security could have a material adverse effect on demand for our platform and consequently on our business, financial condition and results of operations.

If we fail to effectively manage our growth, our business, financial condition and results of operations would be harmed.

Although our business has experienced significant growth in the past, we cannot provide any assurance that our business will continue to grow at the same rate or at all. To improve our infrastructure, we continue to enhance our enterprise resource planning system, including revenue recognition and management software, and implement and enhance additional systems and controls. There is no assurance that we will be able to successfully scale improvements

to our enterprise resource planning system or implement or scale improvements to our other systems, processes and controls in a manner that keeps pace with our growth or that such systems, processes and controls will be effective in preventing or detecting errors, omissions or fraud.

As part of our efforts to improve our internal systems, processes and controls, we have licensed technology from third parties. The support services available for such third-party technology are outside of our control and may be negatively affected by consolidation in the software industry. In addition, if we do not receive adequate support for the software underlying our systems, processes and controls, our ability to provide products and services to our customers in a timely manner may be impaired, which may cause us to lose customers, limit us to smaller deployments of our platform or increase our technical support costs.

Many of our expenses are relatively fixed, at least in the short term. If our projections or assumptions on which we base our projections are incorrect, we may not be able to adjust our expenses rapidly enough to avoid an adverse impact on our profitability or cash flows.

To manage this growth effectively, we must continue to improve our operational, financial and management systems and controls by, among other things:

- effectively hiring, training and integrating new employees, particularly members of our sales and management teams;
- further improving our key business applications, processes and IT infrastructure, including our data centers, to support our business needs;
- continuing to refine our ability to forecast our bookings, billings, revenues, expenses and cash flows;
- enhancing our information and communication systems to ensure that our employees and offices around the world are well coordinated and can effectively communicate with each other and our growing base of channel partners and customers;
- improving our internal control over financial reporting and disclosure controls and procedures to ensure timely and accurate reporting of our operational and financial results; and
- appropriately documenting and testing our IT systems and business processes.

These and other improvements in our systems and controls will require significant capital expenditures and the allocation of valuable management and employee resources. If we fail to implement these improvements effectively, our ability to manage our expected growth, ensure uninterrupted operation of key business systems and comply with the rules and regulations applicable to public reporting companies would be impaired, and our business, financial condition and results of operations would be harmed.

If the general level of advanced cyber attacks declines, or is perceived by our current or potential customers to have declined, our business could be harmed.

Our business is substantially dependent on enterprises and governments recognizing that advanced cyber attacks are pervasive and are not effectively prevented by legacy security solutions. High visibility attacks on prominent enterprises and governments have increased market awareness of the problem of advanced cyber attacks and help to provide an impetus for enterprises and governments to devote resources to protecting against advanced cyber attacks, such as testing our platform, purchasing it, and broadly deploying it within their organizations. If advanced cyber attacks were to decline, or enterprises or governments perceived that the general level of advanced cyber attacks have declined, our ability to attract new customers and expand our offerings within existing customers could be materially and adversely affected. A change in the threat landscape may reduce the demand from customers or prospects for our solutions, and therefore could increase our sales cycles and harm our business, results of operations and financial condition.

Disruptions or other business interruptions that affect the availability of our Dynamic Threat Intelligence ("DTI") cloud, our Helix platform, or other cloud-based products and services we offer or may offer could adversely impact our customer relationships as well as our overall business.

When a customer purchases one or more of our threat prevention appliances, it must also purchase a subscription to our DTI cloud for a term of one to three years. Our DTI cloud enables global sharing of threat intelligence uploaded by any of our customers' cloud-connected FireEye appliances. We also offer additional cloud-based platforms such as our Email Threat Prevention, Mobile Threat Prevention and Threat Analytics Platforms and provide security solutions through our own and our co-branded security operation centers.

Our customers depend on the continuous availability of our DTI cloud and other cloud-based products and services. Our cloud-based products and services are vulnerable to damage or interruption from a variety of sources, including damage or interruption caused by fire, earthquake, power loss, telecommunications or computer systems failure, cyber attack, human error, terrorist acts and war. Our data centers and networks may experience technical failures and downtime, may fail to distribute appropriate updates, or may fail to meet the increased requirements of a growing customer base, any of which could temporarily or permanently expose our customers' networks, leaving their networks unprotected against the latest security threats or, in the case of technical failures and downtime of security operation centers, all security threats.

In addition, there may also be system or network interruptions if new or upgraded systems are defective or not installed properly. Moreover, interruptions in our subscription updates could result in a failure of our DTI cloud to effectively update customers' hardware products and thereby leave our customers more vulnerable to attacks. Interruptions or failures in our service delivery could cause customers to terminate their subscriptions with us, could adversely affect our retention rates, and could harm our ability to attract new customers. Our business would also be harmed if our customers believe that our DTI cloud or other cloud-based products and services are unreliable.

In addition, we provide our cloud-based products and services through third-party data center hosting facilities located in the United States and other countries. While we control and have access to our servers and all of the components of our network that are located in our data centers, we do not control the operation of these facilities. The owners of the data center facilities have no obligation to renew their agreements with us on commercially reasonable terms, or at all. If we are unable to renew these agreements on commercially reasonable terms, or if one of our data center operators is acquired, we may be required to transfer our servers and other infrastructure to new data center facilities, and we may incur significant costs and possible service interruption in connection with doing so.

Furthermore, we have and will continue to make substantial investments to support growth at our data centers and improve the profitability of our cloud platform. If our cloud-based server costs were to increase, our business, results of operations and financial condition may be adversely affected. Ongoing improvements to cloud infrastructure may be more expensive than we anticipate, and may not yield the expected savings in operating costs or the expected performance benefits. In addition, we may be required to re-invest any cost savings achieved from prior cloud infrastructure improvements in future infrastructure projects to maintain the levels of service required by our customers. We may not be able to maintain or achieve cost savings from our investments, which could harm our financial results.

If organizations do not adopt cloud-based SaaS-delivered security solutions, our ability to grow our business and results of operations may be adversely affected.

We believe our future success will depend in large part on the growth, if any, in the market for cloud-based SaaS-delivered security solutions. The use of SaaS solutions to manage and automate security and IT operations is at an early stage and rapidly evolving. As such, it is difficult to predict its potential growth, if any, customer adoption and retention rates, customer demand for our solutions, or the success of existing competitive products.

Any expansion in our market depends on a number of factors, including the cost, performance, and perceived value associated with our solutions and those of our competitors. If our solutions do not achieve widespread adoption or there is a reduction in demand for our solutions due to a lack of customer acceptance, technological challenges, competing products, privacy concerns, decreases in corporate spending, weakening economic conditions or otherwise, it could result in early terminations, reduced customer retention rates, or decreased revenue, any of which would adversely affect our business, results of operations, and financial results. We do not know whether the trend in adoption of cloud-based SaaS-delivered security solutions we have experienced in the past will continue in the future. Furthermore, if we or other SaaS security providers experience security incidents, loss or disclosure of customer data, disruptions in delivery, or other problems, the market for SaaS solutions as a whole, including our security solutions, may be negatively affected. You should consider our business and prospects in light of the risks and difficulties we encounter in this new and evolving market.

We rely on our management team and other key employees and will need additional personnel to grow our business, and the loss of one or more key employees or our inability to hire, integrate, train and retain qualified personnel, including members for our board of directors, could harm our business.

Our future success is substantially dependent on our ability to hire, integrate, train, retain and motivate the members of our management team and other key employees throughout our organization, including key employees obtained through our acquisitions. Competition for highly skilled personnel is intense, especially in the San Francisco Bay Area and the Washington D.C. Area, where we have a substantial presence and need for highly skilled personnel. We may not be successful in hiring or retaining qualified personnel to fulfill our current or future needs, and potential changes in U.S. immigration and work authorization laws and regulations, including those that restrain the flow of technical and professional talent, may make it difficult to renew or obtain visas for highly skilled personnel that we have hired or are actively recruiting. We are also substantially dependent on the continued service of our existing engineering personnel because of the complexity of our platform. Our competitors may be successful in recruiting and hiring members of our management team or other key employees, including key employees obtained through our acquisitions, and it may be difficult for us to find suitable replacements on a timely basis, on competitive terms, or at all. Also, to the extent we hire employees from mature public companies with significant financial resources, we may be subject to allegations that such employees have been improperly solicited, or that they have divulged proprietary or other confidential information or that their former employers own such employees' inventions or other work product.

We recently announced the upcoming retirement of our President, the appointment of our new Chief Operating Officer, and other organizational changes. Leadership transitions and management changes can be inherently difficult to manage and may cause uncertainty or a disruption to our business or may increase the likelihood of turnover in key officers and employees. Our success depends in part on having a successful leadership team. If we cannot effectively manage the leadership transitions and management changes, it could make it more difficult to successfully operate our business and pursue our business goals.

In addition, we believe that it is important to establish and maintain a corporate culture that facilitates the maintenance and transfer of institutional knowledge within our organization and also fosters innovation, teamwork, a passion for customers and a focus on execution. Any of our organizational changes may result in a loss of institutional knowledge and cause disruptions to our business. In addition, if we are not successful in integrating our new Chief Operating Officer and other key employees into our organization, such failure could delay or hinder our product development efforts and the achievement of our strategic objectives, which could adversely affect our business, financial condition and results of operations.

Our employees, including our executive officers, work for us on an "at-will" basis, which means they may terminate their employment with us at any time. We do not maintain key person life insurance policies on any of our key employees. If one or more of our key employees resigns or otherwise ceases to provide us with their service, our business could be harmed.

If we do not effectively hire, integrate and train our direct sales force, we may be unable to add new customers or increase sales to our existing customers, and our business will be adversely affected.

We continue to be substantially dependent on our direct sales force to obtain new customers and increase sales with existing customers. There is significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve revenue growth will depend, in large part, on our success in recruiting, integrating, training and retaining sufficient numbers of sales personnel to support our growth, particularly in international markets. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. If we are unable to hire and train a sufficient number of effective sales personnel, or the sales personnel we hire are not successful in obtaining new customers or increasing sales to our existing customer base, our business will be adversely affected.

Our sales cycles can be long and unpredictable, and our sales efforts require considerable time and expense. As a result, our sales, billings and revenue are difficult to predict and may vary substantially from period to period, which may cause our results of operations to fluctuate significantly.

Our results of operations may fluctuate, in part, because of the resource intensive nature of our sales efforts, the length and variability of our sales cycle and the short-term difficulty in adjusting our operating expenses. Our results of operations depend in part on sales to large organizations. The length of our sales cycle, from proof of concept to delivery of and payment for our platform, is typically three to nine months but can be more than a year. To the extent our competitors develop products that our prospective customers view as equivalent to ours, our average sales cycle may increase. Because the length of time required to close a sale varies substantially from customer to customer, it is difficult to predict exactly when, or even if, we will make a sale with a potential customer. As a result, large individual sales have, in some cases, occurred in quarters subsequent to or in advance of those we anticipated, or have not occurred at all. We are generally billing a number of large deals in any quarter, and the loss or delay of one or more of these large transactions in a quarter could impact our results of operations for that quarter and any future quarters for which revenue from that transaction is delayed. Furthermore, some sales (such as product sales) generally result in immediate recognition of revenue, while other sales, such as product subscription sales, require the recognition of revenue over periods of one year or longer typically. As a result of these factors, it is difficult for us to forecast our revenue accurately in any quarter based on our internal forecasts of billings. Because a substantial portion of our expenses are relatively fixed in the short term, our results of operations will suffer if our revenue falls below our expectations in a particular quarter, which could cause the price of our common stock to decline.

We rely on revenue from sales of products, subscriptions, and maintenance and support, and because we recognize revenue from most of these sales over the term of the relevant useful life or subscription period, downturns or upturns in sales are not immediately reflected in full in our results of operations.

Revenue from sales of our products, subscriptions, and maintenance and support accounts for a significant portion of our total revenue. New or renewal sales of subscription and maintenance and support contracts may decline or fluctuate as a result of a number of factors, including customers' level of satisfaction with our products and subscriptions, the actual or perceived efficacy of our security solutions, the prices of our products and subscriptions, the prices of products and subscriptions offered by our competitors or reductions in our customers' spending levels. If our sales of new or renewal subscription and service contracts decline, our revenue and revenue growth rate may decline and adversely affect our business. In addition, we recognize revenue from most of our security appliances sales ratably over the useful life, and we recognize revenue from our subscriptions and maintenance and support contracts revenue ratably over the term of the relevant contract period, which is generally between one to five years. As a result, much of the product, subscription and support revenue we report each quarter is derived from sales in prior quarters. Consequently, a decline in new or renewal sales in any one quarter will not be fully reflected in revenue in that quarter but will negatively affect our revenue in future

quarters. Accordingly, the effect of significant decreases in the market acceptance of, or demand for, our intelligence-dependent security appliances, subscriptions or maintenance and support contracts may not be immediately apparent from our results of operations until future periods. Also, it is difficult for us to rapidly increase our revenue through additional sales in any period, as the majority of our revenue is derived from sales of our products, subscriptions and services sold in prior periods. Furthermore, any increases in the average term of our subscriptions or maintenance and support contracts would result in a longer revenue recognition period, and could reduce the amount of revenue recognized in each period.

The sales prices of our products, subscriptions and services may decrease or the mix of our sales may change, which may reduce our gross profits and adversely impact our financial results.

The sales prices for our products, subscriptions and services may decline for a variety of reasons, including competitive pricing pressures, discounts, a change in our mix of products, subscriptions and services, anticipation of the introduction of new products, subscriptions or services, introduction of new pricing and packaging or promotional programs. Competition continues to increase in the market segments in which we participate, and we expect competition to further increase in the future, thereby leading to increased pricing pressures. Larger competitors with more diverse product and service offerings may reduce the price of products or subscriptions that compete with ours or may bundle them with other products and subscriptions. Additionally, although we price our products and subscriptions worldwide in U.S. dollars, currency fluctuations in certain countries and regions may negatively impact actual prices that partners and customers are willing to pay in those countries and regions, or the effective prices we realize in our reporting currency. Furthermore, we anticipate that the sales prices and gross profits for our appliance-based products will decrease over product life cycles. We cannot assure you that we will be successful in developing and introducing new offerings with enhanced functionality on a timely basis, or that our new subscription offerings, if introduced, will enable us to maintain our gross profits at levels that will allow us to achieve profitability.

If we do not accurately anticipate and respond promptly to changes in our customers' technologies, business plans or security needs, our competitive position and prospects could be harmed.

The IT security market has grown quickly and is expected to continue to evolve rapidly. Moreover, many of our customers operate in markets characterized by rapidly changing technologies and business plans, which require them to add numerous network access points and adapt to increasingly complex IT networks, incorporating a variety of hardware, software applications, operating systems and networking protocols. As their technologies and business plans grow more complex, we expect these customers to face new and increasingly sophisticated methods of attack. We face significant challenges in ensuring that our platform effectively identifies and responds to these advanced and evolving attacks without disrupting our customers' network performance. As a result of the continued rapid innovations in the technology industry, including the rapid growth of smart phones, tablets and other devices, the trend of "bring your own device" in enterprises, and the rapidly evolving Internet of Things ("IOT"), we expect the networks of our customers to continue to change rapidly and become more complex.

We have identified a number of new products and enhancements to our platform that we believe are important to our continued success in the IT security market, including our FireEye Helix platform and enhancements to our endpoint solution. There can be no assurance that we will be successful in developing and marketing, on a timely basis, such new products or enhancements or that our new products or enhancements will adequately address the changing needs of the marketplace. In addition, some of our new products and enhancements may require us to develop new hardware architectures that involve complex, expensive and time-consuming research and development processes. Although the market expects rapid introduction of new products and enhancements to respond to new threats, the development of these products and enhancements is difficult and the timetable for commercial release and availability is uncertain, as there can be significant time lags between initial beta releases and the commercial availability of new products and enhancements. We may experience unanticipated delays in the availability of new products and enhancements to our platform and fail to

meet customer expectations with respect to the timing of such availability. If we do not quickly respond to the rapidly changing and rigorous needs of our customers by developing, releasing and making available on a timely basis new products and enhancements to our platform, such as our FireEye Helix platform and enhancements to our endpoint solution, that can adequately respond to advanced threats and our customers' needs, our competitive position and business prospects will be harmed. Furthermore, from time to time, we or our competitors may announce new products with capabilities or technologies that could have the potential to replace or shorten the life cycles of our existing products. There can be no assurance that announcements of new products will not cause customers to defer purchasing our existing products.

Additionally, the process of developing new technology is expensive, complex and uncertain. The success of new products and enhancements depends on several factors, including appropriate component costs, timely completion and introduction, differentiation of new products and enhancements from those of our competitors, and market acceptance. To maintain our competitive position, we must continue to commit significant resources to developing new products or enhancements to our platform before knowing whether these investments will be cost-effective or achieve the intended results. There can be no assurance that we will successfully identify new product opportunities, develop and bring new products or enhancements to market in a timely manner, or achieve market acceptance of our platform, or that products and technologies developed by others will not render our platform obsolete or noncompetitive. If we expend significant resources on researching and developing products or enhancements to our platform and such products or enhancements are not successful, our business, financial position and results of operations may be adversely affected.

Our current research and development efforts may not produce successful products or enhancements to our platform that result in significant revenue, cost savings or other benefits in the near future, if at all.

We must continue to dedicate significant financial and other resources to our research and development efforts if we are to maintain our competitive position. However, developing products and enhancements to our platform is expensive and time consuming, and there is no assurance that such activities will result in significant new marketable products or enhancements to our platform, design improvements, cost savings, revenue or other expected benefits. If we spend significant resources on research and development and are unable to generate an adequate return on our investment, our business and results of operations may be materially and adversely affected.

If we are unable to increase sales of our solutions to large organizations while mitigating the risks associated with serving such customers, our business, financial position and results of operations may suffer.

Our growth strategy is dependent, in part, upon increasing sales of our solutions to large enterprises and governments. Sales to large customers involve risks that may not be present (or that are present to a lesser extent) with sales to smaller entities. These risks include:

- increased purchasing power and leverage held by large customers in negotiating contractual arrangements with us;
- more stringent or costly requirements imposed upon us in our support service contracts with such customers, including stricter support response times and penalties for any failure to meet support requirements;
- more complicated implementation processes;
- longer sales cycles and the associated risk that substantial time and resources may be spent on a potential customer that ultimately elects not to purchase our platform or purchases less than we hoped;
- closer relationships with, and dependence upon, large technology companies who offer competitive products; and
- more pressure for discounts and write-offs.

In addition, because security breaches with respect to larger, high-profile enterprises are likely to be heavily publicized, there is increased reputational risk associated with serving such customers. If we are unable to increase sales of our offerings to large enterprise and government customers while mitigating the risks associated with serving such customers, our business, financial position and results of operations may suffer.

Seasonality may cause fluctuations in our revenue.

We believe there are significant seasonal factors that may cause us to record higher revenue in some quarters compared with others. We believe this variability is largely due to (i) our customers' budgetary and spending patterns, as many customers spend the unused portions of their discretionary budgets prior to the end of their fiscal years, and (ii) our sales compensation plans, which are typically structured around annual quotas and stair step commission rates. For example, we have historically recorded our highest level of revenue in our fourth quarter, which we believe corresponds to the fourth quarter of a majority of our customers. Similarly, we have historically recorded our second-highest level of revenue in our third quarter, which corresponds to the fourth quarter of U.S. federal agencies and other customers in the U.S. federal government. Our growth rate over the last couple years may have made seasonal fluctuations more difficult to detect. If our rate of growth slows over time, seasonal or cyclical variations in our operations may become more pronounced, and our business, results of operations and financial position may be adversely affected.

Claims by others that we infringe their proprietary technology or other rights could harm our business.

Technology companies frequently enter into litigation based on allegations of patent infringement or other violations of intellectual property rights. In addition, patent holding companies seek to monetize patents they have purchased or otherwise obtained. As we face increasing competition and gain an increasingly higher profile, the possibility of intellectual property rights claims against us grows. From time to time, third parties have asserted, and we expect that third parties will continue to assert, claims of infringement of intellectual property rights against us. For example, on December 29, 2017, we executed Confidential Patent License Agreements with Finjan Holdings, Inc. ("Finjan"), whereby we resolved all pending litigation matters. Under the terms of the settlement agreement, we paid Finjan a one-time net cash settlement amount of $12.5 million in December 2017, in exchange for the resolution and settlement of all claims between FireEye and Finjan and for cross-licenses between the companies of certain issued patents and patent applications. Other security companies have paid amounts to the same plaintiff to license some of the patents asserted against us. Third parties may in the future also assert claims against our customers or channel partners, whom our standard license and other agreements obligate us to indemnify against claims that our products infringe the intellectual property rights of third parties. While we intend to increase the size of our patent portfolio, many of our competitors and others may now and in the future have significantly larger and more mature patent portfolios than we have. In addition, future litigation may involve patent holding companies or other patent owners who have no relevant product offerings or revenue and against whom our own patents may therefore provide little or no deterrence or protection. Any claim of intellectual property infringement by a third party, even a claim without merit, could cause us to incur substantial costs defending against such claim, could distract our management from our business and could require us to cease use of such intellectual property. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by the discovery process.

Although third parties may offer a license to their technology or other intellectual property, the terms of any offered license may not be acceptable, and the failure to obtain a license or the costs associated with any license could cause our business, financial condition and results of operations to be materially and adversely affected. We may also be subject to additional fees or be required to obtain new licenses if any of our licensors allege that we have not properly paid for such licenses or that we have improperly used the technologies under such licenses. In addition, some licenses may be non-exclusive, and therefore our competitors may have access to the same technology licensed to us. If a third party does not offer us a license to its technology or other intellectual property on reasonable terms, or at all, we could be enjoined from continued use of such intellectual property. As

a result, we may be required to develop alternative, non-infringing technology, which could require significant time (during which we could be unable to continue to offer our affected products, subscriptions or services), effort, and expense and may ultimately not be successful. Furthermore, a successful claimant could secure a judgment or we may agree to a settlement that prevents us from distributing certain products, providing certain subscriptions or performing certain services or that requires us to pay substantial damages, royalties or other fees. Any of these events could harm our business, financial condition and results of operations.

Because we depend on a limited number of manufacturers to build our appliances, we are susceptible to manufacturing delays and pricing fluctuations that could prevent us from shipping customer orders on time, or on a cost-effective basis, which may result in the loss of sales and customers.

We depend on a limited number of third-party manufacturers, primarily Flextronics Telecom Systems, Ltd., as sole source manufacturers for our appliances. Our reliance on third-party manufacturers reduces our control over the manufacturing process and exposes us to risks, including reduced control over quality assurance, product costs, product supply, upgrades and expansions and timing. Any manufacturing disruption by these third-party manufacturers could severely impair our ability to fulfill orders on time. If we are unable to manage our relationships with these third-party manufacturers effectively, or if these manufacturers suffer delays or disruptions for any reason, experience increased manufacturing lead-times, capacity constraints or quality control problems in their manufacturing operations, or fail to meet our future requirements for timely delivery, our ability to ship products to our customers would be severely impaired, and our business and results of operations would be harmed.

Further, the portion of our appliances that are sourced outside the United States may be subject to additional logistical risks or risks associated with complying with local rules and regulations in foreign countries. Significant changes to existing international trade agreements could lead to sourcing or logistics disruption resulting from import delays or the imposition of increased tariffs on our sourcing partners. For example, the United States and Chinese governments have each enacted, and discussed more potential, import tariffs. These tariffs, depending on their ultimate scope and how they are implemented, could negatively impact our business by increasing our costs and impair our ability to fulfill orders.

In addition, our reliance on third-party manufacturers exposes us to the risk that certain minerals, known as "conflict minerals," that are contained in our products have originated in the Democratic Republic of the Congo or an adjoining country. As a result of the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the SEC adopted disclosure requirements for public companies whose products contain conflict minerals that are necessary to the functionality or production of such products. Although the SEC has provided guidance with respect to a portion of the conflict minerals filing requirements that somewhat reduced the reporting required, we have incurred and expect to incur additional costs to comply with the disclosure requirements, including costs related to determining the source of the conflict minerals used in our products. Moreover, the implementation of these requirements could adversely affect the sourcing, availability and pricing of materials used in the manufacture of our products to the extent that there may be only a limited number of suppliers offering "conflict free" minerals that can be used in our products. There can be no assurance that we will be able to obtain such minerals in sufficient quantities or at competitive prices. We may also encounter customers who require that all of the components of our products be certified as conflict free. If we are not able to meet customer requirements, such customers may choose to not purchase our products, which could impact our sales.

Our third-party manufacturers typically fulfill our supply requirements on the basis of individual orders. We are subject to a risk of supply shortages and changes in pricing terms because we do not have long-term contracts with our third-party manufacturers that guarantee capacity, the continuation of particular pricing terms or the extension of credit limits. Our contract with our primary manufacturer permits it to terminate such contract at its convenience, subject to prior notice requirements. Any production interruptions for any reason, such as a natural disaster, epidemic, capacity shortages, or quality problems at one of our manufacturing partners would negatively affect sales of our products and adversely impact our business and results of operations.

Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in new products could reduce our ability to compete and could harm our business.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new products and enhancements to our platform, improve our operating infrastructure or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional equity financing, our stockholders may experience significant dilution of their ownership interests and the per share value of our common stock could decline. Furthermore, if we engage in additional debt financing, the holders of debt would have priority over the holders of common stock, and we may be required to accept terms that restrict our ability to incur additional indebtedness. We may also be required to take other actions that would otherwise be in the interests of the debt holders and force us to maintain specified liquidity or other ratios, any of which could harm our business, results of operations, and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- develop or enhance our products and subscriptions;
- continue to expand our sales and marketing and research and development organizations;
- acquire complementary technologies, products or businesses;
- expand operations, in the United States or internationally;
- hire, train and retain employees; or
- respond to competitive pressures or unanticipated working capital requirements.

Our failure to do any of these things could harm our business, financial condition and results of operations.

We may be unable to protect our intellectual property adequately, which could harm our business, financial condition and results of operations.

We believe that our intellectual property is an essential asset of our business. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as confidentiality procedures and contractual provisions, to establish and protect our intellectual property rights in the United States and abroad. The efforts we have taken to protect our intellectual property may not be sufficient or effective, and our trademarks, copyrights and patents may be held invalid or unenforceable. Any U.S. or other patents issued to us may not be sufficiently broad to protect our proprietary technologies, and given the costs of obtaining patent protection, we may choose not to seek patent protection for certain of our proprietary technologies. We may not be effective in policing unauthorized use of our intellectual property, and even if we do detect violations, litigation may be necessary to enforce our intellectual property rights. Any enforcement efforts we undertake, including litigation, could be time-consuming and expensive, could divert management's attention and may result in a court determining that our intellectual property rights are unenforceable. If we are not successful in cost-effectively protecting our intellectual property rights, our business, financial condition and results of operations could be harmed.

We incorporate technology from third parties into our products, and our inability to obtain or maintain rights to the technology could harm our business.

We incorporate technology from third parties into our products. We cannot be certain that our suppliers and licensors are not infringing the intellectual property rights of third parties or that the suppliers and licensors have sufficient rights to the technology in all jurisdictions in which we may sell our products. Some of our agreements with our suppliers and licensors may be terminated for convenience by them. If we are unable to obtain or maintain rights to any of this technology because of intellectual property infringement claims brought by third parties against our suppliers and licensors or against us, or if we are unable to continue to obtain such technology or enter into new agreements on commercially reasonable terms, our ability to develop and sell products,

subscriptions and services containing such technology could be severely limited, and our business could be harmed. Additionally, if we are unable to obtain necessary technology from third parties, including certain sole suppliers, we may be forced to acquire or develop alternative technology, which may require significant time, cost and effort and may be of lower quality or performance standards. This would limit and delay our ability to offer new or competitive products and increase our costs of production. If alternative technology cannot be obtained or developed, we may not be able to offer certain functionality as part of our products, subscriptions and services. As a result, our margins, market share and results of operations could be significantly harmed.

Our products and subscriptions contain third-party open source software components, and failure to comply with the terms of the underlying open source software licenses could restrict our ability to sell our products and subscriptions.

Our products and subscriptions contain software modules licensed to us by third-party authors under "open source" licenses. The use and distribution of open source software may entail greater risks than the use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software we use. If we combine our proprietary software with open source software in a certain manner, we could, under certain open source licenses, be required to release the source code of our proprietary software to the public. This would allow our competitors to create similar products with lower development effort and time and ultimately could result in a loss of sales for us.

Although we monitor our use of open source software to try to avoid subjecting our products and subscriptions to conditions, the terms of many open source licenses have not been interpreted by U.S. courts, and there is a risk that these licenses could be construed in ways that could impose unanticipated conditions or restrictions on our ability to commercialize products and subscriptions incorporating such software. Moreover, we cannot assure you that our processes for controlling our use of open source software in our products and subscriptions will be effective. From time to time, we may face claims from third parties asserting ownership of, or demanding release of, the open source software or derivative works that we developed using such software (which could include our proprietary source code), or otherwise seeking to enforce the terms of the applicable open source license. These claims could result in litigation. If we are held to have breached the terms of an open source software license, we could be required to seek licenses from third parties to continue offering our products on terms that are not economically feasible, to re-engineer our products, to discontinue the sale of our products if re-engineering could not be accomplished on a timely or cost-effective basis, or to make generally available, in source code form, our proprietary code, any of which could adversely affect our business, results of operations and financial condition.

U.S. federal, state and local government sales are subject to a number of challenges and risks that may adversely impact our business.

Sales to U.S. federal, state, and local governmental agencies have accounted for, and may in the future account for, a significant portion of our revenue. Sales to such government entities are subject to the following risks:

- selling to governmental agencies can be highly competitive, expensive and time consuming, often requiring significant upfront time and expense without any assurance that such efforts will generate a sale;
- government certification requirements applicable to our products may change and, in doing so, restrict our ability to sell into the U.S. federal government sector until we have attained the revised certification;
- government demand and payment for our products and services may be impacted by government shutdowns, public sector budgetary cycles, contracting requirements and funding authorizations, with funding reductions or delays adversely affecting public sector demand for our products and services;

- we sell our platform to governmental agencies through our indirect channel partners, and these agencies may have statutory, contractual or other legal rights to terminate contracts with our distributors and resellers for convenience or due to a default, and any such termination may adversely impact our future results of operations;
- governments routinely investigate and audit government contractors' administrative processes, and any unfavorable audit could result in the government refusing to continue buying our platform, which would adversely impact our revenue and results of operations, or institute fines or civil or criminal liability if the audit were to uncover improper or illegal activities; and
- governments may require certain products purchased by it to be manufactured in the United States and other relatively high-cost manufacturing locations, and we may not manufacture all products in locations that meet these requirements, affecting our ability to sell these products to governmental agencies.

Our ability to maintain customer satisfaction depends in part on the quality of our professional service organization and technical and other support services, including the quality of the support provided on our behalf by certain channel partners. Failure to maintain high-quality customer support could have a material adverse effect on our business, financial condition and results of operations.

Once our platform is deployed within our customers' networks, our customers depend on our technical and other support services, as well as the support of our channel partners, to resolve any issues relating to the implementation and maintenance of our platform. If we or our channel partners do not effectively assist our customers in deploying our platform, succeed in helping our customers quickly resolve post-deployment issues, or provide effective ongoing support, our ability to sell additional products, subscriptions or services as part of our platform to existing customers would be adversely affected and our reputation with potential customers could be damaged. Many larger organizations have more complex networks and require higher levels of support than smaller customers. If we fail to meet the requirements of our larger customers, it may be more difficult to execute on our strategy of upselling and cross selling with these customers. Additionally, if our channel partners do not effectively provide support to the satisfaction of our customers, we may be required to provide this level of support to those customers, which would require us to hire additional personnel and to invest in additional resources. It can take significant time and resources to recruit, hire, and train qualified technical support employees. We may not be able to hire such resources fast enough to keep up with demand. To the extent that we or our channel partners are unsuccessful in hiring, training, and retaining adequate support resources, our ability and the ability of our channel partners to provide adequate and timely support to our customers will be negatively impacted, and our customers' satisfaction with our platform will be adversely affected. Additionally, to the extent that we need to rely on our sales engineers to provide post-sales support, our sales productivity will be negatively impacted, which would harm our results of operations.

Our operating history and changes to our business model makes it difficult to evaluate our current business and prospects and may increase the risk that we will not be successful.

We were founded in 2004, and we shipped our first commercially successful solution for on-premises network security in 2008. Since then, we have continued to expand our offerings, both organically and through acquisitions, to address changes in the threat environment, evolving customer requirements, and the continued migration of workloads to cloud platforms. Acquired solutions included Mandiant Corporation's endpoint threat detection, response and remediation products, advanced threat intelligence capabilities and incident response and security consulting services; Invotas' security automation and orchestration functionality; iSIGHT's standalone threat intelligence subscriptions; Verodin's security instrumentation platform; and Cloudvisory's cloud visibility application. The markets for many of our acquired solutions are in the early stages of development and customer adoption remains limited. Additionally, most of our acquired solutions are sold as subscriptions, often to large enterprises or governments, and contract terms may vary significantly. The shift in sales mix from mature on-premise appliance-based solutions to cloud-based subscriptions in early-stage markets makes it difficult to

evaluate our current business and prospects and plan for and model our future growth. We have encountered and will continue to encounter risks and uncertainties frequently encountered by emerging technology-based companies in developing markets.

If our assumptions regarding these risks and uncertainties are incorrect or change in response to changes in the IT security market, our results of operations and financial results could differ materially from our plans and forecasts. Although we have experienced rapid growth in the past, there is no assurance that such growth will continue. Any success we may experience in the future will depend in large part on our ability to, among other things:

- maintain and expand our customer base and the ways in which customers use our products and services;
- expand revenue from existing customers through increased or broader use of our products, subscriptions and services within their organizations;
- grow our revenues from software, subscriptions and recent offerings from acquisitions such as Verodin;
- convince customers to allocate a fixed portion of their annual IT budgets to our products and services;
- improve the performance and capabilities of our platform through research and development;
- effectively expand our business domestically and internationally; and
- successfully compete with other companies that currently provide, or may in the future provide, solutions like ours that protect against advanced cyber attacks, measure security effectiveness, or investigate and respond to attacks.

If we are unable to achieve our key objectives, including the objectives listed above, our business and results of operations will be adversely affected and the fair market value of our common stock could decline.

Managing the supply of our products and their components is complex. Insufficient supply and inventory may result in lost sales opportunities or delayed revenue, while excess inventory may harm our gross margins.

Our third-party manufacturers procure components and build our products based on our forecasts, and we generally do not hold inventory for a prolonged period of time. These forecasts are based on estimates of future demand for our products, which are in turn based on historical trends and analyses from our sales and marketing organizations, adjusted for overall market conditions. In order to reduce manufacturing lead times and plan for adequate component supply, from time to time we may issue forecasts for components and products that are non-cancelable and non-returnable.

Our inventory management systems and related supply chain visibility tools may be inadequate to enable us to make accurate forecasts and effectively manage the supply of our products and product components. Supply management remains an area of increasing focus as we balance the need to maintain supply levels that are sufficient to ensure competitive lead times against the risk of obsolescence because of rapidly changing technology and customer requirements. If we ultimately determine that we have excess supply, we may have to reduce our prices and write-down inventory, which in turn could result in lower gross margins. Alternatively, insufficient supply levels may lead to shortages that result in delayed revenue or loss of sales opportunities altogether as potential customers turn to competitors' products that may be readily available. Additionally, any increases in the time required to manufacture or ship our products could result in supply shortfalls. If we are unable to effectively manage our supply and inventory, our results of operations could be adversely affected.

Because some of the key components in our products come from limited sources of supply, we are susceptible to supply shortages or supply changes, which could disrupt or delay our scheduled product deliveries to our customers and may result in the loss of sales and customers.

Our platform relies on key components, including a motherboard and chassis, which our third-party manufacturers purchase on our behalf from a sole source provider. The manufacturing operations of some of our

component suppliers are geographically concentrated in Asia, which makes our supply chain vulnerable to regional disruptions. A localized health risk affecting employees at these facilities, such as the recent coronavirus outbreak or the spread of a pandemic influenza, could impair the total volume of components that we are able to obtain, which could result in substantial harm to our results of operations. Similarly, a fire, flood, earthquake, tsunami or other disaster, condition or event such as political instability, terrorist act, civil unrest or a power outage that adversely affects any of these component suppliers' facilities could significantly affect our ability to obtain the components needed for our products, which could result in a substantial loss of sales and revenue and a substantial harm to our results of operations.

We do not have volume purchase contracts with any of our component suppliers, and they could cease selling to us at any time. In addition, our component suppliers change their selling prices frequently in response to market trends, including industry-wide increases in demand, and because we do not have contracts with these suppliers, we are susceptible to price fluctuations related to raw materials and components. If we are unable to pass component price increases along to our customers or maintain stable pricing, our gross margins and results of operations could be negatively impacted. If we are unable to obtain a sufficient quantity of these components in a timely manner for any reason, sales of our products could be delayed or halted or we could be forced to expedite shipment of such components or our products at dramatically increased costs, which would negatively impact our revenue and gross margins. Additionally, poor quality in any of the sole-sourced components in our products could result in lost sales or lost sales opportunities. If the quality of the components does not meet our or our customers' requirements, if we are unable to obtain components from our existing suppliers on commercially reasonable terms, or if any of our sole source providers cease to remain in business or continue to manufacture such components, we could be forced to redesign our products and qualify new components from alternate suppliers. The resulting stoppage or delay in selling our products and the expense of redesigning our products could result in lost sales opportunities and damage to customer relationships, which would adversely affect our business and results of operations.

If we fail to adequately protect personal information or other information we process or maintain, our business, financial condition and operating results could be adversely affected.

A wide variety of provincial, state, national, and international laws and regulations apply to the collection, use, retention, protection, disclosure, transfer and other processing of personal data and other information. Evolving and changing definitions of personal data and personal information within the European Union, the United States, and elsewhere, especially relating to classification of Internet Protocol addresses, machine identification, location data and other information, may limit or inhibit our ability to operate or expand our business, including limiting technology alliance partners that may involve the sharing of data. Data protection and privacy-related laws and regulations are evolving and may result in ever-increasing regulatory and public scrutiny and escalating levels of enforcement and sanctions.

For example, the European Union General Data Protection Regulation ("GDPR"), which became fully effective on May 25, 2018, imposes more stringent data protection requirements than previously effective European Union data protection law and provides for penalties for noncompliance of up to the greater of €20 million or four percent of worldwide annual revenues. The GDPR requires, among other things, that personal data only be transferred outside of the EU to certain jurisdictions, including the United States, if steps are taken to legitimize those data transfers. We rely on the EU-U.S. and Swiss-U.S. Privacy Shield programs, and the use of model contractual clauses approved by the EU Commission, to legitimize these transfers. Both the EU-U.S. Privacy Shield and these model contractual clauses have been subject to legal challenge, however, and it is unclear what effect these challenges will have and whether the means we presently use will continue as appropriate means for us to legitimize personal data transfers from the EU or Switzerland to the U.S. Developments in the legal landscape affecting the transfer of personal data from the European Economic Area ("EEA") may cause us to find it necessary or desirable to modify our data handling practices, and may serve as a basis for our personal data handling practices, or those of our customers and vendors, to be challenged and may otherwise adversely impact our business, financial condition and operating results.

Further, in June 2016, the United Kingdom voted to leave the European Union, commonly referred to as "Brexit," which resulted in the United Kingdom exiting the European Union on January 31, 2020, subject to a transition period ending December 31, 2020. "Brexit" could lead to further legislative and regulatory changes. The United Kingdom Data Protection Act that substantially implements the GDPR became law in May 2018 and was subject to statutory amendments in 2019 that further align it with the GDPR. The development of United Kingdom data protection laws or regulations and regulation of data transfers to and from the United Kingdom in the medium to longer term, however, remain unclear.

California enacted legislation in 2018, the California Consumer Privacy Act ("CCPA"), that became operative on January 1, 2020. The CCPA requires covered companies to, among other things, provide new disclosures to California consumers, and affords such consumers new abilities to opt-out of certain sales of personal information. The CCPA is the subject of proposed regulations of the California Attorney General that were released on October 10, 2019 but have yet to be finalized. Aspects of the CCPA and its interpretation remain unclear at this time. We cannot fully predict the impact of the CCPA on our business or operations, but it may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply.

Even the perception of privacy, data protection or information security concerns, whether or not valid, may harm our reputation, inhibit adoption of our products by current and future customers, or adversely impact our ability to hire and retain workforce talent. If our security measures are or are believed to be inadequate or breached as a result of third-party action, employee negligence, error or malfeasance, product defects, social engineering techniques or otherwise, and this results in, or is believed to result in, the disruption of the confidentiality, integrity or availability of our systems or networks or any data we process or maintain, or the loss, destruction or corruption of such data, or our privacy practices are or are perceived to be inadequate, we could incur significant liability, we could face a loss of revenues, and our business may suffer and our reputation and competitive position may be damaged. Additionally, our service providers may suffer, or be perceived to suffer, privacy or data security breaches or other incidents that may compromise, or be perceived to compromise, data stored or processed for us that may give rise to any of the foregoing.

Our actual or perceived failure to adequately comply with applicable laws and regulations, or to protect personal data and other data we process or maintain, could result in regulatory investigations and enforcement actions against us, fines, penalties and other liabilities, imprisonment of company officials and public censure, claims for damages by customers and other affected individuals, required efforts to mitigate or otherwise respond to incidents, litigation, damage to our reputation and loss of goodwill (both in relation to existing customers and prospective customers), any of which could have a material adverse effect on our operations, financial performance and business. Even the perception of privacy, data protection or information security concerns, whether or not valid, may harm our reputation and inhibit adoption of our products and subscriptions by current and future customers.

Our technology alliance partnerships expose us to a range of business risks and uncertainties that could have a material adverse impact on our business and financial results.

We have entered, and intend to continue to enter, into technology alliance partnerships with third parties to support our future growth plans. Such relationships include technology licensing, joint technology development and integration, research cooperation, co-marketing activities and sell-through arrangements. We face a number of risks relating to our technology alliance partnerships that could prevent us from realizing the desired benefits from such partnerships on a timely basis or at all, which, in turn, could have a negative impact on our business and financial results.

Technology alliance partnerships require significant coordination between the parties involved, particularly if a partner requires that we integrate its products with our products. This could involve a significant commitment of time and resources by our technical staff and their counterparts within our technology alliance partner. The

integration of products from different companies may be more difficult than we anticipate, and the risk of integration difficulties, incompatible products and undetected programming errors or defects may be higher than the risks normally associated with the introduction of new products. It may also be more difficult to market and sell products developed through technology alliance partnerships than it would be to market and sell products that we develop on our own. Sales and marketing personnel may require special training, as the new products may be more complex than our other products.

We invest significant time, money and resources to establish and maintain relationships with our technology alliance partners, but we have no assurance that any particular relationship will continue for any specific period of time. Generally, our agreements with these technology alliance partners are terminable without cause with no or minimal notice or penalties. If we lose a significant technology alliance partner, we could lose the benefit of our investment of time, money and resources in the relationship. In addition, we could be required to incur significant expenses to develop a new strategic alliance or to determine and implement an alternative plan to pursue the opportunity that we targeted with the former partner.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in our stock price.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. In general, if our estimates, judgments or assumptions related to our critical accounting policies change or if actual circumstances differ from our estimates, judgments or assumptions, our results of operations may be adversely affected and could fall below our publicly announced guidance or the expectations of securities analysts and investors, which may result in a decline in our stock price. Significant assumptions and estimates used in preparing our consolidated financial statements include those related to assets, liabilities, revenue, expenses and related disclosures.

We are exposed to the credit risk of some of our distributors, resellers and customers and to credit exposure in weakened markets, which could result in material losses.

Most of our sales are on an open credit basis. Although we have programs in place that are designed to monitor and mitigate these risks, we cannot assure you these programs will be effective in reducing our credit risks, especially as we expand our business internationally. If we are unable to adequately control these risks, our business, results of operations and financial condition could be harmed.

If our products do not effectively interoperate with our customers' IT infrastructure, installations could be delayed or cancelled, which would harm our business.

Our products must effectively interoperate with our customers' existing or future IT infrastructure, which often has different specifications, utilizes multiple protocol standards, deploys products from multiple vendors, and contains multiple generations of products that have been added over time. As a result, when problems occur in a network, it may be difficult to identify the sources of these problems. If we find errors in the existing software or defects in the hardware used in our customers' infrastructure or problematic network configurations or settings, we may have to modify our software or hardware so that our products will interoperate with our customers' infrastructure. In such cases, our products may be unable to provide significant performance improvements for applications deployed in our customers' infrastructure. These issues could cause longer installation times for our products and could cause order cancellations, either of which would adversely affect

our business, results of operations and financial condition. In addition, government and other customers may require our products to comply with certain security or other certifications and standards. If our products are late in achieving or fail to achieve compliance with these certifications and standards, or our competitors achieve compliance with these certifications and standards, we may be disqualified from selling our products to such customers, or may otherwise be at a competitive disadvantage, either of which would harm our business, results of operations, and financial condition.

Reliance on shipments at the end of each quarter could cause our revenue for the applicable period to fall below expected levels.

As a result of customer buying patterns and the efforts of our sales force and channel partners to meet or exceed their sales objectives, we have historically received a substantial portion of sales orders and generated a substantial portion of revenue during the last few weeks and days of each quarter. A significant interruption in our IT systems, which manage critical functions such as order processing, revenue recognition, financial forecasts, inventory and supply chain management, and trade compliance reviews, or our supply chain could result in delayed order fulfillment and decreased revenue for that quarter. If expected revenue at the end of any quarter is delayed for any reason, including the failure of anticipated purchase orders to materialize, our logistics or channel partners' inability to ship products prior to quarter-end to fulfill purchase orders received near the end of the quarter, our failure to manage inventory to meet demand, our inability to release new products on schedule, any failure of our systems related to order review, processing and licensing, or any delays in shipments based on trade compliance requirements (including new compliance requirements imposed by new or renegotiated trade agreements), our revenue for that quarter could fall below our expectations and the estimates of market analysts, which could adversely impact our business and results of operations and cause a decline in the trading price of our common stock.

We generate a significant amount of revenue from sales through resellers, distributors and end customers outside of the United States, and we are therefore subject to a number of risks associated with international sales and operations.

We have a limited history of marketing, selling, and supporting our platform internationally. As a result, we must hire and train experienced personnel to staff and manage our foreign operations. To the extent that we experience difficulties in recruiting, training, managing, and retaining international employees, particularly managers and other members of our international sales team, we may experience difficulties in sales productivity in, or market penetration of, foreign markets. We also enter into strategic distributor and reseller relationships with companies in certain international markets where we do not have a local presence. If we are not able to maintain successful strategic distributor relationships with our international channel partners or recruit additional channel partners, our future success in these international markets could be limited. Business practices in the international markets that we serve may differ from those in the United States and may require us to include non-standard terms in customer contracts, such as extended payment or warranty terms. To the extent that we enter into customer contracts in the future that include non-standard terms related to payment, warranties, or performance obligations, our results of operations may be adversely impacted.

Additionally, our international sales and operations are subject to a number of risks, including the following:

- greater difficulty in enforcing contracts and managing collections, as well as longer collection periods;
- higher costs of doing business internationally, including costs incurred in establishing and maintaining office space and equipment for our international operations;
- fluctuations in exchange rates between the U.S. dollar and foreign currencies in markets where we do business, such as the British Pound Sterling, which experienced a sharp decline in value compared to the U.S. dollar and other currencies;

- management communication and integration problems resulting from cultural and geographic dispersion;
- risks associated with trade restrictions and foreign legal requirements, including any importation, certification, and localization of our platform that may be required in foreign countries and any changes in trade relations and restrictions;
- greater risk of unexpected changes in foreign and domestic regulatory practices, tariffs and tax laws and treaties, including regulatory and trade policy changes adopted by the current administration;
- compliance with anti-bribery laws, including, without limitation, compliance with the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.S. Travel Act and the UK Bribery Act 2010, violations of which could lead to significant fines, penalties and collateral consequences for our Company;
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements;
- the uncertainty of protection for intellectual property rights in some countries;
- foreign exchange controls or tax regulations that might prevent us from repatriating cash earned outside the United States;
- general economic, political and social conditions in these foreign markets, including the perception of doing business with U.S. based companies and changes in regulatory requirements that impact our operating strategies, access to global markets or hiring;
- political and economic instability in some countries, such as those caused by the 2016 U.S. presidential election and the withdrawal of the United Kingdom from the European Union, commonly referred to as "Brexit"; and
- double taxation of our international earnings and potentially adverse tax consequences due to changes in the tax laws of the United States or the foreign jurisdictions in which we operate.

Further, the interpretation and application of international laws and regulations in many cases is uncertain, and our legal and regulatory obligations in foreign jurisdictions are subject to frequent and unexpected changes, including the potential for various regulatory or other governmental bodies to enact new or additional laws or regulations or to issue rulings that invalidate prior laws or regulations.

For example, "Brexit" could also lead to further legislative and regulatory changes. A Data Protection Act that substantially implements the GDPR has been implemented in the United Kingdom, effective in May 2018 and subject to additional statutory amendments in 2019 to further align such Data Protection Act with the GDPR. It is unclear, however, how United Kingdom data protection laws or regulations will develop in the medium to longer term, and how data transfers to and from the United Kingdom will be regulated. In particular, the United Kingdom's anticipated exit from the EU to effectuate Brexit could require us to make additional changes to the way we conduct our business and transmit data from the EU into the United Kingdom.

Additionally, with regard to transfers of personal data from our European customers and employees to the U.S., we have self-certified under the EU-U.S. Privacy Shield Framework and a related program, the Swiss-U.S. Privacy Shield Framework, in addition to in certain cases using model contracts approved by the European Commission. With regard to transfers of personal data from one FireEye entity to another, we have put into place inter-company standard contractual clauses. The U.S.-EU Privacy Shield and such model contracts have been challenged and may be suspended, invalidated or modified. It is uncertain that the U.S.-EU Privacy Shield or such model contracts will continue to remain intact and serve as an appropriate means for us to meet European requirements for personal data transfers from the EEA or Switzerland to the United States. Developments in the

legal landscape affecting the transfer of personal data from the EEA may cause us to find it necessary or desirable to modify our data handling practices, and may serve as a basis for our personal data handling practices, or those of our customers and vendors, to be challenged and may otherwise adversely impact our business, financial condition and operating results.

These and other factors could harm our ability to generate future international revenue and, consequently, materially impact our business, results of operations and financial condition.

We are exposed to fluctuations in currency exchange rates, which could negatively affect our financial condition and results of operations.

Our sales contracts are denominated in U.S. dollars, and therefore our revenue is not subject to foreign currency risk. However, strengthening of the U.S. dollar increases the real cost of our products, subscriptions and services to our customers outside of the United States, which could lead to delays in the purchase of our products and services and the lengthening of our sales cycle. In addition, we are incurring an increasing portion of our operating expenses outside the United States. These expenses are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates.

Additionally, Brexit resulted in an adverse impact to currency exchange rates, notably the British Pound Sterling which experienced a sharp decline in value compared to the U.S. dollar and other currencies. A significantly weaker British Pound Sterling compared to the U.S. dollar could have a significantly negative effect on our financial condition and results of operations.

We do not currently hedge against the risks associated with currency fluctuations but may do so in the future.

Failure to comply with governmental laws and regulations could harm our business.

Our business is subject to regulation by various U.S. federal, state, local and foreign governmental agencies, including agencies responsible for monitoring and enforcing employment and labor laws, workplace safety, product safety, environmental laws, consumer protection laws, privacy and data-protection laws, anti-bribery laws (including the U.S. Foreign Corrupt Practices Act and the U.K. Anti-Bribery Act), import/export controls, federal securities laws and tax laws and regulations. In certain jurisdictions, these regulatory requirements may be more stringent than those in the United States. Noncompliance with applicable regulations or requirements could subject us to investigations, sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, injunctions or other collateral consequences. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations, and financial condition could be materially adversely affected. In addition, responding to any action will likely result in a significant diversion of management's attention and resources and an increase in professional fees. U.S. regulations surrounding our operating activities in foreign jurisdictions are not always consistent with, and at times are in contravention to, the local regulations or laws in such jurisdictions. Enforcement actions and sanctions could harm our business, reputation, results of operations and financial condition.

We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets.

Our products are subject to U.S. export controls, specifically the Export Administration Regulations and economic sanctions enforced by the Office of Foreign Assets Control. We incorporate standard encryption algorithms into our products, which, along with the underlying technology, may be exported outside of the U.S. only with the required export authorizations, including by license, license exception or other appropriate government authorizations, which may require the filing of an encryption registration and classification request.

Furthermore, U.S. export control laws and economic sanctions prohibit the shipment of certain products and services to countries, governments, and persons targeted by U.S. sanctions. While we have taken precautions to prevent our products and services from being exported in violation of these laws, in certain instances in the past we shipped our encryption products prior to obtaining the required export authorizations and/or submitting the required requests, including a classification request and request for an encryption registration number, resulting in an inadvertent violation of U.S. export control laws. As a result, in February 2013, we filed a Voluntary Self Disclosure with the U.S. Department of Commerce's Bureau of Industry and Security, or BIS, concerning these potential violations. In June 2013, BIS notified us that it had completed its review of this matter and closed its review with the issuance of a warning letter. No monetary penalties were assessed. Even though we take precautions to ensure that our channel partners comply with all relevant regulations, any failure by our channel partners to comply with such regulations could have negative consequences, including reputational harm, government investigations and penalties.

In addition, various countries regulate the import of certain encryption technology, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our customers' ability to implement our products in those countries. Changes in our products or changes in export and import regulations may create delays in the introduction of our products into international markets, prevent our customers with international operations from deploying our products globally or, in some cases, prevent the export or import of our products to certain countries, governments or persons altogether. Any change in export or import regulations, economic sanctions or related legislation, shift in the enforcement or scope of existing regulations, or change in the countries, governments, persons or technologies targeted by such regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations. Any decreased use of our products or limitation on our ability to export to or sell our products in international markets would likely adversely affect our business, financial condition and results of operations.

Our business is subject to the risks of earthquakes, fire, power outages, floods and other catastrophic events, and to interruption by man-made problems such as terrorism or armed conflicts.

Natural disasters or other catastrophic events, including earthquakes, fires, floods, significant power outages, telecommunications failures, outbreak of pandemic or contagious diseases (including, but not limited to, the recent coronavirus) and cyber attacks, may cause damage or disruption to our operations, international commerce and the global economy, and thus could have a material adverse impact on our business, results of operations, and financial condition. Our corporate headquarters and servers hosting our cloud services are located in California, a region known for seismic activity. Customer data could be lost, significant recovery time could be required to resume operations and our financial condition and operating results could be adversely affected in the event of a natural disaster or other catastrophic event. In addition, natural disasters and other catastrophic events could affect our supply chain, manufacturing vendors, or logistics providers' ability to provide materials and perform services such as manufacturing products or assisting with shipments on a timely basis. In the event that our or our service providers' information technology systems or manufacturing or logistics abilities are hindered by any of the events discussed above, shipments could be delayed, resulting in missed financial targets, such as revenue and shipment targets, for a particular quarter. In addition, acts of terrorism, armed conflicts and other geo-political unrest could cause disruptions in our business or the business of our supply chain, manufacturers, logistics providers, partners, or customers or the economy as a whole. Any disruption in the business of our supply chain, manufacturers, logistics providers, partners or end-customers that impacts sales at the end of a fiscal quarter could have a significant adverse impact on our financial results. All of the aforementioned risks may be further increased if the disaster recovery plans for us and our suppliers prove to be inadequate. To the extent that any of the above should result in delays or cancellations of customer orders, the loss of customers or the delay in the manufacture, deployment or shipment of our products, our business, financial condition and results of operations would be adversely affected.

If we fail to comply with environmental requirements, our business, financial condition, results of operations and reputation could be adversely affected.

We are subject to various environmental laws and regulations including laws governing the hazardous material content of our products and laws relating to the collection and recycling of electrical and electronic equipment. Examples of these laws and regulations include the EU Restrictions on the Use of certain Hazardous Substances in Electronic Equipment Directive and the EU Waste Electrical and Electronic Equipment Directive as well as the implementing legislation of the EU member states. Similar laws and regulations have been passed or are pending in China, South Korea and Japan and may be enacted in other regions, including in the United States, and we are, or may in the future be, subject to these laws and regulations.

Our failure to comply with past, present, and future laws could result in reduced sales of our products, substantial product inventory write-offs, reputational damage, penalties, and other sanctions, any of which could harm our business and financial condition. We also expect that our products will be affected by new environmental laws and regulations on an ongoing basis. To date, our expenditures for environmental compliance have not had a material impact on our results of operations or cash flows, and although we cannot predict the future impact of such laws or regulations, they will likely result in additional costs and may increase penalties associated with violations or require us to change the content of our products or how they are manufactured, which could have a material adverse effect on our business, results of operations and financial condition.

If we do not achieve increased tax benefits as a result of our corporate structure, our operating results and financial condition may be negatively impacted.

We generally conduct our international operations through wholly-owned subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. In 2019, we reorganized our corporate structure and intercompany relationships to better align our corporate organization with the expansion of our international business activities. Although we anticipate achieving a reduction in our overall effective tax rate in the future as a result of this reorganized corporate structure, we may not realize any benefits. Our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position were not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows and lower overall profitability of our operations. In addition, if the intended tax treatment of our reorganized corporate structure is not accepted by the applicable taxing authorities, changes in tax law negatively impact the structure or we do not operate our business consistent with the structure and applicable tax laws and regulations, we may fail to achieve any tax advantages as a result of the reorganized corporate structure, and our future operating results and financial condition may be negatively impacted. In addition, we continue to evaluate our corporate structure in light of current and pending tax legislation, and any changes to our corporate structure may require us to incur additional expenses and may impact our overall effective tax rate.

We could be subject to additional tax liabilities.

We are subject to U.S. federal, state, local and sales taxes in the United States and foreign income taxes, withholding taxes and transaction taxes in numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and our worldwide provision for taxes. During the ordinary course of business, there are many activities and transactions for which the ultimate tax determination is uncertain. In addition, our tax obligations and effective tax rates could be adversely affected by changes in the relevant tax, accounting and other laws, regulations, principles and interpretations, including those relating to income tax nexus and impacts of the Tax Cuts and Jobs Act of 2017, by recognizing tax losses or lower than anticipated earnings in jurisdictions where we have lower statutory rates and higher than anticipated earnings in jurisdictions where we have higher statutory rates, by changes in foreign currency exchange rates, or by changes in the valuation of our

deferred tax assets and liabilities. We may be audited in various jurisdictions, and such jurisdictions may assess additional taxes, sales taxes and value-added taxes against us. Although we believe our tax estimates are reasonable, the final determination of any tax audits or litigation could be materially different from our historical tax provisions and accruals, which could have a material adverse effect on our operating results or cash flows in the period for which a determination is made.

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses, or NOLs, to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code and adversely affect our ability to utilize our NOLs in the future. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations. There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income tax liabilities. For these reasons, we may not be able to utilize a material portion of the NOLs reflected on our balance sheet, even if we attain profitability.

Risks Related to Our Convertible Senior Notes

We are leveraged financially, which could adversely affect our ability to adjust our business to respond to competitive pressures and to obtain sufficient funds to satisfy our future growth, business needs and development plans.

We have substantial existing indebtedness. In June 2015, we issued $460.0 million principal amount of 1.000% Convertible Senior Notes due 2035 (the "Series A Notes") and $460.0 million principal amount of 1.625% Convertible Senior Notes due 2035 (the "Series B Notes" and, together with the Series A Notes, the "2035 Notes"). During the three months ended June 30, 2018, we issued $600.0 million aggregate principal amount of 0.875% Convertible Senior Notes due 2024 (the "2024 Notes" and, together with the 2035 Notes, the "convertible notes") and repurchased approximately $340.2 million aggregate principal amount of certain of the 2035 Notes. As a result, as of December 31, 2019, we had approximately $1.2 billion aggregate principal amount of convertible notes outstanding.

The degree to which we are leveraged could have negative consequences, including, but not limited to, the following:

- we may be more vulnerable to economic downturns, less able to withstand competitive pressures and less flexible in responding to changing business and economic conditions;
- our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions, general corporate or other purposes may be limited;
- a substantial portion of our cash flows from operations in the future may be required for the payment of the principal amount of our existing indebtedness when it becomes due; and
- we may elect to make cash payments upon any conversion of the convertible notes, which would reduce our cash on hand.

Our ability to meet our payment obligations under our convertible notes depends on our ability to generate significant cash flow in the future. This, to some extent, is subject to general economic, financial, competitive, legislative, and regulatory factors as well as other factors that are beyond our control. There can be no assurance that our business will generate cash flow from operations, or that additional capital will be available to us, in an amount sufficient to enable us to meet our debt payment obligations and to fund other liquidity needs. If we are

unable to generate sufficient cash flow to service our debt obligations, we may need to refinance or restructure our debt, sell assets, reduce or delay capital investments, or seek to raise additional capital. If we were unable to implement one or more of these alternatives, we may be unable to meet our debt payment obligations, which could have a material adverse effect on our business, results of operations, or financial condition.

The conditional conversion feature of each series of convertible notes, if triggered, may adversely affect our financial condition and operating results.

In the event the conditional conversion feature of a series of convertible notes is triggered, holders of such series of convertible notes will be entitled to convert their convertible notes at any time during specified periods at their option. If one or more holders of such convertible notes elect to convert their convertible notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders of such series of convertible notes do not elect to convert their convertible notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of such series of convertible notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The accounting method for convertible debt securities that may be settled in cash, such as the convertible notes, is subject to changes that could have a material effect on our reported financial results.

In May 2008, the Financial Accounting Standards Board, which we refer to as FASB, issued FASB Staff Position No. APB 14-1, Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement), which has subsequently been codified as Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20. Under ASC 470-20, an entity must separately account for the liability and equity components of the convertible debt instruments (such as the convertible notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The effect of ASC 470-20 on the accounting for each series of convertible notes is that the equity component is required to be included in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet and the value of the equity component would be treated as original issue discount for purposes of accounting for the debt component of such series of convertible notes. As a result, we will be required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying value of the convertible notes to their face amount over the term of the convertible notes. We will report lower net income in our financial results because ASC 470-20 will require interest to include both the current period's amortization of the debt discount and the instrument's non-convertible coupon interest for such series of convertible notes, which could adversely affect our reported or future financial results and the trading price of our common stock.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force). This standard clarifies how certain cash receipts and payments should be classified in the statement of cash flows, including the cash settlement for each series of our convertible notes. Upon cash settlement, repayment of the principal amount will be bifurcated between cash outflows for operating activities for the portion related to accreted interest attributable to debt discounts arising from the difference between the coupon interest rate and the effective interest rate, and financing activities for the remainder. This will require us to classify the $310.4 million of accreted interest as cash used in operating activities in our consolidated financial statements upon cash settlement, which could adversely affect our future cash flow from operations.

In addition, under certain circumstances, convertible debt instruments (such as the convertible notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that any shares issuable upon conversion of any series of convertible notes are not included in the

calculation of diluted earnings per share except to the extent that the conversion value of such series of convertible notes exceeds their principal amount of such series of convertible notes. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess conversion value, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the convertible notes, then our diluted earnings per share would be adversely affected.

Transactions related to our convertible notes may affect the market price of our common stock.

The conversion of any of our series of convertible notes, if such conversion occurs, will dilute the ownership interests of then-existing stockholders to the extent we deliver shares upon conversion of any of the convertible notes. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the convertible notes may encourage short selling by market participants because any conversion of the convertible notes could be used to satisfy short positions, or anticipated conversion of the convertible notes into shares of our common stock could depress the price of our common stock.

In addition, in connection with our issuance of the 2024 Notes, we entered into capped call transactions (the "capped call transactions") with certain financial institutions (the "option counterparties"). The capped call transactions are expected generally to reduce the potential dilution to our common stock upon any conversion of the 2024 Notes and/or offset any cash payments we are required to make in excess of the principal amount of such 2024 Notes converted, as the case may be, with such reduction and/or offset subject to a cap. From time to time, the option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivative transactions with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the 2024 Notes. This activity could cause a decrease in the market price of our common stock.

We are subject to counterparty risk with respect to the capped call transactions.

The option counterparties to our capped call transactions are financial institutions, and we will be subject to the risk that one or more of the counterparties may default or otherwise fail to perform, or may exercise certain rights to terminate, their obligations under the capped call transactions. Our exposure to the credit risk of the option counterparties will not be secured by any collateral. Adverse global economic conditions may result in the actual or perceived failure or financial difficulties for financial institutions, including one or more of our option counterparties. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under our transactions with that option counterparty. Our exposure will depend on many factors but, generally, our exposure will increase if the market price or the volatility of our common stock increases. In addition, upon a default or other failure to perform, or a termination of obligations, by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our common stock. We can provide no assurances as to the financial stability or viability of the option counterparties.

Risks Related to Ownership of Our Common Stock

If securities or industry analysts do not publish research or reports about our business, or publish inaccurate or unfavorable research reports about our business, our share price and trading volume could decline.

The trading market for our common stock, to some extent, depends on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us should downgrade our shares or change their opinion of our shares,

industry sector or products, our share price would likely decline. If one or more of these analysts ceases coverage of our Company or fails to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We may fail to meet our publicly announced guidance or other expectations about our business and future operating results, which would cause our stock price to decline.

We have provided and may continue to provide guidance about our business and future operating results. In developing this guidance, our management must make certain assumptions and judgments about our future performance. Furthermore, analysts and investors may develop and publish their own projections of our business, which may form a consensus about our future performance. Our business results may vary significantly from such guidance or that consensus due to a number of factors, many of which are outside of our control, and which could adversely affect our operations and operating results. Such factors may include the possibility that interpretation, industry practice, and accounting guidance may continue to evolve during the early stages of adoption of Accounting Standard Update 2014-09, Revenue from Contracts with Customers (Topic 606) ("ASC 606"). Furthermore, if we make downward revisions of our previously announced guidance, or if our publicly announced guidance of future operating results fails to meet expectations of securities analysts, investors or other interested parties, the price of our common stock would decline.

The price of our common stock has been and may continue to be volatile, and the value of your investment could decline.

The trading price of our common stock has been volatile since our initial public offering, and is likely to continue to be volatile. The trading price of our common stock may fluctuate widely in response to various factors, some of which are beyond our control. These factors include:

- whether our results of operations, and in particular, our revenue growth rates, meet the expectations of securities analysts or investors;
- actual or anticipated changes in the expectations of investors or securities analysts, whether as a result of our forward-looking statements, our failure to meet such expectation or otherwise;
- announcements of new products, services or technologies, commercial relationships, acquisitions or other events by us or our competitors;
- changes in how customers perceive the effectiveness of our platform in protecting against advanced cyber attacks or other reputational harm;
- publicity concerning cyber attacks in general or high profile cyber attacks against specific organizations;
- price and volume fluctuations in the overall stock market from time to time;
- significant volatility in the market price and trading volume of technology and/or growth companies in general and of companies in the IT security industry in particular;
- fluctuations in the trading volume of our shares or the size of our public float;
- actual or anticipated changes or fluctuations in our results of operations;
- litigation involving us, our industry, or both;
- regulatory developments in the United States, foreign countries or both;
- general economic conditions and trends;
- natural disasters or other catastrophic events;
- actual or perceived security breaches that we or our service providers may suffer;

- sales of large blocks of our common stock or substantial future sales by our directors, executive officers, employees and significant stockholders; and
- departures of key personnel.

In addition, if the market for technology stocks or the stock market in general experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, results of operations or financial condition. The trading price of our common stock might also decline in reaction to events that affect other companies in our industry even if these events do not directly affect us. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. The price of our common stock has been highly volatile since our IPO in September 2013, and beginning in June 2014, several lawsuits alleging violations of securities laws were filed against us and certain of our current and former directors and executive officers. Any securities litigation could result in substantial costs and divert our management's attention and resources from our business. This could have a material adverse effect on our business, results of operations and financial condition.

Sales of substantial amounts of our common stock in the public markets, or sales of our common stock by our executive officers and directors under Rule 10b5-1 plans, could adversely affect the market price of our common stock.

Sales of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock and may make it more difficult for you to sell your common stock at a time and price that you deem appropriate. In addition, certain of our executive officers and directors have adopted, and other executive officers and directors may in the future adopt, written plans, known as "Rule 10b5-1 Plans," under which they have contracted, or may in the future contract, with a broker to sell shares of our common stock on a periodic basis to diversify their assets and investments. Sales made by our executive officers and directors pursuant to Rule 10b5-1, regardless of the amount of such sales, could adversely affect the market price of our common stock.

The issuance of additional stock in connection with financings, acquisitions, investments, our stock incentive plans, conversion of our convertible notes or otherwise will dilute all other stockholders.

Our amended and restated certificate of incorporation authorizes us to issue up to 1,000,000,000 shares of common stock and up to 100,000,000 shares of preferred stock with such rights and preferences as may be determined by our board of directors. Subject to compliance with applicable rules and regulations, we may issue shares of common stock or securities convertible into our common stock from time to time in connection with a financing, acquisition, investment, our stock incentive plans, the conversion of our convertible notes or otherwise. For example, in October 2017, we issued 259,425 shares of common stock in connection with our acquisition of The Email Laundry; in January 2018, we issued 1,016,334 shares of common stock in connection with our acquisition of X15; and in May 2019, we issued 8,404,609 shares of common stock in connection with our acquisition of Verodin. In addition, we issued $920.0 million aggregate principal amount of 2035 Notes, of which approximately $579.8 million aggregate principal remains outstanding, and we issued $600.0 million aggregate principal amount of the 2024 Notes during the three months ended June 30, 2018. Any future issuances could result in substantial dilution to our existing stockholders and cause the trading price of our common stock to decline.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any dividends on our common stock. We intend to retain any earnings to finance the operation and expansion of our business, and we do not anticipate paying any cash dividends in the future. As a result, you may only receive a return on your investment in our common stock if the market price of our common stock increases.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified board members.

As a public company, we are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the listing requirements of the NASDAQ Stock Market and other applicable securities rules and regulations. Compliance with these rules and regulations has increased and will continue to increase our legal and financial compliance costs, has made and will continue to make some activities more difficult, time-consuming or costly, and has increased and will continue to increase demand on our systems and resources. Among other things, the Exchange Act requires that we file annual, quarterly and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could harm our business and results of operations. Although we have already hired additional employees to comply with these requirements, we may need to hire even more employees in the future, which will increase our costs and expenses.

We are subject to the independent auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act ("Section 404"), enhanced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. While we were able to determine in our management's report for fiscal 2019 that our internal control over financial reporting is effective, as well as provide an unqualified attestation report from our independent registered public accounting firm to that effect, we have and will continue to consume management resources and incur significant expenses for Section 404 compliance on an ongoing basis. In the event that our Chief Executive Officer, Chief Financial Officer, or independent registered public accounting firm determines in the future that our internal control over financial reporting is not effective as defined under Section 404, we could be subject to one or more investigations or enforcement actions by state or federal regulatory agencies, stockholder lawsuits or other adverse actions requiring us to incur defense costs, pay fines, settlements or judgments and causing investor perceptions to be adversely affected and potentially resulting in a decline in the market price of our stock.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations, and standards, and this investment will increase our general and administrative expense and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations, and standards are unsuccessful, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

We also expect that these new rules and regulations will make it more expensive for us to obtain and maintain director and officer liability insurance, and in the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified executive officers and members of our board of directors, particularly to serve on our audit committee and compensation committee.

In addition, as a result of our disclosure obligations as a public company, we have reduced strategic flexibility and are under pressure to focus on short-term results, which may adversely impact our ability to achieve long-term profitability.

We are obligated to maintain proper and effective internal control over financial reporting. We may not complete our analysis of our internal control over financial reporting in a timely manner, or this internal control may not be determined to be effective, which may adversely affect investor confidence in our Company and, as a result, the value of our common stock.

We are required, pursuant to the Exchange Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting, as well as a statement that our auditors have issued an attestation report on our internal controls.

While we were able to determine in our management's report for fiscal 2019 that our internal control over financial reporting is effective, as well as provide an unqualified attestation report from our independent registered public accounting firm to that effect, we may not be able to complete our evaluation, testing, and any required remediation in a timely fashion or our independent registered public accounting firm may not be able to formally attest to the effectiveness of our internal control over financial reporting in the future. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting that we are unable to remediate before the end of the same fiscal year in which the material weakness is identified, we will be unable to assert that our internal controls are effective. If we are unable to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to attest to the effectiveness of our internal controls or determine we have a material weakness in our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline.

Our charter documents and Delaware law, as well as certain provisions of our convertible notes, could discourage takeover attempts and lead to management entrenchment, which could also reduce the market price of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change in control of our Company. These provisions could also make it difficult for stockholders to elect directors who are not nominated by the current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions include:

- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of our board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by our board of directors, the chairperson of our board of directors, our Chief Executive Officer or our President (in the absence of a Chief Executive Officer), which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement for the affirmative vote of holders of at least 66 $^{2}/_{3}$% of the voting power of all of the then outstanding shares of the voting stock, voting together as a single class, to amend the provisions of our amended and restated certificate of incorporation relating to the management of our business (including our classified board structure) or certain provisions of our amended and restated bylaws, which may inhibit the ability of an acquiror to effect such amendments to facilitate an unsolicited takeover attempt;

- the ability of our board of directors to amend the bylaws, which may allow our board of directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquiror to amend the bylaws to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law, which may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a specified period of time. Additionally, certain provisions of our convertible notes could make it more difficult or more expensive for a third party to acquire us. The application of Section 203 or certain provisions of our convertible notes also could have the effect of discouraging, delaying or preventing a transaction involving a change in control of us. Any of these provisions could, under certain circumstances, depress the market price of our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters is located in Milpitas, California where we currently lease approximately 190,000 square feet of space under lease agreements that expire during the year ended December 31, 2027. We maintain additional offices throughout the United States and various international locations, including, but not limited to, Australia, Dubai, Germany, India, Ireland, Japan, Singapore and the United Kingdom. We believe that our current facilities are adequate to meet our ongoing needs, and that, if we require additional space, we will be able to obtain additional facilities on commercially reasonable terms.

Item 3. Legal Proceedings

The information set forth under "Litigation" in Note 11 contained in the "Notes to Consolidated Financial Statements" in Part II, Item 8 of this Annual Report on Form 10-K is incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock, $0.0001 par value per share, began trading on The NASDAQ Global Select Market on September 20, 2013, where its prices are quoted under the symbol "FEYE."

Holders of Record

As of December 31, 2019, there were 124 holders of record of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

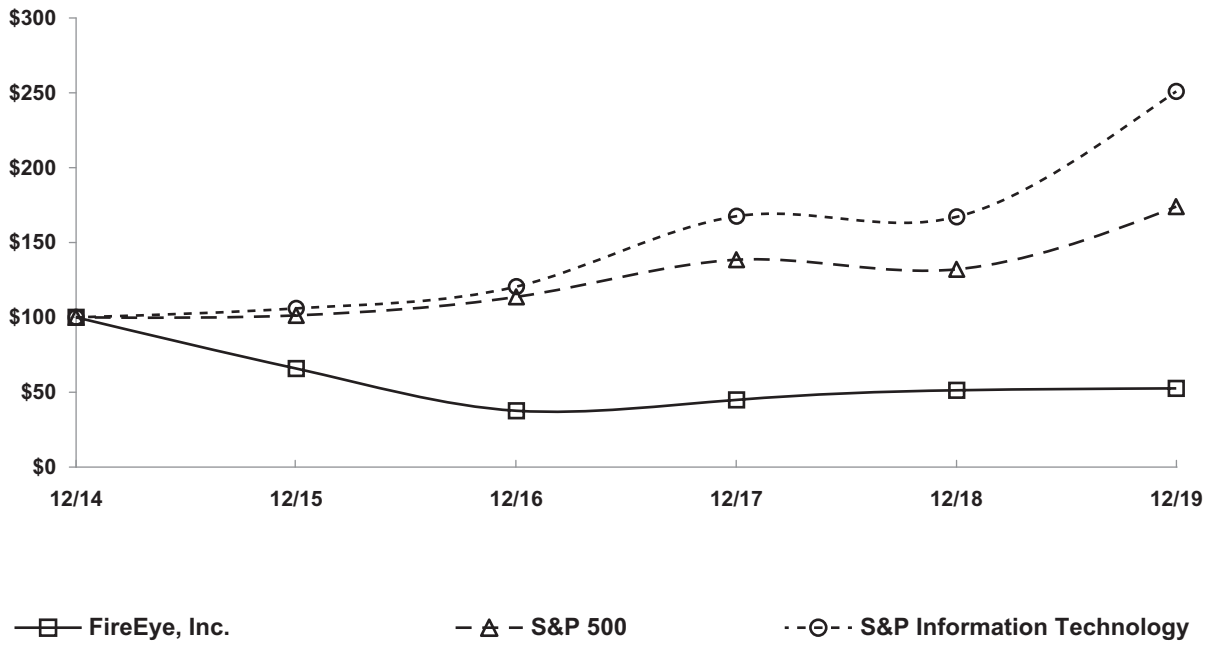
Stock Performance Graph

The following performance graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended ("the Exchange Act"), except as shall be expressly set forth by specific reference in such filing.

The following graph compares the cumulative total return of our common stock with the total return for the Standard & Poor's 500 Index and the Standard & Poor's Information Technology Index from December 31, 2014 through December 31, 2019. The graph assumes that $100 was invested on December 31, 2014 in our common stock, the Standard & Poor's 500 Index and the Standard & Poor's Information Technology Index, and assumes reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among FireEye, Inc., the S&P 500 Index and the S&P Information Technology Index



*$100 invested on 12/31/14 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

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	12/14	12/15	12/16	12/17	12/18	12/19
FireEye, Inc.	$100.00	$ 65.67	$ 37.68	$ 44.97	$ 51.33	$ 52.34
S&P 500	$100.00	$101.38	$113.51	$138.29	$132.23	$173.86
S&P Information Technology	$100.00	$105.92	$120.59	$167.42	$166.94	$250.89

Dividend Policy

We have never declared or paid, and do not anticipate declaring or paying in the foreseeable future, any cash dividends on our capital stock. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors, subject to applicable laws, and will depend on then existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects, and other factors our board of directors may deem relevant.

Recent Sales of Unregistered Securities

There were no sales of unregistered securities during the period covered by this Annual Report on Form 10-K, other than those previously reported in a Quarterly Report on Form 10-Q or in a Current Report on Form 8-K.

Issuer Purchases of Equity Securities

No shares of our common stock were repurchased during the three months ended December 31, 2019.

Securities Authorized for Issuance Under Equity Compensation Plans

See Part III, Item 12 of this Annual Report on Form 10-K regarding information about securities authorized for issuance under our equity compensation plans.

Item 6. Selected Consolidated Financial Data

The following selected historical financial data should be read in conjunction with Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our financial statements and the related notes appearing in Part II, Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K to fully understand the factors that may affect the comparability of the information presented below.

The statements of operations data for the years ended December 31, 2019, 2018 and 2017 and the balance sheet data as of December 31, 2019 and 2018 are derived from our audited financial statements appearing in Part II, Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K. The statements of operations for the years ended December 31, 2016 and 2015 and the balance sheet data as of December 31, 2017, 2016 and 2015 are derived from audited financial statements not included in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of the results to be expected in the future.

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands, except per share data)				
Consolidated Statements of Operations Data:					
Revenue:	$ 889,152	$ 830,950	$ 779,648	$ 705,995	$ 622,967
Cost of revenue:[1]	308,892	272,475	271,647	271,083	233,204
Total gross profit	580,260	558,475	508,001	434,912	389,763
Operating expenses:[1]					
Research and development	271,326	254,142	243,273	279,594	279,467
Sales and marketing	396,822	380,962	379,278	437,519	476,166
General and administrative	111,881	105,773	125,549	139,791	141,790
Restructuring charges	10,265	—	—	27,630	—
Total operating expenses	790,294	740,877	748,100	884,534	897,423
Operating loss	(210,034)	(182,402)	(240,099)	(449,622)	(507,660)
Interest income	22,017	16,033	9,323	6,582	2,935
Interest expense	(61,927)	(56,426)	(49,766)	(47,869)	(27,116)
Other expense, net	(1,775)	(14,804)	(10)	(3,247)	(3,284)
Loss before income taxes	(251,719)	(237,599)	(280,552)	(494,156)	(535,125)
Provision for (benefit from) income taxes	5,690	5,524	4,632	(8,721)	4,090
Net loss	$(257,409)	$(243,123)	$(285,184)	$(485,435)	$(539,215)
Net loss per share, basic and diluted	$ (1.24)	$ (1.27)	$ (1.60)	$ (2.97)	$ (3.50)
Weighted-average shares used to compute net loss per share	207,234	190,803	177,757	163,211	154,120

(1) Includes stock-based compensation expense as follows:

	2019	2018	2017	2016	2015
			(In thousands)		
Stock-Based Compensation Expense:					
Cost of product, subscription and support revenue	$ 14,905	$ 14,178	$ 18,249	$ 16,684	$ 1,588
Cost of professional services revenue	13,972	14,184	14,407	15,219	29,435
Cost of revenue	28,877	28,362	32,656	31,903	31,023
Research and development	45,476	49,503	56,720	64,755	68,329
Sales and marketing	49,198	47,592	46,766	57,750	73,286
General and administrative	29,966	28,218	30,194	43,343	49,793
Restructuring	—	—	—	1,144	—
Total stock-based compensation expense	$153,517	$153,675	$166,336	$198,895	$222,431

	As of December 31,				
	2019	2018	2017	2016	2015
			(In thousands)		
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 334,603	$ 409,829	$ 180,891	$ 223,667	$ 402,102
Total assets	2,890,486	2,696,078	2,458,837	2,526,092	2,441,473
Total deferred revenue	974,567	934,828	910,100	927,749	526,998
Total long-term debt	893,273	962,577	779,578	741,980	706,198
Total stockholders' equity	701,666	650,394	632,216	710,006	1,044,372

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. The following discussion focuses on our 2019 and 2018 financial condition and results of operations, including comparisons of the years ended December 31, 2019 and 2018. For discussion and analysis related to our financial condition and results of operations for fiscal year 2017, including comparisons of the years ended December 31, 2018 and 2017, refer to Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for fiscal year 2018, which was filed with the Securities and Exchange Commission on February 25, 2019.

In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those contained in or implied by any forward-looking statements. Factors that could cause or contribute to these differences include those under "Risk Factors" included in Part I, Item 1A or in other parts of this Annual Report on Form 10-K.

Overview

We provide a broad portfolio of cybersecurity solutions and services that allow organizations to prepare for, prevent, respond to, investigate and remediate cyber attacks. Our products include detection and prevention solutions for network, email, endpoint and cloud security, forensics appliances, a security validation platform, subscription-based threat intelligence and analytics solutions, and our Helix security platform. These products are complemented by our technology-enabled managed detection and response services and our Mandiant incident response and strategic cyber security consulting services.

Our Business Model

We generate revenue from sales of our network, email endpoint and cloud security solutions, our security validation platform, our threat intelligence, our managed detection and response services, our Helix security operations platform, and our Mandiant professional services. We disaggregate our revenue into two main categories: (i) product, subscription, and support and (ii) professional services. For the years ended December 31, 2019, 2018 and 2017, product, subscription and support revenue as a percentage of total revenue was 80%, 83% and 83%, respectively. Revenue from professional services was 20%, 17% and 17% of total revenue for December 31, 2019, 2018 and 2017, respectively.

Product, subscription and support

Within the product, subscription and support category, we provide supplemental data to distinguish between sales of our product solutions that are deployed on-premise (or in hybrid on-premise/private cloud configurations), and sales of our platform, cloud-based subscriptions and managed detection and response services. Security product solutions deployed on-premise (or in hybrid on-premise/private cloud configurations) are included in the Product and related subscription and support sub-category. Our security validation platform, Helix security platform, cloud-based security solutions, detection-on-demand, threat intelligence subscriptions and managed detection and response services are included in the platform, cloud subscription and managed services sub-category. For the years ended December 31, 2019, 2018 and 2017, product and related subscription and support revenue as a percentage of total revenue was 53%, 60% and 62%, respectively. Revenue from platform, cloud subscription and managed services was 27%, 23% and 21% for the years ended December 31, 2019, 2018 and 2017, respectively.

Sales of our network, email, and endpoint security solutions, platform, cloud subscriptions and managed detection and response services, initially increase our deferred revenue. Deferred revenue from our product, subscription and support sales totaled $878.2 million and $868.0 million as of December 31, 2019 and 2018,

respectively. The increase in deferred revenue from our product, subscription and support sales in 2019 compared to 2018 reflected growth in sales of our network, email, endpoint and cloud security subscriptions, our security validation software, our Helix security platform, our threat intelligence, and our managed services, partially offset by a decrease in sales of our appliance hardware and attached DTI cloud and support subscriptions compared with prior periods.

Product and related subscription and support

Revenue in the product and related subscription and support sub-category consists primarily of revenue from sales of our network, email and endpoint security solutions that are deployed on the customer's premise, either as an integrated security appliance or in distributed hybrid on-premise/private cloud configurations. Both deployment options are available on pre-configured appliance hardware or as virtual sensors and include our detection and MVX analysis technologies, our DTI cloud updates and support services.

Integrated and distributed solutions deployed on virtual sensors are offered as an "all inclusive" subscription that includes our detection and MVX analysis technologies, DTI cloud updates, and support services. There is no limit to the number of virtual sensors a customer can deploy, and capacity can be distributed throughout the customer's IT environment as needed. Subscription revenue is recognized ratably over the contractual term, typically one to three years. Customers purchasing our network and email security subscriptions have the option of purchasing our appliance hardware at additional cost, but are not required to do so.

Integrated network and email security solutions can also be deployed on pre-configured appliance hardware purpose-built for FireEye security solutions with scalable capacity. Integrated security appliances are delivered with pre-installed detection and MVX analysis technologies and require subscriptions to our DTI cloud updates and support services, which are priced as a percentage of the appliance price per year. Subscription terms are typically one to three years and include a material right of renewal. Historically, the majority of our installed base of on-premise network and email security customers purchased our solutions under this pricing model.

Since our network, email and endpoint security solutions require regular DTI cloud and software updates to maintain detection efficacy, physical appliances and virtual sensors, together with the related DTI cloud and support subscriptions are considered a single performance obligation, whether deployed as an integrated appliance, virtual sensor or in a distributed hybrid on-premise/cloud configuration.

As a single performance obligation, revenue from sales of appliance hardware and related subscriptions is recognized ratably over the contractual term, typically one to three years. Such contracts typically contain a material right of renewal option that allows the customer to renew their DTI cloud and support subscriptions for an additional term at a discount to the original purchase price of the single performance obligation. For contacts that contain a material right of renewal option, the value of the performance obligation allocated to the renewal is recognized ratably over the period between the end of the initial contractual term and end of the estimated useful life of the related appliance and license. A small portion of our revenue in the product and related subscription and support revenue is derived from the sale of our network forensics appliances and our central management system ("CMS") appliances. These appliances are not dependent on regular security intelligence updates, and revenue from these appliances is therefore recognized when ownership is transferred to our customer, typically at shipment.

Platform, cloud subscriptions and managed services

Revenue in the platform, cloud subscription and managed services sub-category consists primarily of revenue from sales of our cloud-based network, email and endpoint security, our detection-on-demand service, our security validation platform, our threat analytics platform (either standalone or within the Helix security platform), our Helix security platform, our standalone threat intelligence subscriptions and our managed detection and response services. The majority of revenue from our platform, cloud subscription and managed services category is recognized ratably over the contractual term, generally one to three years.

A small portion of our revenue in the platform, cloud subscription and managed services category is derived from term licenses of our security validation platform, and revenue from these sales is recognized when the license key is issued to the customer.

Professional Services

In addition to our product, subscription and support solutions, we offer professional services, including incident response and other strategic security consulting services, to our customers who have experienced a cyber security breach or desire assistance assessing and increasing the resilience of their IT environments to cyber attack. The majority our professional services are offered on a time and materials basis, through a fixed fee arrangement, or on a retainer basis. Revenue from professional services is recognized as services are delivered. Revenue from our Expertise-on-Demand subscription and some pre-paid professional services is deferred and revenue is recognized when services are delivered. Deferred revenue from professional services as of December 31, 2019 and 2018 was $96.4 million and $66.8 million, respectively.

Key Business Metrics

We monitor the key business metrics set forth below to help us evaluate growth trends, establish budgets, measure the effectiveness of our sales and marketing efforts, and assess operational efficiencies. We discuss revenue and gross margin below under "Components of Operating Results." Deferred revenue, annualized recurring revenue, billings (a non-GAAP metric), net cash flow provided by (used in) operating activities, and free cash flow (a non-GAAP metric) are discussed immediately below the following table (in thousands, except percentages).

	Year Ended or as of December 31,		
	2019	2018	2017
Product, subscription and support revenue	$708,836	$687,382	$645,965
Professional services revenue	180,316	143,568	133,683
Total revenue	$889,152	$830,950	$779,648
Year-over-year percentage increase	7%	7%	10%
Gross margin percentage	65%	67%	65%
Deferred revenue (current and non-current)	$974,567	$934,828	$910,100
Annualized recurring revenue	$587,386	$553,415	$509,651
Billings (non-GAAP)	$926,141	$855,678	$761,999
Net cash provided by operating activities	$ 67,537	$ 17,381	$ 17,640
Free cash flow (non-GAAP)	$ 21,932	$ 10,125	$ (26,139)

Deferred revenue. Our deferred revenue consists of amounts that we have the right to invoice but have not yet been recognized into revenue as of the end of the respective period. We monitor our deferred revenue balance because it represents a significant portion of revenue to be recognized in future periods. The majority of our deferred revenue consists of the unamortized balance of deferred revenue from previously invoiced sales of our security appliance hardware, and non-cancelable contracts for subscriptions to our network, email and endpoint security solutions, Helix and security validation platforms, threat intelligence, managed detection and response services and support and maintenance contracts. Invoiced amounts for such contracts can be for multiple years, and we classify our deferred revenue as current or non-current depending on when we expect to recognize the related revenue. If the deferred revenue is expected to be recognized within 12 months it is classified as current, otherwise, the deferred revenue is classified as non-current. A table for our deferred revenue is provided below (in thousands):

	As of December 31,		
	2019	2018	2017
Deferred revenue, current	$603,944	$556,815	$546,615
Deferred revenue, non-current	370,623	378,013	363,485
Total deferred revenue	$974,567	$934,828	$910,100

Annualized recurring revenue. Annualized recurring revenue ("ARR") is an operating metric and represents the annualized revenue run-rate of active term licenses, maintenance, and subscription contracts at the end of a reporting period. ARR should be viewed independently of revenue and deferred revenue as ARR is an operating metric and is not intended to be combined with or replace these items. ARR is not a forecast of future revenue, which can be impacted by contract start and end dates and renewal rates, and does not include revenue from appliance hardware, perpetual software or professional services. We consider ARR a useful measure of the value of the recurring components of our business because it reflects both our ability to attract new customers for our solutions and our success at retaining and expanding our relationships with existing customers. Further, ARR is not impacted by variations in contract length, enabling more meaningful comparison to prior periods as we align our invoicing practices to growing customer preference for annual billing on multi-year contracts.

We disaggregate ARR by the same sub-categories we use for disaggregation of billings and revenue in the table below (in thousands):

	As of December 31,		
	2019	2018	2017
Product and related subscription and support	$307,718	$340,480	$330,540
Platform, cloud subscription and managed services	279,668	212,935	179,111
Total annualized recurring revenue	$587,386	$553,415	$509,651

Billings. Billings are a non-GAAP financial metric that we define as revenue recognized in accordance with generally accepted accounting principles ("GAAP") plus the change in deferred revenue from the beginning to the end of the period, excluding deferred revenue assumed through acquisitions. We consider billings to be a useful metric for management and investors, as a supplement to the corresponding GAAP measure, because billings impact our deferred revenue, which is an important indicator of the health and visibility of trends in our business and represents a significant percentage of future revenue. However, it is important to note that other companies, including companies in our industry, may not use billings, may define billings differently, may have different billing frequencies, or may use other financial measures to evaluate their performance, all of which could reduce the usefulness of billings as a comparative measure. Additionally, billings represent the total contract value we have the right to invoice, which may be impacted by changes in average contract length thereby reducing the usefulness of comparisons to prior periods.

A reconciliation of billings to revenue, the most directly comparable financial measure calculated and presented in accordance with GAAP, is provided below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Revenue	$ 889,152	$ 830,950	$ 779,648
Add: Deferred revenue, end of period	974,567	934,828	910,100
Less: Deferred revenue, beginning of period	(934,828)	(910,100)	(927,749)
Less: Deferred revenue assumed through acquisitions	(2,750)	—	—
Billings (non-GAAP)	$ 926,141	$ 855,678	$ 761,999

We have provided disaggregation of our billings into the same sub-categories that distinguish between revenue from our product solutions that are deployed on-premise (or in hybrid on-premise/private cloud configurations), and revenue from our platform, cloud-based solutions and managed services in the table below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Product and related subscription and support	$434,533	$451,973	$414,809
Platform, cloud subscription and managed services	282,238	243,903	194,939
Product, subscription and support	716,771	695,876	609,748
Professional services	209,370	159,802	152,251
Billings (non-GAAP)	$926,141	$855,678	$761,999

Net cash provided by operating activities. We monitor net cash provided by operating activities as a measure of our overall business performance. Our net cash provided by operating activities performance is driven in large part by sales of our products and from up-front payments for both subscriptions and support and maintenance services. Monitoring net cash provided by operating activities enables us to analyze our financial performance without the non-cash effects of certain items, such as depreciation, amortization, amounts deemed repayment of convertible senior notes attributable to accreted debt discount and stock-based compensation costs, thereby allowing us to better understand and manage the cash needs of our business.

Free cash flow. Free cash flow is a non-GAAP financial measure we define as net cash provided by operating activities, the most directly comparable GAAP financial measure, plus amounts deemed to be repayment of accreted debt discount on repurchased convertible senior notes, less purchases of property and equipment and demonstration units. We consider free cash flow to be a liquidity measure that provides useful information to management and investors about the amount of cash generated by our business when excluding deemed repayment of accreted debt discount on repurchased convertible notes and that, after the purchases of property and equipment and demonstration units, can be used by us for strategic opportunities, including investing in our business, making strategic acquisitions and strengthening our balance sheet. However, it is important to note that other companies, including companies in our industry, may not use free cash flow, may calculate free cash flow differently, or may use other financial measures to evaluate their performance, all of which could reduce the usefulness of free cash flow as a comparative measure. A reconciliation of free cash flow to cash flow provided by operating activities is provided below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Cash flow provided by operating activities	$ 67,537	$ 17,381	$ 17,640
Add: deemed repayment of convertible senior notes attributable to accreted debt discount	—	43,575	—
Less: purchase of property and equipment and demonstration units	(45,605)	(50,831)	(43,779)
Free cash flow (non-GAAP)	$ 21,932	$ 10,125	$(26,139)
Net cash used in investing activities	$(169,036)	$ (48,517)	$(59,323)
Net cash provided by (used in) financing activities	$ 26,273	$260,074	$ (1,093)

Factors Affecting our Performance

Market Adoption. We rely on market education to raise awareness of today's cyber attacks and articulate the need for our security solutions and services. Our prospective customers often do not have a specific portion of their IT budgets allocated for our advanced security solutions. Additionally, the markets for security validation software such as our Mandiant security validation platform (formerly Verodin Security Instrumentation Platform) and security operations platforms such as FireEye Helix are in the early stages of development.

We invest heavily in sales and marketing efforts to increase market awareness, educate prospective customers and drive adoption of our products, subscriptions, platform and services. This market education is critical to creating new IT budget dollars or allocating more of existing IT budget dollars to advanced threat protection, security validation and security operations management solutions and, in particular, our solutions and the FireEye Helix platform. The degree to which prospective customers recognize the mission critical need for advanced threat protection solutions, security validation and security operations management solutions, including our validation software and our Helix platform, will drive our ability to acquire new customers and increase renewals and follow-on sales opportunities, which, in turn, will affect our future financial performance.

Sales Productivity. Our sales organization consists of in-house sales teams who work in collaboration with external channel partners to identify new sales prospects, sell additional products, subscriptions and services, and provide post-sale support. Our direct sales teams are organized by territory to target large enterprise and government customers who typically have sales cycles that can last several months or more. We have also expanded our inside sales teams to work with channel partners to expand our customer base of small and medium enterprises, or SMEs, as well as manage renewals of subscription and support contracts.

Newly hired sales and marketing employees typically require several months to establish prospect relationships and achieve full sales productivity. In addition, although we believe our investments in market education have increased awareness of us and our solutions globally, sales teams in certain international markets

may face local markets with limited awareness of us and our solutions, or have specific requirements that are not available with our solutions. These factors will influence the timing and overall levels of sales productivity, impacting the rate at which we will be able to convert prospects to sales and drive revenue growth.

Customer Acquisition and Retention. Since we expect that our existing customers are likely to expand their deployments and purchase additional solutions from us over time, we believe new customer acquisition and retention of existing customers is important to expanding the value of our installed base, which we monitor through our key business metrics, including annualized recurring revenue. We believe our ability to maintain strong customer retention and drive new customer acquisition will have a material impact on future sales of our security solutions and services and therefore our future financial performance.

Follow-On Sales. To grow our revenue, it is important that our customers make additional purchases of our products, subscriptions and services. After the initial sale to a new customer, we focus on expanding our relationship with the customer to sell additional products, subscriptions and services. Sales to our existing customer base can take the form of incremental sales of our solutions, managed services, and professional services either to expand their deployment of our technologies, to extend their internal security resources with our managed and professional security services, or continuously measure the effectiveness of their security controls. Our opportunity to expand our customer relationships through follow-on sales will increase as we add new customers, broaden our security solutions portfolio with additional subscriptions and services and enhance the functionality of our existing products and the Helix security platform. Follow-on sales lead to increased revenue over the lifecycle of a customer relationship and can significantly increase the return on our sales and marketing investments. With many of our large enterprise and government customers, we have realized follow-on sales that were multiples of the value of their initial purchases.

Components of Operating Results

Revenue

We generate revenue from the sales of our products, subscriptions and services. As discussed further in our "Critical Accounting Policies and Estimates-Revenue from Contracts with Customers" below, revenue is recognized when a contract has been entered into with a customer, the performance obligation(s) is(are) identified, the transaction price is determined and has been allocated to the performance obligation(s) and only then for each performance obligation after we have satisfied that performance obligation.

- *Product, subscription and support revenue*. Our product, subscription and support revenue is generated from sales of our network, email, and endpoint security solutions deployed on the customer's premise (or in a hybrid on-premise/private cloud deployment), as well as our cloud-based security solutions, threat intelligence subscriptions, security validation and Helix security platforms, and managed detection and response services.

  We combine our virtual sensors and physical appliances and software licenses with mandatory subscriptions to our DTI cloud updates and support services as a single performance obligation. As a result, we recognize revenue for this single performance obligation ratably over the contractual term. Contracts containing this single performance obligation typically contain a material right of renewal option. For contracts that contain a material right of renewal option, the allocated value of the performance obligation is recognized ratably over the period between the end of the initial contractual term and the end of the estimated useful life of the related appliance and license. Significant judgment is required in estimating the useful life of our intelligence dependent appliances and assessing the material rights associated with such products.

  Revenue from our security validation and platform solutions, subscription to our cloud-based security and intelligence solutions, and our managed detection and response services is recognized ratably over the contractual term, typically one to three years.

- *Professional services revenue*. Professional services, which includes incident response, security assessments, and other strategic security consulting services, are offered on a time-and-material basis, through a fixed fee arrangement, or on a retainer basis. We recognize the associated revenue as the services are delivered. Some professional services and our Expertise-on-Demand subscription are prepaid, and revenue is deferred until services are delivered.

Cost of Revenue

Our total cost of revenue consists of cost of product, subscription and support revenue and cost of professional services revenue.

- *Cost of product, subscription and support revenue.* Cost of product, subscription and support revenue primarily consists of costs paid to our third-party contract manufacturers for our appliances, other costs in our manufacturing operations department, personnel costs associated with maintaining our threat intelligence, managed detection and response services, global customer support operations, and hosting costs paid to third party cloud platform providers. Personnel costs associated with our manufacturing operations department, our threat intelligence, our managed detection and response services and our global customer support organization consist of salaries, benefits, bonuses and stock-based compensation. Overhead costs consist of certain facilities, depreciation and information technology costs. Our cost of product, subscription and support revenue also includes product testing costs, shipping costs and allocated overhead costs. If revenue from sales of product, subscriptions and support declines, the cost of product, subscription and support revenue may increase as a percentage of product, subscription and support revenue due to the fixed nature of a portion of these costs. Additionally, our appliance related cost of goods sold is capitalized and amortized on a systematic basis that is consistent with the pattern of transfer to which the asset relates.
- *Cost of professional services revenue.* Cost of professional services revenue primarily consists of personnel costs for our services organization and allocated overhead costs. If sales of our professional services decline or we are unable to maintain our changeability rates, our cost of professional services revenue may increase as a percentage of professional services revenue.

Gross Margin

Gross margin, or gross profit as a percentage of revenue, has been and will continue to be affected by a variety of factors, including our average selling prices, the mix between products, subscription and support and services sold, the mix of revenue among products, subscriptions and services and manufacturing costs. We expect our gross margins to fluctuate slightly over time depending on these factors.

Operating Expenses

Our operating expenses consist of research and development, sales and marketing and general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, benefits, bonuses, stock-based compensation and, with regard to sales and marketing expense, sales commissions. Operating expenses also include allocated overhead costs consisting of certain facilities, depreciation and information technology costs.

- *Research and development.* Research and development expense consists primarily of personnel costs and allocated overhead. Research and development expense also includes prototype related expenses. We expect research and development expense to decrease in absolute dollars and as a percentage of total revenue.
- *Sales and marketing.* Sales and marketing expense consists primarily of personnel costs, incentive commission costs and allocated overhead. Commission costs are capitalized and amortized based on the useful life amortization period, taking into consideration the pattern of transfer to which the asset

relates and the expected renewal periods during which renewal commissions are not commensurate with the initial commissions paid. When initial commissions are higher than (not-commensurate with) renewal commissions, we recognize the incremental portion of initial commissions over an estimated renewal period. The commensurate portion will be recognized over the same period as the initial revenue arrangement to which it relates.

Sales and marketing expense also includes costs for market development programs, promotional and other marketing activities, travel, depreciation of proof-of-concept evaluation units and outside consulting costs. These costs are recognized as incurred. We expect sales and marketing expense to decrease in absolute dollars and as a percentage of total revenue.

- *General and administrative*. General and administrative expense consists of personnel costs, professional service costs and allocated overhead. General and administrative personnel include our executive, finance, human resources, facilities and legal organizations. Professional service costs consist primarily of legal, auditing, accounting and other consulting costs. We expect general and administrative expense to decrease in absolute dollars and as a percentage of total revenue.
- *Restructuring Charges.* In January 2019 and August 2019, we implemented restructuring plans designed to align our resources with the strategic initiatives of the business. These restructuring plans resulted in a reduction of our workforce as well as the exiting and downsizing of certain real estate facilities. The expenses incurred primarily consisted of employee severance charges and other termination benefits, as well as real estate and related fixed asset charges for the consolidation of certain leased facilities. We did not incur any expense related to restructuring activities in 2018 and 2017.

Interest Income

Interest income consists of interest earned on our cash and cash equivalent and investment balances. We have historically invested our cash in money-market funds and other short-term, high quality securities. We expect interest income to vary each reporting period depending on our average cash and cash equivalent and investment balances during the respective reporting periods, types and mix of investments and market interest rates.

Interest Expense

Interest expense consists primarily of interest at the stated rate (coupon) and amortization of discounts and issuance costs relating to our convertible notes.

Other Income (Expense), Net

Other income (expense), net includes gains or losses on the disposal of fixed assets, gains or losses from our equity-method investment, gains or losses on the extinguishment of convertible notes, foreign currency re-measurement gains and losses and foreign currency transaction gains and losses. We expect other income (expense), net to fluctuate primarily as a result of foreign exchange rate movements.

Provision for (Benefit from) Income Taxes

Provision for income taxes relates primarily to income taxes payable in foreign jurisdictions where we conduct business, withholding taxes, and state income taxes in the United States. The provision is offset by tax benefits primarily related to the reversal of valuation allowances previously established against our deferred tax assets. Should the tax benefits exceed the provision, then a net tax benefit from income taxes is reflected for the period. Income in certain countries may be taxed at statutory tax rates that are lower than the U.S. statutory tax rate. As a result, our overall effective tax rate over the long-term may be lower than the U.S. federal statutory tax rate due to net income being subject to foreign income tax rates that are lower than the U.S. federal statutory rate.

Results of Operations

The following tables summarize our results of operations for the periods presented and as a percentage of our total revenue for those periods. The period-to-period comparison of results is not necessarily indicative of results for future periods.

	Year Ended December 31,		
	2019	2018	2017
		(In thousands)	
Revenue:			
Product, subscription and support	$ 708,836	$ 687,382	$ 645,965
Professional services	180,316	143,568	133,683
Total revenue	889,152	830,950	779,648
Cost of revenue:			
Product, subscription and support	210,432	188,301	190,786
Professional services	98,460	84,174	80,861
Total cost of revenue	308,892	272,475	271,647
Total gross profit	580,260	558,475	508,001
Operating expenses:			
Research and development	271,326	254,142	243,273
Sales and marketing	396,822	380,962	379,278
General and administrative	111,881	105,773	125,549
Restructuring charges	10,265	—	—
Total operating expenses	790,294	740,877	748,100
Operating loss	(210,034)	(182,402)	(240,099)
Interest income	22,017	16,033	9,323
Interest expense	(61,927)	(56,426)	(49,766)
Other expense, net	(1,775)	(14,804)	(10)
Loss before income taxes	(251,719)	(237,599)	(280,552)
Provision for income taxes	5,690	5,524	4,632
Net loss	$(257,409)	$(243,123)	$(285,184)

	Year Ended December 31,		
	2019	2018	2017
	(Percent of total revenue)		
Revenue:			
Product, subscription and support	80%	83%	83%
Professional services	20	17	17
Total revenue	100	100	100
Cost of revenue:			
Product, subscription and support	24	23	25
Professional services	11	10	10
Total cost of revenue	35	33	35
Total gross profit	65	67	65
Operating expenses:			
Research and development	31	31	31
Sales and marketing	45	46	49
General and administrative	13	13	16
Restructuring charges	1	—	—
Total operating expenses	89	89	96
Operating loss	(24)	(22)	(31)
Interest income	2	2	1
Interest expense	(7)	(7)	(6)
Other expense, net	—	(2)	—
Loss before income taxes	(29)	(29)	(36)
Provision for income taxes	1	1	1
Net loss	(29)%	(29)%	(37)%

Comparison of the Years Ended December 31, 2019 and 2018

Revenue

	Year Ended December 31,					
	2019		2018		Change	
	Amount	% of Total Revenue	Amount	% of Total Revenue	Amount	%
	(Dollars in thousands)					
Revenue:						
Product, subscription and support	$708,836	80%	$687,382	83%	$ 21,454	3%
Professional services	180,316	20	143,568	17	36,748	26
Total revenue	$889,152	100%	$830,950	100%	$ 58,202	7%
Product, subscription and services by type:						
Product and related subscription and support	$467,823	53%	$498,992	60%	$(31,169)	(6)%
Platform, cloud subscription and managed services	241,013	27	188,390	23	52,623	28
Total product, subscription and support	$708,836	80%	$687,382	83%	$ 21,454	3%
Revenue by geographic region:						
United States	$554,856	63%	$523,150	63%	$ 31,706	6%
EMEA	155,357	17	135,736	16	19,621	14
APAC	131,361	15	122,516	15	8,845	7
Other	47,578	5	49,548	6	(1,970)	(4)
Total revenue	$889,152	100%	$830,950	100%	$ 58,202	7%

Product, subscription and support revenue increased by $21.5 million, or 3%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase was comprised of platform, cloud subscription and managed services of $52.6 million offset by decrease in product and related subscription and support revenue of $31.2 million. The increase in platform, cloud subscription and managed services reflected sales of our security validation platform as well as increased amortization of deferred revenue associated with increased sales of our cloud-based network, email and endpoint security, threat intelligence, Helix security platform, and managed detection and response services. The decrease in product and related subscription and support revenue was primarily due to a decrease in the amortization of deferred revenue for appliances and attached subscription and support for our on-premise network and email security solutions.

We are experiencing a shift in customer buying patterns away from the deployment of network, email and endpoint security solutions on new appliance hardware in favor of virtual and, cloud-based security solutions. This has resulted in a continuing decline in our sales of new appliance hardware with attached subscriptions and support in both absolute dollars and as a percentage of sales. As a result, the amortization of deferred revenue associated with prior appliance (and attached subscription and support) sales exceeded additions to deferred revenue from new appliances (with attached subscription and support) sales, and the amount of deferred revenue associated with these solutions declined in 2019. We expect the decline in deferred revenue associated with appliance hardware and attached subscription and support will continue, which will result in reduced amortization of appliance and attached subscription and support revenue in future periods. This decline in new appliance-based security solution sales was offset by increased sales of our cloud-based security and intelligence solutions, our security validation and Helix security platforms subscriptions and our managed detection and response services, as well as sales of our virtual sensors for network, email and endpoint security and renewals of prior subscription and support contracts.

Given the continued expansion of our customer base, our subscription pricing for the majority of our solutions, and cross-sell rates for enterprise-class customers, we expect revenue from the amortization of deferred

revenue associated with recurring subscription and support contracts to increase as a percentage of our total revenue. Our retention rate of enterprise-class customers with subscriptions expiring in the 12 months ended December 31, 2019 remained strong, which resulted in an increase in revenue associated with renewals and continued growth in annualized recurring revenue.

Professional services revenue increased by $36.7 million, or 26%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase is primarily driven by an increase in billable hours due to more engagements and professional services personnel as compared to the same period in 2018.

Our international revenue increased $26.5 million, or 9%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase reflects growth in sales from our international regions compared to prior periods as we expanded our international market presence, which resulted in higher deferred revenue and an increase in revenue amortized from deferred revenue.

Cost of Revenue and Gross Margin

	Year Ended December 31,					
	2019		2018		Change	
	Amount	Gross Margin	Amount	Gross Margin	Amount	%
	(Dollars in thousands)					
Cost of revenue:						
Product, subscription and support	$210,432		$188,301		$22,131	12%
Professional services	98,460		84,174		14,286	17
Total cost of revenue	$308,892		$272,475		$36,417	13%
Gross margin:						
Product, subscription and support		70%		73%		
Professional services		45%		41%		
Total gross margin		65%		67%		

The cost of product, subscription and support revenue increased $22.1 million, or 12%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase in cost of product, subscription and support revenue was primarily driven by a $9.0 million increase in personnel costs due to increased headcount and $18.0 million in increased third-party hosting costs associated with higher sales of cloud-based solutions which were partially offset by a $2.0 million decrease in depreciation and a $1.9 million decrease in inventory related expenses.

The cost of professional services revenue increased $14.3 million, or 17%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase in cost of professional services revenue was primarily driven by a $17.4 million increase in personnel costs due to increased headcount which were partially offset by a $1.5 million decrease in third-party professional services costs.

Gross margin was lower for the year ended December 31, 2019 compared to the year ended December 31, 2018. The decrease in gross margin percentage was primarily due to an increase in professional services as a percentage of total revenue, and an increase in third-party hosting fees in our cost of product, subscription and support revenues associated with higher sales of cloud-based solutions and the transition from in-house data centers to a third-party cloud platform.

Operating Expenses

	Year Ended December 31,					
	2019		2018		Change	
	Amount	% of Total Revenue	Amount	% of Total Revenue	Amount	%
	(Dollars in thousands)					
Operating expenses:						
Research and development	$271,326	31%	$254,142	31%	$17,184	7%
Sales and marketing	396,822	45	380,962	46	15,860	4
General and administrative	111,881	13	105,773	13	6,108	6
Restructuring	10,265	1				
Total operating expenses	$790,294	89%	$740,877	89%	$49,417	7%
Includes stock-based compensation expense of:						
Research and development	$ 45,476		$ 49,503			
Sales and marketing	49,198		47,592			
General and administrative	29,966		28,218			
Total	$124,640		$125,313			

Research and Development

Research and development expense increased $17.2 million, or 7%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase was primarily due to an $11.8 million increase in personnel costs due to increased headcount, a $6.5 million increase in depreciation related to internally developed software and a $3.0 million increase in software and cloud hosting costs, partially offset by a decrease in stock-based compensation charges of $4.0 million. The increase in headcount was as a result of increased investment in research and development for future product and subscription offerings.

Sales and Marketing

Sales and marketing expense increased by $15.9 million, or 4%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase was primarily due to a $9.5 million increase in commissions, an increase in personnel costs of $6.1 million due to increased headcount and a $1.6 million increase in stock-based compensation expense, partially offset by a $1.6 million decrease in marketing programs.

General and Administrative

General and administrative expense increased $6.1 million, or 6%, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase was primarily due to a $2.2 million increase in professional services costs, a $1.8 million increase in personnel costs due to increased headcount and a $1.7 million increase in stock-based compensation.

Interest Income

	Year Ended December 31,		Change	
	2019	2018	Amount	%
	(Dollars in thousands)			
Interest income	$22,017	$16,033	$5,984	37%

Interest income increased for the year ended December 31, 2019 compared to the year ended December 31, 2018, primarily due to an increase in interest rates resulting in a higher rate of return on our investments in conjunction with higher average balances in our cash and cash equivalents and investments.

Interest Expense

	Year Ended December 31,		Change	
	2019	2018	Amount	%
	(Dollars in thousands)			
Interest expense	$61,927	$56,426	$5,501	10%

Interest expense for the year ended December 31, 2019 increased compared to the year ended December 31, 2018, due to a full year of interest expense in 2019 related to our 2024 Notes. Interest expense pertains primarily to cash coupon payments and the amortization of discount and issuance costs related to our convertible senior notes.

Other Expense, Net

	Year Ended December 31,		Change	
	2019	2018	Amount	%
	(Dollars in thousands)			
Other expense, net	$1,775	$14,804	$(13,029)	(88)%

The decrease in other expense, net during the year ended December 31, 2019 compared to the year ended December 31, 2018 was primarily due to the inclusion of the loss on extinguishment of a portion of the 1.000% Convertible Senior Notes due 2035 (the "Series A Notes") in the amount of $10.8 million during the year ended December 31, 2018.

Provision for Income Taxes

	Year Ended December 31,	
	2019	2018
	(Dollars in thousands)	
Provision for income taxes	$5,690	$5,524
Effective tax rate	(2.3)%	(2.3)%

The provision for income taxes increased for the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase was not significant. Due to cumulative losses, we maintain a full valuation allowance on all of our U.S. and certain foreign deferred tax assets. The tax expense for the years ended December 31, 2019 and December 31, 2018 was primarily comprised of income taxes in foreign jurisdictions and withholding taxes.

Quarterly Results of Operations

The following unaudited quarterly statements of operations data for each of the eight quarters in the period ended December 31, 2019 and 2018 have been prepared on a basis consistent with our audited annual financial statements included in this Annual Report on Form 10-K and include, in our opinion, all normal recurring adjustments necessary for the fair presentation of the financial information contained in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future. The following quarterly financial data should be read in conjunction with our audited financial statements and the related notes included in this Annual Report on Form 10-K.

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(Dollars in thousands)							
Revenue:								
Product, subscription and support	$185,008	$179,823	$174,102	$169,903	$178,827	$175,653	$167,429	$165,473
Professional services	50,078	46,091	43,506	40,641	38,706	35,998	35,267	33,597
Total revenue	235,086	225,914	217,608	210,544	217,533	211,651	202,696	199,070
Cost of revenue:								
Product, subscription and support	54,494	54,272	53,198	48,468	47,984	46,752	46,136	47,429
Professional Services	26,217	24,948	24,195	23,100	21,846	20,682	21,146	20,500
Total cost of revenue	80,711	79,220	77,393	71,568	69,830	67,434	67,282	67,929
Total gross profit	154,375	146,694	140,215	138,976	147,703	144,217	135,414	131,141
Operating expenses:								
Research and development	67,537	68,857	67,538	67,394	62,251	62,120	63,575	66,196
Sales and marketing	93,077	98,355	101,494	103,896	97,218	92,297	94,196	97,251
General and administrative	28,862	27,717	27,926	27,376	24,935	26,241	26,179	28,418
Restructuring charges	(15)	6,481	—	3,799	—	—	—	—
Total operating expenses	189,461	201,410	196,958	202,465	184,404	180,658	183,950	191,865
Operating loss	(35,086)	(54,716)	(56,743)	(63,489)	(36,701)	(36,441)	(48,536)	(60,724)
Interest income	4,758	5,275	6,137	5,848	5,226	4,484	3,383	2,940
Interest expense	(15,703)	(15,554)	(15,407)	(15,263)	(15,128)	(14,976)	(13,605)	(12,717)
Other income (expense), net	(757)	40	(770)	(288)	(414)	(1,424)	(12,690)	(276)
Loss before income taxes	(46,788)	(64,955)	(66,783)	(73,192)	(47,017)	(48,357)	(71,448)	(70,777)
Provision for income taxes	2,428	541	540	2,182	1,380	1,680	1,411	1,053
Net loss	$ (49,216)	$ (65,496)	$ (67,323)	$ (75,374)	$ (48,397)	$ (50,037)	$ (72,859)	$ (71,830)
Net loss per share, basic and diluted	$ (0.23)	$ (0.31)	$ (0.33)	$ (0.38)	$ (0.25)	$ (0.26)	$ (0.38)	$ (0.39)
Weighted average shares used to compute net loss per share, basic and diluted	214,565	212,207	204,109	197,819	194,593	192,359	189,696	186,456

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(Percent of total revenue)							
Revenue:								
Product, subscription and support	79%	80%	80%	81%	82%	83%	83%	83%
Professional services	21	20	20	19	18	17	17	17
Total revenue	100	100	100	100	100	100	100	100
Cost of revenue:								
Product, subscription and support	23	24	24	23	22	22	23	24
Professional services	11	11	11	11	10	10	10	10
Total cost of revenue	34	35	35	34	32	32	33	34
Total gross profit	66	65	65	66	68	68	67	66
Operating expenses:								
Research and development	29	30	31	32	29	29	31	33
Sales and marketing	40	44	47	49	45	44	46	49
General and administrative	12	12	13	13	11	12	13	14
Restructuring charges	—	3	—	2	—	—	—	—
Total operating expenses	81	89	91	96	85	85	90	96
Operating loss	(15)	(24)	(26)	(30)	(17)	(17)	(23)	(30)
Interest income	2	2	3	3	2	2	2	1
Interest expense	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(6)
Other income (expense), net	—	—	—	—	—	(1)	(6)	—
Loss before income taxes	(20)	(29)	(30)	(34)	(22)	(23)	(34)	(35)
Provision for income taxes	1	—	—	1	1	1	1	1
Net loss	(21)%	(29)%	(30)%	(35)%	(23)%	(24)%	(35)%	(36)%

Quarterly Revenue Trends

Our quarterly revenue increased year-over-year for all periods presented, reflecting increased amortization of revenue from higher deferred revenue compared with the year-ago period, as well as increased capacity in professional services. The increase in deferred revenue was due to increased sales of our cloud-based security solutions, as well as our threat intelligence and managed detection and response services, partially offset by decreases in deferred revenue related to prior sales of appliance-based security solutions with attached subscriptions. The increases in revenue in the second, third and fourth quarters of 2019 also reflected revenue from our acquisition of Verodin in the second quarter of 2019.

Sequentially, our subscription and services revenues continued to increase each quarter presented, other than the first quarters of 2018 and 2019, when sales were slightly lower than the fourth quarters of the previous year due to normal seasonal sales patterns for and a decrease in amortization of deferred revenue associated with past appliance sales. The sequential growth in the remaining quarters was due to increased amortization of deferred revenue associated with higher deferred revenue, which was primarily due to growth in sales of cloud-based security solutions, threat intelligence, and managed detection and response services, as well as increased professional services revenue. Sequential growth in revenue in the second, third and fourth quarters of 2019 also reflected our acquisition of Verodin in the second quarter of 2019.

Under ASC 606, we amortize revenue from appliance sales ratably from deferred revenue, which will generally reduce quarterly revenue volatility compared to ASC 605. Ratable recognition of appliance revenue initially resulted in higher revenue than would have been recognized under ASC 605 and caused product and related subscription and support revenue to increase year-over-year in all four quarters of 2018. However, as customer buying patterns shifted away from new appliance hardware purchases in favor of virtual and cloud-based security solutions, the amount of deferred revenue associated with new appliance sales (and new related subscriptions and support contracts) was less than the amount of deferred revenue amortized, resulting in a

decline in deferred revenue associated with appliance-based solutions. The decline in deferred revenue associated with appliance-based solutions resulted in year-over-year declines in product and related subscriptions and support in all four quarters of 2019. This year-over-year decline in product and related subscription and support revenue was offset by increases in revenue for the platform, cloud subscription and managed services category, as well as growth in professional services revenue.

We expect the decline in deferred revenue associated with on-premise appliance-based solutions (and the related attached subscriptions and support) to continue, with the decrease offset by increases in deferred revenue from sales of new "all-inclusive" subscriptions to our network, email and endpoint security solutions (with or without appliance hardware), as well as from increases in sales of our platform, cloud subscriptions and managed services and Mandiant professional services.

Quarterly Gross Margin Trends

Consistent with increases in our quarterly revenue, quarterly gross profit increased year-over-year for all periods presented. Total gross margin, or gross profit as a percentage of revenue, increased year-over-year from the first quarter of 2018 through the first quarter of 2019. Gross margin declined year-over-year in the second, third and fourth quarters of 2019 due to an increase in professional services revenue as a percentage of total revenue and increased public cloud hosting costs associated with higher sales of cloud-based solutions and the transition of in-house data centers to a third party cloud platform. We expect the cost of hosting our solutions on third-party cloud platforms will increase in absolute dollars as revenue from our cloud-based solutions increases, which could result in fluctuations in our quarterly gross margins in the future.

Quarterly Expense Trends

For 2018 and 2019, total operating expenses were highest in the first quarter and trended down sequentially as employee-related payroll costs declined. The sequential increase in operating costs in the fourth quarter of 2018 was due to higher commission expense associated with higher sales. The sequential increase in operating expenses in the third quarter of 2019 was due to increased headcount, primarily related to the acquisition of Verodin, and an increase in market development programs.

Liquidity and Capital Resources

	As of December 31,	
	2019	2018
	(In thousands)	
Cash and cash equivalents	$334,603	$409,829
Short-term investments	$704,955	$706,691

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cash provided by operating activities	$ 67,537	$ 17,381	$ 17,640
Cash used in investing activities	(169,036)	(48,517)	(59,323)
Cash provided by (used in) financing activities	26,273	260,074	(1,093)
Net increase (decrease) in cash and cash equivalents	$ (75,226)	$228,938	$(42,776)

As of December 31, 2019, our cash and cash equivalents of $334.6 million were held for working capital, capital expenditures, investment in technology, debt servicing and business acquisition purposes, of which approximately $93.9 million was held outside of the United States. We consider the undistributed earnings of our foreign subsidiaries as of December 31, 2019 to be indefinitely reinvested outside the United States on the basis of estimates that future domestic cash generation will be sufficient to meet future domestic cash needs and our plan for reinvestment of our foreign subsidiaries' undistributed earnings.

During the three months ended June 30, 2018, we issued $600.0 million aggregate principal amount of the 2024 Notes and received net proceeds of $584.4 million after deducting the initial purchasers' discount and the issuance costs. In conjunction with the issuance of the 2024 Notes, we used approximately $65.2 million of the net proceeds to enter into the capped call transactions. In addition, we used approximately $330.4 million of the net proceeds to repurchase a portion of the principal amount outstanding of the Series A Notes. Refer to Note 10 contained in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for more information on the 2024 Notes, the capped call transactions and the Series A Notes.

In May 2019, we acquired Verodin, a security instrumentation platform company. As consideration for the acquisition, we paid $143.7 million in cash, issued 8,404,609 shares of our common stock with an estimated fair value of $119.7 million and recognized $1.5 million of the fair value of assumed stock options attributable to pre-combination services.

In January 2018, we acquired X15, a data management company. We paid cash consideration of $5.3 million and issued 1,016,334 shares of our common stock with an estimated fair value of $15.4 million.

In October 2017, we acquired The Email Laundry, a privately held email security company. We paid cash consideration of $4.3 million and issued 259,425 shares of our common stock with an estimated fair value of $4.4 million.

Our principal sources of liquidity are existing cash and cash equivalents and short-term investments and cash inflow from operations, which we believe will be sufficient to meet our anticipated cash needs for at least the next 12 months. Our future capital requirements will depend on many factors, including our billings and revenue growth rates, the timing and extent of spending to support development efforts, the efficiency of our marketing and sales activities, the introduction of new and enhanced product and service offerings, the cost of any future acquisitions of technology or businesses, and the continuing market acceptance of our products. In the event that additional financing is required from outside sources, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital when desired, our business, operating results and financial condition would be adversely affected.

Operating Activities

During the year ended December 31, 2019, our operating activities provided cash of $67.5 million. We incurred a net loss of $257.4 million, which included net non-cash expenses of $305.5 million, primarily consisting of stock-based compensation charges and depreciation and amortization expense. Our net change in operating assets and liabilities provided cash of $19.5 million, primarily related to an increase in deferred revenue of $37.0 million, an increase in accounts payable of $4.7 million, an increase in prepaid expenses of $7.0 million, which was partially offset by a decrease in accounts receivable of $12.1 million, a decrease in accrued liabilities of $3.1 million, a decrease in long term liabilities of $9.8 million and a decrease in accrued compensation of $4.3 million.

During the year ended December 31, 2018, our operating activities provided cash of $17.4 million. We incurred a net loss of $243.1 million, which included net non-cash expenses of $298.0 million, primarily consisting of stock-based compensation charges, depreciation and amortization expense, and loss on the repurchase of our Series A Notes. As required under ASU 2016-15, we classified $43.6 million of the $330.4 million Series A Notes cash repayment as an amount deemed repayment of Series A Notes accreted debt discount as a cash outflow for operating activities. Our net change in operating assets and liabilities used cash of $6.1 million, primarily related to reductions in deferred revenue of $24.7 million, an increase in accrued liabilities of $10.2 million due to accretion of interest on our Convertible Senior Notes, and an increase in accrued compensation due to accrual of payroll taxes, which was partially offset by an increase in prepaid expenses of $13.8 million due to prepayment of commissions, an increase in accounts receivable of $11.6 million, due to increased sales and a decrease in accounts payables of $8.2 million.

During the year ended December 31, 2017, our operating activities provided cash of $17.6 million. We incurred a net loss of $285.2 million, which included net non-cash expenses of $313.2 million, primarily consisting of stock-based compensation charges and depreciation and amortization expense. Our net change in operating assets and liabilities provided cash of $10.4 million, primarily related to reductions in deferred revenue of $17.6 million, due to amortization, an increase in prepaid expenses of $5.4 million due to prepayment of commissions, which was partially offset by the use of cash sourced from an increase in accounts receivable of $14.4 million resulting from growth in billings, an increase in other long-term liabilities for $14.7 million resulting from additional deferred rent related to our new corporate headquarters building and an increase in accounts payables of $6.0 million.

Investing Activities

Cash used in investing activities during the year ended December 31, 2019 was $169.0 million, primarily for capital expenditures to purchase property and equipment and demonstration units of $45.6 million, net maturities of short-term investments of $3.4 million and $127.2 million net of cash acquired for the acquisition of Verodin.

Cash used in investing activities year ended December 31, 2018 was $48.5 million, primarily for capital expenditures to purchase property and equipment and demonstration units of $50.8 million, net maturities of short-term investments of $7.3 million and cash used in the acquisition of X15.

Cash used in investing activities during the year ended December 31, 2017 was $59.3 million, primarily for capital expenditures to purchase property and equipment and demonstration units, net purchases of short-term investments and cash used to acquire The Email Laundry.

Financing Activities

During the year ended December 31, 2019, financing activities provided $26.3 million in cash, primarily from proceeds of $22.1 million from employee purchases of shares under our 2013 Employee Stock Purchase Plan ("ESPP") and $4.2 million from exercises of employee stock options.

During the year ended December 31, 2018, financing activities provided $260.1 million in cash, primarily from proceeds of $584.4 million received from the issuance of our 2024 Notes, $20.8 million from employee purchases of shares under our ESPP and $6.9 million from exercises of employee stock options. These proceeds were partially offset by the $286.8 million cash outflow attributable to the aggregate principal of the Series A Notes repurchased and $65.2 million for the purchase of the privately negotiated capped calls that cap the dilutive effects related to our 2024 Notes if the stock price exceeds the conversion price of the 2024 Notes.

During the year ended December 31, 2017, financing activities used $1.1 million in cash, primarily due to proceeds from employee purchases of shares under our ESPP and exercises of stock options, partially offset by the repayment of debt assumed through acquisitions.

Contractual Obligations and Commitments

The following summarizes our contractual obligations and commitments as of December 31, 2019:

	Payments Due by Period				
	Total	Less Than 1 Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
	(In thousands)				
Convertible Notes	$1,210,015	$133,152	$474,238	$602,625	$ —
Operating leases	113,753	19,051	32,596	24,248	37,858
Purchase obligations	17,662	6,293	10,705	664	—
Contract manufacturer commitments	5,008	5,008	—	—	—
Total	$1,346,438	$163,504	$517,539	$627,537	$37,858

Total future payments related to our Convertible Notes of $1,210 million shown in the table above is composed of $119.8 million principal amount of Series A Notes, $460 million principal amount of Series B Notes, $600 million principal amount of 2024 Notes and future interest payments of $30.2 million. Although the 2035 Notes have a stated maturity of June 1, 2035, they have been reflected in the table above assuming repurchase on June 1, 2020 in the case of the Series A Notes and June 1, 2022 in the case of the Series B Notes (the first date holders have the right to require us to repurchase all or any portion of their Convertible Senior Notes) at 100% of the principal amount plus accrued and unpaid interest as of these dates.

Due to the uncertainty with respect to the timing of future cash flows associated with our unrecognized tax benefits as of December 31, 2019, we are unable to make reasonably reliable estimates of the period of cash settlement with the respective taxing authorities. Therefore, approximately $1.9 million of unrecognized tax benefits classified as "Other long-term liabilities" in the accompanying consolidated balance sheets as of December 31, 2019, have been excluded from the contractual obligations table above.

Off-Balance Sheet Arrangements

As of December 31, 2019, we did not have any relationships with unconsolidated entities or financial partnerships, such as structured finance or special purpose entities, which were established for the purpose of facilitating off-balance sheet arrangements or other purposes.

Segment Information

We have one primary business activity and operate in one reportable segment.

Concentration

For the years ended December 31, 2019, 2018 and 2017, one distributor represented 13%, 20% and 19%, respectively, of our total revenue, and one reseller represented 14%, 15% and 13%, respectively, of our total revenue. Additionally, another distributor represented 10% of our total revenue for the year ended December 31, 2019, but did not represent 10% or greater of our total revenue for either of the years ended December 31, 2018 and 2017.

Our agreements with the distributors and reseller were made in the ordinary course of our business and may be terminated with or without cause by either party with advance notice. Although we believe we would experience some short-term disruption in the distribution of our products and subscriptions and services if these agreements were terminated, we believe such termination would not have a long-term material adverse effect on our financial results and that alternative resellers and other channel partners exist who would be able to deliver our products to our end-customers.

Critical Accounting Policies and Estimates

Our consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Actual results may differ from these estimates. To the extent that there are material differences between these estimates and our actual results, our future financial statements will be affected.

The critical accounting policies requiring estimates, assumptions, and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue from Contracts with Customers

Revenue is recognized when all of the following criteria are met:

- ***Identification of the contract, or contracts, with a customer*** - A contract with a customer exists when (i) we enter into an enforceable contract with a customer that defines each party's rights regarding the goods or services to be transferred and identifies the payment terms related to these goods or services, (ii) the contract has commercial substance and the parties are committed to perform, and (iii) we determine that collection of substantially all consideration to which it will be entitled in exchange for goods or services that will be transferred is probable based on the customer's intent and ability to pay the promised consideration.
- ***Identification of the performance obligations in the contract*** - Performance obligations promised in a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the goods or service either on its own or together with other resources that are readily available from third parties or from us, and are distinct in the context of the contract, whereby the transfer of the goods or services is separately identifiable from other promises in the contract. To the extent a contract includes multiple promised goods or services, we apply judgment to determine whether promised goods or services are capable of being distinct and distinct in the context of the contract. If these criteria are not met the promised goods or services are accounted for as a combined performance obligation.
- ***Determination of the transaction price*** - The transaction price is determined based on the consideration to which we will be entitled in exchange for transferring goods or services to the customer adjusted for estimated variable consideration, if any. We typically estimate the transaction price impact of discounts offered to the customers for early payments on receivables or rebates based on channel partner sales achievements. Constraints are applied when estimating variable considerations based on historical experience where applicable.
- ***Allocation of the transaction price to the performance obligations in the contract*** - If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price ("SSP") basis. Determination of SSP requires judgment. We determine standalone selling price taking into account available information such as historical selling prices of the performance obligation, geographic location, overall strategic pricing objective, market conditions and internally approved pricing guidelines related to the performance obligations.
- ***Recognition of revenue when, or as, we satisfy performance obligations*** - We satisfy performance obligations either over time or at a point in time as discussed in further detail below. Revenue is recognized at or over the time the related performance obligation is satisfied by transferring a promised good or service to a customer.

Nature of Products and Services

We generate revenue from the sales of physical and virtual security appliances (products), software, subscriptions, support and maintenance contracts and professional services to end-customers, primarily through our indirect relationships through our partners or direct relationships through our direct sales-force. We account for our performance obligations in accordance with ASC 606 and all related interpretations.

Our security appliance deliverables include proprietary operating system software, which together with regular security intelligence updates and support and maintenance, deliver the essential functionality of our

appliance-based security products. We deliver our appliances and software licenses with the related intelligence subscription and support as a single performance obligation. As a result, we recognize revenue for this single performance obligation ratably over the contractual term. Contracts containing this single performance obligation typically contain a material right of renewal option. For contracts that contain a material right of renewal option, the allocated value of the performance obligation is recognized ratably over the period between the end of the initial contractual term and the end of the estimated useful life of the related appliance and license.

Revenue from subscriptions to our cloud-based solutions, which allow customers to use our hosted security software over a contracted period without taking possession of the software, and managed services where we provide managed detection and response services for our customers, are recognized over the contractual term. We also recognize a small portion of our revenue from appliances and software that are not dependent on regular threat intelligence updates. Revenue from these solutions is therefore recognized when ownership is transferred to our customers, typically upon shipment.

Professional services, which include incident response, security assessments, and other strategic security consulting services are offered on a time-and-materials basis or through fixed fee arrangements, and we recognize the associated revenue as the services are delivered.

Stock-Based Compensation

Compensation expense related to stock-based transactions, including employee and non-employee director stock options, is measured and recognized in the financial statements based on the fair value of the awards granted. The fair value of each option award is estimated on the grant date using the Black-Scholes option-pricing model and a single option award approach. The fair value of stock options granted to non-employees is remeasured as the stock options vest, and the resulting change in value, if any, is recognized in the statement of operations during the period the related services are rendered. Stock-based compensation expense is recognized over the requisite service periods of the awards, which is generally four years.

Our use of the Black-Scholes option-pricing model requires the input of highly subjective assumptions, including the fair value of the underlying common stock prior to our IPO in September 2013, the expected term of the option, the expected volatility of the price of our common stock, risk-free interest rates, and the expected dividend yield of our common stock. The assumptions used in our option-pricing model represent management's best estimates. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future. These assumptions and estimates are as follows:

- Fair Value of Common Stock. Because our common stock was not publicly traded until September 20, 2013, we were required to estimate the fair value of common stock for grants made prior to that date, as discussed in "Common Stock Valuations" below.
- Risk-Free Interest Rate. We base the risk-free interest rate used in the Black-Scholes option-pricing model on the implied yield available on U.S. Treasury zero-coupon issues with a remaining term equivalent to that of the options for each option group.
- Expected Term. The expected term represents the period that our stock-based awards are expected to be outstanding. We base the expected term assumption on our historical exercise behavior combined with estimates of the post-vesting holding period.
- Volatility. We determine the price volatility factor based on the historical volatilities of our publicly traded peer group as we do not have a significant trading history for our common stock. Industry peers consist of several public companies in the technology industry that are similar to us in size, stage of life cycle, and financial leverage. We used the same set of peer group companies in all the relevant valuation estimates. We did not rely on implied volatilities of traded options in our industry peers' common stock because the volume of activity was relatively low. We intend to continue to consistently

apply this process using the same or similar public companies until a sufficient amount of historical information regarding the volatility of our own common stock share price becomes available, or unless circumstances change such that the identified companies are no longer similar to us, in which case, more suitable companies whose share prices are publicly available would be utilized in the calculation.

- Dividend Yield. The expected dividend assumption is based on our current expectations about our anticipated dividend policy. Consequently, we used an expected dividend yield of zero.

In addition to the assumptions used in the Black-Scholes option-pricing model, we also estimated a forfeiture rate to calculate the stock-based compensation expense for our awards prior to January 1, 2016. Beginning January 1, 2016, we began recognizing forfeitures as they occur with the adoption of ASU 2016-09.

We estimate the fair value of the rights to acquire stock under our ESPP using the Black-Scholes option pricing formula. Our ESPP typically provides for consecutive twelve-month offering periods and we use our peer group volatility data in the valuation of ESPP shares. We recognize such compensation expense on a straight-line basis over the requisite service period.

We account for the fair value of restricted stock units ("RSUs") using the closing market price of our common stock on the date of grant. For new-hire grants, RSUs generally vest ratably on an annual basis over four years. For annual refresh grants, RSUs generally vest ratably on an annual, or combination of annual and quarterly, basis over two to four years.

We account for the fair value of performance stock units ("PSUs") using the closing market price of our common stock on the date of grant. We begin recognizing compensation expense when we conclude that it is probable that the performance conditions will be achieved. We reassess the probability of vesting at each reporting period and adjust our compensation cost based on this probability assessment.

We will continue to use judgment in evaluating the assumptions related to our stock-based compensation on a prospective basis. As we continue to accumulate additional data related to our common stock, we may have refinements to our estimates which could materially impact our future stock-based compensation expense.

Income Taxes

We account for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. In addition, deferred tax assets are recorded for the future benefit of utilizing net operating losses and research and development credit carryforwards. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount expected to be realized. We recognize taxes on Global Intangible Low-Taxed Income ("GILTI") as a current period expense when incurred.

We apply the authoritative accounting guidance prescribing a threshold and measurement attribute for the financial recognition and measurement of a tax position taken or expected to be taken in a tax return. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step requires us to estimate and measure the tax benefit as the largest amount that is more than 50% likely to be realized upon ultimate settlement.

Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes. Although we believe our reserves are reasonable, no assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in our historical income tax provisions and accruals. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax

audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences may impact the provision for income taxes in the period in which such determination is made.

Significant judgment is also required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including scheduled reversal of deferred tax liabilities, past operating results, the feasibility of tax planning strategies and estimates of future taxable income. Estimates of future taxable income are based on assumptions that are consistent with our plans. Assumptions represent management's best estimates and involve inherent uncertainties and the application of management's judgment. Should actual amounts differ from our estimates, the amount of our tax expense and liabilities could be materially impacted.

We do not provide for a U.S. income tax liability and foreign withholding taxes on undistributed foreign earnings of our foreign subsidiaries as a result of cumulative and current overall foreign loss. The earnings of non-U.S. subsidiaries are currently expected to be indefinitely reinvested in non-U.S. operations.

Contract Manufacturer Liabilities

We outsource most of our manufacturing, repair, and supply chain management operations to our independent contract manufacturers and payments to them are a significant portion of our product, subscription and support cost of revenue. Although we could be contractually obligated to purchase manufactured products, we generally do not own the manufactured products. Product title transfers from our independent contract manufacturers to us and immediately to our partners or customers upon shipment. Our independent contract manufacturers assemble our products using design specifications, quality assurance programs, and standards that we establish, and they procure components and assemble our products based on our demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analysis from our sales and product management functions, as adjusted for overall market conditions. If the actual component usage and product demand are significantly lower than forecast, we accrue for costs for contractual manufacturing commitments in excess of our forecasted demand, including costs for excess components or for carrying costs incurred by our contract manufacturers. To date, we have not incurred nor accrued any significant costs associated with this exposure.

Loss Contingencies

We are subject to the possibility of various loss contingencies arising in the ordinary course of business. We consider the likelihood of loss or impairment of an asset, or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired, or a liability has been incurred and the amount of loss can be reasonably estimated. If we determine that a loss is possible, and the range of the loss can be reasonably determined, then we disclose the range of the possible loss. We regularly evaluate current information available to us to determine whether an accrual is required, an accrual should be adjusted, or a range of possible loss should be disclosed.

Warranties

We generally provide a one-year warranty on hardware. We do not accrue for potential warranty claims as a component of cost of product, subscription and support revenue as all product warranty claims are satisfied under our support and maintenance contracts.

Goodwill

Goodwill is the excess of the aggregate purchase price paid over the fair value of the net tangible and identifiable intangible assets acquired. Goodwill is not amortized and is tested for impairment at least annually or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. We have determined that we operate as one reporting unit and have selected December 1 as the date to perform our annual impairment test. In the valuation of our goodwill, we must make assumptions regarding estimated future cash flows to be derived from our business. If these estimates or their related assumptions change in the future, we may be required to record impairment for these assets. The first step of the impairment test involves comparing the fair value of the reporting unit to its net book value, including goodwill. If the net book value exceeds its fair value, then we would perform the second step of the goodwill impairment test to determine the amount of the impairment loss. The impairment loss would be calculated by comparing implied fair value of goodwill to its net book value. In calculating our implied fair value of goodwill, our fair value would be allocated to all of the other assets and liabilities based on their fair values. The excess of our fair value over the amount assigned to our other assets and liabilities is the implied fair value of goodwill. An impairment loss would be recognized when the carrying amount of goodwill exceeds its implied fair value. There was no impairment of goodwill recorded for the years ended December 31, 2019, 2018 or 2017, and our reporting unit was not at risk of failing the first step of the impairment test for any of these periods.

Business Combinations

We account for all of our acquisitions using the acquisition method of accounting for business combinations. The fair value of purchase consideration is allocated to the tangible assets acquired, liabilities assumed, and intangible assets acquired, based on their estimated fair values. The excess of the fair value of purchase consideration over the values of these identifiable assets and liabilities is recorded as goodwill.

When determining the fair value of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to identifiable intangible assets. Significant assumptions in valuing certain identifiable intangible assets include, but are not limited to, expected long-term market growth, customer retention, future expected operating expenses, costs of capital, and appropriate discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates.

Recent Accounting Pronouncements

See Note 1 Description of Business and Summary of Significant Accounting Policies contained in the "Notes to Consolidated Financial Statements" in Part II, Item 8 of this Annual Report on Form 10-K for a full description of the recent accounting pronouncements and our expectation of their impact, if any, on our results of operations and financial conditions.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Exchange Risk

Our sales contracts are primarily denominated in U.S. dollars. A portion of our operating expenses are incurred outside the United States and are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the Indian Rupee, British Pound Sterling, Japanese Yen and Euro. Additionally, fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations. On June 23, 2016, the United Kingdom ("U.K.") held a referendum in which British voters approved an exit from the European Union ("EU"), commonly referred to as "Brexit." This resulted in an adverse impact to currency exchange rates, notably the British Pound Sterling which experienced a sharp decline in value compared to the U.S. dollar and other currencies. Continued volatility in currency exchange rates is expected as the U.K. negotiates its exit from the EU, which could result in greater transaction gains or losses in our statement of operations.

The effect of a hypothetical 10% adverse change in foreign exchange rates on monetary assets and liabilities at December 31, 2019 would not be material to our financial condition or results of operations. To date, foreign currency transaction gains and losses and exchange rate fluctuations have not been material to our financial statements, and we have not engaged in any foreign currency hedging transactions.

As our international operations continue to grow, our risks associated with fluctuations in currency rates will become greater, and we will continue to reassess our approach to managing this risk. In addition, currency fluctuations or a weakening U.S. dollar can increase the costs of our international expansion, and a strengthening U.S. dollar could slow international demand as products and services priced in U.S. dollars become more expensive.

Interest Rate Risk

We had cash and cash equivalents and investments of $1,039.6 million and $1,116.5 million as of December 31, 2019 and 2018, respectively, consisting of bank deposits, money market funds, certificates of deposit, commercial paper and bonds issued by corporate institutions, U.S. Treasury notes and U.S. government agencies. Such interest-earning instruments carry a degree of interest rate risk, but the risk is limited due to our investment policies which limit the duration of our short term investments. To date, fluctuations in interest income have not been significant.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates.

Our cash flow exposure due to changes in interest rates related to our debt is limited as our Series A Notes, Series B Notes and 2024 Notes have fixed interest rates of 1.000%, 1.625% and 0.875%, respectively. The fair value of the Convertible Notes may increase or decrease for various reasons, including fluctuations in the market price of our common stock, fluctuations in market interest rates and fluctuations in general economic conditions. Based upon the quoted market price as of December 31, 2019, the fair value of our Convertible Notes was approximately $1.1 billion.

A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

Item 8. Financial Statements and Supplementary Data

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Certain supplementary financial information required by this Item 8 is included in Part II, Item 7 of this Annual Report on Form 10-K under the caption "Quarterly Results of Operations."

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of FireEye, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of FireEye, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for leases in fiscal year 2019 due to the adoption of Accounting Standards Update 2016-02, Leases, and related amendments (collectively, "ASC 842").

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Revenue Recognition and Contract Balances - Appliance and License Useful Life - Refer to Notes 1, 7, and 9 to the financial statements

Critical Audit Matter Description

The Company recognizes revenue for contracts that contain a renewal option, which is a material right, over the contractual term. The allocated value of the renewal option is recognized over the period between the end of the initial contractual term and the end of the estimated useful life of the related appliance and license. The costs of revenue and commissions for such contracts are also recognized based on this estimated useful life.

We identified appliance and license useful life as a critical audit matter because the determination of this estimated useful life of the appliance and license requires significant judgment based on the Company's evaluation of historical renewals, technology refresh cycle, and management's expectation of future trends. This required a high degree of auditor judgment and an increased extent of effort to perform qualitative evaluations of these assumptions.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the estimated appliance and license useful life included the following, among others:

- We tested the effectiveness of controls over the Company's determination of the estimated appliance and license useful life.
- We evaluated the methods and assumptions used by management to determine the estimated useful life by:
  - Testing the underlying data that served as the basis for the analysis, including information regarding actual historical renewals.
  - Recalculating the quantitative historical renewal information in the Company's analysis.
  - Assessing qualitative factors, including product refresh cycle, technology life and evaluating whether historical renewal of the license and hardware is indicative of the estimated useful life based on internal or external information available, including interviews with Company personnel and reviews of Company product roadmaps and industry publications.
  - Evaluating the reasonableness of management's overall conclusion.

Business Combinations - Acquisition of Verodin - Forecast of Future Revenue - Refer to Note 5 to the financial statements

Critical Audit Matter Description

The Company completed the acquisition of Verodin, Inc. for $264.9 million on May 28, 2019. The Company accounted for the acquisition under the acquisition method of accounting for business combinations. Accordingly, the purchase price was allocated to the assets acquired and liabilities assumed based on their respective fair values, including total intangible assets of $45.2 million, which consists primarily of $38.3 million of developed technology. Management estimated the fair value of the developed technology intangible asset using the multi-period excess earnings method, which is a specific discounted cash flow method.

We identified forecasted revenue used in the valuation of developed technology as a critical audit matter because it requires management to make significant estimates and assumptions based on expectations of synergies, future operations and trends. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to forecasted revenue.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the forecasts of future revenue for the developed technology intangible asset included the following, among others:

- We tested the effectiveness of controls over the valuation of the intangible assets, including management's controls over forecasts of revenue.
- We assessed the reasonableness of management's forecasts by inquiring with management to understand how revenue forecasts were developed, comparing revenue forecasts to those presented to the Board of Directors, and comparing the projections to historical results and external sources including industry trends and peer companies' historical data.
- We evaluated whether the estimated future revenues were consistent with evidence obtained in other areas of the audit.

/s/ DELOITTE & TOUCHE LLP

San Jose, California
February 21, 2020

We have served as the Company's auditor since 2010.

FIREEYE, INC.

Consolidated Balance Sheets

(In thousands, except per share data)

	As of December 31,	
	2019	**2018**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 334,603	$ 409,829
Short-term investments	704,955	706,691
Accounts receivable, net of allowance for doubtful accounts of $2,263 and $2,525 at December 31, 2019 and 2018, respectively	171,459	157,817
Inventories	5,892	6,548
Prepaid expenses and other current assets	96,827	100,295
Total current assets	1,313,736	1,381,180
Property and equipment, net	93,812	89,163
Operating lease right-of-use assets, net	58,758	—
Goodwill	1,205,292	999,804
Intangible assets, net	134,420	143,162
Deposits and other long-term assets	84,468	82,769
TOTAL ASSETS	$ 2,890,486	$ 2,696,078
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 26,271	$ 26,944
Operating lease liabilities, current	18,437	—
Accrued and other current liabilities	24,496	29,797
Accrued compensation	59,513	63,808
Convertible senior notes, current, net	117,288	—
Deferred revenue, current portion	603,944	556,815
Total current liabilities	849,949	677,364
Convertible senior notes, net	893,273	962,577
Deferred revenue, non-current portion	370,623	378,013
Operating lease liabilities, non-current	70,481	—
Other long-term liabilities	4,494	27,730
Total liabilities	2,188,820	2,045,684
Commitments and contingencies (NOTE 11)		
Stockholders' equity:		
Common stock, par value of $0.0001 per share; 1,000,000 shares authorized, 219,422 and 199,612 shares issued and outstanding as of December 31, 2019 and 2018, respectively	22	20
Additional paid-in capital	3,457,359	3,152,159
Treasury stock, at cost; 3,333 shares as of December 31, 2019 and 2018	(150,000)	(150,000)
Accumulated other comprehensive income (loss)	1,180	(2,299)
Accumulated deficit	(2,606,895)	(2,349,486)
Total stockholders' equity	701,666	650,394
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 2,890,486	$ 2,696,078

See accompanying notes to consolidated financial statements.

FIREEYE, INC.

Consolidated Statements of Operations

(In thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Product, subscription and support	$ 708,836	$ 687,382	$ 645,965
Professional services	180,316	143,568	133,683
Total revenue	889,152	830,950	779,648
Cost of revenue:			
Product, subscription and support	210,432	188,301	190,786
Professional services	98,460	84,174	80,861
Total cost of revenue	308,892	272,475	271,647
Total gross profit	580,260	558,475	508,001
Operating expenses:			
Research and development	271,326	254,142	243,273
Sales and marketing	396,822	380,962	379,278
General and administrative	111,881	105,773	125,549
Restructuring charges	10,265	—	—
Total operating expenses	790,294	740,877	748,100
Operating loss	(210,034)	(182,402)	(240,099)
Interest income	22,017	16,033	9,323
Interest expense	(61,927)	(56,426)	(49,766)
Other expense, net	(1,775)	(14,804)	(10)
Loss before income taxes	(251,719)	(237,599)	(280,552)
Provision for income taxes	5,690	5,524	4,632
Net loss	$(257,409)	$(243,123)	$(285,184)
Net loss per share, basic and diluted	$ (1.24)	$ (1.27)	$ (1.60)
Weighted average shares used in computing net loss per share, basic and diluted	207,234	190,803	177,757

See accompanying notes to consolidated financial statements.

FIREEYE, INC.

Consolidated Statements of Comprehensive Loss

(In thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Net loss	$(257,409)	$(243,123)	$(285,184)
Change in net unrealized gains (losses) on available-for-sale investments, net of tax	3,479	582	(1,139)
Comprehensive loss	$(253,930)	$(242,541)	$(286,323)

See accompanying notes to consolidated financial statements.

FIREEYE, INC.

Consolidated Statement of Stockholders' Equity

(In thousands)

	Common Stock		Additional Paid-In Capital	Treasury Stock	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2016	**174,596**	**$ 17**	**$2,682,909**	**$(150,000)**	**$(1,742)**	**$(1,821,179)**	**$ 710,005**
Issuance of common stock for equity awards, net of repurchases and tax withholdings	10,513	2	17,741	—	—	—	17,743
Issuance of common stock related to employee stock purchase plan	1,737	—	20,094	—	—	—	20,094
Issuance of common stock related to Clean Communications Limited acquisition	259	—	4,361	—	—	—	4,361
Stock-based compensation	—	—	166,336	—	—	—	166,336
Unrealized loss on investments	—	—	—	—	(1,139)	—	(1,139)
Net loss	—	—	—	—	—	(285,184)	(285,184)
Balance at December 31, 2017	**187,105**	**19**	**2,891,441**	**(150,000)**	**(2,881)**	**(2,106,363)**	**632,216**
Issuance of common stock for equity awards, net of repurchases and tax withholdings	9,774	1	6,888	—	—	—	6,889
Issuance of common stock related to employee stock purchase plan	1,717	—	20,816	—	—	—	20,816
Issuance of common stock related to X15 acquisition	1,016	—	15,387	—	—	—	15,387
Stock-based compensation	—	—	157,795	—	—	—	157,795
Unrealized gain on investments	—	—	—	—	582	—	582
Purchase of capped calls	—	—	(65,220)	—	—	—	(65,220)
Equity component of issuance of 2024 Notes, net	—	—	138,064	—	—	—	138,064
Equity component of partial repurchase of Series A Notes, net	—	—	(13,012)	—	—	—	(13,012)
Net loss	—	—	—	—	—	(243,123)	(243,123)
Balance at December 31, 2018	**199,612**	**20**	**3,152,159**	**(150,000)**	**(2,299)**	**(2,349,486)**	**650,394**
Issuance of common stock for equity awards, net of tax withholdings	9,624	1	4,186	—	—	—	4,187
Issuance of common stock related to employee stock purchase plan	1,781	—	22,086	—	—	—	22,086
Issuance of common stock and assumption of options related to Verodin, Inc. acquisition	8,405	1	121,157	—	—	—	121,158
Unrealized gain on investments	—	—	—	—	3,479	—	3,479
Stock-based compensation	—	—	157,771	—	—	—	157,771
Net loss	—	—	—	—	—	(257,409)	(257,409)
Balance at December 31, 2019	**219,422**	**$ 22**	**$3,457,359**	**$(150,000)**	**$ 1,180**	**$(2,606,895)**	**$ 701,666**

See accompanying notes to the consolidated financial statements.

FIREEYE, INC.

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended December 31,		
	2019	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$(257,409)	$(243,123)	$(285,184)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	103,305	86,505	103,417
Stock-based compensation	153,517	153,675	166,336
Non-cash interest expense related to convertible senior notes	47,983	43,273	37,598
Loss on repurchase of convertible senior notes	—	10,764	—
Deemed repayment of convertible senior notes attributable to accreted debt discount	—	(43,575)	—
Change in fair value of contingent earn-out liability	—	—	(54)
Deferred income taxes	(257)	(930)	(1,287)
Other	945	4,715	7,170
Changes in operating assets and liabilities, net of business acquisitions:			
Accounts receivable	(12,109)	(11,605)	(14,434)
Inventories	51	(5,216)	(3,333)
Prepaid expenses and other assets	7,003	(13,779)	5,365
Accounts payable	4,707	(8,205)	6,040
Accrued liabilities	(3,074)	10,234	(3,659)
Accrued compensation	(4,295)	4,220	2,565
Deferred revenue	36,987	24,728	(17,649)
Other long-term liabilities	(9,817)	5,700	14,749
Net cash provided by operating activities	67,537	17,381	17,640
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of property and equipment and demonstration units	(45,605)	(50,831)	(43,779)
Purchases of short-term investments	(617,194)	(479,862)	(409,358)
Proceeds from maturities of short-term investments	620,580	487,141	397,483
Proceeds from sales of short-term investments	—	—	3,620
Business acquisitions, net of cash acquired	(127,249)	(5,240)	(4,300)
Purchase of investment in private company	—	—	(2,500)
Lease deposits	432	275	(489)
Net cash used in investing activities	(169,036)	(48,517)	(59,323)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net proceeds from issuance of convertible senior notes	—	584,405	—
Purchase of capped calls	—	(65,220)	—
Repurchase of convertible senior notes	—	(286,817)	—
Payments for contingent earn-outs	—	—	(38,928)
Payment related to shares withheld for taxes	—	—	(1,408)
Proceeds from employee stock purchase plan	22,086	20,816	20,094
Proceeds from exercise of equity awards	4,187	6,890	19,149
Net cash provided by (used in) financing activities	26,273	260,074	(1,093)
Net change in cash and cash equivalents	(75,226)	228,938	(42,776)
Cash and cash equivalents, beginning of period	409,829	180,891	223,667
Cash and cash equivalents, end of period	$ 334,603	$ 409,829	$ 180,891
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for income taxes	$ 4,777	$ 4,780	$ 5,360
Cash paid for interest	$ 13,934	$ 13,035	$ 12,075
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING ACTIVITIES:			
Common stock issued in connection with acquisitions	$ 119,682	$ 15,387	$ 4,361
Purchases of property and equipment and demonstration units in accounts payable and accrued liabilities	$ 5,264	$ 12,818	$ 13,353

See accompanying notes to consolidated financial statements.

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

FireEye, Inc., with principal executive offices located in Milpitas, California, was incorporated as NetForts, Inc. on February 18, 2004, under the laws of the State of Delaware, and changed its name to FireEye, Inc. on September 7, 2005.

FireEye, Inc. and its wholly owned subsidiaries (collectively, the "Company", "we", "us" or "our") provide comprehensive intelligence-based cybersecurity solutions that allow organizations to prepare for, prevent, investigate, respond to and remediate cyber attacks, including attacks that target on-premise, cloud and critical infrastructure environments. Our portfolio of cyber security products and services helps customers minimize the risk of costly cyber security breaches by:

- validating the effectiveness of existing cybersecurity controls before an attack occurs,
- detecting and preventing advanced, targeted and other evasive attacks missed by other security controls,
- enabling more efficient management of security operations, including alert management, investigations and response when a breach occurs, and
- providing assessment, training and other strategic security consulting services that help organizations improve their resilience to attack.

Our portfolio of cybersecurity solutions includes threat detection and prevention products that include appliance-based, virtual and cloud solutions for web security, email security and endpoint security. These products are complemented by our cloud-based threat intelligence, security analytics and security automation and orchestration technologies, as well as our managed security services, cybersecurity consulting and incident response offerings. In combination, our solutions and services enable a proactive approach to cybersecurity that extends across the threat management lifecycle to minimize the risk of costly cybersecurity breaches.

We have organized our cybersecurity solutions in a hub and spokes model designed to integrate machine-generated threat data from our detection and prevention products with our analytics, response and orchestration technologies delivered through our Helix cybersecurity operations platform. Helix is designed to enable more efficient security operations by correlating security and event data across an organization's environment to determine which threats present the greatest risk, automate repetitive security processes, and provide tools and workflows to investigate and respond to attacks. The Helix cloud-based interface presents a unified view of an organization's attack surface, including on-premise and cloud environments, and provides the contextual threat intelligence and threat management tools to enable a rapid response.

On January 17, 2020, we acquired Cloudvisory LLC, a provider of cloud visibility and control solutions. As consideration for the acquisition, we paid approximately $13.5 million in cash. We are currently in the process of completing the preliminary purchase price allocation, which will be included in our Quarterly Report on Form 10-Q for the quarter ending March 31, 2020.

In May 2019, we acquired Verodin, Inc. ("Verodin"), a security instrumentation platform company. As consideration for the acquisition, we paid $143.7 million in cash, issued 8,404,609 shares of our common stock with an estimated fair value of $119.7 million and recognized $1.5 million of the fair value of assumed stock options attributable to pre-combination services.

In the three months ended June 30, 2018, we issued $600 million aggregate principal amount of 0.875% Convertible Senior Notes due 2024 (the "2024 Notes"), in a private placement to qualified institutional purchasers pursuant to an exemption from registration provided by Section 4(a)(2) and Rule 144A under the Securities Act of 1933, as amended (the "Securities Act"). We recognized total net proceeds after the initial purchasers' discount and issuance costs of $584.4 million. In connection with the issuance of the 2024 Notes, we also entered into capped call transactions (the "Capped Calls") with certain parties affiliated with the initial purchasers of the 2024 Notes. We paid approximately $65.2 million for the Capped Calls, which have an initial strike price of $23.17 per share, which corresponds to the initial conversion price of the 2024 Notes. The Capped Calls have an initial cap price of $34.32 per share subject to certain adjustments as set forth in the confirmations for the Capped Calls.

In May 2018, in a separate transaction, we repurchased $340.2 million aggregate principal of existing 1.000% Convertible Senior Notes due 2035 (the "Series A Notes"). We used $330.4 million of the net proceeds from the 2024 Notes offering to repurchase such portion of the Series A Notes.

In January 2018, we completed the acquisition of privately-held X15 Software, Inc. ("X15"), a data management company. As consideration for the acquisition, we paid cash consideration of $5.3 million and issued 1,016,334 shares of our common stock with an estimated fair value of $15.4 million.

In October 2017, we acquired Clean Communications Limited (d/b/a The Email Laundry) ("The Email Laundry"), a privately-held email security company. We paid cash consideration of $4.3 million and issued 259,425 shares of our common stock with an estimated fair value of $4.4 million.

The majority of our products, subscriptions and services are sold to end-customers through distributors, resellers, and strategic partners, with a lesser percentage of sales directly to our end-customers.

Basis of Presentation and Consolidation

The consolidated financial statements include the accounts of FireEye, Inc. and its wholly owned subsidiaries and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Such management estimates include, but are not limited to, determining the nature and timing of satisfaction of performance obligations, useful life of our security appliances that are dependent on intelligence and assessing the material rights associated with it, determining the standalone selling price ("SSP") of performance obligations, subscriptions and services, commissions expense including the period of benefit of customer acquisition cost, bonus expense, future taxable income, contract manufacturer liabilities, litigation and settlement costs and other loss contingencies, fair value of our equity awards, achievement of targets for performance stock units, fair value of the liability and equity components of the Convertible Senior Notes and the purchase price allocation of acquired businesses. We base our estimates on historical experience and on assumptions that we believe are reasonable. Changes in facts or circumstances may cause us to change our assumptions and estimates in future periods, and it is possible that actual results could differ from current or revised future estimates.

Concentrations

Financial instruments that subject us to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments, and accounts receivable. We maintain a substantial portion of our cash and cash equivalents in money market funds invested in U.S. Treasury related obligations. Management believes that these financial institutions are financially sound and, accordingly, are subject to minimal credit risk. Deposits held with banks may exceed the amount of insurance provided on such deposits.

Our short-term investments primarily consist of notes and bonds issued by corporate institutions and U.S. Government agencies. All of our investments are highly-rated by credit rating agencies and are issued by organizations with reputable credit, and therefore bear minimal credit risk.

Our accounts receivables are primarily derived from a diverse set of customers across various geographical locations. We perform ongoing credit evaluations of our customers and generally do not require collateral on accounts receivable. We maintain an allowance for doubtful accounts for estimated potential credit losses. See Note 17 for information on major customers.

We rely primarily on a single contract manufacturer to assemble our products. In some cases, we rely on sole suppliers for certain components.

Foreign Currency Translation and Transactions

The functional currency of our foreign subsidiaries is the U.S. dollar. We translate all monetary assets and liabilities denominated in foreign currencies into U.S. dollars using the exchange rates in effect at the balance sheet dates and other assets and liabilities using historical exchange rates.

Foreign currency denominated revenue and expenses have been re-measured using the average exchange rates in effect during each period. Foreign currency translation and transaction gains and losses have been included in other income (expense) and have not been significant for the years ended December 31, 2019, 2018 and 2017. For the years ended December 31, 2019, 2018 and 2017, we recognized a loss of $0.7 million, a loss of $1.5 million and a gain of $1.8 million, respectively.

Cash and Cash Equivalents

We consider all highly liquid investments with original maturities of three months or less at date of purchase to be cash equivalents. We determine the appropriate classification of our investments at the time of purchase, and evaluate such designation at each balance sheet date.

Short-term Investments

We classify our investments in debt and equity securities as available-for-sale and record these investments at fair value. Investments with an original maturity of three months or less at the date of purchase are considered cash equivalents, while all other investments are classified as short-term or long-term based on the nature of the investments, their maturities, and their availability for use in current operations. Unrealized gains and losses are reported as a component of other comprehensive loss. Realized gains and losses are determined based on the specific identification method, and are reflected in our Consolidated Statements of Operations. We regularly review our investment portfolio to identify and evaluate investments that have indicators of possible impairment. Factors considered in determining whether a loss is other-than-temporary include, but are not limited to: the length of time and extent a security's fair value has been below its cost, the financial condition and near-term prospects of the investee, the credit quality of the security's issuer, likelihood of recovery and our intent and ability to hold the security for a period of time sufficient to allow for any anticipated recovery in value. For our debt instruments, we also evaluate whether we have the intent to sell the security or it is more likely than not that we will be required to sell the security before recovery of its cost basis.

Investments are considered to be impaired when a decline in fair value is judged to be other-than-temporary. Fair value is calculated based on publicly available market information or other estimates determined by management. If the cost of an investment exceeds its fair value, we evaluate, among other factors, general market conditions, credit quality of debt instrument issuers, the duration and extent to which the fair value is less than cost and whether we have plans to sell the security, or it is more likely than not that we will be required to sell the security, before recovery. Once a decline in fair value is determined to be other-than-temporary, an impairment charge is recorded to other income (expense) and a new cost basis in the investment is established.

Fair Value of Financial Instruments

We define fair value as the price that would be received from selling an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities which are required to be recorded at fair value, we consider the principal or most advantageous market in which to transact and the market-based risk. We apply fair value accounting for all financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis. The carrying amounts reported in the consolidated financial statements approximate the fair value for cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities due to their short-term nature.

Inventories

Inventories are stated at the lower of cost or net realizable value. Provisions have been made to reduce all slow-moving, obsolete or unusable inventories to their net realizable values. We purchase completed units from contract manufacturers and substantially all of our inventories are finished goods held for use as service replacements. As of December 31, 2019 and 2018, the reserves for excess and obsolete inventories were $5.9 million and $5.2 million, respectively.

Property and Equipment

Property and equipment are recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally two to five years.

The estimated useful lives of property and equipment are described below:

Property and Equipment	Useful Life
Computer equipment and software	2 to 5 years
Leasehold improvements	Shorter of estimated useful life or remaining lease term
Furniture and fixtures	5 years
Machinery and equipment	2 to 5 years

Demonstration Units

Product demonstration units are included in prepaid expenses and other current assets on the consolidated balance sheets. Demonstration units are recorded at cost and are amortized over the estimated useful life from the date of transfer from inventory, generally 12 months. We generally do not resell units that have been used for demonstration purposes.

Leases

We determine if an arrangement is a lease and classification of that lease, if applicable, at inception based on: (1) whether the contract involves the use of a distinct identified asset, (2) whether we obtain the right to

substantially all the economic benefits from the use of the asset throughout the period, and (3) whether we have a right to direct the use of the asset. We currently do not have any finance leases. We have elected to not recognize a lease liability or right-of-use ("ROU") asset for short-term leases (leases with a term of twelve months or less and do not include an option we are reasonably certain to exercise to purchase the underlying asset).

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make minimum lease payments arising from the lease. ROU assets are initially measured at amounts, which represents the present value of the lease payments over the lease, plus any initial direct costs incurred and less any lease incentives received. Annually, all ROU assets are reviewed for impairment. The lease liability is initially measured at lease commencement date based on the present value of minimum lease payments over the lease term. As the rates implicit in the leases are not readily available, we use our Incremental Borrowing Rate ("IBR") based on the information available at commencement date of a lease in determining the present value of lease payments. The determination of our IBR requires judgment. We took into consideration our recent debt offerings as well as external credit rating factors when determining our current IBR. Our lease terms may include options to extend or terminate the lease. We do not include these options in our minimum lease terms unless we believe they are reasonably certain to be exercised. We have lease agreements with lease and non-lease components, which are generally accounted for separately. Non-lease components (i.e. common area maintenance) are separate from the lease components and are paid on actual usage. Therefore, the non-lease components are not included in the determination of the ROU asset or lease liability and are reflected as an expense in the period incurred. Our operating lease costs for operating lease payments are recognized on a straight-line basis over the lease term.

We also sublease certain office space to third-parties. Our subleases consist of office space which was vacated as part of restructuring activities in 2016. We do not recognize ROU assets or lease liabilities associated with subleased office spaces in which we are the sublessor. Sublease income is recognized ratably over the term of the agreement.

Impairment of Long-Lived Assets

We evaluate events and changes in circumstances that could indicate carrying amounts of long-lived assets may not be recoverable. When such events or changes in circumstances occur, we assess the recoverability of long-lived assets by determining whether or not the carrying value of such assets will be recovered through undiscounted expected future cash flows. If the total of the future undiscounted cash flows is less than the carrying amount of an asset, we record an impairment charge for the amount by which the carrying amount of the assets exceeds the fair value of the asset. Through December 31, 2019 we have not written down any of our long-lived assets as a result of impairment.

Business Combinations

We have accounted for all of our acquisitions using the acquisition method. The Company allocates the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired, based on their estimated fair values. The excess of the fair value of purchase consideration over the values of these identifiable assets and liabilities is recorded as goodwill.

When determining the fair value of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to identifiable intangible assets. Significant assumptions used in valuing certain identifiable intangible assets include, but are not limited to, expected long-term market growth, future expected operating expenses, costs of capital, and appropriate discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and, as a result, actual results may differ from estimates.

Goodwill and Purchased Intangibles

Goodwill represents the excess of the aggregate purchase price paid over the fair value of the net tangible and identifiable intangible assets acquired. Goodwill is not amortized and is tested for impairment at least annually or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The Company has determined that it operates as one reporting unit and has selected December 1 as the date to perform its annual impairment test.

In the valuation of its goodwill, the Company must make assumptions regarding estimated future cash flows to be derived from the Company. If these estimates or their related assumptions change in the future, the Company may be required to record impairment for these assets. The first step of the impairment test involves comparing the fair value of the reporting unit to its net book value, including goodwill. If the net book value exceeds its fair value, then the Company would perform the second step of the goodwill impairment test to determine the amount of the impairment loss. The impairment loss would be calculated by comparing the implied fair value of the Company to its net book value. In calculating the implied fair value of the Company's goodwill, the fair value of the Company would be allocated to all of the other assets and liabilities based on their fair values. The excess of the fair value of the Company over the amount assigned to its other assets and liabilities represents the implied fair value of goodwill. An impairment loss would be recognized when the carrying amount of goodwill exceeds its implied fair value. There was no impairment of goodwill recorded for the years ended December 31, 2019, 2018 or 2017.

Purchased intangible assets with finite lives are carried at cost, less accumulated amortization. Amortization is computed over the estimated useful lives of the respective assets. Purchased intangible assets with indefinite lives are assessed for potential impairment annually, or when events or circumstances indicate that their carrying amounts might be impaired.

Warranties

We generally provide a one-year warranty on hardware. We do not accrue for potential warranty claims as a component of cost of product revenue as all product warranty claims are satisfied under our support and maintenance contracts.

Contract Manufacturer Liabilities

We outsource most of our manufacturing, repair, and supply chain management operations to our independent contract manufacturers and payments to such manufacturers are a significant portion of our product cost of revenue. Although we could be contractually obligated to purchase manufactured products, we generally do not own the manufactured products. Product title transfers from our independent contract manufacturers to us and to our partners upon shipment. Our independent contract manufacturers assemble our products using design specifications, quality assurance programs, and standards that we establish, and they procure components and assemble our products based on our demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analysis from our sales and product management functions as adjusted for overall market conditions. If the actual component usage and product demand are significantly lower than forecast, we may accrue for costs for contractual manufacturing commitments in excess of our forecasted demand, including costs for excess components or for carrying costs incurred by our contract manufacturers. To date, we have not accrued any significant costs associated with this exposure.

Contract Balances

Accounts Receivable

Trade accounts receivable are recorded at the billable amount where we have the unconditional right to bill, net of allowances for doubtful accounts. The allowance for doubtful accounts is based on our assessment of the

collectability of accounts. Management regularly reviews the adequacy of the allowance for doubtful accounts by considering the age of each outstanding invoice, each customer's expected ability to pay and collection history, when applicable, to determine whether a specific allowance is appropriate. Accounts receivable deemed uncollectible are charged against the allowance for doubtful accounts when identified.

Deferred Revenue (Contract Liabilities) and Contract Assets

Deferred revenue consists of amounts for which we have the unconditional right to bill, but have not been recognized as revenue because the related goods or services have not been transferred. These amounts include non-refundable customer deposits that are prepaid for future performance obligations, such as delivery of our Expertise on Demand units and pre-paid retainers. Deferred revenue that will be realized during the succeeding 12-month period is recorded as current, and the remaining deferred revenue is recorded as non-current. Our contract assets consist of assets typically resulting when revenue recognized but for which we do not have the right to bill the customer due to allocation of transaction price, and such amounts have been included in prepaid expenses and other current assets. Our contract assets were immaterial as of December 31, 2019 and December 31, 2018.

In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from our customers or to provide customers with financing. Examples include invoicing at the beginning of a subscription term with revenue recognized ratably over the contract period.

Assets Recognized from Costs to Obtain a Contract with a Customer

Deferred Commissions

Our customer acquisition costs are primarily related to sales commissions and related payroll taxes earned by our sales force and such costs are considered incremental costs to obtain a contract. Sales commissions for initial contracts are deferred and then amortized taking into consideration the pattern of transfer to which the asset relates and may include expected renewal periods where renewal commissions are not commensurate with the initial commissions period. We typically recognize the initial commissions over the longer of the customer relationship (generally estimated to be four years) or over the same period as the initial revenue arrangement to which these costs relate. Renewal commissions not commensurate with the initial commissions paid are generally amortized over the renewal period. Deferred commissions that will amortize within the succeeding twelve month period are classified as current, and included in prepaid expenses and other current assets on the Consolidated Balance Sheets. The remaining balance is classified as non-current, and included in deposits and other long-term assets. As of December 31, 2019 and December 31, 2018, the amount of deferred commissions included in prepaid expenses and other current assets was $53.0 million and $50.1 million, respectively. The amount of deferred commissions included in deposits and other long-term assets as of December 31, 2019 and December 31, 2018 was $49.8 million and $50.5 million, respectively.

Deferred Costs of Revenue

Deferred costs of revenue consists of appliance related direct and incremental costs that are capitalized and will be amortized on a systematic basis that is consistent with the pattern of transfer to which the asset relates. Deferred costs of revenue that will be realized within the succeeding twelve month period are classified as current, and included in prepaid expenses and other current assets on the Consolidated Balance Sheets. The remaining balance is classified as non-current, and included in deposits and other long-term assets. As of December 31, 2019 and December 31, 2018, the amount of deferred costs of revenue classified as current and included in prepaid expenses and other current assets was $17.2 million and $17.0 million, respectively. The amount of deferred costs of revenue classified as non-current and included in deposits and other long-term assets as of December 31, 2019 and December 31, 2018 was $21.9 million and $20.3 million, respectively.

Revenue Recognition

Revenue from Contracts with Customers

Revenue is recognized when all of the following criteria are met:

- ***Identification of the contract, or contracts, with a customer—***A contract with a customer exists when (i) we enter into an enforceable contract with a customer that defines each party's rights regarding the goods or services to be transferred and identifies the payment terms related to these goods or services, (ii) the contract has commercial substance and the parties are committed to perform, and (iii) we determine that collection of substantially all consideration to which it will be entitled in exchange for goods or services that will be transferred is probable based on the customer's intent and ability to pay the promised consideration.
- ***Identification of the performance obligations in the contract—***Performance obligations promised in a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the goods or service either on its own or together with other resources that are readily available from third parties or from us, and are distinct in the context of the contract, whereby the transfer of the goods or services is separately identifiable from other promises in the contract. To the extent a contract includes multiple promised goods or services, we apply judgment to determine whether promised goods or services are capable of being distinct and distinct in the context of the contract. If these criteria are not met the promised goods or services are accounted for as a combined performance obligation.
- ***Determination of the transaction price—***The transaction price is determined based on the consideration to which we will be entitled in exchange for transferring goods or services to the customer adjusted for estimated variable consideration, if any. We typically estimate the transaction price impact of discounts offered to the customers for early payments on receivables or rebates based on channel partner sales achievements. Constraints are applied when estimating variable considerations based on historical experience where applicable.
- ***Allocation of the transaction price to the performance obligations in the contract—***If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative SSP basis. Determination of SSP requires judgment. We determine standalone selling price taking into account available information such as historical selling prices of the performance obligation, geographic location, overall strategic pricing objective, market conditions and internally approved pricing guidelines related to the performance obligations.
- ***Recognition of revenue when, or as, we satisfy performance obligation—***We satisfy performance obligations either over time or at a point in time as discussed in further detail below. Revenue is recognized at or over the time the related performance obligation is satisfied by transferring a promised good or service to a customer.

Nature of Products and Services

We generate revenue from the sales of physical and virtual security appliances (products), subscriptions, support and maintenance and professional services, primarily through our indirect relationships with our partners or direct relationships with end customers through our direct sales force. We account for our performance obligations in accordance with ASC 606, and all related interpretations.

Our security appliance deliverables include proprietary operating system software, which together with regular security intelligence updates and support and maintenance, deliver the essential functionality of our appliance-based security products. We combine appliances and software licenses with the related intelligence

subscription and support as a single performance obligation. As a result, we recognize revenue for this single performance obligation ratably over the contractual term. Contracts containing this single performance obligation typically contain a material right of renewal option. For contracts that contain a material right of renewal option, the allocated value of the performance obligation is recognized ratably over the period between the end of the initial contractual term and the end of the estimated useful life of the related appliance and license.

Revenue from subscriptions to our cloud-based solutions, which allow customers to use our hosted security software over a contracted period without taking possession of the software and managed services where we provide managed detection and response services for customers, are recognized over the contractual term. A small portion of our revenue is from appliances and software that are not dependent on regular threat intelligence updates. Revenue from these appliances and software is therefore recognized when ownership is transferred to our customers, typically upon shipment.

Professional services, which include incident response, security assessments, and other strategic security consulting services are offered on a time-and-materials basis or through fixed fee arrangements, and we recognize the associated revenue as the services are delivered.

Advertising Costs

Advertising costs, which are expensed and included in sales and marketing expense when incurred, were $3.2 million, $3.4 million and $2.6 million during the years ended December 31, 2019, 2018 and 2017, respectively.

Software Development Costs

The costs to develop internal-use software are subject to capitalization and begin amortizing once the software is substantially ready for use. These costs are included in property and equipment and are generally amortized over 3 years. All other software development costs are expensed as incurred and included in research and development expense on the Consolidated Statements of Operations.

Stock-Based Compensation

Compensation expense related to stock-based transactions, including employee and non-employee director awards and our 2013 Employee Stock Purchase Plan (the "ESPP"), is measured and recognized in the financial statements based on fair value. The fair value of each option award is estimated on the grant date using the Black-Scholes option-pricing model and a single option award approach. This model requires that at the date of grant we determine the fair value of the underlying common stock, the expected term of the award, the expected volatility of the price of our common stock, risk-free interest rates, and expected dividend yield of our common stock. The fair value of restricted stock awards and restricted stock units is based on the closing market price of our common stock on the date of grant. The stock-based compensation expense is recognized using a straight-line basis over the requisite service period of the entire awards, which is generally four years. Performance-based awards are subject to performance conditions. We recognize compensation expense over the requisite service period of each vesting tranche, when it becomes probable that the performance criteria set by our Board of Directors will be achieved.

Beginning January 1, 2016 with the adoption of ASU 2016-09, we elected to recognize forfeitures as they occur, and no longer estimate a forfeiture rate when calculating the stock-based compensation for our equity awards.

We account for stock options issued to non-employees based on the fair value of the awards determined using the Black-Scholes option-pricing model. The fair value of stock options granted to non-employees is remeasured as the stock options vest, and the resulting change in value, if any, is recognized in the statement of operations during the period the related services are rendered.

Income Taxes

We account for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. In addition, deferred tax assets are recorded to reflect the future benefit of utilizing net operating losses and research and development credit carry forwards. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount expected to be realized. We recognize taxes on Global Intangible Low-Taxed Income ("GILTI") as a current period expense when incurred.

We apply the authoritative accounting guidance prescribing a threshold and measurement attribute for the financial recognition and measurement of a tax position taken or expected to be taken in a tax return. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation settlement. The second step is to estimate and measure the tax benefit as the largest amount that is more than 50% likely to be realized upon ultimate settlement. We recognize interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying consolidated statements of operations. Accrued interest and penalties are included within other long-term liabilities in the consolidated balance sheets.

Net Loss Per Share

We calculate our basic and diluted net loss per share in conformity with the two-class method required for companies with participating securities. Under the two-class method, in periods when we have net income, net income is determined by allocating undistributed earnings, calculated as net income less current period convertible preferred stock non-cumulative dividends, between common stock and the convertible preferred stock. In computing diluted net income, undistributed earnings are re-allocated to reflect the potential impact of dilutive securities. Our basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period. The diluted net loss per share is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period. For purposes of this calculation, options to purchase common stock are considered common stock equivalents, but have been excluded from the calculation of diluted net loss per share as their effect is anti-dilutive.

Convertible Senior Notes

We allocated the principal amount of the Convertible Senior Notes between its liability and equity components. The carrying amount of the liability component was determined by measuring the fair value of a similar debt instrument of similar credit quality and maturity that did not have the conversion feature. The carrying amount of the equity component, representing the embedded conversion option, was determined by deducting the fair value of the liability component from the principal amount of the Convertible Senior Notes as a whole. The equity component is included in additional paid-in-capital in consolidated balance sheets and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Convertible Senior Notes over the carrying amount of the liability component was recorded as a debt discount, and is being amortized to interest expense using the effective interest method through the first date holders have the right to require us to repurchase all or any portion of their Convertible Senior Notes; the first put date (see Note 9). We allocate the total amount of transaction costs incurred to the liability and equity components using the same proportions as the proceeds from the Convertible Senior Notes. Transaction costs attributable to the liability component were recorded as a direct deduction from the liability component of the Convertible Senior Notes, and are being amortized to interest expense using the effective interest method through the first put date. Transaction costs attributable to the equity component were netted with the equity component of the Convertible Senior Notes in additional paid-in capital.

Recently Adopted Accounting Pronouncements

Leases

In February 2016, the FASB issued ASU No. 2016-02, Leases (ASC 842). This standard is intended to increase transparency and comparability among organizations by recognizing right-of-use ("ROU") assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This standard provides for a modified retrospective transition approach to recognize and measure leases at the beginning of the earliest period presented. In July 2018, the FASB issued ASU 2018-11, *Leases (ASC 842): Targeted Improvements*. The update provides an optional transition method that allows entities to apply the standard prospectively, versus recasting the prior periods presented. We adopted the standard effective January 1, 2019, using a modified retrospective transition method and not restating comparative periods. As a result, the consolidated balance sheet as of December 31, 2018 was not restated, continues to be reported under ASC 840, which did not require recognition of operating lease assets and liabilities on the balance sheet, and is not comparative. We have also elected the practical expedients to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs for our leases which existed and expired prior to January 1, 2019. The standard had a material impact on our consolidated balance sheets, but did not have an impact on our consolidated statement of operations. The most significant impact was the recognition of ROU assets and lease liabilities for operating leases. We recognized ROU assets and lease liabilities of $60.7 million and $88.4 million, respectively, on our consolidated balance sheets on January 1, 2019, which included reclassifying lease incentives and deferred rent as a component of the ROU assets. See Summary of Significant Accounting Policies - Leases and Note 8 Leases for further details.

Recent Accounting Pronouncements

Simplifying the Test for Goodwill Impairment

In January 2017, the FASB issued ASU 2017-04, Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment. This standard eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge (i.e. Step 2 of the current guidance), instead measuring the impairment charge as the excess of the reporting unit's carrying amount over its fair value (i.e. Step 1 of the current guidance). The guidance is effective for the Company beginning in the first quarter of 2020, and should be applied prospectively. Early adoption is permitted for impairment testing dates after January 1, 2017. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. This standard changes the impairment model for most financial assets and certain other instruments by introducing a current expected credit loss ("CECL") model. The CECL model is a more forward-looking approach based on expected losses rather than incurred losses, requiring entities to estimate and record losses expected over the remaining contractual life of an asset. The guidance is effective for the Company beginning in the first quarter of 2020. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract

In August 2018, the FASB issued ASU 2018-15, Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. This standard requires capitalization of the implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation

costs incurred to develop or obtain internal-use software. Further, the standard also requires the Company to expense the capitalized implementation costs of a hosting arrangement over the term of the hosting arrangement. This standard is effective for the Company beginning in the first quarter of 2020. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

Simplifying the Accounting for Income Taxes

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. This standard simplifies the accounting for income taxes by eliminating certain exceptions to the guidance in Topic 740 related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The new guidance also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill and allocating consolidated income taxes to separate financial statements of entities not subject to income tax. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, with early adoption permitted. Upon adoption, the Company must apply certain aspects of this standard retrospectively for all periods presented while other aspects are applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. The Company is currently evaluating the impact of this new standard on its consolidated financial statements.

2. Fair Value Measurements

The accounting guidance for fair value measurements provides a framework for measuring fair value on either a recurring or nonrecurring basis, whereby the inputs used in our valuation techniques are assigned a hierarchical level. The following are the three levels of inputs to measure fair value:

- *Level 1:* Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.
- *Level 2:* Inputs that reflect quoted prices for identical assets or liabilities in less active markets; quoted prices for similar assets or liabilities in active markets; benchmark yields, reported trades, broker/dealer quotes, inputs other than quoted prices that are observable for the assets or liabilities; or inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- *Level 3:* Unobservable inputs that reflect our own assumptions incorporated in valuation techniques used to measure fair value. These assumptions are required to be consistent with market participant assumptions that are reasonably available.

We consider an active market to be one in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis, and consider an inactive market to be one in which there are infrequent or few transactions for the asset or liability, the prices are not current, or price quotations vary substantially either over time or among market makers. Where appropriate, our own or the counterparty's non-performance risk is considered in measuring the fair values of assets.

The following table presents our assets and liabilities measured at fair value on a recurring basis using the above input categories (in thousands):

	As of December 31, 2019				As of December 31, 2018			
Description	**Level 1**	**Level 2**	**Level 3**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets								
Cash equivalents:								
Money market funds	$24,246	$ —	$—	$ 24,246	$25,748	$ —	$—	$ 25,748
U.S. Treasuries	—	—	—	—	—	—	—	—
Total cash equivalents	$24,246	$ —	$—	$ 24,246	$25,748	$ —	$—	$ 25,748
Short-term investments:								
Certificates of deposit	—	5,145	—	5,145	—	—	—	—
Commercial paper	—	—	—	—	—	—	—	—
Corporate notes and bonds	—	472,908	—	472,908	—	448,323	—	448,323
U.S. Treasuries	—	48,069	—	48,069	—	112,700	—	112,700
U.S. Government agencies	—	178,833	—	178,833	—	145,668	—	145,668
Total short-term investments	$ —	$704,955	$—	$704,955	$ —	$706,691	$—	$706,691
Total assets measured at fair value	$24,246	$704,955	$—	$729,201	$25,748	$706,691	$—	$732,439

Additionally, we have a restructuring liability related to certain real estate facilities which was calculated based on the present value of future lease payments, less estimated sublease income, discounted at a rate commensurate with our current cost of financing. This non-recurring fair value measurement is considered to be a Level 3 measurement due to the use of significant unobservable inputs. To the extent that actual sublease income or the timing of subleasing these facilities is different than initial estimates, we will adjust the restructuring liability in the period during which such information becomes known. See Note 6 Restructuring Charges for a reconciliation of this liability.

We measure certain assets, including goodwill, intangible assets and our equity-method investment in a private company at fair value on a nonrecurring basis when there are identifiable events or changes in circumstances that may have a significant adverse impact on the fair value of these assets. No such events or changes occurred during the year ended December 31, 2019.

The estimated fair value of the Convertible Senior Notes as of December 31, 2019 was determined to be $1.1 billion, based on quoted market prices. We consider the fair value of the Convertible Senior Notes to be a Level 2 measurement as they are not actively traded.

3. Investments

Our investments consisted of the following (in thousands):

	As of December 31, 2019					
	Amortized Cost	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Estimated Fair Value**	**Cash and Cash Equivalents**	**Short-Term Investments**
Certificates of deposit	$ 5,118	$ 27	$ —	$ 5,145	$—	$ 5,145
Corporate notes and bonds	471,172	$1,950	(214)	472,908	—	472,908
U.S. Treasuries	48,086	2	(19)	48,069	—	48,069
U.S. Government agencies	178,891	52	(110)	178,833	—	178,833
Total	$703,267	$2,031	$(343)	$704,955	$—	$704,955

	As of December 31, 2018					
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cash and Cash Equivalents	Short-Term Investments
Corporate notes and bonds	$450,097	$ 44	$(1,818)	$448,323	$—	$448,323
U.S. Treasuries	112,783	2	(85)	112,700	—	112,700
U.S. Government agencies	146,110	—	(442)	145,668	—	145,668
Total	$708,990	$ 46	$(2,345)	$706,691	$—	$706,691

The following tables present the gross unrealized losses and related fair values of our investments that have been in a continuous unrealized loss position (in thousands):

	As of December 31, 2019					
	Less Than 12 Months		Greater Than 12 Months		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Certificates of deposit	$ 244	$ —	$ —	$—	$ 244	$ —
Corporate notes and bonds	117,271	(205)	24,514	(9)	141,785	(214)
U.S. Treasuries	5,041	(2)	33,996	(17)	39,037	(19)
U.S. Government agencies	91,221	(103)	25,997	(7)	117,218	(110)
Total	$213,777	$(310)	$84,507	$ (33)	$298,284	$(343)

	As of December 31, 2018					
	Less Than 12 Months		Greater Than 12 Months		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Certificates of deposit	$ —	$ —	$ —	$—	$ —	$ —
Corporate notes and bonds	420,548	(1,817)	1,526	(2)	422,074	(1,819)
U.S. Treasuries	105,525	(85)	—	—	105,525	(85)
U.S. Government agencies	137,416	(441)	—	—	137,416	(441)
Total	$663,489	$(2,343)	$1,526	$ (2)	$665,015	$(2,345)

Unrealized losses related to these investments are due to interest rate fluctuations as opposed to credit quality. In addition, we do not intend to sell, and it is not more likely than not that we would be required to sell, these investments before recovery of their cost basis. As a result, there is no other-than-temporary impairment for these investments as of December 31, 2019 and 2018.

The following table summarizes the contractual maturities of our investments at December 31, 2019 (in thousands):

	Amortized Cost	Fair Value
Due within one year	$265,128	$265,483
Due within one to three years	438,139	439,472
Total	$703,267	$704,955

All available-for-sale securities have been classified as current, based on management's intent and ability to use the funds in current operations.

As of December 31, 2019, we held a 10.0% ownership interest in a privately held company which is accounted for under the equity method based on our ability to exercise significant influence over the company's operating and financial policies. Our investments in this company are classified within deposits and other long-term assets on our consolidated balance sheets. The carrying value of our investments was zero and $0.5 million as of December 31, 2019 and 2018, respectively.

4. Property and Equipment

Property and equipment, net consisted of the following (in thousands):

	As of December 31,	
	2019	2018
Computer equipment and software	$ 203,242	$ 171,078
Leasehold improvements	64,180	62,832
Furniture and fixtures	15,496	13,835
Machinery and equipment	465	447
Total property and equipment	$ 283,383	$ 248,192
Less: accumulated depreciation	(189,571)	(159,029)
Total property and equipment, net	$ 93,812	$ 89,163

During the years ended December 31, 2019, 2018 and 2017 we capitalized $22.5 million, $22.5 million and $14.2 million, respectively, of software development costs related to our cloud subscription offerings. Amortization expense related to capitalized software development costs during the years ended December 31, 2019, 2018 and 2017 was $16.7 million, $10.2 million and $5.6 million, respectively.

Depreciation and amortization expense related to property and equipment and demonstration units during the years ended December 31, 2019, 2018 and 2017 was $38.2 million, $36.7 million and $41.8 million, respectively.

5. Business Combinations

Acquisition of The Email Laundry

On October 20, 2017, we acquired all of the outstanding shares of The Email Laundry, a privately held email security company, which is expected to enhance our current email offerings. In connection with this acquisition, we paid cash consideration of $4.3 million and issued 259,425 shares of our common stock with an estimated fair value of $4.4 million, resulting in total purchase consideration of $8.7 million. The purchase price is subject to customary working capital and related adjustments. The purchase price was allocated to intangible assets of $2.7 million, goodwill of $6.4 million and tangible net liabilities of $0.3 million. The intangible assets are composed of technology and customer relationships, each with an estimated weighted average useful life of 3 years. The goodwill is primarily attributable to the know-how of the workforce and is not expected to be deductible for U.S. federal income tax purposes. The results of operations of The Email Laundry have been included in our consolidated statements of operations from the acquisition date. Pro forma financial information has not been presented for this acquisition as the impact to our consolidated financial statements was not material.

Acquisition of X15

On January 11, 2018, we acquired all outstanding shares of privately held X15, a data management company. We expect that the X15 technology will be incorporated into our platform and analytics capabilities going forward. In connection with this acquisition, we paid cash consideration of $5.3 million and issued

1,016,334 shares of our common stock with an estimated fair value of $15.4 million, resulting in total purchase consideration of $20.7 million. The purchase price was allocated to intangible assets of $6.1 million, goodwill of $15.1 million and net tangible liabilities of $0.5 million. The intangible asset relates to developed technology with an estimated weighted average useful life of 3 years. The goodwill is primarily attributable to the know-how of the workforce and is not expected to be deductible for U.S. federal income tax purposes. The results of operations of X15 have been included in our consolidated statements of operations from the acquisition date. Pro forma financial information has not been presented for this acquisition as the impact to our consolidated financial statements was not material.

Acquisition of Verodin

On May 28, 2019, we acquired all outstanding shares of privately held Verodin, a security instrumentation platform company. We expect that the Verodin technology will be integrated with our platform and analytics capabilities, as well as some of our professional services offerings, going forward. In connection with this acquisition, we paid cash consideration of $143.7 million and issued 8,404,609 shares of our common stock with an estimated fair value of $119.7 million. We also assumed unvested stock options, which are now exercisable for our common stock, of which $1.5 million of the fair value has been accounted for as consideration for assumed awards pertaining to pre-combination service prior to acquisition. Based on the above, total purchase consideration for Verodin was $264.9 million.

The acquisition of Verodin was accounted for in accordance with the acquisition method of accounting for business combinations with FireEye as the accounting acquirer. We expensed the related acquisition costs of $0.6 million in general and administrative expenses. Under the acquisition method of accounting, the total purchase consideration is allocated to the tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values. The total purchase price of $264.9 million was allocated using information currently available to us. As a result, we may continue to adjust the preliminary purchase price allocation after obtaining more information regarding asset valuations, liabilities assumed, and revisions of preliminary estimates. Pro forma financial information has not been presented for this acquisition as the impact to our consolidated financial statements was not material. Allocation of the preliminary purchase price is as follows (in thousands):

	Amount
Net tangible assets assumed	$ 15,036
Intangible assets	45,200
Deferred tax liability	(886)
Goodwill	205,532
Total preliminary purchase price allocation	$264,882

The preliminary purchase price exceeded the fair value of the net tangible assets and identifiable intangible assets acquired, resulting in the recognition of goodwill. Goodwill is primarily attributable to expected synergies in our subscription offerings and cross-selling opportunities. None of the goodwill is expected to be deductible for U.S. federal income tax purposes.

Intangible assets consist primarily of developed technology, customer relationships, trade name and contract backlog. Intangible assets attributable to developed technology include a combination of patented and unpatented technology, trade secrets, computer software and research processes that represent the foundation for the existing and planned new products to facilitate the generation of new content. Customer relationship intangibles relate to Verodin's ability to sell current and future content, as well as products built around this content, to its existing customers. Trade name is attributable to marketing goods and services under the Verodin brand. Contract backlog pertains to unbilled and unrecognized contracts yet to be fulfilled.

The estimated useful life and fair values of the identifiable intangible assets are as follows (dollars in thousands):

	Preliminary Estimated Useful Life (in years)	Amount
Developed technology	5	$38,300
Customer relationships	5	4,600
Trade name	5	1,600
Contract backlog	2	700
Total identifiable intangible assets		$45,200

The value of developed technology was estimated using the excess earnings method, an income approach (Level 3), which converts projected revenues and costs into cash flows. To reflect the fact that certain other assets contribute to the cash flows generated, the returns for these contributory assets were removed to arrive at estimated cash flows solely attributable to the acquired technology, which were discounted at a rate of 12% to determine the fair value.

The value of customer relationships was estimated using the cost savings method, an income level approach (Level 3), which estimates the value of an asset based upon costs avoided through ownership of the asset. Estimated costs on projected revenues, excluding acquired contract backlog, were made using historical data pertaining to sales to new and existing customers. The cash flow impact of projected cost savings, primarily avoidance of legal costs pertaining to new customers and lower commission rates applicable to existing customers than new customers, were discounted at a rate of 11% to determine the fair value.

The value of the trade name was estimated using the relief-from-royalty method, an income approach (Level 3), which estimates the cost savings that accrue to the owner of the intangibles asset that would otherwise be payable as royalties or license fees on revenues earned through the use of the asset. A royalty rate was applied to the projected revenues associated with the intangible asset to determine the amount of savings, which was at a rate of 12% to determine the fair value.

The value of the contract backlog was estimated by discounting estimated cash flows from existing orders, an income level approach (Level 3). Using expected timing of backlog revenue realization by quarter, the cash flow estimates resulting therefrom were reduced by estimated fulfillment costs associated with completing the backlog obligations, and the net cash flows were then discounted at a rate of 8% to determine fair value.

Discount rates for each respective intangible asset were determined by accounting for the risk associated with each asset, including required technology development and customer acquisition required to support respective projections, the uncertainty of market success and the risk inherent with projected financial results. The estimated useful lives were determined by evaluating the expected economic and useful lives of the assets and of similar intangible assets from previous business combinations and adjusting accordingly after taking into account circumstances that may be unique to Verodin.

Acquisition of Cloudvisory LLC

On January 17, 2020, we acquired Cloudvisory LLC, a provider of cloud visibility and control solutions. As consideration for the acquisition, we paid approximately $13.5 million in cash. We are currently in the process of completing the preliminary purchase price allocation, which will be included in our Quarterly Report on Form 10-Q for the quarter ending March 31, 2020.

Goodwill and Purchased Intangible Assets

Changes in the carrying amount of goodwill for the years ended December 31, 2019 and 2018 were as follows (in thousands):

	Amount
Balance as of December 31, 2017	$ 984,661
Goodwill acquired	15,143
Balance as of December 31, 2018	$ 999,804
Goodwill acquired	205,488
Balance as of December 31, 2019	$1,205,292

Purchased intangible assets consisted of the following (in thousands):

	As of December 31,	
	2019	2018
Developed technology	$ 148,303	$ 110,003
Content	158,700	158,700
Customer relationships	115,690	111,090
Contract backlog	13,200	12,500
Trade names	17,160	15,560
Non-competition agreements	1,400	1,400
Total intangible assets	$ 454,453	409,253
Less: accumulated amortization	(320,033)	(266,091)
Total net intangible assets	$ 134,420	$ 143,162

Amortization expense of intangible assets during the years ended December 31, 2019, 2018 and 2017 was $53.9 million, $50.3 million and $59.3 million, respectively.

The expected future annual amortization expense of intangible assets as of December 31, 2019 is presented below (in thousands):

Years Ending December 31,	Amount
2020	$ 43,154
2021	38,379
2022	27,109
2023	22,005
2024	3,692
2025 and thereafter	81
Total	$134,420

6. Restructuring Charges

In January 2019, we implemented a restructuring plan designed primarily to align our resources with the strategic growth initiatives of the business. This restructuring plan resulted in a reduction of less than 2% of our total workforce as of March 31, 2019, as well as exiting and downsizing of certain real estate facilities. In August 2019, we implemented an additional restructuring plan to further align our resources with the strategic growth initiatives of the business, which related primarily to employee severance charges and other termination benefits as well as costs associated with exiting certain real estate facilities.

The following table sets forth the restructuring balance as of December 31, 2017 related to previous restructuring activities, which was completed during the year ended December 31, 2019, and a summary of restructuring activities during the years ended December 31, 2019 and 2018 (in thousands):

	Severance and related costs	Facilities costs	Total costs
Balance at December 31, 2017	$ —	$ 935	$ 935
Provision for restructuring charges	—	—	—
Cash payments	—	(175)	(175)
Other adjustments	—	390	390
Balance at December 31, 2018	$ —	$ 1,150	$ 1,150
Provision for restructuring charges	7,586	731	8,317
Cash payments	(7,636)	(271)	(7,907)
Other adjustments	214	(1,140)	(926)
Balance at December 31, 2019	$ 164	$ 470	$ 634

Other adjustments of negative $0.9 million and $0.4 million for the year ended December 31, 2019 and 2018 respectively, primarily represented relief of unused benefits, changes in fair value and foreign currency fluctuations.

The remaining restructuring balance of $0.6 million at December 31, 2019 is composed of non-cancelable lease costs, which we expect to pay over the terms of the related obligations through the fourth quarter of 2024, net of sublease income.

7. Deferred Commissions

We capitalize most of our commission expenses and related payroll taxes and amortize them on a systematic basis that is consistent with the transfer to the customer of the goods or services to which the asset relates. Changes in the balance of total deferred commissions for the periods presented are as follows (in thousands):

	Deferred Commissions
Balance at December 31, 2017	$ 86,779
Commissions capitalized	77,319
Commissions recognized	(63,441)
Balance at December 31, 2018	100,657
Commissions capitalized	76,763
Commissions recognized	(74,621)
Balance at December 31, 2019	$102,799

8. Leases

We have operating leases primarily for corporate offices. Our leases have remaining lease terms of one to ten years, some of which include options to extend the leases for up to five years, and some of which include options to terminate the leases within one year. We do not include renewal options in our lease terms for calculating our lease liability, as the renewal options allow us to maintain operational flexibility and we are not reasonably certain we will exercise these renewal options at the time of the lease commencement.

The components of lease expenses were as follows (in thousands):

	Year Ended December 31, 2019
Operating lease costs	$17,270
Short-term lease costs	2,698
Sublease income	(1,092)
Total net lease costs	$18,876

Supplemental balance sheet information related to leases is as follows (in thousands, except lease term and discount rate):

	As of December 31, 2019
Operating leases:	
Operating lease right-of-use assets, net	$58,758
Operating lease liabilities, current	$18,437
Operating lease liabilities, non-current	70,481
Total operating lease liabilities	$88,918
Weighted average remaining lease term (in years)	7.0
Weighted average discount rate	6.8%

The ROU assets and the short-term and long-term lease liabilities from our operating leases are included in other assets, accrued liabilities and other liabilities in our consolidated balance sheets, respectively.

Supplemental cash flow and other information related to leases is as follows (in thousands):

	Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$15,892
Lease liabilities arising from obtaining right-of-use assets:	
Operating leases	$ 7,769

Undiscounted cash flows of operating lease liabilities are as follows (in thousands):

Years Ending December 31,	Amount
2020	$ 19,051
2021	17,851
2022	14,745
2023	12,846
2024	11,402
2025 and thereafter	37,858
Total lease payments	$113,753
Less: Imputed interest	(24,835)
Total lease obligation	$ 88,918
Less: Current lease obligations	(18,437)
Long-term lease obligations	$ 70,481

As of December 31, 2019, we have an additional operating lease commitment of $0.5 million for an office lease that has not yet commenced. The operating lease commitment will commence in the first quarter of 2020 with a lease term of 3.3 years.

As previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2018 and under the previous lease accounting standard ASC 840, the aggregate future non-cancelable minimum rental payments on our operating leases, as of December 31, 2018, are as follows (in thousands):

Years Ending December 31,	Amount
2019	$ 15,530
2020	16,325
2021	14,976
2022	12,766
2023	11,926
2024 and thereafter	47,409
Total	$118,932

9. Deferred Revenue

Deferred revenue as of December 31, 2019 and 2018 consisted of the following (in thousands):

	As of December 31, 2019	As of December 31, 2018
Product, subscription and support, current	$508,580	$492,109
Professional services, current	95,364	64,706
Total deferred revenue, current	$603,944	$556,815
Product, subscription and support, non-current	369,589	375,915
Professional services, non-current	1,034	2,098
Total deferred revenue, non-current	$370,623	$378,013
Total deferred revenue	$974,567	$934,828

Changes in the balance of deferred revenue for the periods presented are as follows (in thousands):

	Deferred Revenue
Balance at December 31, 2017	$ 910,100
Billings for the period	855,678
Revenue recognized	(830,950)
Balance at December 31, 2018	$ 934,828
Billings for the period	926,141
Revenue recognized	(889,152)
Assumed in connection with acquisitions	2,750
Balance at December 31, 2019	$ 974,567

Remaining Performance Obligations

Transaction price allocated to remaining performance obligations represents contracted revenue that has not yet been recognized, which includes deferred revenue and non-cancelable contracts that will be invoiced and recognized as revenue in future periods ("backlog"). While deferred revenue is recorded on our balance sheet as a liability, backlog is not recorded in revenue, deferred revenue or elsewhere in our consolidated financial statements until we establish a contractual right to invoice, at which point it is recorded as revenue or deferred revenue as appropriate. As of December 31, 2019, the aggregate amount of the transaction price allocated to remaining performance obligations was $974.6 million in deferred revenue and $15.1 million in backlog. As of December 31, 2018, the aggregate amount of the transaction price allocated to remaining performance obligations was $934.8 million in deferred revenue and $26.9 million in backlog.

We expect that the amount of backlog relative to the total value of our contracts will change from year to year due to several factors, including the amount invoiced early in the contract term, the timing and duration of customer agreements, varying invoicing cycles of agreements and changes in customer financial circumstances. Accordingly, we believe that fluctuations in backlog are not always a reliable indicator of future revenues and we do not utilize backlog internally as a key management metric.

We expect to recognize these remaining performance obligations as follows (in percentages):

	Total	Less than 1 year	1-2 years	2-3 years	More than 3 years
Deferred revenue	100%	62%	24%	11%	3%
Backlog	100%	42%	41%	16%	1%

10. Convertible Senior Notes

Convertible Senior Notes due 2024

On May 24, 2018, we issued $525.0 million aggregate principal amount of the 2024 Notes in a private placement to qualified institutional purchasers pursuant to an exemption from registration provided by Section 4(a)(2) and Rule 144A under the Securities Act. In addition, on June 5, 2018, we issued an additional $75.0 million aggregate principal amount of the 2024 Notes pursuant to the full exercise of the initial purchasers' option to purchase additional 2024 Notes, in a private placement exempt from the registration requirements of the Securities Act. The net proceeds from the offerings, after deducting the initial purchasers' discount of approximately $15.0 million and the issuance costs of approximately $0.6 million, were $584.4 million. We used (i) approximately $330.4 million of the net proceeds to repurchase approximately $340.2 million in aggregate principal amount outstanding of the Series A Notes in negotiated transactions with institutional investors and (ii) approximately $65.2 million of the net proceeds from the offering of the 2024 Notes to enter into the Capped Calls (as defined below).

The 2024 Notes are unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the 2024 Notes. They rank equally in right of payment with all of our existing and future liabilities that are not expressly subordinated to the 2024 Notes including the Series A Notes and the Series B Notes (as defined below); and effectively rank junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness. The 2024 Notes are structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The 2024 Notes do not contain any financial covenants and do not restrict us from paying dividends or issuing or repurchasing other securities.

The 2024 Notes bear interest at 0.875% per year, payable semiannually in arrears on June 1 and December 1 of each year, beginning December 1, 2018. The 2024 Notes mature on June 1, 2024, unless earlier repurchased, redeemed or converted.

The initial conversion rate of the 2024 Notes is 43.1667 shares of our common stock per $1,000 of principal amount of the 2024 Notes, which is equivalent to an initial conversion price of approximately $23.17 per share of common stock. The conversion rate of the 2024 Notes may be adjusted pursuant to the terms of the indenture governing the 2024 Notes upon the occurrence of certain specified events, but not for accrued and unpaid interest.

Holders may convert the 2024 Notes at their option in multiples of $1,000 principal amount prior to the business day preceding March 1, 2024, only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ended on September 30, 2018 (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price of the 2024 Notes on each applicable trading day;
- during the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price per $1,000 principal amount of the 2024 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate for the notes on each such trading day;
- if we call any or all of the 2024 Notes for redemption, at any time prior to the close of business on the scheduled trading day immediately preceding the relevant redemption date; or
- upon the occurrence of specified corporate events, as specified in each indenture governing the 2024 Notes.

Regardless of the foregoing conditions, holders may convert their 2024 Notes at their option in multiples of $1,000 principal amount during the period from, and including, March 1, 2024 to the close of business on the second scheduled trading day immediately preceding the maturity date. Upon conversion, the 2024 Notes can be settled in cash, shares of our common stock or any combination of cash and shares of common stock at our option.

Holders may also require us to repurchase the 2024 Notes if we undergo a "fundamental change," as defined in each indenture governing the 2024 Notes, at a repurchase price equal to 100% of the principal amount, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

Additionally, we may redeem for cash all or any portion of the 2024 Notes on or after June 5, 2021, if the last reported sale price of our common stock has been at least 130% of the conversion price of the 2024 Notes then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the notes to be redeemed, plus any accrued and unpaid interest to, but excluding, the redemption date.

As of December 31, 2019, none of the conditions permitting holders to convert their 2024 Notes had been satisfied and no shares of our common stock had been issued in connection with any conversions of the 2024 Notes. Based on the closing price of our common stock of $16.53 per share on December 31, 2019, the conversion value of the 2024 Notes was less than the principal amount of the 2024 Notes outstanding on a per 2024 Note basis.

In accordance with accounting for debt with conversions and other options, we bifurcated the principal amount of the 2024 Notes into liability and equity components. The initial liability component of the 2024 Notes was valued at $458.3 million based on the contractual cash flows discounted at an appropriate comparable market non-convertible debt borrowing rate at the date of issuance of 5.5% with the equity component representing the residual amount of the proceeds of $141.7 million, which was recorded as a debt discount. Issuance costs were allocated pro rata based on the relative initial carrying amounts of the liability and equity components. As a result, transaction costs of $0.5 million and $0.1 million and initial purchasers' discount of $11.5 million and $3.5 million were attributable to the liability component and equity component of the 2024 Notes, respectively.

The debt discount and the issuance costs allocated to the liability component are amortized as additional interest expense over the term of the 2024 Notes using the effective interest method as noted in the table below.

The liability and equity components of the 2024 Notes consisted of the following (in thousands):

	As of December 31,	
	2019	2018
Liability component:		
Principal	$ 600,000	$ 600,000
Less: 2024 Notes debt discounts and issuance costs, net of amortization	(117,078)	(140,239)
Net carrying amount	$ 482,922	$ 459,761
Equity component, net of issuance costs	$ 138,064	$ 138,064

The unamortized issuance costs as of December 31, 2019 will be amortized over a weighted-average remaining period of approximately 4.4 years.

Interest expense for the years ended December 31, 2019 and 2018 related to the 2024 Notes consisted of the following (dollars in thousands):

	Year Ended December 31,	
	2019	2018
Coupon interest	$ 5,250	$ 3,145
Amortization of 2024 Notes debt discounts and issuance costs	23,161	13,420
Total interest expense recognized	$28,411	$16,565
Effective interest rate on the liability component	6.2%	5.6%

In connection with the 2024 Notes offering, the Company entered into capped call transactions (the "Capped Calls") with certain counterparties affiliated with the initial purchasers of the 2024 Notes. The Capped Calls are expected to reduce potential dilution of earnings per share upon conversion of the 2024 Notes, and have an initial strike price of $23.17 per share, which corresponds to the initial conversion price of the 2024 Notes and which have a cap price of $34.32 per share. The Capped Calls do not meet the criteria for separate accounting as a derivative as they are indexed to our own stock and are accounted for as freestanding financial instruments. The premiums paid for the purchase of the Capped Calls in the amount of $65.2 million have been recorded as a reduction of the Company's additional paid-in capital in stockholder's equity in the accompanying Consolidated Financial Statements and fair values of the Capped Calls are not re-measured at each reporting period.

Convertible Senior Notes due 2035

In June 2015, we issued $460.0 million principal amount of Series A Notes and $460.0 million principal amount of 1.625% Convertible Senior Notes due 2035 (the "Series B Notes" and together with the Series A Notes, the "2035 Notes", and the 2035 Notes, together with the 2024 Notes, the "Convertible Senior Notes"), including the full exercise of the initial purchasers' over-allotment option, in a private placement to qualified institutional purchasers pursuant to an exemption from registration provided by Section 4(a)(2) and Rule 144A under the Securities Act. The net proceeds after the initial purchasers' discount of $23.0 million and issuance costs of $0.5 million from the 2035 Notes were $896.5 million. The Series A Notes and Series B Notes bear interest at 1.000% per year and 1.625% per year, respectively, payable semiannually in arrears on June 1 and December 1 of each year, beginning December 1, 2015. The 2035 Notes mature on June 1, 2035, unless earlier repurchased, redeemed or converted.

The 2035 Notes are unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the 2035 Notes. They rank equally in right of payment with all of our existing and future liabilities that are not expressly subordinated to the 2035 Notes and effectively rank junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness. They are structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The 2035 Notes do not contain any financial covenants and do not restrict us from paying dividends or issuing or repurchasing our other securities.

The initial conversion rate on each series of 2035 Notes is 16.4572 shares of our common stock per $1,000 principal amount of 2035 Notes, which is equivalent to an initial conversion price of approximately $60.76 per share of common stock. The conversion rate of each series of 2035 Notes may be adjusted upon the occurrence of certain specified events, but not for accrued and unpaid interest.

Holders may convert the 2035 Notes at their option in multiples of $1,000 principal amount prior to March 1, 2035, excluding the period from March 1, 2020 to June 1, 2020 in the case of the Series A Notes and March 1, 2022 to June 1, 2022 in the case of the Series B Notes, only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ended on September 30, 2015 (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price for the 2035 Notes of the relevant series on each applicable trading day;
- during the five business day period after any five consecutive trading day period in which the trading price per $1,000 principal amount of Series A Notes or Series B Notes, as applicable, for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate for the notes of the relevant series on each such trading day;
- if we call any or all of the 2035 Notes of a series for redemption, at any time prior to the close of business on the scheduled trading day immediately preceding the relevant redemption date; or
- upon the occurrence of specified corporate events, as specified in each indenture governing the 2035 Notes.

Regardless of the foregoing conditions, holders may convert their 2035 Notes at their option in multiples of $1,000 principal amount at any time during the period from March 1, 2020 to June 1, 2020 in the case of the Series A Notes and during the period from March 1, 2022 to June 1, 2022 in the case of the Series B Notes, or after March 1, 2035 until maturity for either series of 2035 Notes. Upon conversion, the 2035 Notes can be settled in cash, shares of our common stock or any combination thereof at our option.

We may be required by holders of the 2035 Notes to repurchase all or any portion of their 2035 Notes at 100% of the principal amount plus accrued and unpaid interest, on each of June 1, 2020, June 1, 2025 and June 1, 2030, in the case of the Series A Notes, and each of June 1, 2022, June 1, 2025 and June 1, 2030 in the case of the Series B Notes. Holders may also require us to repurchase the 2035 Notes if we undergo a "fundamental change," as defined in each indenture governing the 2035 Notes, at a purchase price equal to 100% of the principal amount, plus accrued and unpaid interest.

Additionally, we may redeem for cash all or any portion of the Series B Notes on or after June 1, 2020 until June 1, 2022 if the last reported sale price of our common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending not more than three trading days immediately

preceding the date we provide notice of redemption. We also may redeem for cash all or any portion of the Series A Notes on or after June 1, 2020 until maturity and all or any portion of the Series B Notes on or after June 1, 2022 until maturity, regardless of the foregoing sale price condition.

In accordance with accounting for debt with conversions and other options, we allocated the principal amount of the 2035 Notes into liability and equity components. We also allocated the total amount of initial purchasers' discount and transaction costs incurred to the liability and equity components using the same proportions as the proceeds from the 2035 Notes. Transaction costs of $0.4 million and $0.1 million and initial purchasers' discount of $17.6 million and $5.4 million were attributable to the liability component and equity component of the 2035 Notes, respectively.

Repurchase of a portion of the Series A Notes

In May 2018, we used approximately $330.4 million of the net proceeds from the offering of the 2024 Notes to repurchase $340.2 million in aggregate principal amount of the Series A Notes. The repurchase was accounted for as a partial extinguishment of the Series A Notes. The consideration of approximately $330.4 million used to repurchase the Series A Notes was allocated between the liability and equity components of the amount extinguished by determining the fair value of the liability component immediately prior to the debt extinguishment and allocating that portion of the repurchase price to the liability component in the amount of $317.4 million. The residual of the repurchase price of $13.0 million was allocated to the equity component of the Series A Notes as a reduction of additional paid-in capital. The fair value of the debt extinguished was calculated using a discount rate of 4.5%, representing an estimate of the Company's borrowing rate at the date of repurchase with a remaining expected life of two years. As part of the repurchase, we wrote-off a portion of the unamortized debt issuance cost apportioned to the principal amount of Series A Notes repurchased. We also recorded a loss on partial extinguishment of the Series A Notes of $10.8 million in Other Expense, net, representing the difference between the consideration attributed to the liability component and the sum of the net carrying amount of the liability component and unamortized costs. As of December 31, 2019, $119.8 million aggregate principal amount of the Series A Notes remains outstanding.

The liability and equity components of the 2035 Notes consisted of the following (in thousands):

	As of December 31,			
	2019		2018	
	Series A Notes	Series B Notes	Series A Notes	Series B Notes
Liability component:				
Principal	$119,828	$460,000	$119,828	$460,000
Less: 2035 Notes discounts and issuance costs, net of amortization	(2,540)	(49,650)	(8,420)	(68,592)
Net carrying amount	$117,288	$410,350	$111,408	$391,408
Equity component, net of issuance costs	$ 79,555	$117,834	$ 79,555	$117,834

The unamortized discounts and issuance costs as of December 31, 2019 will be amortized over a weighted-average remaining period of approximately 2.3 years.

Interest expense for the years ended December 31, 2019, 2018 and 2017 related to the 2035 Notes consisted of the following (in thousands):

	Year Ended December 31,					
	2019		2018		2017	
	Series A Notes	Series B Notes	Series A Notes	Series B Notes	Series A Notes	Series B Notes
Coupon interest	$1,198	$ 7,454	$ 2,537	$ 7,454	$ 4,600	$ 7,475
Amortization of 2035 Notes discounts and issuance costs	5,879	18,943	11,785	18,068	20,364	17,234
Total interest expense recognized	$7,077	$26,397	$14,322	$25,522	$24,964	$24,709
Effective interest rate on the liability component	6.4%	6.7%	6.4%	6.8%	6.5%	6.9%

Prepaid Forward Stock Purchase

In connection with the issuance of the 2035 Notes, we also entered into privately negotiated prepaid forward transactions (the "Prepaid Forwards") with one of the initial purchasers of the 2035 Notes (the "Forward Counterparty"), pursuant to which we paid approximately $150.0 million. The amount of the prepaid is equivalent to approximately 3.3 million shares which are to be settled on or around June 1, 2020 and June 1, 2022, respectively, subject to any early settlement, in whole or in part, of each Prepaid Forward. The Prepaid Forwards are intended to facilitate privately negotiated derivative transactions by which investors in the 2035 Notes will be able to hedge their investment in the 2035 Notes. In the event we pay any cash dividends on our common stock, the Forward Counterparty will pay an equivalent amount back to us.

The related shares were accounted for as a repurchase of common stock, and are presented as Treasury Stock in the consolidated balance sheets. The 3.3 million shares of common stock purchased under the Prepaid Forwards are excluded from weighted-average shares outstanding for basic and diluted EPS purposes although they remain legally outstanding.

11. Commitments and Contingencies

Letters of Credit

We are party to letters of credit totaling $3.6 million and $3.8 million as of December 31, 2019 and 2018, respectively, issued primarily in support of operating leases for several of our facilities. These letters of credit are collateralized by a line with our bank. No amounts have been drawn against these letters of credit.

Contract Manufacturer Commitments

Our independent contract manufacturers procure components and assemble our products based on our forecasts. These forecasts are based on estimates of future demand for our products, which are in turn based on historical trends and an analysis from our sales and product marketing organizations, adjusted for overall market conditions. In order to reduce manufacturing lead times and plan for adequate supply, we may issue forecasts and orders for components and products that are non-cancelable. As of December 31, 2019 and 2018, we had non-cancelable open orders of $5.0 million and $8.6 million, respectively. We are required to record a liability for firm, non-cancelable and unconditional purchase commitments with contract manufacturers and suppliers for quantities in excess of our future demand forecasts. As of December 31, 2019, we have not incurred nor accrued any significant liabilities for such non-cancelable commitments.

Purchase Obligations

As of December 31, 2019, we had approximately $17.7 million of non-cancelable firm purchase commitments primarily for purchases of software and services. In situations where we have received delivery of the goods or services as of December 31, 2019 under purchase orders outstanding as of the same date, such amounts are reflected in the consolidated balance sheet as accounts payable or accrued liabilities, and are excluded from the $17.7 million.

Litigation

From time to time, we are involved in claims and legal proceedings that arise in the ordinary course of business. Any claims or proceedings against us, whether meritorious or not, could be time consuming, result in costly litigation, require significant amounts of management time, result in the diversion of significant operational resources, or require us to enter into agreements which may not be available on terms favorable to us or at all.

To the extent there is a reasonable possibility that a loss exceeding amounts already recognized may be incurred, and the amount of such additional loss would be material, we will either disclose the estimated additional loss or state that such an estimate cannot be made. We do not currently believe that it is reasonably possible that additional losses in connection with litigation arising in the ordinary course of business would be material.

Indemnification

Under the indemnification provisions of our standard sales related contracts, we agree to defend our customers against third-party claims asserting infringement of certain intellectual property rights, which may include patents, copyrights, trademarks, or trade secrets, and to pay judgments entered on such claims. Our exposure under these indemnification provisions is generally limited to the total amount paid by our customer under the agreement. However, certain agreements include indemnification provisions that could potentially expose us to losses in excess of the amount received under the agreement. In addition, we indemnify our officers, directors, and certain key employees for actions taken while they are or were serving in good faith in such capacities. Through December 31, 2019, there have been no claims under any indemnification provisions.

12. Common Shares Reserved for Issuance

Under our amended and restated certificate of incorporation, we are authorized to issue 100,000,000 shares of convertible preferred stock with a par value of $0.0001 per share, none of which were issued and outstanding as of December 31, 2019 or 2018.

Under our amended and restated certificate of incorporation, we are authorized to issue 1,000,000,000 shares of common stock with a par value of $0.0001 per share as of December 31, 2019 and 2018. Each share of common stock outstanding is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by our Board of Directors, subject to the prior rights of holders of all classes of convertible preferred stock outstanding.

We had reserved shares of common stock for issuance as follows (in thousands):

	As of December 31,	
	2019	2018
Reserved under stock award plans	37,982	35,743
Convertible senior notes	35,442	35,442
ESPP	3,428	3,015
Total	76,852	74,200

13. Equity Award Plans

We have operated under our 2013 Equity Incentive Plan ("2013 Plan") since our initial public offering ("IPO") in September 2013. Our 2013 Plan provides for the issuance of restricted stock and the granting of options, stock appreciation rights, performance shares, performance units and restricted stock units to our employees, officers, directors and consultants. Our 2013 Plan provides for annual increases in the number of shares available for issuance on the first day of each fiscal year. Awards granted under the 2013 Plan vest over the periods determined by our Board of Directors or compensation committee of our Board of Directors, generally four years, and stock options granted under the 2013 Plan expire no more than ten years after the date of grant. In the case of an incentive stock option granted to an employee who at the time of grant owns stock representing more than 10% of the total combined voting power of all classes of stock, the exercise price shall be no less than 110% of the fair value per share on the date of grant, and the award shall expire five years from the date of grant. For options granted to any other employee, the per share exercise price shall be no less than 100% of the fair value per share on the date of grant. In the case of non-statutory stock options and options granted to consultants, the per share exercise price shall be no less than 100% of the fair value per share on the date of grant. Stock that is purchased prior to vesting is subject to our right of repurchase at any time following termination of the participant's service for so long as such stock remains unvested. Approximately 11.9 million shares and 12.2 million shares of our common stock were reserved for future grants as of December 31, 2019 and 2018, respectively, under the 2013 Plan. As of January 1, 2020, an additional 10,971,095 shares of common stock became available for future grants under our 2013 Plan pursuant to provisions thereof that automatically increase the share reserve under such plan each year.

Our ESPP allows eligible employees to acquire shares of our common stock at 85% of the lower of the fair market value of our common stock on the first trading day of each offering period or on the exercise date. Our ESPP provides for annual increases in the number of shares available for issuance on the first day of each fiscal year. An aggregate of 3,427,955 shares and 3,014,685 shares of common stock were available for future issuance as of December 31, 2019 and 2018, respectively, under our ESPP. As of January 1, 2020, an additional 2,194,219 shares of common stock became available for future issuance under our ESPP pursuant to the provisions thereof that automatically increase the share reserve under such plan each year.

From time to time, we also grant restricted common stock or restricted stock awards outside of our equity incentive plans to certain employees in connection with acquisitions.

Stock Option Activity

A summary of the activity for our stock option changes during the reporting periods and a summary of information related to options outstanding and options exercisable are presented below (in thousands, except per share amounts and contractual life years):

	Options Outstanding			
	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Contractual Life (years)	Aggregate Intrinsic Value
Balance—December 31, 2016	8,085	$10.70		
Granted	—	—		
Exercised	(3,295)	5.81		$26,716
Cancelled	(357)	35.89		
Balance—December 31, 2017	4,433	$12.31		
Granted	—	—		
Exercised	(946)	7.28		9,588
Cancelled	(178)	35.78		
Balance—December 31, 2018	3,309	$12.49		
Granted	—	—		
Exercised	(731)	5.73		7,537
Cancelled	(140)	22.65		
Assumed in connection with acquisition	1,953	3.00		
Balance—December 31, 2019	4,391	$ 9.07	5.2	$45,931
Options exercisable—December 31, 2019	2,941	$11.82	3.6	$27,016

The aggregate intrinsic value above represents the pre-tax difference between the exercise price of stock options and the quoted market price of our stock on that day for all in-the-money stock options.

Restricted Stock Award (RSA) and Restricted Stock Unit (RSU) Activity

A summary of the activity for our restricted common stock, RSAs and RSUs during the reporting periods and a summary of information related to unvested restricted common stock, RSAs and RSUs and those expected to vest based on the achievement of a performance condition are presented below (in thousands, except per share amounts and contractual life years):

	Number of Shares	Weighted-Average Grant Date Fair Value (per share)	Weighted-Average Contractual Life (years)	Aggregate Intrinsic Value
Unvested balance—December 31, 2016	19,883	$22.23		
Granted	13,727	12.59		
Vested	(7,316)	21.56		
Cancelled	(6,277)	17.10		
Unvested balance—December 31, 2017	20,017	$17.09		
Granted	12,209	15.42		
Vested	(8,828)	18.11		
Cancelled	(3,117)	16.81		
Unvested balance—December 31, 2018	20,281	$15.53		
Granted	13,302	16.82		
Vested	(8,894)	16.03		
Cancelled	(2,992)	16.10		
Unvested balance—December 31, 2019	21,697	$16.07	1.2	$358,651
Unvested awards for which the requisite service period has not been rendered and vesting is subject to the achievement of a performance condition—December 31, 2019	3,952	$17.44	0.9	$ 65,328

During the years ended December 31, 2019, 2018 and 2017, we issued 1.4 million, 1.3 million and 1.8 million shares, respectively, of restricted common stock, restricted stock awards or restricted stock units to certain employees which vest upon the achievement of certain performance conditions in addition to a continued service relationship with the Company.

Stock-Based Compensation

We record stock-based compensation based on the fair value as determined on the date granted. We determine the fair value of stock options and shares of common stock to be issued under the ESPP using the Black-Scholes option-pricing model. The fair value of restricted stock units and restricted stock awards equals the market value of the underlying stock on the date of grant. We grant performance-based restricted stock units and restricted stock awards to certain employees which vest upon the achievement of certain performance conditions, subject to the employees' continued service relationship with us. With respect to performance-based restricted stock units, we assess the probability of vesting at each reporting period and adjust our compensation cost based on this probability assessment. We recognize such compensation expense on a straight-line basis over the service provider's requisite service period. We determined valuation assumptions as follows:

Fair Value of Common Stock

We use the listed stock price on the date of grant as the fair value of our common stock.

Risk-Free Interest Rate

We base the risk-free interest rate used in the Black-Scholes option-pricing model on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent expected term of the options for each option group.

Expected Term

The expected term represents the period that our stock-based awards are expected to be outstanding. We base the expected term assumption on our historical experience combined with estimates of post-vesting holding periods.

Volatility

We determine the price volatility factor based on the historical volatilities of our peer group as we do not have sufficient trading history for our common stock.

Dividend Yield

The expected dividend assumption is based on our current expectations about our anticipated dividend policy.

The following table summarizes the assumptions used in the Black-Scholes option-pricing model to determine the fair value of our common shares under the ESPP:

	Year Ended December 31,		
	2019	**2018**	**2017**
Fair value of common stock	$14.59 – $16.35	$16.69 – $20.01	$14.14 – $15.65
Risk-free interest rate	1.60% – 2.35%	2.08% – 2.70%	1.05% – 1.62%
Expected term (in years)	0.5 – 1.0	0.5 – 1.0	0.5 – 1.0
Volatility	29% – 39%	32% – 38%	29% – 52%
Dividend yield	—%	—%	—%

Stock-based compensation expense related to stock options, ESPP and restricted stock units and awards is included in the consolidated statements of operations as follows (in thousands):

	Year Ended December 31,		
	2019	**2018**	**2017**
Cost of product, subscription and support revenue	$ 14,905	$ 14,178	$ 18,249
Cost of professional services revenue	13,972	14,184	14,407
Research and development	45,476	49,503	56,720
Sales and marketing	49,198	47,592	46,766
General and administrative	29,966	28,218	30,194
Restructuring	—	—	—
Total	$153,517	$153,675	$166,336

As of December 31, 2019, total compensation cost related to stock-based awards not yet recognized was $271.3 million, which is expected to be amortized on a straight-line basis over the weighted-average remaining vesting period of approximately 2.6 years.

14. Income Taxes

Loss before income taxes consisted of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
United States	$(141,740)	$(119,886)	$(110,011)
Foreign	(109,979)	(117,713)	(170,541)
Total	$(251,719)	$(237,599)	$(280,552)

The provision for (benefit from) income taxes consisted of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Federal:			
Current	$ —	$ —	$ —
Deferred	(1,113)	(429)	(310)
State:			
Current	251	109	2
Deferred	(190)	(194)	—
Foreign:			
Current	6,378	6,502	5,917
Deferred	364	(464)	(977)
Total	$ 5,690	$5,524	$4,632

Reconciliation of the federal statutory income tax rate to the effective tax rate is as follows:

	Year Ended December 31,		
	2019	2018	2017
Federal statutory rate	21.0%	21.0%	35.0%
Effect of:			
State taxes, net of federal tax benefit	—	—	—
Change in valuation allowance	(32.5)	(10.0)	7.4
Research and development tax credit	2.6	1.6	1.0
Stock-based compensation	(2.6)	(2.4)	0.5
Impact of foreign tax differential	8.0	(11.5)	(20.6)
Non-deductible/non-taxable items	1.9	(0.2)	(0.4)
Impact of Tax Act	—	—	(24.0)
Other, net	(0.7)	(0.8)	(0.5)
Total	(2.3)%	(2.3)%	(1.6)%

The components of the deferred tax assets and liabilities are as follows (in thousands):

	As of December 31,	
	2019	2018
Deferred tax assets:		
Net operating loss carryforwards	$ 116,790	$ 133,484
Accruals and reserves	8,061	14,783
Stock-based compensation	14,852	14,238
Fixed assets	1,238	—
Lease liability	21,689	—
Deferred revenue	119,129	97,863
Intangible asset, net	14,646	—
Tax credit carryforwards	56,865	44,695
Other deferred tax assets	700	1,494
Gross deferred tax assets	353,970	306,557
Valuation allowance	(276,731)	(193,265)
Total deferred tax assets	77,239	113,292
Deferred tax liabilities:		
Accruals and reserves	(5,587)	(5,447)
Acquisition related intangibles	—	(34,293)
Fixed Assets	—	(4,981)
Right of use asset	(14,329)	—
Convertible senior notes	(38,448)	(48,786)
Deferred Commissions	(16,764)	(17,089)
Total deferred tax liabilities	(75,128)	(110,596)
Total net deferred tax assets	$ 2,111	$ 2,696

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Act. The Tax Act reduced the U.S. statutory corporate tax rate to 21%, effective January 1, 2018. Consequently, we recorded a decrease to our federal deferred tax assets of $71.7 million, which was fully offset by a reduction in our valuation allowance for the year ended December 31, 2017.

In December 2019, we completed an intra-entity asset transfer of certain of our intellectual property rights to an Irish subsidiary where our international business is headquartered. The transfer resulted in a step-up in the tax basis of the transferred intellectual property rights and a correlated increase in foreign deferred tax assets. As of December 31, 2019, we believe it is more likely than not that these additional foreign deferred tax assets will not be realized and therefore, are offset by a full valuation allowance. Due to our history of losses we believe it is more likely than not that our U.S. deferred tax assets will not be realized as of December 31, 2019. Accordingly, we have established a full valuation allowance on our U.S. deferred tax assets. Our valuation allowance increased by approximately $83.5 million during the year ended December 31, 2019. This change is primarily attributable to an increase in deferred tax assets in foreign jurisdiction resulting from our foreign restructuring in 2019, an increase in deferred tax asset related to deferred revenue and a decrease in deferred tax liability related to convertible debt.

In July 2015, the U.S. Tax Court issued an opinion in Altera Corp. v. Commissioner related to the treatment of stock-based compensation expense in an intercompany cost-sharing arrangement. The opinion invalidated part of a treasury regulation requiring stock-based compensation to be included in any qualified intercompany cost-sharing arrangement. We previously recorded a tax benefit based on the opinion in the case, which was offset by a corresponding increase in the valuation allowance against U.S. deferred tax assets. On June 7, 2019, the U.S. Court of Appeals for the Ninth Circuit reversed the U.S. Tax Court's decision. On July 22, 2019, Altera Corp.

filed a petition for an en banc rehearing before the U.S. Court of Appeals for the Ninth Circuit, which was denied on November 12, 2019. On February 10, 2020, Altera Corp. filed a petition to the U.S. Supreme Court for review of the decision. As of December 31, 2019, we have recorded a reduction of $9.4 million to our deferred tax asset for U.S. net operating loss carryforwards, which are subject to a valuation allowance.

As of December 31, 2019, we had federal and state net operating loss carry forwards of approximately $437.5 million and $521.3 million, respectively, available to reduce future taxable income, if any. If not utilized, the federal net operating loss carry forwards will expire from the years ending December 31, 2031 through 2037 while state net operating loss carry forwards will expire from the years ending December 31, 2020 through 2037.

As of December 31, 2019, we also had federal and state income tax credit carry forwards of approximately $39.6 million and $21.8 million, respectively. If not utilized, the federal credit carry forwards will expire in various amounts from the years ended December 31, 2024 through 2039. Most of the state tax credits can be carried forward indefinitely.

Utilization of the net operating loss carry forwards and credits may be subject to an annual limitation due to the ownership change limitations provided by the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

As of December 31, 2019, we had $56.1 million of unrecognized tax benefits, of which if recognized, $1.9 million would affect our effective tax rate. We file income tax returns in U.S. federal, state and foreign jurisdictions. As we have net operating loss carry forwards for U.S. federal and state jurisdictions, the statute of limitations is open for all tax years. For foreign jurisdictions, the tax years open to examination include the years 2015 and forward. We recognize both interest and penalties associated with uncertain tax positions as a component of income tax expense. During the year ended December 31, 2019, we recognized interest and penalties of $113,000. During the years ended December 31, 2018 and 2017, we recognized a $151,000 and $36,000 increase to interest and penalties, respectively. As of December 31, 2019 and 2018, our total accrual for interest and penalties was $668,000 and $554,000, respectively.

As of December 31, 2019, we believe it is reasonably possible that our unrecognized tax benefits will decrease by approximately $0.3 million in the next 12 months due to foreign tax return filing.

A reconciliation of gross unrecognized tax benefits is as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Unrecognized tax benefits at the beginning of the period	$42,490	$39,387	$ 43,637
Increases related to current year tax positions	7,076	2,651	10,780
Increases related to prior year tax positions	6,654	501	—
Decreases related to prior year tax positions	—	—	(14,955)
Decreases related to settlements with taxing authorities	(29)	—	—
Decreases related to lapse of statute of limitations	(57)	(49)	(75)
Unrecognized tax benefits at the end of the period	$56,134	$42,490	$ 39,387

As of December 31, 2019, we have not provided for state income taxes or foreign withholding taxes on the undistributed earnings of certain foreign subsidiaries which are considered indefinitely invested outside of the U.S. Determination of the amount of unrecognized deferred tax liability related to these earnings is not practicable.

15. Net Loss per Share

Basic net loss per share is calculated by dividing net loss by the weighted average number of common shares outstanding during the period, less shares subject to repurchase, and excludes any dilutive effects of employee share based awards and options. Diluted net income per common share is computed giving effect to all potentially dilutive common shares, including common stock issuable upon exercise of stock options, conversion of the Convertible Senior Notes and unvested restricted common stock and stock units. As we had net losses for the years ended December 31, 2019, 2018 and 2017, all potential common shares were excluded as they were determined to be anti-dilutive.

The following table sets forth the computation of net loss per common share (in thousands, except per share amounts):

	Year Ended December 31,		
	2019	2018	2017
Numerator:			
Net loss	$(257,409)	$(243,123)	$(285,184)
Denominator:			
Weighted average number of shares outstanding—basic and diluted	207,234	190,803	177,757
Net loss per share—basic and diluted	$ (1.24)	$ (1.27)	$ (1.60)

The following outstanding options, unvested shares and units, ESPP shares, shares issuable upon the conversion of our Convertible Senior Notes and shares contingently issuable were excluded (as common stock equivalents) from the computation of diluted net loss per common share for the periods presented as their effect would have been anti-dilutive (in thousands):

	As of December 31,		
	2019	2018	2017
Options to purchase common stock	4,391	3,309	4,433
Unvested restricted stock awards and units	21,697	20,281	20,017
Convertible senior notes	35,442	35,442	15,141
ESPP shares	166	160	166

16. Employee Benefit Plan

401(k) Plan

We have established a 401(k) tax-deferred savings plan (the "401(k) Plan") which permits participants to make contributions by salary deduction pursuant to Section 401(k) of the Internal Revenue Code of 1986, as amended. All participants' interests in their deferrals are 100% vested when contributed. We are responsible for administrative costs of the 401(k) Plan and have made no matching contributions into our 401(k) Plan since inception. Under the 401(k) Plan, pre-tax contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. The 401(k) Plan is intended to qualify under Sections 401(a) and 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) Plan and earnings on those contributions are not taxable to the employees until distributed, and all contributions are deductible by us when and if made.

17. Segment and Major Customers Information

Disaggregation of revenue by geography

We conduct business globally and are primarily managed on a geographic basis. Our Chief Executive Officer, who is our chief operating decision maker, reviews financial information presented on a consolidated

basis accompanied by information about revenue by geographic region for purposes of allocating resources and evaluating financial performance. We define our regions into United States ("U.S."), Europe, the Middle East, and Africa ("EMEA"), Asia Pacific and Japan ("APAC"), and all remaining geographies (primarily Latin America and Canada) included in Others. There are no segment managers who are held accountable for operations, operating results, and plans for levels, components, or types of products or services below the consolidated unit level. Accordingly, we are considered to be in a single reportable segment and operating unit structure.

Revenue by geographic region based on the billing address is as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
U.S.	$554,856	$523,150	$521,232
EMEA	155,357	135,736	116,205
APAC	131,361	122,516	105,196
Other	47,578	49,548	37,015
Total revenue	$889,152	$830,950	$779,648

Disaggregation of revenue by product category

We generate revenue from sales of our network, email and endpoint security solutions, network forensics appliances, cloud-based security threat intelligence and analytics subscriptions, platform software, managed security service and professional services. We disaggregate our revenue into two main categories: (i) product, subscription and support and (ii) professional services.

Within the product, subscription and support category, we provide supplemental data to distinguish between solutions that are deployed on-premise, either on purpose-build appliances with attached subscriptions and support, or as virtual appliance software, sold as a subscription, and solutions and managed services that are not dependent on appliances. These solutions include security solutions and services that are delivered entirely through the cloud or delivered through a hybrid on premise/cloud platform. Security solutions that are deployed on appliances (physical or virtual) on customers' premise are included in the product and related subscription and support sub-category. Solutions and managed services without dependency on the appliances are included in the platform, cloud subscription and managed services sub-category.

We also offer professional services, including incident response and other security consulting services, to our customers who have experienced a cyber security breach or desire assistance assessing the resilience of their information systems infrastructure. The majority our professional services are offered on a time and materials basis, through a fixed fee arrangement, or on a retainer basis. Revenue from professional services is recognized as services are delivered. Revenue from our Expertise-on-Demand subscription and some pre-paid professional services is deferred, and revenue is recognized when services are delivered.

The following table depicts the disaggregation of revenue according to revenue type and is consistent with how we evaluate our sales performance (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Revenue by Category			
Product and related subscription and support	$467,823	$498,992	$479,521
Platform, cloud subscription and managed services	241,013	188,390	166,444
Professional services	180,316	143,568	133,683
Total revenue	$889,152	$830,950	$779,648

Long lived assets by geography

Long lived assets by geographic region based on physical location is as follows (in thousands):

	As of December 31,	
	2019	**2018**
Property and Equipment, net:		
United States	$85,287	$80,313
International	8,525	8,850
Total property and equipment, net	$93,812	$89,163

For the years ended December 31, 2019, 2018 and 2017, one distributor represented 13%, 20% and 19%, respectively, of the Company's total revenue, and one reseller represented 14%, 15% and 13%, respectively, of the Company's total revenue. Additionally, another distributor represented 10% of the Company's total revenue for the year ended December 31, 2019, but did not represent 10% or greater of the Company's total revenue for either of the years ended December 31, 2018 and 2017.

As of December 31, 2019 and 2018, no customer represented 10% or more of the Company's net accounts receivable balance.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Limitations on Effectiveness of Controls

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019. The term "disclosure controls and procedures," as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (or the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Based on our evaluation, our chief executive officer and chief financial officer concluded that, as of December 31, 2019, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019 based on the criteria related to internal control over financial reporting described in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2019.

Our evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019 did not include the internal controls of Verodin. We excluded Verodin from our assessment of internal control over financial reporting as of December 31, 2019 which was acquired in a business combination on May 28, 2019. Verodin is our wholly owned subsidiary whose total assets represent approximately 1% and total revenues represent approximately 2% of our consolidated financial statement amounts as of and for the year ended December 31, 2019.

Deloitte & Touche LLP, the independent registered public accounting firm that audited the consolidated financial statements included in this Form 10-K, has issued a report, included herein, on the effectiveness of the Company's internal control over financial reporting as of December 31, 2019.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of FireEye, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of FireEye, Inc. and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 21, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph related to the Company's change in method of accounting for leases in fiscal year 2019 due to the adoption of Accounting Standards Update 2016-02, *Leases*, and related amendments (collectively, "ASC 842").

As described in Management's Report on Internal Control Over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Verodin, which was acquired on May 28, 2019, and whose financial statements constitute 1% of total assets and 2% of total revenues of the consolidated financial statement amounts as of and for the year ended December 31, 2019. Accordingly, our audit did not include the internal control over financial reporting at Verodin.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

San Jose, California
February 21, 2020

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference to our Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

As part of our system of corporate governance, our board of directors has adopted a code of business conduct and ethics. The code applies to all of our employees, officers (including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions), agents and representatives, including our independent directors and consultants, who are not employees of ours, with regard to their FireEye-related activities. Our code of business conduct and ethics is available on our website at www.fireeye.com in the Corporate Governance section of our Investor Relations webpage. We will post on this section of our website any amendment to our code of business conduct and ethics, as well as any waivers of our code of business conduct and ethics, that are required to be disclosed by the rules of the SEC or the NASDAQ Stock Market. The information on our website is not incorporated by reference into this Annual Report on Form 10-K.

Item 11. Executive Compensation

The information required by this item is incorporated by reference to our Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference to our Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference to our Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference to our Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

PART IV

Item 15. Exhibits, Financial Statement Schedules

Documents filed as part of this report are as follows:

1. Consolidated Financial Statements:

Our Consolidated Financial Statements are listed in the "Index to Consolidated Financial Statements" in Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules:

Schedule II - Valuation and Qualifying Accounts is included below, and should be read in conjunction with the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K. All other schedules have been omitted because they are not required, not applicable, or the required information is included elsewhere in this Annual Report on Form 10-K.

3. Exhibits Required by Item 601 of Regulation S-K:

		Incorporated by Reference			
Exhibit No.	**Description of Exhibit**	**Form**	**File No.**	**Exhibit**	**Filing Date**
2.1+	Agreement and Plan of Reorganization, dated as of May 28, 2019, by and among FireEye, Inc., Viking Merger Corporation, Viking Merger LLC, Verodin, Inc. and Shareholder Representative Services LLC.	8-K	001-36067	2.1	May 28, 2019
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	8-K	001-36067	3.1	September 25, 2013
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-36067	3.1	August 4, 2016
4.1	Form of the Registrant's common stock certificate.	S-1/A	333-190338	4.1	September 9, 2013
4.2	Indenture, dated as of June 2, 2015, between the Registrant and U.S. Bank National Association.	8-K	001-36067	4.1	June 5, 2015
4.3	Form of Global 1.000% Convertible Senior Note due 2035 (included in Exhibit 4.2).	8-K	001-36067	4.2	June 5, 2015
4.4	Indenture, dated as of June 2, 2015, between the Registrant and U.S. Bank National Association.	8-K	001-36067	4.3	June 5, 2015
4.5	Form of Global 1.625% Convertible Senior Note due 2035 (included in Exhibit 4.4).	8-K	001-36067	4.4	June 5, 2015
4.6	Indenture, dated as of May 24, 2018, between the Registrant and U.S. Bank National Association.	8-K	001-36067	4.1	May 25, 2018
4.7	Form of Global 0.875% Convertible Senior Note due 2024 (included in Exhibit 4.6).	8-K	001-36067	4.2	May 25,2018
4.8*	Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934				

Exhibit No.	Description of Exhibit	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.1†	Form of Indemnification Agreement between the Registrant and certain of its officers and directors.	S-1	333-190338	10.1	August 2, 2013
10.2†	Employee Incentive Plan.	S-1	333-190338	10.17	August 2, 2013
10.3†	Change of Control Severance Policy for Officers.	S-1/A	333-190338	10.27	August 21, 2013
10.4†	2008 Stock Plan, as amended, including form agreements under 2008 Stock Plan.	S-1/A	333-190338	10.6	September 9, 2013
10.5†	2013 Equity Incentive Plan, including form agreements under 2013 Equity Incentive Plan.	S-1/A	333-193717	10.6	March 3, 2014
10.6†	2013 Employee Stock Purchase Plan, as amended and restated as of August 2, 2016.	10-Q	001-36067	10.1	November 4, 2016
10.7†	Mandiant Corporation 2011 Equity Incentive Plan, as amended, including form agreements under Mandiant Corporation 2011 Equity Incentive Plan.	S-1	333-193717	10.8	February 3, 2014
10.8†	Outside Director Compensation Policy, as amended and currently in effect.	10-Q	001-36067	10.2	May 4, 2017
10.9†	Offer Letter between the Registrant and Enrique Salem, dated February 2, 2013.	S-1	333-190338	10.11	August 2, 2013
10.10†	Offer Letter between the Registrant and Ronald E. F. Codd, dated July 28, 2012.	S-1	333-190338	10.12	August 2, 2013
10.11†	Offer Letter between the Registrant and Kimberly Alexy, dated December 12, 2014.	8-K	001-36067	10.1	January 8, 2015
10.12†	Offer Letter between the Registrant and Stephen Pusey, dated June 12, 2015.	8-K	001-36067	10.1	June 17, 2015
10.13†	Offer Letter between the Registrant and Robert E. Switz, dated September 11, 2017.	8-K	001-36067	10.1	September 13, 2017
10.14†	Offer Letter between the Registrant and Adrian McDermott, dated January 25, 2019.	8-K	001-36067	10.1	February 6, 2019
10.15†	Offer Letter between the Registrant and Alexa King, dated August 1, 2013.	S-1/A	333-190338	10.16	August 21, 2013
10.16†	Offer Letter, between the Registrant and Kevin Mandia, dated December 24, 2013.	8-K	001-36067	10.1	January 2, 2014
10.17†	Offer Letter between the Registrant and Travis Reese, dated June 27, 2016	10-Q	001-36067	10.3	August 5, 2016
10.18†	Offer Letter between the Registrant and William Robbins, dated October 31, 2016.	10-K	001-36067	10.21	February 24, 2017
10.19†	Offer Letter between the Registrant and Frank Verdecanna, dated February 20, 2018.	10-K/A	001-36067	10.21	March 1, 2018
10.20*†	Offer Letter between the Registrant and Peter Bailey dated February 11, 2020.				
10.21†	Key Employee Non-Competition Agreement, dated as of December 30, 2013, by and between Kevin Mandia and the Registrant.	8-K	001-36067	10.3	January 2, 2014

Exhibit No.	Description of Exhibit	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.22†	Key Employee Non-Competition Agreement, dated as of December 30, 2013, by and between Travis Reese and the Registrant.	10-Q	001-36067	10.4	August 5, 2016
10.23†	Consulting Agreement between the Registrant and Travis Reese, effective as of March 3, 2020.	8-K	001-36067	10.1	February 5, 2020
10.24	Lease, dated as of August 4, 2016, by and between the Registrant and 601 McCarthy Owner, LLC.	8-K	001-36067	10.1	August 16, 2016
10.25	First Amendment, dated as of December 1, 2016, to the Lease dated as of August 4, 2016 by and between the Registrant and 601 McCarthy Owner, LLC.	10-K/A	001-36067	10.26	March 1, 2018
10.26	Second Amendment, dated as of October 19, 2017, to the Lease dated as of August 4, 2016 by and between the Registrant and 601 McCarthy Owner, LLC.	10-K/A	001-36067	10.27	March 1, 2018
10.27††	Flextronics Design and Manufacturing Services Agreement, dated as of September 28, 2012, by and between the Registrant and Flextronics Telecom Systems, Ltd.	S-1/A	333-190338	10.19	September 9, 2013
10.28	Amendment to Flextronics Design and Manufacturing Services Agreement, effective as of August 1, 2013, by and among the Registrant, FireEye Ireland Limited and Flextronics Telecom Systems, Ltd.	10-Q	001-36067	10.3	November 5, 2014
10.29^	Amendment #2 to Flextronics Design and Manufacturing Services Agreement, effective as of April 1, 2019, by and between the Registrant and Flextronics Telecom Systems, Ltd.	10-Q	001-36067	10.1	August 2, 2019
10.30	Design Statement of Work A-1 to Flextronics Design and Manufacturing Services Agreement, dated December 4, 2013, by and among the Registrant, FireEye Ireland Limited and Flextronics Telecom Systems, Ltd	10-Q	001-36067	10.4	November 5, 2014
10.31	Data Processing Addendum to Flextronics Design and Manufacturing Services Agreement, dated as of April 9, 2018, by and between the Registrant and Flextronics Telecom Systems, Ltd.	10-Q	001-36067	10.2	August 3, 2018
10.32	Export Services (preparation and filing of the EEI) Addendum to Flextronics Design and Manufacturing Services Agreement, effective as of October 1, 2018, by and between the Registrant and Flextronics Telecom Systems, Ltd.	10-Q	001-36067	10.1	November 2, 2018
10.33	Purchase Agreement, dated May 27, 2015, among the Registrant and Morgan Stanley & Co. LLC and J.P. Morgan Securities LLC, as representatives of the several Initial Purchasers named in Schedule I thereto	8-K	001-36067	10.1	May 29, 2015

Exhibit No.	Description of Exhibit	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.34	Forward Stock Purchase Transaction, dated May 27, 2015, between the Registrant and Morgan Stanley & Co. LLC.	8-K	001-36067	10.2	May 29, 2015
10.35	Forward Stock Purchase Transaction, dated May 27, 2015, between the Registrant and Morgan Stanley & Co. LLC.	8-K	001-36067	10.3	May 29, 2015
10.36	Form of Capped Call Confirmation.	8-K	001-36067	10.1	May 25, 2018
21.1*	List of subsidiaries of the Registrant.				
23.1*	Consent of Deloitte & Touche LLP, independent registered public accounting firm.				
24.1*	Power of Attorney (included on the signature page to this Annual Report on Form 10-K).				
31.1*	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Executive Officer.				
31.2*	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Financial Officer.				
32.1**	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS*	Inline XBRL Instance Document- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.				
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.				
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.				
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.				
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.				
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

* Filed herewith.

** Furnished herewith.

\+ The schedules and other attachments to this exhibit have been omitted. The Registrant agrees to furnish a copy of any omitted schedules or attachments to the SEC upon request.

† Indicates a management contract or compensatory plan or arrangement.

†† Portions of this exhibit have been granted confidential treatment by the Securities and Exchange Commission.

^ Certain portions of this exhibit have been omitted as the Registrant has determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to the Registrant if publicly disclosed.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

(in thousands)

Allowance for doubtful accounts receivable	Balance at beginning of period	Charged to cost and expenses	Write-offs, net of recoveries	Balance at end of period
Year ended December 31, 2017	$1,590	$1,972	$(1,059)	$2,503
Year ended December 31, 2018	2,503	105	(83)	2,525
Year ended December 31, 2019	2,525	723	(985)	2,263

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 21, 2020.

FIREEYE, INC.

By: /s/ KEVIN R. MANDIA
Kevin R. Mandia
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL THESE PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kevin R. Mandia, Frank E. Verdecanna and Alexa King, and each of them, his or her attorneys-in-fact, each with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each said attorneys-in-fact or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ KEVIN R. MANDIA Kevin R. Mandia	Chief Executive Officer and Director *(Principal Executive Officer)*	February 21, 2020
/S/ FRANK E. VERDECANNA Frank E. Verdecanna	Executive Vice President, Chief Financial Officer and Chief Accounting Officer *(Principal Financial and Accounting Officer)*	February 21, 2020
/S/ KIMBERLY ALEXY Kimberly Alexy	Director	February 21, 2020
/S/ RONALD E. F. CODD Ronald E. F. Codd	Director	February 21, 2020
/S/ ADRIAN McDERMOTT Adrian McDermott	Director	February 21, 2020
/S/ STEPHEN PUSEY Stephen Pusey	Director	February 21, 2020
/S/ ENRIQUE SALEM Enrique Salem	Director	February 21, 2020
/S/ ROBERT E. SWITZ Robert E. Switz	Director	February 21, 2020

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CORPORATE AND STOCKHOLDER INFOMATION

Executive Officers

Kevin R. Mandia
Chief Executive Officer

Peter H. Bailey
Executive Vice President
and Chief Operating Officer

Alexa King
Executive Vice President,
General Counsel and
Secretary

William T. Robbins
Executive Vice President,
Chief Revenue Officer and
General Manager
of Products

Frank E. Verdecanna
Executive Vice President,
Chief Financial Officer and
Chief Accounting Officer

Board of Directors

Enrique Salem[1]
Chairman of the Board of
FireEye, Inc.

Managing Director,
Bain Capital Ventures

Kevin R. Mandia
Chief Executive Officer,
FireEye, Inc.

Kimberly Alexy[2,3]
Principal,
Alexy Capital Management

Ronald E. F. Codd[1, 2,3]
Independent Business Consultant

Adrian McDermott[1]
President of Products,
Zendesk

Stephen Pusey[1]
Former Group Chief Technology
Officer, Vodafone Group Plc

Robert E. Switz[2,3]
Former President and
Chief Executive Officer,
ADC Telecommunications, Inc.

Corporate Headquarters

FireEye, Inc.
601 McCarthy Blvd.
Milpitas, CA 95035

Legal Counsel

Wilson Sonsini Goodrich & Rosati, PC
Palo Alto, California

Independent Auditors

DELOITTE & TOUCHE LLP
San Jose, California

Transfer Agent and Registrar

American Stock Transfer
& Trust Company, LLC
6201 15th Avenue
Brooklyn, NY 11219
www.astfinancial.com

help@astfinancial.com
tel: 718.921.8124
800.937.5449

[1] Compensation Committee member

[2] Audit Committee member

[3] Nominating and Corporate Governance Committee member

Stock Information

FireEye common stock is listed on The NASDAQ Global Select Market under the symbol FEYE.

Investor Relations

FireEye welcomes investor interest and maintains a section on its website with investor information, including press releases, stock data, SEC filings, and access to quarterly webcasts. Investors may subscribe to automated email alerts for press releases, events and SEC filings through the site.

Website: investors.FireEye.com | Email: investor.relations@fireeye.com

Annual Stockholders' Meeting

The annual meeting of stockholders will be held at 2 p.m. Pacific Time on May 28, 2020 at FireEye, Inc., 601 McCarthy Blvd., Milpitas, CA 95035*

*We currently intend to hold the Annual Meeting in person. However, depending on developments with respect to the coronavirus (COVID-19) pandemic, we might hold the Annual Meeting virtually on the above date and time instead of in person. If we determine that a change to a virtual meeting format is advisable or required, an announcement of such change will be made through a press release and on our Investor Relations website at investors.FireEye.com as promptly as practicable. We encourage you to check this website one week prior to the meeting date if you are planning to attend the Annual Meeting.

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To learn more about FireEye, visit: **www.fireeye.com**

FireEye, Inc.
601 McCarthy Blvd. Milpitas, CA 95035
408.321.6300/877.FIREEYE (347.3393)
info@FireEye.com

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About FireEye, Inc.

FireEye is the intelligence-led security company. Working as a seamless, scalable extension of customer security operations, FireEye offers a single platform that blends innovative security technologies, nation-state grade threat intelligence, and world-renowned Mandiant® consulting. With this approach, FireEye eliminates the complexity and burden of cyber security for organizations struggling to prepare for, prevent, and respond to cyber attacks.

FIREEYE™