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 July 31, 2022

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 001-35594

Palo Alto Networks, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**20-2530195**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

3000 Tannery Way
Santa Clara, California 95054
(Address of principal executive offices, including zip code)

(408) 753-4000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, $0.0001 par value per share	PANW	The Nasdaq Stock Market LLC (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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

The aggregate market value of voting stock held by non-affiliates of the registrant was $49,978,456,856 as of January 31, 2022, the last business day of the registrant's most recently completed second fiscal quarter (based on the closing sales price for the common stock on the Nasdaq Global Select Market on such date). Shares of common stock held by each executive officer and director have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

On August 22, 2022, 99,737,936 shares of the registrant's common stock, $0.0001 par value, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the information called for by Part III of this Annual Report on Form 10-K is hereby incorporated by reference from the definitive proxy statement for the registrant's 2022 annual meeting of stockholders, which will be filed with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year ended July 31, 2022.

TABLE OF CONTENTS

PART I

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 and Section 21E of the Securities Exchange Act of 1934. The words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "expect," 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 effects of supply chain challenges and the global chip and component shortages and other factors affecting the manufacture, delivery and cost of certain of our products;
- expectations regarding drivers of and factors affecting growth in our business;
- the performance advantages of our products and subscription and support offerings and the potential benefits to our customers;
- statements regarding trends in billings, our mix of product and subscription and support revenue, cost of revenue, gross margin, cash flows, operating expenses, including future share-based compensation expense, income taxes, investment plans and liquidity;
- our ability to and expectation that we will continue to grow our installed end-customer base;
- expected recurring revenues resulting from expected growth in our installed base and increased adoption of our products and cloud-based subscription services;
- our expectations regarding future investments in research and development, customer support, in our employees and in our sales force, including expectations regarding growth in our sales headcount;
- our ability to develop or acquire new product, subscription, and support offerings, improve our existing product, subscription, and support offerings, and increase the value of our product, subscription, and support offerings, including through deployment of new capabilities via security applications developed by third parties;
- our expectation that we will continue to expand internationally;
- our expectation that we will continue to renew existing contracts and increase sales to our existing customer base;
- expectations regarding our revenues, including the seasonality and cyclicality from quarter to quarter;
- expected impact of the adoption of certain recent accounting pronouncements and the anticipated timing of adopting such standards;
- our expectation that we will expand our facilities or add new facilities as we add employees and enter new geographic markets and expectations related to charges incurred in connection with exiting our former headquarter facilities;
- our expectations regarding the future results of our People Strategy;
- our expectation that we will increase our customer financing activities;
- the sufficiency of our cash flow from operations with existing cash, cash equivalents and investments to meet our cash needs for the foreseeable future;
- our expectations regarding the impact of the discontinuance of the LIBO Rate upon our liquidity or financial position;
- future investments in product development, subscriptions, or technologies, and any related delays in the development or release of new product and subscription offerings;
- our ability to successfully acquire and integrate companies and assets;
- expectations and intentions with respect to the products and technologies that we acquire and introduce;
- the timing and amount of capital expenditures and share repurchases;
- our expectations regarding the impacts on our business, the business of our customers, suppliers and partners, and the economy as a result of the global COVID-19 pandemic and related public health measures; and
- other statements regarding our future operations, financial condition and prospects, and business strategies.

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, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

ITEM 1. BUSINESS

General

Palo Alto Networks, Inc. is a global cybersecurity provider with a vision of a world where each day is safer and more secure than the one before. We were incorporated in 2005 and are headquartered in Santa Clara, California.

We empower enterprises, organizations, service providers, and government entities to protect themselves against today's most sophisticated cyber threats. Our cybersecurity platforms and services help secure enterprise users, networks, clouds, and endpoints by delivering comprehensive cybersecurity backed by industry leading artificial intelligence and automation. We are a leading provider of zero trust solutions, starting with next-generation zero trust network access to secure today's remote hybrid workforces and extending to securing all users, applications and infrastructure with zero trust principles. Our security solutions are designed to reduce customers' total cost of ownership by improving operational efficiency and eliminating the need for siloed point products. Our company focuses on delivering value in five fundamental areas:

Network Security:

- Our network security platform, which includes our ML-Powered Next-Generation Firewalls, available in a number of form factors, including physical, virtual, and containerized appliances, as well as a cloud-delivered service, has been recognized as a leader in the industry. Our network security platform also includes our Cloud-Delivered Security Services, such as Threat Prevention, Advanced Threat Prevention, WildFire®, Advanced URL Filtering, DNS Security, IoT Security, GlobalProtect™, SD-WAN, Enterprise Data Loss Prevention ("Enterprise DLP"), AIOps, SaaS Security API, and SaaS Security Inline. Through these add-on security services, our customers are able to secure their content, applications, users, and devices across our network security platform as well as the Prisma® and Cortex® product lines. Panorama™, our network security management solution, available as hardware or virtual machine, can centrally manage our network security platform irrespective of form factor, location, or scale.

Secure Access Service Edge:

- Prisma Access is our next-generation Zero Trust Network Access ("ZTNA") platform that provides secure network access for all employees with unified policy management and continuous threat inspection. We have recently introduced ZTNA 2.0, which addresses major shortcomings in the first-generation ZTNA products in the industry (which we refer to as ZTNA 1.0). Prisma Access delivers granular least-privileged access along with continuous trust verification and security inspection, and protects security for all applications and data across the enterprise infrastructure. Prisma Access, when combined with Prisma SD-WAN, provides a comprehensive single-vendor Secure Access Service Edge ("SASE") offering that is used to secure remote workforces and enable the cloud-delivered branch.

Cloud Security:

- We enable cloud native security through our Prisma Cloud platform. As a comprehensive Cloud Native Application Protection Platform ("CNAPP"), Prisma Cloud secures hybrid and multi-cloud environments for applications, data, and the entire cloud native technology stack across the full development lifecycle; from code to runtime. For inline network security on multi and hybrid-cloud environments, we also offer our VM-Series and CN-Series Firewall offerings.

Security Operations:

- We deliver the next generation of endpoint security, security analytics and security automation solutions through our Cortex portfolio. These include our industry-leading extended detection and response platform Cortex XDR® to prevent, detect, and respond to complex cybersecurity attacks, Cortex XSOAR® for security orchestration, automation, and response ("SOAR"), Cortex Xpanse® for attack surface management ("ASM"), and Cortex Data Lake allowing our customers to collect and analyze large amounts of context-rich data across endpoints, networks, and clouds. These products are delivered as software subscriptions or SaaS subscriptions.

Threat Intelligence and Security Consulting (Unit 42):

- We enable security teams with up-to-date threat intelligence and deep cybersecurity expertise before, during and after attacks through our Unit 42 threat research and security consulting team. Unit 42 offers incident response, risk management, board advisory, and proactive cybersecurity assessment services.

Product, Subscription, and Support

Our products are available in the form of the product, subscription, and support offerings described below.

Products

Firewall Appliances and Software. Our ML-Powered Next Generation Firewalls embed machine learning in the core of the firewall and employ inline deep learning in the cloud, empowering our customers to stop zero-day threats in real time, see and secure their entire enterprise including IoT, and reduce errors with automatic policy recommendations. All of our firewall appliances and software incorporate our PAN-OS® operating system and come with the same rich set of features ensuring consistent operation across our entire product line. The content, applications, users, and devices—the elements that run a business—become integral components of an enterprise's security policy via our Content-ID™, App-ID™, User-ID™, and Device-ID technology. In addition to these components, key features include site-to-site virtual private network ("VPN"), remote access Secure Sockets Layer ("SSL") VPN, and Quality-of-Service ("QoS"). Our appliances and software are designed for different performance requirements throughout an organization and are classified based on throughput, ranging from our PA-410, which is designed for small organizations and branch offices, to our top-of-the-line PA-7080, which is designed for large-scale data centers and service provider use. Our firewall appliances come in a physical form factor, a containerized form factor, called CN-Series, as well as a virtual form factor, called VM-Series, that is available for virtualization and cloud environments from companies such as VMware, Inc. ("VMware"), Microsoft Corporation ("Microsoft"), Amazon.com, Inc. ("Amazon"), and Google, Inc. ("Google"), and in Kernel-based Virtual Machine ("KVM")/OpenStack environments. We also offer Cloud NGFW, a managed next-generation firewall ("NGFW") offering, to secure customers' applications on Amazon Web Services ("AWS").

Panorama. Panorama is our centralized security management solution for global control of all of our firewall appliances and software deployed on a customer's network, as well as in their instances in public or private cloud environments. Panorama can be deployed as a virtual appliance or a physical appliance. Panorama is used for centralized policy management, device management, software licensing and updates, centralized logging and reporting, and log storage. Panorama controls the security, network address translation ("NAT"), QoS, policy-based forwarding, decryption, application override, captive portal, and distributed denial of service/denial of service ("DDoS/DoS") protection aspects of the appliances, software, virtual and containerized systems under management. Panorama centrally manages device software and associated updates, including SSL-VPN clients, SD-WAN, dynamic content updates, and software licenses. Panorama offers network security monitoring through the ability to view logs and run reports from all managed appliances and software in one location without the need to forward the logs and reliably expands log storage for long-term event investigation and analysis.

Virtual System Upgrades. Virtual System Upgrades are available as extensions to the Virtual System capacity that ships with our physical appliances. Virtual Systems provide a mechanism to support multiple distinct security policies and administrative access for tenants on the same hardware device, which is applicable to our large enterprise and service provider customers.

Subscriptions

We offer a number of subscriptions as part of our portfolio. Of these subscription offerings, cloud-delivered security services like Threat Prevention, Advanced Threat Prevention, WildFire, Advanced URL Filtering, DNS Security, IoT Security, SaaS Security Inline, GlobalProtect, SD-WAN, Enterprise DLP and AIOps are sold as options to our firewall appliances and software, whereas Prisma Cloud, Prisma Access, Prisma SD-WAN, SaaS Security API, Cortex XDR, Cortex XSOAR, Cortex Xpanse and Cortex Data Lake are sold on a per-user, per-endpoint, or capacity-based basis. Our subscription offerings include:

Cloud-delivered Security Services:

- ***Threat Prevention.*** This cloud-delivered security service provides intrusion detection and prevention capabilities and blocks vulnerability exploits, viruses, spyware, buffer overflows, denial-of-service attacks, and port scans from compromising and damaging enterprise information resources. It includes mechanisms such as protocol decoder-based analysis, protocol anomaly-based protection, stateful pattern matching, statistical anomaly detection, heuristic-based analysis, custom vulnerability and spyware "phone home" signatures, and workflows to manage popular open-source signature formats to extend our leading coverage.
- ***Advanced Threat Prevention***. This cloud-delivered security service builds on all of the capabilities of Threat Prevention, adding the industry's first Inline Deep Learning protection engine for Command-and-Control ("C2"). It delivers real-time detection and prevention of unknown, evasive, and targeted C2 communications over HTTP, unknown-TCP, unknown-UDP and encrypted over SSL. Advanced Threat Prevention is the first offering to protect patient zero from unknown command and control in real-time.

- ***WildFire.*** This cloud-delivered security service (which can also be delivered as an appliance) provides protection against targeted malware and advanced persistent threats and provides a near real-time analysis engine for detecting previously unseen malware while resisting attacker evasion techniques. The core component of this subscription goes beyond traditional sandbox environments and can operate on an end-customers' local environment, private cloud or our public cloud. WildFire combines dynamic and static analysis, recursive analysis, and a custom-built analysis environment with network traffic profiling and fileless attack detection to discover even the most sophisticated and evasive threats. A machine learning module derived from the cloud sandbox environment is now delivered inline on the ML-Powered Next-Generation Firewalls to identify the majority of unknown threats without cloud connectivity. Once identified, whether in the cloud or inline, preventive measures are automatically generated and delivered in seconds or less across networks, clouds, endpoints, or wherever WildFire-enabled sensors are deployed. By providing this as a cloud-based subscription, all of our end-customers benefit from malware found on any of our end-customers' networks.
- ***Advanced URL Filtering***. This cloud-delivered security service offers the industry's first Inline Deep Learning powered web protection engine. It delivers real-time detection and prevention of unknown, evasive, and targeted web-based threats such as phishing, malware, and command-and-control. While many vendors use machine learning to categorize web content or prevent malware downloads, Advanced URL Filtering is the industry's first inline web protection engine capable of detecting never-before-seen web-based threats and preventing them in real-time. In addition, it includes a cloud-based URL filtering database which consists of millions of URLs across many categories and is designed to analyze web traffic and prevent web-based threats such as phishing, malware, and command-and-control.
- ***DNS Security.*** This cloud-delivered security service uses machine learning to proactively block malicious domains and stops attacks in progress. Unlike other solutions, it does not require endpoint routing configurations to be maintained and therefore cannot be bypassed. It allows firewalls access to DNS signatures that are generated using advanced predictive analysis, machine learning, and malicious domain data from a growing threat intelligence sharing community of which we are a part. Expanded categorization of DNS traffic and comprehensive analytics allow deep insights into threats, empowering security personnel with the context to optimize their security posture. It offers comprehensive DNS attack coverage and includes industry-first protections against multiple emerging DNS-based network attacks.
- ***IoT Security.*** IoT Security is a cloud-delivered security service on our ML-Powered Next-Generation Firewalls with backward compatibility to older versions of PAN-OS. Using machine learning and our App-ID technology, it can accurately identify and classify various IoT and operational technology ("OT") devices, including never-been-seen-before devices, mission critical OT devices and unmanaged legacy systems. It uses machine learning to baseline normal behavior, identify anomalous activity, assess risk, and provide policy recommendations to allow trusted behavior with a new Device-ID policy construct on our ML-Powered Next-Generation Firewalls. Our existing subscription-based security services have also been enhanced with IoT context to prevent threats on various devices, including IoT and OT devices.
- ***SaaS Security API.*** SaaS Security API (formerly Prisma SaaS) is a multi-mode, cloud access security broker service that helps govern sanctioned SaaS application usage across all users and helps prevent breaches and non-compliance. Specifically, the service enables the discovery and classification of data stored across the supported SaaS applications, protects sensitive data from accidental exposure, identifies and protects against known and unknown malware, and performs user activity monitoring to identify potential misuse or data exfiltration. It delivers complete visibility and granular enforcement across all user, folder, and file activity within sanctioned SaaS applications, and can be combined with SaaS Security Inline for a complete integrated cloud access security broker ("CASB").
- ***SaaS Security Inline.*** SaaS Security Inline is a recent cloud-delivered security service on our ML-Powered Next Generation Firewalls that adds an inline service to automatically gain visibility and control over the tens of thousands of known and new sanctioned, unsanctioned and tolerated SaaS applications in use within organizations today. It provides enterprise data protection and compliance across all SaaS applications and prevents cloud threats in real time with best-in-class security. The solution is easy to deploy being natively integrated on our range of ML-Powered Next-Generation Firewalls, eliminating the architectural complexity of traditional CASB products, while offering low total cost of ownership. It can be combined with SaaS Security API as a complete integrated CASB.
- ***GlobalProtect***. This appliance-based subscription provides protection for users of both traditional laptop and mobile devices. It expands the boundaries of the end-users' physical network, effectively establishing a logical perimeter that encompasses remote laptop and mobile device users irrespective of their location. When a remote user logs into the device, GlobalProtect automatically determines the closest gateway available to the roaming device and establishes a secure connection. Regardless of the operating systems, laptops, tablets and phones will stay connected to the corporate network when they are on a network of any kind and, as a result, are protected as if they never left the corporate campus. GlobalProtect ensures that the same secure application enablement policies that protect users at the corporate site are enforced for all users, independent of their location.

- ***SD-WAN.*** Our SD-WAN subscription is integrated with PAN-OS, so that our end-customers can get the security features of our PAN-OS ML-Powered Next-Generation Firewall together with SD-WAN functionality. The SD-WAN overlay supports dynamic, intelligent path selection based on the applications, services and conditions of the links that each application or service is allowed to use, allowing applications to be prioritized based on criteria such as whether the application is mission-critical, latency-sensitive, or meets certain health criteria.
- ***Enterprise DLP.*** This cloud-delivered security service provides consistent, reliable protection of sensitive data, such as personally identifiable information ("PII") and intellectual property, for all traffic types, applications, and users. Native integration with our products makes it simple to deploy, and advanced machine learning minimizes management complexity. Enterprise DLP allows organizations to consistently discover, classify, monitor, and protect sensitive data, wherever it may reside. It helps minimize the risk of a data breach both on-premises and in the cloud—such as in Office/Microsoft 365™, Salesforce®, and Box—and assists in meeting stringent data privacy and compliance regulations, including GDPR, CCPA, PCI DSS, HIPAA, and others.
- ***AIOps for NGFW:*** AIOps for NGFW is a new cloud-delivered security service available on ML-Powered Next-Generation Firewalls and Panorama that run on PAN-OS 10.0 and above, and is available in both free and licensed premium versions. AIOps for NGFW redefines firewall operational experience by empowering security teams to proactively strengthen security posture and resolve firewall disruptions. AIOps for NGFW provides continuous best practice recommendations powered by machine learning ("ML") based on industry standards, security policy context, and advanced telemetry data collected from all Palo Alto Networks® firewalls to improve security posture. It also intelligently predicts firewall health, performance, and capacity problems up to seven days in advance and provides actionable insights to resolve the predicted disruptions.

Cloud Security:

- ***Prisma Cloud.*** Prisma Cloud is a comprehensive CNAPP, securing both cloud native and lift-and-shift applications across hybrid- and multi-cloud environments. With broad security and compliance coverage and a flexible agentless, as well as agent-based, architecture, Prisma Cloud protects cloud-native applications spanning hosts, containers, serverless architectures and other platform as a service ("PaaS") offerings across cloud platforms. It dynamically discovers public cloud resources as they are deployed and correlates cloud data services (resource configurations, flow logs, audit logs, host and container logs, etc.) to provide timely security and compliance insights for cloud applications. The platform uses machine learning to profile user, workload, and application behaviors to identify and prevent advanced threats.

  For security and development and operations teams, Prisma Cloud removes the impedance mismatch between security and cloud-driven agility by integrating with continuous integration and continuous development ("CI/CD") tool chains to provide full lifecycle vulnerability management, compliance, infrastructure-as-code scanning, and runtime defense. With a comprehensive library of compliance frameworks, it vastly simplifies the task of maintaining compliance. Prisma Cloud accomplishes this through deep context-sharing that spans infrastructure, PaaS, users, development platforms, data, and application workloads. Seamless integration with security orchestration tools ensures rapid remediation of vulnerabilities and security issues.

  Prisma Cloud delivers cloud security posture management, cloud workload protection platform, cloud network security, cloud code security, and cloud identity security capabilities that provide continuous visibility and protection across an organization's hybrid, and multi-cloud infrastructure.

Secure Access Service Edge:

- ***Prisma Access***. Prisma Access is a cloud-delivered security offering that helps organizations deliver consistent security to remote networks and mobile users. Located in more than 100 locations around the world, Prisma Access consistently inspects all traffic across all ports and provides bidirectional networking to enable branch-to-branch and branch-to-headquarter traffic. Prisma Access consolidates more point-products into a single converged cloud-delivered offering than any competing solution, transforming network security and allowing organizations to enable secure hybrid workforces. Unlike competing solutions, only Prisma Access protects all application traffic with complete, best-in-class security while ensuring an exceptional user experience with industry-leading service-level agreements ("SLA"s).
- ***Prisma SD-WAN***. Our Prisma SD-WAN solution is a next-generation SD-WAN solution that makes the secure cloud-delivered branch possible. Prisma SD-WAN enables organizations to replace traditional Multiprotocol Label Switching ("MPLS") based WAN architectures with affordable broadband and internet transport types that promote improved bandwidth availability, redundancy and performance at a reduced cost. Prisma SD-WAN leverages real-time application performance SLAs and visibility to control and intelligently steer application traffic to deliver an exceptional user experience. Unlike legacy SD-WAN solutions that introduce cost and complexity, our Prisma SD-WAN ensures an excellent user experience with application-defined policies and simplifies network and security operations using machine learning and automation.

Security Operations:

- ***Cortex XDR.*** This cloud-based subscription enables organizations to collect telemetry from endpoint, network, identity and cloud data sources and apply advanced analytics and machine learning across all data, to quickly find and stop targeted attacks, insider abuse, and compromised endpoints. Cortex XDR has two product tiers: XDR Prevent and XDR Pro. XDR Prevent delivers enterprise-class endpoint security focused on preventing attacks. XDR Pro extends endpoint detection and response ("EDR") to include cross-data analytics, including network, cloud and identity data. These capabilities build on each other such that a customer can start with XDR Prevent, then upgrade to XDR Pro for endpoints or XDR Pro for cross-data analytics. Going beyond EDR, Cortex XDR detects the most complex threats using analytics across key data sources and reveals the root cause, which can significantly reduce investigation time as compared to siloed tools and manual processes.
- ***Cortex XSOAR.*** Available as a cloud-based subscription or an on-premises appliance, Cortex XSOAR is a comprehensive SOAR offering that unifies playbook automation, case management, real-time collaboration, and threat intelligence management to serve security teams across the incident lifecycle. With Cortex XSOAR, security teams can standardize processes, automate repeatable tasks and manage incidents across their security product stack to improve response time and analyst productivity. It learns from the real-life analyst interactions and past investigations to help SOC teams with analyst assignment suggestions, playbook enhancements, and best next steps for investigations. Many of our customers see significantly faster SOC response times and a significant reduction in SOC alerts which require human intervention.
- ***Cortex Xpanse.*** This cloud-based subscription provides attack surface management, which is the ability for an organization to identify what an attacker would see amongst all of its sanctioned and unsanctioned Internet-facing assets. In addition, Cortex Xpanse detects risky or out-of-policy communications between Internet-connected assets that can be exploited for data breaches or ransomware attacks. Cortex Xpanse continuously identifies Internet assets, risky services or misconfigurations in third parties to help secure a supply chain or identify risks for mergers and acquisitions due diligence. Finally, compliance teams use Cortex Xpanse to improve their audit processes and stay in compliance by assessing their access controls against regulatory frameworks.
- ***Cortex Data Lake.*** This cloud-based subscription allows our customers to collect and analyze large amounts of context-rich network security data. This includes a collection of enhanced network logs generated by our security offerings, including those of our ML-Powered Next-Generation Firewalls and Prisma Access subscription, eliminating the need to plan for local data storage.

Support

Customer Support. Global customer support helps our customers achieve their security outcomes with services and support capabilities covering the customer's entire journey with Palo Alto Networks. This post-sales, global organization advances our customers' security maturity, supporting them when, where, and how they need it. We offer Standard Support, Premium Support, Four-Hour Premium Support and Platinum Support to our end-customers and channel partners. Our channel partners that operate a Palo Alto Networks Authorized Support Center ("ASC") typically deliver level-one and level-two support. We provide level-three support 24 hours a day, seven days a week through regional support centers that are located worldwide. We also offer a service offering called Focused Services that includes Customer Success Managers ("CSM") to provide support for end-customers with unique or complex support requirements. We offer our end-customers ongoing support for hardware, software and certain cloud offerings in order to receive ongoing security updates, PAN-OS upgrades, bug fixes, and repair. End-customers typically purchase these services for a one-year or longer term at the time of the initial product sale and typically renew for successive one-year or longer periods. Additionally, we provide expedited replacement for any defective hardware. We use a third-party logistics provider to manage our worldwide deployment of spare appliances and other accessories.

Threat Intelligence, Incident Response and Security Consulting. Unit 42 brings together world-renowned threat researchers, incident responders and security consultants to create an intelligence-driven, response-ready organization that is passionate about helping clients proactively manage cyber risk. We help security leaders assess and test their security controls, transform their security strategy with a threat-informed approach and respond to incidents rapidly. The Unit 42 Threat Intelligence team provides threat research that enables security teams to understand adversary intent and attribution, while enhancing protections offered by our products and services to stop advanced attacks. Our security consultants serve as trusted partners with state-of-the-art cyber risk expertise and incident response capabilities, helping customers focus on their business before, during, and after a breach.

Professional Services. Professional services are primarily delivered directly by Palo Alto Networks and through a global network of authorized channel partners to our end-customers and include on-location and remote, hands-on experts who plan, design, and deploy effective security solutions tailored to our end-customers' specific requirements. These services include architecture design and planning, implementation, configuration, and firewall migrations for all our products including Prisma and Cortex deployments. Customers can also purchase on-going technical experts to be part of customer's security teams to aid in the implementation and operation of their Palo Alto Networks capabilities. Our education services include certifications, as well as free online technical courses and in-classroom training, which are primarily delivered through our authorized training partners.

Research and Development

Our research and development efforts are focused on developing new hardware and software and on enhancing and improving our existing product and subscription offerings. We believe that hardware and software are both critical to expanding our leadership in the enterprise security industry. Our engineering team has deep networking, endpoint, and security expertise and works closely with end-customers to identify their current and future needs. In addition to our focus on hardware and software, our research and development team is focused on research into applications and threats, which allows us to respond to the rapidly changing application and threat landscape. We supplement our own research and development efforts with technologies and products that we license from third parties. We test our products thoroughly to certify and ensure interoperability with third-party hardware and software products.

We believe that innovation and timely development of new features and products is essential to meeting the needs of our end-customers and improving our competitive position. During fiscal 2022, we introduced several new offerings, including: Prisma Cloud 3.0, Prisma Access 3.0, AIOps for NGFW, PAN-OS 10.2, and Cloud NGFW for AWS. Additionally, we acquired productive investments that fit well within our long-term strategy.

We plan to continue to significantly invest in our research and development efforts as we evolve and extend the capabilities of our portfolio.

Intellectual Property

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. In particular, leading companies in the enterprise security industry have extensive patent portfolios and are regularly involved in both offensive and defensive litigation. We continue to grow our patent portfolio and own intellectual property and related intellectual property rights around the world that relate to our products, services, research and development, and other activities, and our success depends in part upon our ability to protect our core technology and intellectual property. 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 actively seek to protect our global intellectual property rights and to deter unauthorized use of our intellectual property by controlling access to and use of our proprietary software and other confidential 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 laws. Despite our efforts to protect our intellectual property rights, our rights may not be successfully asserted in the future or may be invalidated, circumvented or challenged. In addition, the laws of various foreign countries where our offerings are distributed may not protect our intellectual property rights to the same extent as laws in the United States. See "Risk Factors-*Claims by others that we infringe their intellectual property rights could harm our business*," "Risk Factors-*Our proprietary rights may be difficult to enforce or protect, which could enable others to copy or use aspects of our products or subscriptions without compensating us*," and "Legal Proceedings" below for additional information.

Government Regulation

We are subject to numerous U.S. federal, state, and foreign laws and regulations covering a wide variety of subject matters. Like other companies in the technology industry, we face scrutiny from both U.S. and foreign governments with respect to our compliance with laws and regulations. Our compliance with these laws and regulations may be onerous and could, individually or in the aggregate, increase our cost of doing business, impact our competitive position relative to our peers, and/or otherwise have an adverse impact on our business, reputation, financial condition, and operating results. For additional information about government regulation applicable to our business, see Part I, Item 1A "Risk Factors" in this Form 10-K.

Competition

We operate in the intensely competitive enterprise security industry that is characterized by constant change and innovation. Changes in the application, threat, and technology landscape result in evolving customer requirements for the protection from threats and the safe enablement of applications. Our main competitors fall into five categories:

- large companies that incorporate security features in their products, such as Cisco Systems, Inc. ("Cisco"), or those that have acquired, or may acquire, large network and endpoint security vendors and have the technical and financial resources to bring competitive solutions to the market;
- independent security vendors, such as Check Point Software Technologies Ltd. ("Check Point"), Fortinet, Inc. ("Fortinet"), and Zscaler, Inc. ("Zscaler"), that offer a mix of network and endpoint security products;
- startups and single-vertical vendors that offer independent or emerging solutions across various areas of security;
- public cloud vendors and startups that offer solutions for cloud security (private, public and hybrid cloud); and
- large and small companies, such as Crowdstrike, Inc. ("Crowdstrike"), that offer solutions for security operations and endpoint security.

As our market grows, it will attract more highly specialized vendors, as well as larger vendors that may continue to acquire or bundle their products more effectively.

The principal competitive factors in our market include:

- product features, reliability, performance, and effectiveness;
- product line breadth, diversity, and applicability;
- product extensibility and ability to integrate with other technology infrastructures;
- price and total cost of ownership;
- adherence to industry standards and certifications;
- strength of sales and marketing efforts; and
- brand awareness and reputation.

We believe we generally compete favorably with our competitors on the basis of these factors as a result of the features and performance of our portfolio, the ease of integration of our products with technological infrastructures, and the relatively low total cost of ownership of our products. However, many of our competitors have substantially greater financial, technical, and other resources, greater name recognition, larger sales and marketing budgets, broader distribution, more diversified product lines, and larger and more mature intellectual property portfolios.

Sales, Marketing, Services and Support

Customers. Our end-customers are predominantly medium to large enterprises, service providers, and government entities. Our end-customers operate in a variety of industries, including education, energy, financial services, government entities, healthcare, Internet and media, manufacturing, public sector, and telecommunications. Our end-customers deploy our portfolio of products for a variety of security functions across a variety of deployment scenarios. Typical deployment scenarios include the enterprise perimeter, the enterprise data center, and the distributed enterprise perimeter. Our end-customer deployments typically involve at least one pair of our products along with one or more of our subscriptions, depending on size, security needs and requirements, and network complexity. No single end-customer accounted for more than 10% of our total revenue in fiscal 2022, 2021, or 2020.

Distribution. We primarily sell our products and subscription and support offerings to end-customers through our channel partners utilizing a two-tier, indirect fulfillment model whereby we sell our products and subscription and support offerings to our distributors, which, in turn, sell to our resellers, which then sell to our end-customers. Sales are generally subject to our standard, non-exclusive distributor agreement, which provides for an initial term of one year, one-year renewal terms, termination by us with 30 to 90 days written notice prior to the renewal date, and payment to us from the channel partner within 30 to 45 calendar days of the date we issue an invoice for such sales. For fiscal 2022, 53.6% of our total revenue was derived from sales to three distributors.

We also sell our VM-Series virtual firewalls directly to end-customers through Amazon's AWS Marketplace, Microsoft's Azure Marketplace, and Google's Cloud Platform Marketplace under a usage-based licensing model.

Sales. Our sales organization is responsible for large-account acquisition and overall market development, which includes the management of the relationships with our channel partners, working with our channel partners in winning and supporting end-customers through a direct-touch approach, and acting as the liaison between our end-customers and our marketing and product development organizations. We expect to continue to grow our sales headcount to expand our reach in all key growth sectors.

Our sales organization is supported by sales engineers with responsibility for pre-sales technical support, solutions engineering for our end-customers, and technical training for our channel partners.

Channel Program. Our NextWave Channel Partner program is focused on building in-depth relationships with solutions-oriented distributors and resellers that have strong security expertise. The program rewards these partners based on a number of attainment goals, as well as provides them access to marketing funds, technical and sales training, and support. To promote optimal productivity, we operate a formal accreditation program for our channel partners' sales and technical professionals. As of July 31, 2022, we had more than 6,700 channel partners.

Global Customer Success. Our Global Customer Success ("GCS") organization is responsible for delivering professional, educational and support services directly to our channel partners and to end-customers. We leverage the capabilities of our channel partners and train them in the delivery of professional, educational and support services to enable these services to be locally delivered. We believe that a broad range of support services is essential to the successful customer deployment and ongoing support of our products, and we have hired support engineers with proven experience to provide those services.

Marketing. Our marketing is focused on building our brand reputation and the market awareness of our portfolio and driving pipeline and end-customer demand. Our marketing team consists primarily of product marketing, brand, demand generation, field marketing, digital marketing, communications, analyst relations and marketing analytics functions. Marketing activities include pipeline development through demand generation, social media and advertising programs, managing the corporate website and partner portal, trade shows and conferences, analyst relationships, customer advocacy, and customer awareness. Every year we organize multiple signature events, such as our end-customer conference "Ignite" and focused conferences such as "Cortex Symphony" and "SASE Converge." We also publish threat intelligence research such as the Unit 42 Cloud Threat Report and the Unit 42 IoT Threat Report, which are based on data from our global threat intelligence team, Unit 42. These activities and tools benefit both our direct and indirect channels and are available at no cost to our channel partners.

Backlog. Orders for subscription and support offerings for multiple years are generally billed upfront upon fulfillment and are included in deferred revenue. Contract amounts that are not recorded in deferred revenue or revenue are considered backlog. We expect backlog related to subscription and support offerings will change from period to period for various reasons, including the timing and duration of customer orders and varying billing cycles of those orders. Products are billed upon shipment. The majority of our product revenue comes from orders that are received and shipped in the same quarter. However, insufficient supply and inventory may delay our hardware product shipments. As such, we do not believe that our product backlog at any particular time is necessarily indicative of our future operating results.

Seasonality. Our business is affected by seasonal fluctuations in customer spending patterns. We have begun to see seasonal patterns in our business, which we expect to become more pronounced as we continue to grow, with our strongest sequential revenue growth generally occurring in our fiscal second and fourth quarters.

Manufacturing

We outsource the manufacturing of our products to various manufacturing partners, which include our electronics manufacturing services provider ("EMS provider") and original design manufacturers. This approach allows us to reduce our costs as it reduces our manufacturing overhead and inventory and also allows us to adjust more quickly to changing end-customer demand. Our EMS provider is Flextronics International, Ltd. ("Flex"), who assembles our products using design specifications, quality assurance programs, and standards that we establish, and 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.

The component parts within our products are either sourced by our manufacturing partners or by us from various component suppliers. Our manufacturing and supply contracts, generally, do not guarantee a certain level of supply or fixed pricing, which increases our exposure to supply shortages or price increases.

Human Capital

We believe our ongoing success depends on our employees. Development and investment in our people is central to who we are, and will continue to be so. With a global workforce of 12,561 as of July 31, 2022, we take our People Strategy and FLEXWORK philosophy seriously and care for our employees. This is a critical element of our overall company strategy. Our People Strategy is a comprehensive approach to source, hire, onboard, integrate, develop, engage and reward employees.

FLEXWORK. Throughout the COVID-19 pandemic, while prioritizing the health and safety of our employees, we have learned how to collaborate in a distributed hybrid work reality and to create opportunities for employees to maintain a sense of belonging and focus on well-being. In the future, we aim to continue to disrupt the nature of work. Our philosophy is simple: place our employees at the center of their working life by providing employees flexibility, personalization, and choice regarding how they work, the benefits they choose, the way they consume learning and, where possible, where and when they work. We believe that the more our employees have choice and demonstrate mutual trust and respect, the more engaged they will be.

FLEXWORK adds even more opportunity to scale our efforts to improve Inclusion and Diversity ("I&D"). It further enables us to recognize each individual as unique, with their own priorities and needs, and gives the employee greater agency to personalize their decisions and utilize our programs and initiatives to meet those interests and desires.

Source & Hire. Sourcing and hiring diverse talent and enabling them to create and execute is central to our comprehensive approach to talent acquisition, which we refer to as "The Way We Hire." Our talent acquisition team utilizes a number of methods to find subject experts in their respective fields, including the use of a variety of channels that focus on reaching underrepresented talents. Our university relations team partners with hundreds of academic institutions, including colleges and universities that focus on serving diverse populations, to provide career pathways for early-in-career candidates. We also encourage current employees to provide qualified referrals, and to utilize our internal mobility program to grow their careers. We equip hiring managers with training so that they are made aware of potential unconscious biases and interview for the values and competencies that we believe enhance our culture. We have diverse interview panels to deliver a quality interview experience to a diverse slate of candidates.

Onboard & Integrate. We believe that a positive onboarding experience is foundational to our employees thriving and therefore to rapid productivity. During the COVID-19 pandemic, we built and utilized virtual learning platforms and employee communication channels to provide new employees with inspirational, often personalized, onboarding experiences. Onboarding is a journey of integration that extends through the first year at Palo Alto Networks for every employee. In addition, we have built specialist learning tracks for interns and new graduates that have been recognized as best in class externally. As part of our merger and acquisition strategy, we have also established a robust integration program with the goal to enable individuals joining our teams to feel part of our culture at speed.

Develop & Motivate. FLEXLearn is our unique approach to personalized employee development. FLEXLearn is a learning experience platform that provides employees with a path based on their needs, interests, style, and career journey. Through FLEXLearn, employees have full agency to direct their growth at their pace and choosing. Development information about core business elements, professional skill sets, working in a distributed hybrid environment, as well as required company-wide compliance training, such as Code of Conduct, privacy and security, anti-discrimination, anti-harassment, and anti-bribery training, is also deployed through the FLEXLearn platform for all employees. In addition, FLEXLearn provides employees with events and activities that motivate and spark critical thinking, on topics ranging from inclusion, to well-being and collaboration. On average, employees had completed 16 hours of development through the FLEXLearn platform during fiscal 2022.

Engage & Reward. We conduct regular executive listening sessions and "pulse surveys" to better understand employee engagement, sentiment, well-being, and the ability to transition to a distributed work model. Many of these sessions have informed our holistic People Strategy, our FLEXWORK philosophy, I&D strategies, and Internal Mobility program.

Employee sentiment has continued to be highly positive. We continue to use insights from an anonymous global employee engagement survey we conducted in 2021 to execute action plans that reinforce our culture of engagement. Our internal pulse surveys and other feedback mechanisms, including insights from external employee sentiment sources and employer brand recognition, indicate that employees have a strong sense of belonging, confidence in leadership, and an understanding of how their work contributes to the Company's goals.

In addition to a comprehensive compensation and diverse benefits program, we believe in an always-on feedback and rewards philosophy. From recurring 1:1 sessions and quarterly performance feedback to use of our Cheers for Peers peer recognition program, employees get continuous input about the value they bring to the organization.

Inclusion & Diversity. We are intentional about including diverse points of view, perspectives, experiences, backgrounds and ideas in our decision-making processes. We deeply believe that true diversity exists when we have representation of all ethnicities, genders, orientations and identities, and cultures in our workforce. Our I&D programs continue to advance those visions. The diversity of our board of directors, with women representing 33% of our board as of July 31, 2022, is an example of that vision in action. We have nine employee network groups ("ENG's) which are employee-led groups that play a vital role in building understanding and awareness. Over 26% of our global workforce was involved in at least one ENG as of July 31, 2022. Our ENGs are provided with a budget to fund activities for their communities and to make charitable grants to organizations advancing their causes. We involve our ENGs in listening sessions with executive teams and we work in partnership to develop our annual I&D plans, because we believe involvement is critical. Our I&D philosophy is fully embedded in our talent acquisition, learning and development and rewards and recognition programs.

Environmental, Social & Governance

We recognize our duty to address environmental, social and governance ("ESG") practices. From our Climate Commitment and our social impact programs to our Supplier Responsibility initiatives and Code of Business Conduct and Ethics, we value the opportunity to have meaningful outcomes that reinforce our intention to respect our planet, uplift our communities and advance our industry.

Environmental. We recognize climate change is a global crisis and are committed to doing our part to reduce environmental impacts. Aligned to the Climate Commitments we declared in February 2021, we remain committed to utilizing 100% renewable energy, reducing our greenhouse gas ("GHG") emissions and working across our value chain, and with coalitions, to achieve these goals by 2030. During fiscal 2022, we conducted a comprehensive analysis of our global environmental footprint and developed Science Based Targets aligned to a warming scenario of 1.5° Celsius. We joined The Climate Pledge during fiscal 2022 demonstrating our eagerness to engage in coalitions to advocate for climate action. We are committed to being transparent about our progress over time through annual reporting.

Social. In addition to our FLEXWORK People Strategy described in the section titled "Human Capital" above, we prioritized the health and safety of our employees during the COVID-19 pandemic. Through the deployment of our Global Supplier Code of Conduct, we continued to reach across our supply chain to communicate our expectations regarding labor standards, business practices and workplace health and safety conditions. During fiscal 2022, we maintained our affiliate membership in the Responsible Business Alliance and maintained our commitment to Supplier Diversity. We value our role as a good corporate citizen and in fiscal 2022 continued to execute our social impact programs. In addition to ongoing efforts to help colleagues and communities impacted by the COVID-19 pandemic , we invested in education programs, scholarships, diversity and basic needs. We expanded our work to provide cybersecurity curriculum to schools, universities and nonprofit organizations to help youth protect their digital way of life and to prepare diverse adults for careers in cybersecurity. Employees continued to participate in our giving, matching and volunteer programs to make impacts in their local communities.

Governance. Integrity is one of our core values. Our corporate behavior and leadership practices model ethical decision making. Employees and suppliers are informed about our governance expectations through our Codes of Conduct, compliance training programs and ongoing communications. Our board of directors is governed by Corporate Governance Guidelines, which are amended from time to time to incorporate best practices in corporate governance. Reinforcing the importance of our ESG performance, the charter of the ESG and Nominating Committee of the board of directors includes the primary oversight of ESG.

Available Information

Our website is located at www.paloaltonetworks.com, and our investor relations website is located at investors.paloaltonetworks.com. Our Annual Reports 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 (the "Exchange Act"), are available free of charge on the Investors portion of our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission ("SEC"). We also provide a link to the section of the SEC's website at www.sec.gov that has all of our public filings, including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, all amendments to those reports, our Proxy Statements, and other ownership-related filings.

We also use our investor relations website as a channel of distribution for important company information. For example, webcasts of our earnings calls and certain events we participate in or host with members of the investment community are on our investor relations website. Additionally, we announce investor information, including news and commentary about our business and financial performance, SEC filings, notices of investor events, and our press and earnings releases, on our investor relations website. Investors and others can receive notifications of new information posted on our investor relations website in real time by signing up for email alerts and RSS feeds. Further corporate governance information, including our corporate governance guidelines, board committee charters, and code of conduct, is also available on our investor relations website under the heading "Governance." The contents of our websites are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only. All trademarks, trade names, or service marks used or mentioned herein belong to their respective owners.

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 operating results could be materially adversely affected, and the market price of our common stock could decline. In addition, the impacts of COVID-19 and any worsening of the economic environment may exacerbate the risks described below, any of which could have a material impact on us. This situation is changing rapidly, and additional impacts may arise that we are not currently aware of.

RISK FACTOR SUMMARY

Our business is subject to numerous risks and uncertainties. These risks include, but are not limited to, the following:

- The ongoing global COVID-19 pandemic could harm our business and results of operations.
- Our business and operations have experienced growth in recent periods, and if we do not effectively manage any future growth or are unable to improve our systems, processes, and controls, our operating results could be adversely affected.
- Our operating results may vary significantly from period to period and be unpredictable, which could cause the market price of our common stock to decline.
- Our operating results may be adversely affected by unfavorable economic and market conditions and the uncertain geopolitical environment.
- Our revenue growth rate in recent periods may not be indicative of our future performance.
- We have a history of losses, anticipate increasing our operating expenses in the future, and may not be able to achieve or maintain profitability or maintain or increase cash flow on a consistent basis, which could cause our business, financial condition, and operating results to suffer.
- If we are unable to sell new and additional product, subscription, and support offerings to our end-customers, our future revenue and operating results will be harmed.
- We face intense competition in our market and we may lack sufficient financial or other resources to maintain or improve our competitive position.
- A network or data security incident may allow unauthorized access to our network or data, harm our reputation, create additional liability and adversely impact our financial results.
- Reliance on shipments at the end of the quarter could cause our revenue for the applicable period to fall below expected levels.
- Seasonality may cause fluctuations in our revenue.
- If we are unable to hire, integrate, train, retain, and motivate qualified personnel and senior management, our business could suffer.
- If we are not successful in executing our strategy to increase sales of our products, subscriptions and support offerings to new and existing enterprise end-customers, our operating results may suffer.
- We rely on revenue from subscription and support offerings, and because we recognize revenue from subscription and support over the term of the relevant service period, downturns or upturns in sales of these subscription and support offerings are not immediately reflected in full in our operating results.
- Defects, errors, or vulnerabilities in our products, subscriptions, or support offerings, the failure of our products or subscriptions to block a virus or prevent a security breach or incident, misuse of our products, or risks of product liability claims could harm our reputation and adversely impact our operating results.
- False detection of applications, viruses, spyware, vulnerability exploits, data patterns, or URL categories could adversely affect our business.
- We rely on our channel partners to sell substantially all of our products, including subscriptions and support, and if these channel partners fail to perform, our ability to sell and distribute our products and subscriptions will be limited, and our operating results will be harmed.
- If we do not accurately predict, prepare for, and respond promptly to rapidly evolving technological and market developments and successfully manage product and subscription introductions and transitions to meet changing end-customer needs in the enterprise security industry, our competitive position and prospects will be harmed.

- Our current research and development efforts may not produce successful products, subscriptions, or features that result in significant revenue, cost savings or other benefits in the near future, if at all.
- We may acquire other businesses, which could subject us to adverse claims or liabilities, require significant management attention, disrupt our business, adversely affect our operating results, may not result in the expected benefits of such acquisitions and may dilute stockholder value.
- Because we depend on manufacturing partners to build and ship our products, we are susceptible to manufacturing and logistics delays and pricing fluctuations that could prevent us from shipping customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales and end-customers.
- Managing the supply of our products and product components is complex. Insufficient supply and inventory would result in lost sales opportunities or delayed revenue, while excess inventory would harm our gross margins.
- 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 has disrupted or delayed our scheduled product deliveries to our end-customers, increase our costs and may result in the loss of sales and end-customers.
- The sales prices of our products, subscriptions and support offerings may decrease, which may reduce our gross profits and adversely impact our financial results.
- We generate a significant amount of revenue from sales to distributors, resellers, 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 are exposed to fluctuations in foreign currency exchange rates, which could negatively affect our financial condition and operating results.
- We are exposed to the credit and liquidity risk of some of our channel partners and end-customers, and to credit exposure in weakened markets, which could result in material losses.
- A portion of our revenue is generated by sales to government entities, which are subject to a number of challenges and risks.
- Our ability to sell our products and subscriptions is dependent on the quality of our technical support services and those of our channel partners, and the failure to offer high-quality technical support services could have a material adverse effect on our end-customers' satisfaction with our products and subscriptions, our sales, and our operating results.
- Claims by others that we infringe their intellectual property rights could harm our business.
- Our proprietary rights may be difficult to enforce or protect, which could enable others to copy or use aspects of our products or subscriptions without compensating us.
- Our use of open source software in our products and subscriptions could negatively affect our ability to sell our products and subscriptions and subject us to possible litigation.
- We license technology from third parties, and our inability to maintain those licenses could harm our business.

Risks Related to Our Business and Our Industry

The ongoing global COVID-19 pandemic could harm our business and results of operations.

The novel strain of COVID-19 identified in late 2019 has spread globally, including within the United States, and has resulted in government authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders, and shutdowns. This pandemic has negatively impacted and will likely continue to have a negative impact on, worldwide economic activity and financial markets and has impacted, and will further impact, our workforce and operations, the operations of our end-customers, and those of our respective channel partners, vendors and suppliers. In light of the uncertain and rapidly evolving situation relating to the spread of this virus and various government restrictions and guidelines, we have taken measures intended to mitigate the spread of the virus and minimize the risk to our employees, channel partners, end-customers, and the communities in which we operate. Through our FLEXWORK program, our employees may choose to work from home or in the office for a set number of days per week. Although we continue to monitor the situation and may adjust our current policies as more information and public health guidance become available, including progress made through vaccinations, these precautionary measures that we have adopted could negatively affect our customer success efforts, sales and marketing efforts, delay and lengthen our sales cycles, and create operational or other challenges, any of which could harm our business and results of operations. In addition, COVID-19 will likely continue to disrupt the operations of our end-customers and channel partners for an indefinite period of time, including as a result of travel restrictions and/or business shutdowns, all of which could negatively impact our business and results of operations, including cash flows.

The ongoing impact of COVID-19 is fluid and uncertain, but it has caused and may continue to cause various negative effects, including an inability to meet with our existing or potential end-customers; our end-customers deciding to delay or abandon their planned purchases; increased requests for delayed payment terms or product discounts by our end-customers and channel partners; us delaying, canceling, or withdrawing from user and industry conferences and other marketing events, including some of our own; and changes in the demand for our products, which has caused us to reprioritize our engineering and research and development efforts and make changes to our original offering roadmap. We have also seen supply chain challenges increase significantly, including chip and component shortages (in some cases, attributable to labor shortages), and at times we do not have sufficient inventory of certain of our products to promptly meet customer demand. As a result, we have experienced at times extended delivery time and increased costs for chips and components compared to historic levels; our demand generation activities, and our ability to close transactions with end-customers and partners may be negatively impacted; our ability to provide 24x7 worldwide support and/or replacement parts to our end-customers may be adversely affected; and it has been and, until the COVID-19 outbreak is contained and global economic activity stabilizes, will continue to be more difficult for us to forecast our operating results.

More generally, the pandemic has not only significantly and adversely increased economic and demand uncertainty, but it has caused a global economic slowdown, and continuing global economic uncertainty which could decrease technology spending and adversely affect demand for our offerings and harm our business and results of operations.

Our business and operations have experienced growth in recent periods, and if we do not effectively manage any future growth or are unable to improve our systems, processes, and controls, our operating results could be adversely affected.

We have experienced growth and increased demand for our products and subscriptions over the last few years. As a result, our employee headcount has increased significantly, and we expect it to continue to grow over the next year. For example, from the end of fiscal 2021 to the end of fiscal 2022, our headcount increased from 10,473 to 12,561 employees. In addition, as we have grown, our number of end-customers has also increased significantly, and we have increasingly managed more complex deployments of our products and subscriptions with larger end-customers. The growth and expansion of our business and product, subscription, and support offerings places a significant strain on our management, operational, and financial resources. To manage any future growth effectively, we must continue to improve and expand our information technology and financial infrastructure, our operating and administrative systems and controls, and our ability to manage headcount, capital, and processes in an efficient manner, all of which may be more difficult to accomplish the longer that our employees must work remotely from home.

We may not be able to successfully implement or scale improvements to our systems, processes, and controls in an efficient or timely manner. In addition, our existing systems, processes, and controls may not prevent or detect all errors, omissions, or fraud. We may also experience difficulties in managing improvements to our systems, processes, and controls or in connection with third-party software licensed to help us with such improvements. Any future growth would add complexity to our organization and require effective coordination throughout our organization. Failure to manage any future growth effectively could result in increased costs, disrupt our existing end-customer relationships, reduce demand for or limit us to smaller deployments of our products, or harm our business performance and operating results.

Our operating results may vary significantly from period to period and be unpredictable, which could cause the market price of our common stock to decline.

Our operating results, in particular, our revenues, gross margins, operating margins, and operating expenses, have historically varied from period to period, and even though we have experienced growth, we expect variation to continue 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 and retain new end-customers or sell additional products and subscriptions to our existing end-customers;
- the budgeting cycles, seasonal buying patterns, and purchasing practices of our end-customers;
- changes in end-customer, distributor or reseller requirements, or market needs;
- price competition;
- the timing and success of new product and service introductions by us or our competitors or any other change in the competitive landscape of our industry, including consolidation among our competitors or end-customers and strategic partnerships entered into by and between our competitors;
- changes in the mix of our products, subscriptions, and support, including changes in multi-year subscriptions and support;
- our ability to successfully and continuously expand our business domestically and internationally, particularly in the current global economic slowdown and the escalation of military conflicts such as Russia's invasion of Ukraine;
- changes in the growth rate of the enterprise security industry;
- deferral of orders from end-customers in anticipation of new products or product enhancements announced by us or our competitors;
- the timing and costs related to the development or acquisition of technologies or businesses or strategic partnerships;
- 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 acquisitions that we may undertake;
- increased expenses, unforeseen liabilities, or write-downs and any impact on our operating results from any acquisitions we consummate;
- our ability to increase the size and productivity of our distribution channel;
- our obligation to repay the aggregate principal amount of the Notes as holders exercise their conversion rights under the Notes;
- decisions by potential end-customers to purchase security solutions from larger, more established security vendors or from their primary network equipment vendors;
- changes in end-customer penetration or attach and renewal rates for our subscriptions;
- timing of revenue recognition and revenue deferrals;
- our ability to manage production and manufacturing related costs, global customer service organization costs, inventory excess and obsolescence costs, and warranty costs, especially due to disruptions in our supply chain as a result of COVID-19 and the global semiconductor chip and component shortage;
- our ability to manage cloud hosting service costs and scale the cloud-based subscription offerings;
- insolvency or credit difficulties confronting our end-customers, including due to the continuing effects of COVID-19 and adversely affect their ability to purchase or pay for our products and subscription and support offerings in a timely manner or at all, or confronting our key suppliers, including our sole source suppliers, which could disrupt our supply chain;
- any disruption in our channel or termination of our relationships with important channel partners, including as a result of consolidation among distributors and resellers of security solutions;
- our inability to timely fulfill our end-customers' orders due to supply chain delays or events that impact our manufacturers or their suppliers, including due to the effects of COVID-19 and the global semiconductor chip and component shortage;
- the cost and potential outcomes of litigation, which could have a material adverse effect on our business;
- seasonality or cyclical fluctuations in our markets;
- future accounting pronouncements or changes in our accounting policies;

- increases or decreases in our expenses caused by fluctuations in foreign currency exchange rates, as an increasing amount of our expenses is incurred and paid in currencies other than the U.S. dollar;
- political, economic and social instability caused by the United Kingdom's exit from the European Union ("Brexit"), Russia's invasion of Ukraine, continued hostilities in the Middle East, terrorist activities, any disruptions from COVID-19 and any disruption these events may cause to the broader global industrial economy; and
- general macroeconomic conditions, both domestically and in our foreign markets that could impact some or all regions where we operate, including inflation, and global economic uncertainty due to the continuing effects of COVID-19.

Any one of the factors above, or the cumulative effect of some of the factors referred to above, may result in significant fluctuations in our financial and other operating results. This variability and unpredictability could result in our failure to meet our revenue, margin, or other operating result expectations or those of securities analysts or investors for a particular period. If we fail to meet or exceed such expectations for these or any other reasons, the market price of our common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

Our operating results may be adversely affected by unfavorable economic and market conditions and the uncertain geopolitical environment.

We operate globally, and as a result, our business and revenues are impacted by global economic and geopolitical conditions. The instability in the global credit markets, inflation, shortages and delays related to the global supply chain challenges, uncertainties related to the timing of the lifting of governmental restrictions to mitigate the spread of COVID-19, the current economic challenges in China, changes in public policies such as domestic and international regulations, taxes, increase in interest rates, fluctuations in foreign currency exchange rates, or international trade agreements, international trade disputes, government shutdowns, geopolitical turmoil and other disruptions to global and regional economies and markets continue to add uncertainty to global economic conditions. Military actions or armed conflict, including Russia's invasion of Ukraine and any related political or economic responses and counter-responses, and uncertainty about or changes in government and trade relationships, policies and treaties could also lead to worsening economic and market conditions and the geopolitical environment. In response to Russia's invasion of Ukraine, the United States, along with the European Union, has imposed restrictive sanctions on Russia, Russian entities, and Russian citizens ("Sanctions on Russia"). We are subject to these governmental sanctions and export controls, which may subject us to liability if we are not in full compliance with applicable laws. Any continued or further uncertainty, weakness or deterioration in economic and market conditions or the geopolitical environment could have a material and adverse impact on our business, financial condition and results of operations, including reductions in sales of our products and subscriptions, longer sales cycles, reductions in subscription or contract duration and value, slower adoption of new technologies, alterations in the spending patterns or priorities of current and prospective customers (including delaying purchasing decisions), increased costs for the chips and components to manufacture our products and increased price competition.

Our revenue growth rate in recent periods may not be indicative of our future performance.

We have experienced revenue growth rates of 29.3% and 24.9% in fiscal 2022 and fiscal 2021, respectively. Our revenue for any prior quarterly or annual period should not be relied upon as an indication of our future revenue or revenue growth for any future period. If we are unable to maintain consistent or increasing revenue or revenue growth, the market price of our common stock could be volatile, and it may be difficult for us to achieve and maintain profitability or maintain or increase cash flow on a consistent basis.

We have a history of losses, anticipate increasing our operating expenses in the future, and may not be able to achieve or maintain profitability or maintain or increase cash flow on a consistent basis, which could cause our business, financial condition, and operating results to suffer.

Other than fiscal 2012, we have incurred losses in all fiscal years since our inception. As a result, we had an accumulated deficit of $1.7 billion as of July 31, 2022. We anticipate that our operating expenses will continue to increase in the foreseeable future as we continue to grow our business. Our growth efforts may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenues sufficiently, or at all, to offset increasing expenses. Revenue growth may slow or revenue may decline for a number of possible reasons, including the downturn in the global and U.S. economy due to COVID-19, slowing demand for our products or subscriptions, increasing competition, a decrease in the growth of, or a demand shift in, our overall market, or a failure to capitalize on growth opportunities. We have also entered into a substantial amount of capital commitments for operating lease obligations and other purchase commitments. Any failure to increase our revenue as we grow our business could prevent us from achieving or maintaining profitability or maintaining or increasing cash flow on a consistent basis or satisfying our capital commitments. In addition, we may have difficulty achieving profitability under U.S. GAAP due to share-based compensation expense and other non-cash charges. If we are unable to navigate these challenges as we encounter them, our business, financial condition, and operating results may suffer.

If we are unable to sell new and additional product, subscription, and support offerings to our end-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 portfolio with existing end-customers and create demand for our new offerings, including cloud security, AI, and analytics offerings. This may require increasingly sophisticated and costly sales efforts that may not result in additional sales. The rate at which our end-customers purchase additional products, subscriptions, and support depends on a number of factors, including the perceived need for additional security products, including subscription and support offerings, as well as general economic conditions. Further, existing end-customers have no contractual obligation to and may not renew their subscription and support contracts after the completion of their initial contract period. Our end-customers' renewal rates may decline or fluctuate as a result of a number of factors, including their level of satisfaction with our subscriptions and our support offerings, the frequency and severity of subscription outages, our product uptime or latency, and the pricing of our, or competing, subscriptions. Additionally, our end-customers may renew their subscription and support agreements for shorter contract lengths or on other terms that are less economically beneficial to us. We also cannot be certain that our end-customers will renew their subscription and support agreements. If our efforts to sell additional products and subscriptions to our end-customers are not successful or our end-customers do not renew their subscription and support agreements or renew them on less favorable terms, our revenues may grow more slowly than expected or decline.

We face intense competition in our market and we may lack sufficient financial or other resources to maintain or improve our competitive position.

The industry for enterprise security products is intensely competitive, and we expect competition to increase in the future from established competitors and new market entrants. Our main competitors fall into five categories:

- large companies that incorporate security features in their products, such as Cisco Systems, Inc. ("Cisco"), or those that have acquired, or may acquire, large network and endpoint security vendors and have the technical and financial resources to bring competitive solutions to the market;
- independent security vendors, such as Check Point Software Technologies Ltd. ("Check Point"), Fortinet, Inc. ("Fortinet"), and Zscaler, Inc. ("Zscaler"), that offer a mix of network and endpoint security products;
- startups and single-vertical vendors that offer independent or emerging solutions across various areas of security;
- public cloud vendors and startups that offer solutions for cloud security (private, public and hybrid cloud); and
- large and small companies, such as Crowdstrike, Inc. ("Crowdstrike"), that offer solutions for security operations and endpoint security.

Many of our existing competitors have, and some of our potential competitors could have, substantial competitive advantages such as:

- greater name recognition and longer operating histories;
- larger sales and marketing budgets and resources;
- broader distribution and established relationships with distribution partners and end-customers;
- greater customer support resources;
- greater resources to make strategic acquisitions or enter into strategic partnerships;
- lower levels of indebtedness;
- lower labor and development costs;
- newer or disruptive products or technologies;
- 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 and more diverse product and services offerings, which may make them less susceptible to downturns in a particular market and allow them to leverage their relationships based on other products or incorporate functionality into existing products to gain business in a manner that discourages users from purchasing our products and subscriptions, including through selling at zero or negative margins, offering concessions, product bundling, or a closed technology offering. Many of our smaller competitors that specialize in providing protection from a single type of security threat are often able to deliver these specialized security products to the market more quickly than we can.

Organizations that use legacy products and services may believe that these products and services are sufficient to meet their security needs or that our offerings only serve the needs of a portion of the enterprise security industry. Accordingly, these organizations may continue allocating their information technology budgets for legacy products and services and may not adopt our security offerings. Further, many organizations have invested substantial personnel and financial resources to design and operate their networks and have established deep relationships with other providers of networking and security products. As a result, these organizations may prefer to purchase from their existing suppliers rather than add or switch to a new supplier such as us, regardless of product performance, features, or greater services offerings or may be more willing to incrementally add solutions to their existing security infrastructure from existing suppliers than to replace it wholesale with our solutions.

Conditions in our market could change rapidly and significantly as a result of technological advancements, partnering or acquisitions by our competitors, or continuing market consolidation. New start-up companies that innovate and large competitors that are making significant investments in research and development may invent similar or superior products and technologies that compete with our products and subscriptions. Some of our competitors have made or could make acquisitions of businesses that may allow them to offer more directly competitive and comprehensive solutions than they had previously offered and adapt more quickly to new technologies and end-customer needs. Our current and potential competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their resources.

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. Any failure to meet and address these factors could seriously harm our business and operating results.

A network or data security incident may allow unauthorized access to our network or data, harm our reputation, create additional 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 supply chain attacks) and add to the risks to our internal networks, cloud-deployed enterprise and customer-facing environments and the information they store and process. Incidences of cyberattacks and other cybersecurity breaches and incidents have increased and are likely to continue to increase. We and our third-party service providers face security threats and attacks from a variety of sources. Despite our efforts and processes to prevent breaches of our internal networks, systems and websites, our data, corporate systems, our systems and security measures, as well as those of our third-party service providers, are still vulnerable to computer viruses, break-ins, phishing attacks, ransomware attacks, or other types of attacks from outside parties, or breaches due to employee error, malfeasance, a combination of these, or otherwise. We cannot guarantee that the measures we have taken to protect our networks, systems and websites will provide adequate security. Furthermore, as a well-known provider of security solutions, we may be a more attractive target for such attacks. The conflict in Ukraine and associated activities in Ukraine and Russia may increase the risk of cyberattacks on various types of infrastructure and operations, and the United States government has warned companies to be prepared for a significant increase in Russian cyberattacks in response to the Sanctions on Russia.

A security breach or incident or an attack against our service availability suffered by us, or 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 or otherwise processed on our networks or those of our third-party service providers could be accessed, publicly disclosed, altered, lost, stolen, rendered unavailable, or otherwise used or processed without authorization, which could subject us to liability and cause us financial harm. Any actual or perceived breach of security in our systems or networks, or any other actual or perceived data security incident we or our third-party service providers suffer, could result in significant damage to our reputation, negative publicity, loss of channel partners, end-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, demands, 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, devices, and other measures 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. While we maintain cybersecurity insurance, our insurance may be insufficient to cover all liabilities incurred by these incidents, and any incidents may result in loss of, or increased costs of, our cybersecurity insurance. 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.

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

As a result of end-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 of each fiscal quarter. If expected revenue at the end of any fiscal quarter is delayed for any reason, including the failure of anticipated purchase orders to materialize (particularly for large enterprise end-customers with lengthy sales cycles), our logistics partners' inability to ship products prior to fiscal quarter-end to fulfill purchase orders received near the end of a fiscal quarter (including due to the effects of COVID-19), our failure to manage inventory to meet demand, any failure of our systems related to order review and processing, or any delays in shipments based on trade compliance requirements (including new compliance requirements imposed by new or renegotiated trade agreements), revenue could fall below our expectations and the estimates of analysts for that quarter, which could adversely impact our business and operating results and cause a decline in the market price of our common stock.

Seasonality may cause fluctuations in our revenue.

We believe there are significant seasonal factors that may cause our second and fourth fiscal quarters to record greater revenue sequentially than our first and third fiscal quarters. We believe that this seasonality results from a number of factors, including:

- end-customers with a December 31 fiscal year-end choosing to spend remaining unused portions of their discretionary budgets before their fiscal year-end, which potentially results in a positive impact on our revenue in our second fiscal quarter;
- our sales compensation plans, which are typically structured around annual quotas and commission rate accelerators, which potentially results in a positive impact on our revenue in our fourth fiscal quarter;
- seasonal reductions in business activity during August in the United States, Europe and certain other regions, which potentially results in a negative impact on our first fiscal quarter revenue; and
- the timing of end-customer budget planning at the beginning of the calendar year, which can result in a delay in spending at the beginning of the calendar year potentially resulting in a negative impact on our revenue in our third fiscal quarter.

As we continue to grow, seasonal or cyclical variations in our operations may become more pronounced, and our business, operating results and financial position may be adversely affected.

If we are unable to hire, integrate, train, retain, and motivate qualified personnel and senior management, our business could suffer.

Our future success depends, in part, on our ability to continue to hire, integrate, train, and retain qualified and highly skilled personnel. We are substantially dependent on the continued service of our existing engineering personnel because of the complexity of our offerings. Additionally, any failure to hire, integrate, train, and adequately incentivize our sales personnel or the inability of our recently hired sales personnel to effectively ramp to target productivity levels could negatively impact our growth and operating margins. Competition for highly skilled personnel, particularly in engineering, is often intense, especially in the San Francisco Bay Area, where we have a substantial presence and need for such personnel. Additionally, potential changes in U.S. immigration and work authorization laws and regulations, including in reaction to COVID-19, may make it difficult to renew or obtain visas for any highly skilled personnel that we have hired or are actively recruiting.

In addition, the industry in which we operate generally experiences high employee attrition. Although we have entered into employment offer letters with our key personnel, these agreements have no specific duration and constitute at-will employment. We do not maintain key person life insurance policies on any of our employees. The loss of one or more of our key employees, and any failure to have in place and execute an effective succession plan for key executives, could seriously harm our business. If we are unable to hire, integrate, train, or retain the qualified and highly skilled personnel required to fulfill our current or future needs, our business, financial condition, and operating results could be harmed.

Our future performance also depends on the continued services and continuing contributions of our senior management to execute on our business plan and to identify and pursue new opportunities and product innovations. The loss of services of senior management, the decrease in the effectiveness of such services due to working remotely from home, or the ineffective management of any leadership transitions, especially within our sales organization, could significantly delay or prevent the achievement of our development and strategic objectives, which could adversely affect our business, financial condition, and operating results.

Further, we believe that a critical contributor to our success and our ability to retain highly skilled personnel has been our corporate culture, which we believe fosters innovation, inclusion, teamwork, passion for end-customers, focus on execution, and the facilitation of critical knowledge transfer and knowledge sharing. As we grow and change, we may find it difficult to maintain these important aspects of our corporate culture. While we are taking steps to develop a more inclusive and diverse workforce, there is no guarantee that we will be able to do so. Any failure to preserve our culture as we grow could limit our ability to innovate and could negatively affect our ability to retain and recruit personnel, continue to perform at current levels or execute on our business strategy.

If we are not successful in executing our strategy to increase sales of our products, subscriptions and support offerings to new and existing enterprise end-customers, our operating results may suffer.

Our growth strategy is dependent, in part, upon increasing sales of our products, services, subscriptions and offerings to new and existing medium and large enterprise end-customers. Sales to these end-customers involve risks that may not be present, or that are present to a lesser extent, with sales to smaller entities. These risks include:

- competition from competitors, such as Cisco and Check Point, that traditionally target larger enterprises, service providers, and government entities and that may have pre-existing relationships or purchase commitments from those end-customers;
- increased purchasing power and leverage held by large end-customers in negotiating contractual arrangements with us;
- more stringent requirements in our worldwide support contracts, including stricter support response times and penalties for any failure to meet support requirements; and
- longer sales cycles, particularly during the current economic slowdown and in some cases over 12 months, and the associated risk that substantial time and resources may be spent on a potential end-customer that elects not to purchase our products and subscriptions.

In addition, product purchases by large enterprises are frequently subject to budget constraints, multiple approvals, and unplanned administrative, processing, and other delays. Finally, large enterprises typically have longer implementation cycles, require greater product functionality and scalability and a broader range of services, demand that vendors take on a larger share of risks, sometimes require acceptance provisions that can lead to a delay in revenue recognition, and expect greater payment flexibility from vendors. All of these factors can add further risk to business conducted with these end-customers. If we fail to realize an expected sale from a large end-customer in a particular quarter or at all, our business, operating results, and financial condition could be materially and adversely affected.

We rely on revenue from subscription and support offerings, and because we recognize revenue from subscription and support over the term of the relevant service period, downturns or upturns in sales of these subscription and support offerings are not immediately reflected in full in our operating results.

Subscription and support revenue accounts for a significant portion of our revenue, comprising 75.2% of total revenue in fiscal 2022, 73.7% of total revenue in fiscal 2021, and 68.8% of total revenue in fiscal 2020. Sales of new or renewal subscription and support contracts may decline and fluctuate as a result of a number of factors, including end-customers' level of satisfaction with our products and subscriptions (including newly integrated products and services), the prices of our products and subscriptions, the prices of products and services offered by our competitors, and reductions in our end-customers' spending levels. If our sales of new or renewal subscription and support contracts decline, our total revenue and revenue growth rate may decline, and our business will suffer. In addition, we recognize subscription and support revenue over the term of the relevant service period, which is typically one to five years. As a result, much of the subscription and support revenue we report each fiscal quarter is the recognition of deferred revenue from subscription and support contracts entered into during previous fiscal quarters. Consequently, a decline in new or renewed subscription or support contracts in any one fiscal quarter will not be fully or immediately reflected in revenue in that fiscal quarter but will negatively affect our revenue in future fiscal quarters. Also, it is difficult for us to rapidly increase our subscription and support revenue through additional subscription and support sales in any period, as revenue from new and renewal subscription and support contracts must be recognized over the applicable service period.

Defects, errors, or vulnerabilities in our products, subscriptions, or support offerings, the failure of our products or subscriptions to block a virus or prevent a security breach or incident, misuse of our products, or risks of product liability claims could harm our reputation and adversely impact our operating results.

Because our products and subscriptions are complex, they have contained and may contain design or manufacturing defects or errors that are not detected until after their commercial release and deployment by our end-customers. For example, from time to time, certain of our end-customers have reported defects in our products related to performance, scalability, and compatibility. Additionally, defects may cause our products or subscriptions to be vulnerable to security attacks, cause them to fail to help secure networks, or temporarily interrupt end-customers' networking traffic. Because the techniques used by computer hackers to access or sabotage networks change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques and provide a solution in time to protect our end-customers' networks. In addition, due to the Russian invasion of Ukraine there could be a significant increase in Russian cyberattacks against our customers, resulting in an increased risk of a security breach of our end-customers' systems. Furthermore, as a well-known provider of security solutions, our networks, products, including cloud-based technology, and subscriptions could be targeted by attacks specifically designed to disrupt our business and harm our reputation. In addition, defects or errors in our subscription updates or our products could result in a failure of our subscriptions to effectively update end-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 end-customer base, any of which could temporarily or permanently expose our end-customers' networks, leaving their networks unprotected against the latest security threats. Moreover, our products must interoperate with our end-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, when problems occur in a network, it may be difficult to identify the sources of these problems.

The occurrence of any such problem in our products and subscriptions, whether real or perceived, could result in:

- expenditure of significant financial and product development resources in efforts to analyze, correct, eliminate, or work-around errors or defects or to address and eliminate vulnerabilities;
- loss of existing or potential end-customers or channel partners;
- delayed or lost revenue;
- delay or failure to attain market acceptance;
- an increase in warranty claims compared with our historical experience, or an increased cost of servicing warranty claims, either of which would adversely affect our gross margins; and
- litigation, regulatory inquiries, investigations, or other proceedings, each of which may be costly and harm our reputation.

Further, our products and subscriptions may be misused by end-customers or third parties that obtain access to our products and subscriptions. For example, our products and subscriptions could be used to censor private access to certain information on the Internet. Such use of our products and subscriptions for censorship could result in negative press coverage and negatively affect our reputation.

The limitation of liability provisions in our standard terms and conditions of sale may not fully or effectively protect us from claims as a result of federal, state, or local laws or ordinances, or unfavorable judicial decisions in the United States or other countries. The sale and support of our products and subscriptions also entails the risk of product liability claims. Although we may be indemnified by our third-party manufacturers for product liability claims arising out of manufacturing defects, because we control the design of our products and subscriptions, we may not be indemnified for product liability claims arising out of design defects. We maintain insurance to protect against certain claims associated with the use of our products and subscriptions, but our insurance coverage may not adequately cover any claim asserted against us. In addition, even claims that ultimately are unsuccessful could result in our expenditure of funds in litigation, divert management's time and other resources, and harm our reputation.

False detection of applications, viruses, spyware, vulnerability exploits, data patterns, or URL categories could adversely affect our business.

Our classifications of application type, virus, spyware, vulnerability exploits, data, or URL categories may falsely detect, report and act on applications, content, or threats that do not actually exist. This risk is heightened by the inclusion of a "heuristics" feature in our products and subscriptions, which attempts to identify applications and other threats not based on any known signatures but based on characteristics or anomalies which indicate that a particular item may be a threat. These false positives may impair the perceived reliability of our products and subscriptions and may therefore adversely impact market acceptance of our products and subscriptions. If our products and subscriptions restrict important files or applications based on falsely identifying them as malware or some other item that should be restricted, this could adversely affect end-customers' systems and cause material system failures. Any such false identification of important files or applications could result in damage to our reputation, negative publicity, loss of channel partners, end-customers and sales, increased costs to remedy any problem, and costly litigation.

We rely on our channel partners to sell substantially all of our products, including subscriptions and support, and if these channel partners fail to perform, our ability to sell and distribute our products and subscriptions will be limited, and our operating results will be harmed.

Substantially all of our revenue is generated by sales through our channel partners, including distributors and resellers. We provide our channel partners with specific training and programs to assist them in selling our products, including subscriptions and support offerings, but there can be no assurance that these steps will be utilized or effective. In addition, our channel partners may be unsuccessful in marketing, selling, and supporting our products and subscriptions. We may not be able to incentivize these channel partners to sell our products and subscriptions to end-customers and, in particular, to large enterprises. These channel partners may also have incentives to promote our competitors' products and may devote more resources to the marketing, sales, and support of competitive products. Our channel partners' operations may also be negatively impacted by other effects COVID-19 is having on the global economy, such as increased credit risk of end-customers and the uncertain credit markets. Our agreements with our channel partners may generally be terminated for any reason by either party with advance notice prior to each annual renewal date. We cannot be certain that we will retain these channel partners or that we will be able to secure additional or replacement channel partners. In addition, any new channel partner requires extensive training and may take several months or more to achieve productivity. Our channel partner sales structure could subject us to lawsuits, potential liability, and reputational harm if, for example, any of our channel partners misrepresent the functionality of our products or subscriptions to end-customers or violate laws or our corporate policies. If we fail to effectively manage our sales channels or channel partners, our ability to sell our products and subscriptions and operating results will be harmed.

If we do not accurately predict, prepare for, and respond promptly to rapidly evolving technological and market developments and successfully manage product and subscription introductions and transitions to meet changing end-customer needs in the enterprise security industry, our competitive position and prospects will be harmed.

The enterprise security industry has grown quickly and is expected to continue to evolve rapidly. Moreover, many of our end-customers operate in markets characterized by rapidly changing technologies and business plans, which require them to add numerous network access points and adapt increasingly complex enterprise networks, incorporating a variety of hardware, software applications, operating systems, and networking protocols. We must continually change our products and expand our business strategy in response to changes in network infrastructure requirements, including the expanding use of cloud computing. For example, organizations are moving portions of their data to be managed by third parties, primarily infrastructure, platform and application service providers, and may rely on such providers' internal security measures. While we have historically been successful in developing, acquiring, and marketing new products and product enhancements that respond to technological change and evolving industry standards, we may not be able to continue to do so, and there can be no assurance that our new or future offerings will be successful or will achieve widespread market acceptance. If we fail to accurately predict end-customers' changing needs and emerging technological trends in the enterprise security industry, including in the areas of mobility, virtualization, cloud computing, and software defined networks ("SDN"), our business could be harmed. In addition, COVID-19 and the resulting increase in customer demand for work-from-home technologies and other technologies have caused us to reprioritize our engineering and R&D efforts and there can be no assurance that any product enhancements or new features will be successful or address our end-customer needs.

The technology in our portfolio is especially complex because it needs to effectively identify and respond to new and increasingly sophisticated methods of attack, while minimizing the impact on network performance. Additionally, some of our new features and related enhancements may require us to develop new hardware architectures that involve complex, expensive, and time-consuming research and development processes. The development of our portfolio is difficult and the timetable for commercial release and availability is uncertain as there can be long time periods between releases and availability of new features. If we experience unanticipated delays in the availability of new products, features and subscriptions, and fail to meet customer expectations for such availability, our competitive position and business prospects will be harmed.

Additionally, we must commit significant resources to developing new features and new cloud security, AI/analytics and other offerings before knowing whether our investments will result in products, subscriptions, and features the market will accept. The success of new features depends on several factors, including appropriate new product definition, differentiation of new products, subscriptions, and features from those of our competitors, and market acceptance of these products, services and features. Moreover, successful new product introduction and transition depends on a number of factors, including our ability to manage the risks associated with new product production ramp-up issues, the availability of application software for new products, the effective management of purchase commitments and inventory, the availability of products in appropriate quantities and costs to meet anticipated demand, and the risk that new products may have quality or other defects or deficiencies, especially in the early stages of introduction. There can be no assurance that we will successfully identify opportunities for new products and subscriptions, develop and bring new products and subscriptions to market in a timely manner, or achieve market acceptance of our products and subscriptions, including our product enhancement efforts in connection with COVID-19, or that products, subscriptions, and technologies developed by others will not render our products, subscriptions, or technologies obsolete or noncompetitive.

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

Developing our products, subscriptions, features, and related enhancements is expensive. Our investments in research and development may not result in significant design improvements, marketable products, subscriptions, or features, or may result in products, subscriptions, or features that are more expensive than anticipated. Additionally, we may not achieve the cost savings or the anticipated performance improvements we expect, and we may take longer to generate revenue, or generate less revenue, than we anticipate. Our future plans include significant investments in research and development and related product and subscription opportunities. We believe that we must continue to dedicate a significant amount of resources to our research and development efforts to maintain our competitive position. However, we may not receive significant revenue from these investments in the near future, if at all, or these investments may not yield the expected benefits, either of which could adversely affect our business and operating results.

We may acquire other businesses, which could subject us to adverse claims or liabilities, require significant management attention, disrupt our business, adversely affect our operating results, may not result in the expected benefits of such acquisitions and may dilute stockholder value.

As part of our business strategy, we acquire and make investments in complementary companies, products, or technologies. The identification of suitable acquisition candidates is difficult, and we may not be able to complete such acquisitions on favorable terms, if at all. In addition, we may be subject to claims or liabilities assumed from an acquired company, product, or technology; acquisitions we complete could be viewed negatively by our end-customers, investors, and securities analysts; and we may incur costs and expenses necessary to address an acquired company's failure to comply with laws and governmental rules and regulations. Additionally, we may be subject to 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.

If we are unsuccessful at integrating past or future acquisitions in a timely manner, or the technologies and operations associated with such acquisitions, into our company, our revenue and operating results could be adversely affected. Any integration process may require significant time and resources, which may disrupt our ongoing business and divert management's attention, and we may not be able to manage the integration process successfully or in a timely manner. We may not successfully evaluate or utilize the acquired technology or personnel, realize anticipated synergies from the acquisition, or accurately forecast the financial impact of an acquisition transaction and integration of such acquisition, including accounting charges and any potential impairment of goodwill and intangible assets recognized in connection with such acquisitions.

Our completed or future acquisitions may not ultimately strengthen our competitive position or achieve our goals and business strategy. We may find that the acquired businesses, products, or technologies do not further our business strategy as we expected. Our acquisitions may be viewed negatively by our customers, financial markets, or investors. We may experience difficulty integrating the operations and personnel of the acquired business, and we may have difficulty retaining the key personnel of the acquired business. We may have difficulty integrating the acquired technologies or products with our existing product lines and we may have difficulty maintaining uniform standards, controls, procedures, and policies across diverse or expanding geographic locations.

We may have to pay cash, incur debt, or issue equity or equity-linked securities to pay for any future acquisitions, each of which could adversely affect our financial condition or the market price of our common stock. Furthermore, the sale of equity or issuance of equity-linked debt to finance any future acquisitions could result in dilution to our stockholders. See the risk factors entitled "*Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in new products and subscriptions could reduce our ability to compete and could harm our business.*" and "*The issuance of additional stock in connection with financings, acquisitions, investments, our stock incentive plans, the conversion of our Notes or exercise of the related Warrants, or otherwise will dilute all other stockholders*." The occurrence of any of these risks could harm our business, operating results, and financial condition.

Risks Related to our Supply Chain

Because we depend on manufacturing partners to build and ship our products, we are susceptible to manufacturing and logistics delays and pricing fluctuations that could prevent us from shipping customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales and end-customers.

We depend on manufacturing partners, primarily our electronics manufacturing service provider ("EMS provider") Flex, to manufacture our hardware product lines. Our reliance on these manufacturing partners reduces our control over the manufacturing process and exposes us to risks, including reduced control over quality assurance, product costs, product supply, timing and transportation risk. Our products are manufactured by our manufacturing partners at facilities located primarily in the United States. Some of the components in our products are sourced either through Flex or directly by us from component suppliers outside the United States. The portion of our products that are sourced outside the United States may subject us to additional logistical risks (which may increase due to the global impact of COVID-19) 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 additional, import tariffs. These tariffs, depending on their ultimate scope and how they are implemented, could negatively impact our business by increasing our costs. For example, some components that we import for final manufacturing in the United States have been impacted by these recent tariffs. As a result, our costs have increased and we have raised, and may be required to further raise, prices on our hardware products. Each of these factors could severely impair our ability to fulfill orders.

In addition, we are subject to requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act") to conduct due diligence, disclose, and report whether or not our products contain minerals originating from the Democratic Republic of the Congo and adjoining countries, or conflict minerals. Although the SEC has provided guidance with respect to a portion of the conflict minerals filing requirements that may somewhat reduce our reporting practices, we have incurred and expect to incur additional costs to comply with these disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. These requirements could adversely affect the sourcing, availability, and pricing of minerals used in the manufacture of semiconductor devices or other components used in our products. We may also encounter end-customers who require that all of the components of our products be certified as conflict free. If we are not able to meet this requirement, such end-customers may choose not to purchase our products.

Our manufacturing partners typically fulfill our supply requirements on the basis of individual purchase orders. We do not have long-term contracts with these manufacturers that guarantee capacity, the continuation of particular pricing terms, or the extension of credit limits. Accordingly, they are not obligated to continue to fulfill our supply requirements and the prices we pay for manufacturing services could be increased on short notice. Our contract with Flex permits them to terminate the agreement for their convenience, subject to prior notice requirements. If we are required to change manufacturing partners, our ability to meet our scheduled product deliveries to our end-customers could be adversely affected, which could cause the loss of sales to existing or potential end-customers, delayed revenue or an increase in our costs which could adversely affect our gross margins. COVID-19 and the global semiconductor shortage have in certain cases caused delays and challenges in obtaining components and inventory, as well as increases to freight and shipping costs, and may result in a material adverse effect on our results of operations. Any production interruptions for any reason, such as a natural disaster, epidemic or pandemic such as COVID-19, capacity shortages, or quality problems at one of our manufacturing partners would negatively affect sales of our product lines manufactured by that manufacturing partner and adversely affect our business and operating results.

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

Our manufacturing partners 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 product management organizations, adjusted for overall market conditions. COVID-19 has made forecasting more difficult and we may experience increased challenges to our supply chain due to the unpredictability of the impacts of COVID-19. 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 forecast accurately and effectively manage supply of our products and product components. 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. If our actual component usage and product demand are lower than the forecast we provide to our manufacturing partners, we accrue for losses on manufacturing commitments in excess of forecasted demand. Alternatively, insufficient supply levels, including due to the recent global shortage of semiconductors, may lead to shortages that result in delayed product revenue or loss of sales opportunities altogether as potential end-customers turn to competitors' products that are readily available. If we are unable to effectively manage our supply and inventory, our operating results 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 has disrupted or delayed our scheduled product deliveries to our end-customers, increase our costs and may result in the loss of sales and end-customers.

Our products rely on key components, including integrated circuit components, which our manufacturing partners purchase on our behalf from a limited number of component suppliers, including sole source providers. The manufacturing operations of some of our component suppliers are geographically concentrated in Asia and elsewhere, which makes our supply chain vulnerable to regional disruptions, such as natural disasters, fire, political instability, civil unrest, a power outage, or health risks, such as epidemics and pandemics like COVID-19, and as a result have impaired, and could impair in the future, the volume of components that we are able to obtain. Lead times for components have also been adversely impacted by factors outside of our control, including COVID-19 and the recent global shortage of semiconductors. For example, we have experienced, and could continue to experience, increased difficulties in obtaining a sufficient amount of materials in the semiconductor market, which could reduce our flexibility to react to product mix changes and unforecasted orders. In addition, we have experienced increased costs because of these shortages.

Further, we do not have volume purchase contracts with any of our component suppliers, and they could cease selling to us at any time. 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. Our component suppliers also change their selling prices frequently in response to market trends, including industry-wide increases in demand. Because we do not have, for the most part, volume purchase contracts with our component suppliers, we are susceptible to price fluctuations related to raw materials and components and may not be able to adjust our prices accordingly. Additionally, poor quality in any of the sole-sourced components in our products could result in lost sales or sales opportunities.

If we are unable to obtain a sufficient volume of the necessary components for our products on commercially reasonable terms or the quality of the components do not meet our requirements, we could also be forced to redesign our products and qualify new components from alternate component suppliers. The resulting stoppage or delay in selling our products and the expense of redesigning our products would result in lost sales opportunities and damage to customer relationships, which would adversely affect our business and operating results.

Risks Related to Sales of our Products, Subscriptions and Support Offerings

The sales prices of our products, subscriptions and support offerings may decrease, which may reduce our gross profits and adversely impact our financial results.

The sales prices for our products, subscriptions and support offerings may decline for a variety of reasons, including competitive pricing pressures, discounts, a change in our mix of products, subscriptions and support offerings, anticipation of the introduction of new products, subscriptions or support offerings, or promotional programs or pricing pressures as a result of the economic downturn resulting from COVID-19. 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, subscriptions and support offerings worldwide in U.S. dollars, currency fluctuations in certain countries and regions may negatively impact actual prices that channel partners and end-customers are willing to pay in those countries and regions. Furthermore, we anticipate that the sales prices and gross profits for our products could decrease over product life cycles. We cannot guarantee that we will be successful in developing and introducing new offerings with enhanced functionality on a timely basis, or that our products, subscriptions and support offerings, if introduced, will enable us to maintain our prices and gross profits at levels that will allow us to achieve and maintain profitability.

We generate a significant amount of revenue from sales to distributors, resellers, 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 products, subscriptions and support offerings internationally. We may experience difficulties in recruiting, training, managing, and retaining an international staff, and specifically staff related to sales management and sales personnel. We also may not be able to maintain successful strategic distributor relationships internationally or recruit additional companies to enter into strategic distributor relationships. Business practices in the international markets that we serve may differ from those in the United States and may require us in the future to include terms other than our standard terms related to payment, warranties, or performance obligations in end-customer contracts.

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

- political, economic and social uncertainty around the world, health risks such as epidemics and pandemics like COVID-19, macroeconomic challenges in Europe, terrorist activities, Russia's invasion of Ukraine, and continued hostilities in the Middle East;
- greater difficulty in enforcing contracts and accounts receivable collection and longer collection periods;
- the uncertainty of protection for intellectual property rights in some countries;

- 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, such as the recently imposed Sanctions on Russia, or foreign countries in response to regulatory changes adopted by the current administration;
- risks associated with trade restrictions and foreign legal requirements, including the importation, certification, and localization of our products required in foreign countries;
- greater risk of a failure of foreign employees, channel partners, distributors, and resellers to comply with both U.S. and foreign laws, including antitrust regulations, the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, U.S. or foreign sanctions regimes and export or import control laws, and any trade regulations ensuring fair trade practices, which non-compliance could include increased costs;
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements;
- increased expenses incurred in establishing and maintaining office space and equipment for our international operations;
- management communication and integration problems resulting from cultural and geographic dispersion; and
- fluctuations in exchange rates between the U.S. dollar and foreign currencies in markets where we do business and related impact on sales cycles.

These and other factors could harm our future international revenues and, consequently, materially impact our business, operating results, and financial condition. The expansion of our existing international operations and entry into additional international markets will require significant management attention and financial resources. Our failure to successfully manage our international operations and the associated risks effectively could limit the future growth of our business.

Further, we are subject to risks associated with changes in economic and political conditions in countries in which we operate or sell our products and subscriptions. For instance, Brexit creates an uncertain political and economic environment in the United Kingdom ("U.K.") and across European Union ("E.U.") member states for the foreseeable future. On January 31, 2020 the U.K. left the E.U. and the EU/UK Trade and Cooperation Agreement came into force on January 1, 2021. Our financial condition and operating results may be impacted by such uncertainty with potential disruptions to our relationships with existing and future customers, suppliers and employees all possibly having a material adverse impact on our business, prospects, financial condition and/or operating results.

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

Our sales contracts are primarily denominated in U.S. dollars, and therefore, substantially all of our revenue is not subject to foreign currency risk. However, there has been, and may continue to be, significant volatility in global stock markets and foreign currency exchange rates that result in the strengthening of the U.S. dollar against foreign currencies in which we conduct business. The strengthening of the U.S. dollar increases the real cost of our products to our end-customers outside of the United States and may lead to delays in the purchase of our products, subscriptions, and support, and the lengthening of our sales cycle. If the U.S. dollar continues to strengthen, this could adversely affect our financial condition and operating results. In addition, increased international sales in the future, including through our channel partners and other partnerships, may result in greater foreign currency denominated sales, increasing our foreign currency risk.

Our operating expenses incurred outside the United States and denominated in foreign currencies are increasing and are subject to fluctuations due to changes in foreign currency exchange rates. If we are not able to successfully hedge against the risks associated with foreign currency fluctuations, our financial condition and operating results could be adversely affected. We have entered into forward contracts in an effort to reduce our foreign currency exchange exposure related to our foreign currency denominated expenditures. As of July 31, 2022, the total notional amount of our outstanding foreign currency forward contracts was $856.9 million. For more information on our hedging transactions, refer to Note 6. Derivative Instruments in Part II, Item 8 of this Annual Report on Form 10-K. The effectiveness of our existing hedging transactions and the availability and effectiveness of any hedging transactions we may decide to enter into in the future may be limited and we may not be able to successfully hedge our exposure, which could adversely affect our financial condition and operating results.

We are exposed to the credit and liquidity risk of some of our channel partners and end-customers, and to credit exposure in weakened markets, which could result in material losses.

Most of our sales are made on an open credit basis. Beyond our open credit arrangements, we have also experienced demands for customer financing due to COVID-19 and our competitors' offerings. The majority of these demands are currently facilitated by leasing and other financing arrangements provided by our distributors and resellers. To respond to this demand, our customer financing activities may increase in the future. We also provide financings to certain end-customers. We monitor customer payment capability in granting such financing arrangements, seek to limit such open credit to amounts we believe the end-customers can pay and maintain reserves we believe are adequate to cover exposure for doubtful accounts to mitigate credit risks of these end-customers. However, there can be no assurance that these programs will be effective in reducing our credit risks.

We believe customer financing is a competitive factor in obtaining business. The loan financing arrangements provided by our distributors and resellers may include not only financing the acquisition of our products and services but also providing additional funds for other costs associated with network installation and integration of our products and services.

Our exposure to the credit risks relating to the financing activities described above may increase if our customers are adversely affected by a global economic downturn or periods of economic uncertainty. Although we have programs in place with our distributors and resellers that are designed to monitor and mitigate these risks, we cannot guarantee these programs will be effective in reducing the credit risks, especially as we expand our business internationally. If we are unable to adequately control these risks, our business, operating results, and financial condition could be harmed.

In the past, we have experienced non-material losses due to bankruptcies among customers. If these losses increase due to COVID-19 or global economic conditions, they could harm our business and financial condition. A material portion of our sales is derived through our distributors.

For fiscal 2022, three distributors individually represented 10% or more of our total revenue, and in the aggregate represented 53.6% of our total revenue. As of July 31, 2022, three distributors individually represented 10% or more of our gross accounts receivable, and in the aggregate represented 47.7% of our gross accounts receivable.

Additionally, to the degree that turmoil in the credit markets makes it more difficult for some customers to obtain financing, those customers' ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business, operating results, and financial condition.

A portion of our revenue is generated by sales to government entities, which are subject to a number of challenges and risks.

Sales to government entities are subject to a number of risks. Selling to government entities can be highly competitive, expensive, and time-consuming, often requiring significant upfront time and expense without any assurance that these efforts will generate a sale. The substantial majority of our sales to date to government entities have been made indirectly through our channel partners. Government certification requirements for products and subscriptions like ours may change, thereby restricting our ability to sell into the federal government sector until we have attained the revised certification. If our products and subscriptions 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, subscriptions and support offerings to such governmental entity, or be at a competitive disadvantage, which would harm our business, operating results, and financial condition. Government demand and payment for our products, subscriptions and support offerings 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, subscriptions and support offerings. Government entities 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 operating results. Governments routinely investigate and audit government contractors' administrative processes, and any unfavorable audit could result in the government refusing to continue buying our products, subscriptions and support offerings, a reduction of revenue, or fines or civil or criminal liability if the audit uncovers improper or illegal activities, which could adversely impact our operating results in a material way. Additionally, the U.S. government may require certain of the products that it purchases 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 such requirements, affecting our ability to sell these products, subscriptions and support offerings to the U.S. government.

Our ability to sell our products and subscriptions is dependent on the quality of our technical support services and those of our channel partners, and the failure to offer high-quality technical support services could have a material adverse effect on our end-customers' satisfaction with our products and subscriptions, our sales, and our operating results.

After our products and subscriptions are deployed within our end-customers' networks, our end-customers depend on our technical support services, as well as the support of our channel partners, to resolve any issues relating to our products. Our channel partners often provide similar technical support for third parties' products and may therefore have fewer resources to dedicate to the support of our products and subscriptions. If we or our channel partners do not effectively assist our end-customers in deploying our products and subscriptions, succeed in helping our end-customers quickly resolve post-deployment issues, or provide effective ongoing support, our ability to sell additional products and subscriptions to existing end-customers would be adversely affected and our reputation with potential end-customers could be damaged. While we have been able to meet increased demand for support services in fiscal 2022, failure to do so in the future could have a material adverse effect on our business.

Many larger enterprise, service provider, and government entity end-customers have more complex networks and require higher levels of support than smaller end-customers. If we or our channel partners fail to meet the requirements of these larger end-customers, it may be more difficult to execute on our strategy to increase our coverage with larger end-customers. Additionally, if our channel partners do not effectively provide support to the satisfaction of our end-customers, we may be required to provide direct support to such end-customers, which would require us to hire additional personnel and to invest in additional resources. It can take several months to recruit, hire, and train qualified technical support employees. We may not be able to hire such resources fast enough to keep up with unexpected demand, particularly if the sales of our products exceed our internal forecasts. As a result, our ability, and the ability of our channel partners to provide adequate and timely support to our end-customers will be negatively impacted, and our end-customers' satisfaction with our products and subscriptions will be adversely affected. Additionally, to the extent that we may need to rely on our sales engineers to provide post-sales support while we are ramping our support resources, our sales productivity will be negatively impacted, which would harm our revenues. Our failure or our channel partners' failure to provide and maintain high-quality support services could have a material adverse effect on our business, financial condition, and operating results.

Risks Related to Intellectual Property and Technology Licensing

Claims by others that we infringe their intellectual property rights could harm our business.

Companies in the enterprise security industry own large numbers of patents, copyrights, trademarks, domain names, and trade secrets and frequently enter into litigation based on allegations of infringement, misappropriation, or other violations of intellectual property rights. In addition, non-practicing entities also frequently bring claims of infringement of intellectual property rights. Third parties are asserting, have asserted and may in the future assert claims of infringement of intellectual property rights against us.

Third parties may also assert such claims against our end-customers or channel partners, whom our standard license and other agreements obligate us to indemnify against claims that our products and subscriptions infringe the intellectual property rights of third parties. In addition, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited, that they have divulged proprietary or other confidential information, or that their former employers own their inventions or other work product. Furthermore, we may be unaware of the intellectual property rights of others that may cover some or all of our technology, products, subscriptions and services. As we expand our footprint, both in our platforms, products, subscriptions and services and geographically, more overlaps occur and we may face more infringement claims both in the United States and abroad.

While we have been increasing the size of our patent portfolio, our competitors and others may now and in the future have significantly larger and more mature patent portfolios than we have. In addition, litigation has involved and will likely continue to involve patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own patents may therefore provide little or no deterrence or protection. In addition, we have not registered our trademarks in all of our geographic markets and failure to secure those registrations could adversely affect our ability to enforce and defend our trademark rights. Any claim of infringement by a third party, even those without merit, could cause us to incur substantial costs defending against the 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 disclosure during this type of litigation. A successful claimant could secure a judgment, or we may agree to a settlement that prevents us from distributing certain products or performing certain services or that requires us to pay substantial damages, royalties, or other fees. Any of these events could seriously harm our business, financial condition, and operating results.

Our proprietary rights may be difficult to enforce or protect, which could enable others to copy or use aspects of our products or subscriptions without compensating us.

We rely and expect to continue to rely on a combination of confidentiality and license agreements with our employees, consultants, and third parties with whom we have relationships, as well as trademark, copyright, patent, and trade secret protection laws, to protect our proprietary rights. We have filed various applications for certain aspects of our intellectual property. Valid patents may not issue from our pending applications, and the claims eventually allowed on any patents may not be sufficiently broad to protect our technology or products and subscriptions. We cannot be certain that we were the first to make the inventions claimed in our pending patent applications or that we were the first to file for patent protection, which could prevent our patent applications from issuing as patents or invalidate our patents following issuance. Additionally, the process of obtaining patent protection is expensive and time-consuming, and we may not be able to prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. Any issued patents may be challenged, invalidated or circumvented, and any rights granted under these patents may not actually provide adequate defensive protection or competitive advantages to us. Additional uncertainty may result from changes to patent-related laws and court rulings in the United States and other jurisdictions. As a result, we may not be able to obtain adequate patent protection or effectively enforce any issued patents.

Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or subscriptions or obtain and use information that we regard as proprietary. We generally enter into confidentiality or license agreements with our employees, consultants, vendors, and end-customers, and generally limit access to and distribution of our proprietary information. However, we cannot be certain that we have entered into such agreements with all parties who may have or have had access to our confidential information or that the agreements we have entered into will not be breached. We cannot guarantee that any of the measures we have taken will prevent misappropriation of our technology. Because we may be an attractive target for computer hackers, we may have a greater risk of unauthorized access to, and misappropriation of, our proprietary information. In addition, the laws of some foreign countries do not protect our proprietary rights to as great an extent as the laws of the United States, and many foreign countries do not enforce these laws as diligently as government agencies and private parties in the United States. From time to time, we may need to take legal action to enforce our patents and other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement or invalidity. Such litigation could result in substantial costs and diversion of resources and could negatively affect our business, operating results, and financial condition. Attempts to enforce our rights against third parties could also provoke these third parties to assert their own intellectual property or other rights against us or result in a holding that invalidates or narrows the scope of our rights, in whole or in part. If we are unable to protect our proprietary rights (including aspects of our software and products protected other than by patent rights), we may find ourselves at a competitive disadvantage to others who need not incur the additional expense, time, and effort required to create the innovative products that have enabled us to be successful to date. Any of these events would have a material adverse effect on our business, financial condition, and operating results.

Our use of open source software in our products and subscriptions could negatively affect our ability to sell our products and subscriptions and subject us to possible litigation.

Our products and subscriptions contain software modules licensed to us by third-party authors under "open source" licenses. Some open source licenses contain requirements that we make available applicable 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 or subscriptions with lower development effort and time and ultimately could result in a loss of product sales for us.

Although we monitor our use of open source software to avoid subjecting our products and subscriptions to conditions we do not intend, the terms of many open source licenses have not been interpreted by United States courts, and there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our products and subscriptions. From time to time, there have been claims against companies that distribute or use open source software in their products and subscriptions, asserting that open source software infringes the claimants' intellectual property rights. We could be subject to suits by parties claiming infringement of intellectual property rights in what we believe to be licensed open source software. 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 and subscriptions on terms that are not economically feasible, to reengineer our products and subscriptions, to discontinue the sale of our products and subscriptions if reengineering could not be accomplished on a timely basis, or to make generally available, in source code form, our proprietary code, any of which could adversely affect our business, operating results, and financial condition.

In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or assurance of title or controls on origin of the software. In addition, many of the risks associated with usage of open source software, such as the lack of warranties or assurances of title, cannot be eliminated, and could, if not properly addressed, negatively affect our business. We have established processes to help alleviate these risks, including a review process for screening requests from our development organizations for the use of open source software, but we cannot be sure that our processes for controlling our use of open source software in our products and subscriptions will be effective.

We license technology from third parties, and our inability to maintain those licenses could harm our business.

We incorporate technology that we license from third parties, including software, into our products and subscriptions. We cannot be certain that our licensors are not infringing the intellectual property rights of third parties or that our licensors have sufficient rights to the licensed intellectual property in all jurisdictions in which we may sell our products and subscriptions. In addition, some licenses may be non-exclusive, and therefore our competitors may have access to the same technology licensed to us. Some of our agreements with our licensors may be terminated for convenience by them. 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, and such licenses may not be available on terms acceptable to us or at all. If we are unable to continue to license any of this technology because of intellectual property infringement claims brought by third parties against our licensors or against us, or claims against us by our licensors, or if we are unable to continue our license agreements or enter into new licenses on commercially reasonable terms, our ability to develop and sell products and subscriptions containing such technology would be severely limited, and our business could be harmed. Additionally, if we are unable to license necessary technology from third parties, we may be forced to acquire or develop alternative technology, which we may be unable to do in a commercially feasible manner or at all, and we may be required to use alternative technology of lower quality or performance standards. This would limit and delay our ability to offer new or competitive products and subscriptions and increase our costs of production. As a result, our margins, market share, and operating results could be significantly harmed.

Risks Related to Privacy and Data Protection

Our failure to adequately protect personal information could have a material adverse effect on our business.

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. These laws and regulations relating to privacy, data protection and security are evolving and being tested in courts and may result in ever-increasing regulatory and public scrutiny, as well as escalating levels of enforcement and sanctions. Further, the interpretation and application of foreign 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, to issue rulings that invalidate prior laws or regulations, or to increase penalties significantly.

For example, the E.U. General Data Protection Regulation ("E.U. GDPR"), which became effective in May 2018, imposes more stringent data protection requirements, provides for greater penalties for noncompliance than E.U. laws that previously applied (up to the greater of €20 million or 4% of the total worldwide annual turnover), and confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies and obtain compensation for damages resulting from violations of the E.U. GDPR. The E.U. GDPR requires, among other things, that personal data only be transferred outside of the E.U. to the United States and other jurisdictions that the European Commission has not yet recognized as having "adequate" data protection laws (a "third country"), where a data transfer mechanism under the E.U. GDPR has been put in place. Historically, we have relied on the E.U.-U.S. and Swiss-U.S. Privacy Shield programs, and the use of model contractual clauses approved by the E.U. Commission, to legitimize these transfers (also referred to as standard contractual clauses or SCCs). In July 2020, the Court of Justice of the European Union in its "Schrems II" decision invalidated the E.U.-U.S. Privacy Shield for purposes of transfers to the U.S. and imposed a requirement for companies to carry out an assessment of the laws and practices governing access to personal data in the third country to ensure an essentially equivalent level of data protection to that afforded in the E.U. Though we no longer rely on the Privacy Shield programs and instead employ model contractual clauses for personal data transfers, the Schrems II decision raises questions as to implications under European and UK law and adequate data protection in the United States. Among other effects, we may experience additional costs associated with increased compliance burdens, putting in place any additional data transfer mechanisms and new contract negotiations with third parties that aid in processing data on our behalf. We may experience reluctance or refusal by current or prospective customers in the European Economic Area ("EEA"), Switzerland, and the U.K. (collectively, "Europe") to use our products, and we may find it necessary or desirable to make further changes to our handling of personal data of residents of Europe. The regulatory environment applicable to the handling of European residents' personal data, and our actions taken in response, may cause us to assume additional liabilities or incur additional costs and could result in our business, operating results and financial condition being harmed. Additionally, we and our customers may face risk of enforcement actions by data protection authorities in Europe relating to personal data transfers to us and by us from Europe. Any such enforcement actions could result in substantial costs and diversion of resources, distract management and technical personnel and negatively affect our business, operating results, and financial condition.

Following the withdrawal of the U.K. from the E.U. (i.e., Brexit), and the expiry of the Brexit transition period, which ended on December 31, 2020, the E.U. GDPR has been implemented in the U.K. (as the "U.K. GDPR"). The U.K. GDPR sits alongside the U.K. Data Protection Act 2018, which implements certain derogations in the E.U. GDPR into English law. The requirements of the U.K. GDPR, which are (at this time) largely aligned with those under the E.U. GDPR, may lead to similar compliance and operational costs with potential fines of up to £17.5 million or 4% of total worldwide annual turnover.

In the United States, companies that do business in California are subject to the California Consumer Privacy Act ("CCPA"), which requires, among other things, covered companies to provide new disclosures to California consumers, afford such consumers certain rights regarding their personal information, and also affords a private right of action to individuals affected by a data breach, if the breach was caused by a lack of reasonable security. The enforcement of the CCPA by the California Attorney General commenced on July 1, 2020. The CCPA has been amended on multiple occasions and the California Attorney General has issued initial and revised regulations that also govern the CCPA. It remains unclear how this legislation will be interpreted and enforced. The effects of the CCPA potentially are significant, however, and may require us to modify our data processing practices and policies and to incur substantial costs and expenses for compliance. Moreover, additional state privacy laws have been passed and will require potentially substantial efforts to obtain compliance. This includes the California Privacy Rights Act ("CPRA") which was approved by California voters, and significantly modifies the CCPA. The U.S. federal government also is contemplating privacy legislation.

We may also from time to time be subject to, or face assertions that we are subject to, additional obligations relating to personal data by contract or due to assertions that self-regulatory obligations or industry standards apply to our practices. Additionally, the Federal Trade Commission and many state attorneys general are interpreting federal and state consumer protection laws to impose standards for the online collection, use, dissemination, and security of data. Further, we may be or become subject to data localization laws mandating that data collected in a foreign country be processed and stored within that country. Each of these privacy, security, and data protection laws and regulations, and any other such changes or new laws or regulations, could impose significant limitations, or require changes to our business model or practices or growth strategy, which may increase our compliance expenses and make our business more costly or less efficient to conduct.

Our actual or perceived failure to comply with applicable laws and regulations or other obligations to which we are now or which we may be subject relating to personal data, or to protect personal data from unauthorized acquisition, use or other processing, could result in consequences such as enforcement actions and regulatory investigations against us, fines, public censure, claims for damages by end-customers and other affected individuals, damage to our reputation and loss of goodwill (both in relation to existing end-customers and prospective end-customers), any of which could have a material adverse effect on our operations, financial performance, and business. Evolving and changing definitions of personal data and personal information, within the E.U., the United States, and elsewhere, especially relating to classification of Internet Protocol ("IP") addresses, machine identification, location data, and other information, may limit or inhibit our ability to operate or expand our business, including limiting strategic partnerships that may involve the sharing or uses of data, and may require significant expenditures and efforts in order to comply. 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 end-customers.

Risks Related to Operations Outside the United States

We face risks associated with having operations and employees located in Israel.

As a result of various of our acquisitions, including Cyber Secdo Ltd. ("Secdo"), PureSec Ltd. ("PureSec") and Twistlock Ltd. ("Twistlock"), we have offices and employees located in Israel. Accordingly, political, economic, and military conditions in Israel directly affect our operations. The future of peace efforts between Israel and its Arab neighbors remains uncertain. The effects of hostilities and violence on the Israeli economy and our operations in Israel are unclear, and we cannot predict the effect on us of further increases in these hostilities or future armed conflict, political instability or violence in the region. Current or future tensions and conflicts in the Middle East could adversely affect our business, operating results, financial condition and cash flows.

In addition, many of our employees in Israel are obligated to perform annual reserve duty in the Israeli military and are subject to being called for active duty under emergency circumstances. We cannot predict the full impact of these conditions on us in the future, particularly if emergency circumstances or an escalation in the political situation occurs. If many of our employees in Israel are called for active duty for a significant period of time, our operations and our business could be disrupted and may not be able to function at full capacity. Any disruption in our operations in Israel could adversely affect our business.

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

Because we incorporate encryption technology into our products, certain of our products are subject to U.S. export controls and may be exported outside the United States only with the required export license or through an export license exception. If we were to fail to comply with U.S. export licensing requirements, U.S. customs regulations, U.S. economic sanctions, or other laws, we could be subject to substantial civil and criminal penalties, including fines, incarceration for responsible employees and managers, and the possible loss of export or import privileges. Obtaining the necessary export license for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities. Furthermore, U.S. export control laws and economic sanctions prohibit the shipment of certain products to U.S. embargoed or sanctioned countries, governments, and persons. 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 for us, 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 end-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 end-customers with international operations from deploying our products globally or, in some cases, prevent or delay the export or import of our products to certain countries, governments, or persons altogether. Any change in export or import regulations, economic sanctions, such as the Sanctions on Russia, 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 end-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 operating results.

Tax, Accounting, Compliance and Regulatory Risks

We have a corporate structure aligned with the international nature of our business activities, and if we do not achieve increased tax benefits as a result of our corporate structure, our financial condition and operating results could be adversely affected.

We have reorganized our corporate structure and intercompany relationships to more closely align with the international nature of our business activities. This corporate structure may allow us to reduce our overall effective tax rate through changes in how we use our intellectual property, international procurement, and sales operations. This corporate structure may also allow us to obtain financial and operational efficiencies. These efforts require us to incur expenses in the near term for which we may not realize related benefits. If the structure is not accepted by the applicable tax authorities, if there are any changes in, or interpretations of, domestic and international tax laws that negatively impact the structure, or if we do not operate our business consistent with the structure and applicable tax provisions, we may fail to achieve the reduction in our overall effective tax rate and the other financial and operational efficiencies that we anticipate as a result of the structure and our future financial condition and operating results 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 may have exposure to greater than anticipated tax liabilities.

Our income tax obligations are based in part on our corporate structure and intercompany arrangements, including the manner in which we develop, value, and use our intellectual property and the valuations of our intercompany transactions. The tax laws applicable to our business, including the laws of the United States and other jurisdictions, are subject to interpretation and certain jurisdictions may aggressively interpret their laws in an effort to raise additional tax revenue. The tax authorities of the jurisdictions in which we operate may challenge our methodologies for valuing developed technology or intercompany arrangements, which could increase our worldwide effective tax rate and harm our financial position and operating results. It is possible that tax authorities may disagree with certain positions we have taken, and any adverse outcome of such a review or audit could have a negative effect on our financial position and operating results. Further, the determination of our worldwide provision for or benefit from income taxes and other tax liabilities requires significant judgment by management, and there are transactions where the ultimate tax determination is uncertain. Although we believe that our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded on our consolidated financial statements and may materially affect our financial results in the period or periods for which such determination is made.

In addition, our future income tax obligations could be adversely affected by changes in, or interpretations of, tax laws in the United States or in other jurisdictions in which we operate.

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

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported on our 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, 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. For more information, refer to the section entitled "Critical Accounting Estimates" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of this Annual Report on Form 10-K. In general, if our estimates, judgments or assumptions relating to our critical accounting policies change or if actual circumstances differ from our estimates, judgments or assumptions, including uncertainty in the current economic environment due to COVID-19, our operating results may be adversely affected and could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

Our reputation and/or business could be negatively impacted by ESG matters and/or our reporting of such matters.

There is an increasing focus from regulators, certain investors, and other stakeholders concerning environmental, social, and governance ("ESG") matters, both in the United States and internationally. We communicate certain ESG-related initiatives, goals, and/or commitments regarding environmental matters, diversity, responsible sourcing and social investments, and other matters in our annual ESG Report, on our website, in our filings with the SEC, and elsewhere. These initiatives, goals, or commitments could be difficult to achieve and costly to implement. We could fail to achieve, or be perceived to fail to achieve, our ESG-related initiatives, goals, or commitments. In addition, we could be criticized for the timing, scope or nature of these initiatives, goals, or commitments, or for any revisions to them. To the extent that our required and voluntary disclosures about ESG matters increase, we could be criticized for the accuracy, adequacy, or completeness of such disclosures. Our actual or perceived failure to achieve our ESG-related initiatives, goals, or commitments could negatively impact our reputation, result in ESG-focused investors not purchasing and holding our stock, or otherwise materially harm our business.

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

Our business is subject to regulation by various 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, data security, 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, or injunctions. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation resulting from any alleged noncompliance, our business, operating results, 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. Enforcement actions, litigation, and sanctions could harm our business, operating results, and financial condition.

If we fail to comply with environmental requirements, our business, financial condition, operating results, 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 of and recycling of electrical and electronic equipment. Examples of these laws and regulations include the E.U. Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive ("RoHS") and the E.U. Waste Electrical and Electronic Equipment Directive ("WEEE Directive"), as well as the implementing legislation of the E.U. member states. Similar laws and regulations have been passed or are pending in China, South Korea, Norway, 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.

The E.U. RoHS and the similar laws of other jurisdictions limit the content of certain hazardous materials such as lead, mercury, and cadmium in the manufacture of electrical equipment, including our products. Our current products comply with the E.U. RoHS requirements. However, if there are changes to this or other laws (or their interpretation) or if new similar laws are passed in other jurisdictions, we may be required to reengineer our products to use components compatible with these regulations. This reengineering and component substitution could result in additional costs to us or disrupt our operations or logistics.

The WEEE Directive requires electronic goods producers to be responsible for the collection, recycling, and treatment of such products. Changes in interpretation of the directive may cause us to incur costs or have additional regulatory requirements to meet in the future in order to comply with this directive, or with any similar laws adopted in other jurisdictions.

We are also subject to environmental laws and regulations governing the management of hazardous materials, which we use in small quantities in our engineering labs. Our failure to comply with past, present, and future similar 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 operating results 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, operating results, and financial condition.

Risks Related to Our Notes

We may not have the ability to raise the funds necessary to settle conversions of our Notes, repurchase our Notes upon a fundamental change, or repay our Notes in cash at their maturity, and our future debt may contain limitations on our ability to pay cash upon conversion or repurchase of our Notes.

In July 2018 we issued our 2023 Notes (the "2023 Notes") and in June 2020 we issued our 2025 Notes (the "2025 Notes," together with the "2023 Notes," the "Notes"). We will need to make cash payments (1) if holders of our Notes require us to repurchase all or a portion of their Notes upon the occurrence of a fundamental change (e.g., a change of control of Palo Alto Networks, Inc.) before the maturity date, (2) upon conversion of our Notes, or (3) to repay our Notes in cash at their maturity, unless earlier converted or repurchased. Effective August 1, 2022 through October 31, 2022, all of the 2023 Notes and 2025 Notes are convertible. If all of the Noteholders decided to convert their Notes, we would be obligated to pay the $3.7 billion principal amount of the Notes in cash. Under the terms of the Notes, we also have the option to settle the amount of our conversion obligation in excess of the aggregate principal amount of the Notes in cash or shares of our common stock. If our cash provided by operating activities, together with our existing cash, cash equivalents and investments, and existing sources of financing, are inadequate to satisfy these obligations, we will need to obtain third-party financing, which may not be available to us on commercially reasonable terms or at all, to meet these payment obligations.

In addition, our ability to repurchase or to pay cash upon conversion of our Notes may be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase our Notes at a time when the repurchase is required by the applicable indenture governing such Notes or to pay cash upon conversion of such Notes as required by the applicable indenture would constitute a default under the indenture. A default under the applicable indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the payment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase our Notes or to pay cash upon conversion of our Notes.

We may still incur substantially more debt or take other actions that would diminish our ability to make payments on our Notes when due.

We and our subsidiaries may be able to incur substantial additional debt in the future, subject to the restrictions contained in our debt instruments, some of which may be secured debt. We are not restricted under the terms of the indenture governing our Notes from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions that are not limited by the terms of such indenture governing our Notes that could have the effect of diminishing our ability to make payments on our Notes when due. While the terms of any future indebtedness we may incur could restrict our ability to incur additional indebtedness, any such restrictions will indirectly benefit holders of our Notes only to the extent any such indebtedness or credit facility is not repaid or does not mature while our Notes are outstanding.

Risks Related to Our Common Stock

Our actual operating results may differ significantly from our guidance.

From time to time, we have released, and may continue to release, guidance in our quarterly earnings releases, quarterly earnings conference calls, or otherwise, regarding our future performance that represents our management's estimates as of the date of release. This guidance, which includes forward-looking statements, has been and will be based on projections prepared by our management. These projections are not prepared with a view toward compliance with published guidelines of the American Institute of Certified Public Accountants, and neither our registered public accountants nor any other independent expert or outside party compiles or examines the projections. Accordingly, no such person expresses any opinion or any other form of assurance with respect to the projections.

Projections are based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic, and competitive uncertainties and contingencies, many of which are beyond our control, such as COVID-19, and are based upon specific assumptions with respect to future business decisions, some of which will change. The rapidly evolving market in which we operate may make it difficult to evaluate our current business and our future prospects, including our ability to plan for and model future growth. We intend to state possible outcomes as high and low ranges which are intended to provide a sensitivity analysis as variables are changed. However, actual results will vary from our guidance and the variations may be material. The principal reason that we release guidance is to provide a basis for our management to discuss our business outlook as of the date of release with analysts and investors. We do not accept any responsibility for any projections or reports published by any such persons. Investors are urged not to rely upon our guidance in making an investment decision regarding our common stock.

Any failure to successfully implement our operating strategy or the occurrence of any of the events or circumstances set forth in this "Risk Factors" section in this Annual Report on Form 10-K could result in our actual operating results being different from our guidance, and the differences may be adverse and material.

The market price of our common stock historically has been volatile and the value of your investment could decline.

The market price of our common stock has been volatile since our initial public offering ("IPO") in July 2012. The reported high and low sales prices of our common stock during the last 12 months have ranged from $367.21 to $640.90 per share, as measured through August 22, 2022. The market price of our common stock may fluctuate widely in response to various factors, some of which are beyond our control. These factors include:

- announcements of new products, subscriptions or technologies, commercial relationships, strategic partnerships, acquisitions, or other events by us or our competitors;
- price and volume fluctuations in the overall stock market from time to time;
- news announcements that affect investor perception of our industry, including reports related to the discovery of significant cyberattacks;
- significant volatility in the market price and trading volume of technology companies in general and of companies in our industry;
- fluctuations in the trading volume of our shares or the size of our public float;
- actual or anticipated changes in our operating results or fluctuations in our operating results;
- whether our operating results meet the expectations of securities analysts or investors;
- actual or anticipated changes in the expectations of securities analysts or investors, whether as a result of our forward- looking statements, our failure to meet such expectations or otherwise;
- inaccurate or unfavorable research reports about our business and industry published by securities analysts or reduced coverage of our company by securities analysts;
- litigation involving us, our industry, or both;
- actions instituted by activist shareholders or others;
- regulatory developments in the United States, foreign countries or both;
- major catastrophic events, such as COVID-19;
- sales or repurchases of large blocks of our common stock or substantial future sales by our directors, executive officers, employees and significant stockholders;
- sales of our common stock by investors who view our Notes as a more attractive means of equity participation in us;
- hedging or arbitrage trading activity involving our common stock as a result of the existence of our Notes;
- departures of key personnel; or
- economic uncertainty around the world.

The market price of our common stock could decline for reasons unrelated to our business, operating results, or financial condition and as a result of events that 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. 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, operating results, and financial condition.

The convertible note hedge and warrant transactions may affect the value of our common stock.

In connection with the sale of our 2023 Notes and 2025 Notes, we entered into convertible note hedge transactions (the "Note Hedges") with certain counterparties. In connection with each such sale of the Notes, we also entered into warrant transactions with the counterparties pursuant to which we sold warrants (the "Warrants") for the purchase of our common stock. The Note Hedges for our 2023 Notes and 2025 Notes are expected generally to reduce the potential dilution to our common stock upon any conversion of our Notes and/or offset any cash payments we are required to make in excess of the principal amount of any such converted Notes. The Warrants could separately have a dilutive effect to the extent that the market price per share of our common stock exceeds the applicable strike price of the Warrants unless, subject to certain conditions, we elect to cash settle such Warrants.

The applicable counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives 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 outstanding Notes (and are likely to do so during any applicable observation period related to a conversion of our Notes). This activity could also cause or avoid an increase or a decrease in the market price of our common stock or our Notes, which could affect a note holder's ability to convert its Notes and, to the extent the activity occurs during any observation period related to a conversion of our Notes, it could affect the amount and value of the consideration that the note holder will receive upon conversion of our Notes.

We do not make any representation or prediction as to the direction or magnitude of any potential effect that the transactions described above may have on the price of our Notes or our common stock. In addition, we do not make any representation that the counterparties or their respective affiliates will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

The issuance of additional stock in connection with financings, acquisitions, investments, our stock incentive plans, the conversion of our Notes or exercise of the related Warrants, or otherwise will dilute all other stockholders.

Our amended and restated certificate of incorporation authorizes us to issue up to 1.0 billion shares of common stock and up to 100.0 million 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 shares of our common stock from time to time in connection with a financing, acquisition, investment, our stock incentive plans, the conversion of our Notes, the settlement of our Warrants related to each such series of the Notes, or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the market price of our common stock to decline.

We cannot guarantee that our share repurchase program will be fully consummated, or that it will enhance shareholder value, and share repurchases could affect the price of our common stock.

As of July 31, 2022, we had $85.0 million available under our share repurchase program which will expire on December 31, 2022. Such share repurchase program may be suspended or discontinued by the Company at any time without prior notice. Although our board of directors has authorized a share repurchase program, we are not obligated to repurchase any specific dollar amount or to acquire any specific number of shares under the program. The share repurchase program could affect the price of our common stock, increase volatility and diminish our cash reserves. In addition, the program may be suspended or terminated at any time, which may result in a decrease in the price of our common stock.

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.

Our charter documents and Delaware law, as well as certain provisions contained in the indentures governing our Notes, could discourage takeover attempts and lead to management entrenchment, which could also reduce the market price of our common stock.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change in control of our company or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws include provisions that:

- establish that our board of directors is divided into three classes, Class I, Class II and Class III, with three-year staggered terms;
- authorize 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;
- provide our board of directors with the exclusive right 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;
- prohibit our stockholders from taking action by written consent;

- specify that special meetings of our stockholders may be called only by the chairman of our board of directors, our president, our secretary, or a majority vote of our board of directors;
- require 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 issuance of preferred stock and management of our business or our amended and restated bylaws;
- authorize our board of directors to amend our bylaws by majority vote; and
- establish advance notice procedures with which our stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for our stockholders to replace members of our board of directors, which is responsible for appointing the members of management. In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time. Additionally, certain provisions contained in the indenture governing our Notes could make it more difficult or more expensive for a third party to acquire us. The application of Section 203 or certain provisions contained in the indenture governing our Notes also could have the effect of delaying or preventing a change in control of us. Any of these provisions could, under certain circumstances, depress the market price of our common stock.

General Risk Factors

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

Both our corporate headquarters and the location where our products are manufactured are located in the San Francisco Bay Area, a region known for seismic activity. In addition, other natural disasters, such as fire or floods, a significant power outage, telecommunications failure, terrorism, an armed conflict, cyberattacks, epidemics and pandemics such as COVID-19, or other geo-political unrest could affect our supply chain, manufacturers, logistics providers, channel partners, or end-customers or the economy as a whole and such disruption could impact our shipments and sales. These 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 operating results would be adversely affected.

Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in new products and subscriptions 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 features to enhance our portfolio, 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 or equity-linked financing, our stockholders may experience significant dilution of their ownership interests and the market price of our common stock could decline. Any conversion of the outstanding Notes into common stock will dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of such Notes. See the risk factor entitled "*The issuance of additional stock in connection with financings, acquisitions, investments, our stock incentive plans, the conversion of our Notes or exercise of the related Warrants, or otherwise will dilute all other stockholders*." The holders of our Notes have priority over holders of our common stock, and if we engage in future debt financings, the holders of such additional debt would also have priority over the holders of our common stock. Current and future indebtedness may also contain terms that, among other things, 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 would require us to maintain specified liquidity or other ratios, any of which could harm our business, operating results, and financial condition. We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly impaired, and our business may be adversely affected.

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.

While we were able to determine in our management's report for fiscal 2022 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, may be unable to assert that our internal controls are effective, 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. 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.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our corporate headquarters is located in Santa Clara, California, where we lease approximately 941,000 square feet of space under three lease agreements that expire in July 2028, with options to extend the lease terms through July 2046. We also lease space for personnel in Israel. In addition, we provide our cloud-based subscription offerings through data centers operated under co-location arrangements in the United States, Europe, and Asia. Refer to Note 11. Leases in Part II, Item 8 of this Annual Report on Form 10-K for more information on our operating leases. Additionally, we own 10.4 acres of land adjacent to our headquarters in Santa Clara, California, which we intend to develop to accommodate future expansion, the speed of which development has been slowed due to the current environment.

We believe that our current facilities are adequate to meet our current needs. We intend to expand our facilities or add new facilities as we add employees and enter new geographic markets, and we believe that suitable additional or alternative space will be available as needed to accommodate ongoing operations and any such growth. However, we expect to incur additional expenses in connection with such new or expanded facilities.

ITEM 3. LEGAL PROCEEDINGS

The information set forth under the "Litigation" subheading in Note 12. Commitments and Contingencies 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, is traded on the Nasdaq Global Select Market under the symbol "PANW." Prior to October 22, 2021, our common stock traded on the New York Stock Exchange ("NYSE") under the symbol "PANW."

Holders of Record

As of August 22, 2022, there were 355 holders of record of our common stock. Because many of our shares of common stock 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.

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.

Securities Authorized for Issuance under Equity Compensation Plans

See Part III, Item 12 "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" of this Annual Report on Form 10-K for more information regarding securities authorized for issuance.

Recent Sales of Unregistered Equity Securities

During the three months ended July 31, 2022, we issued a total of 35,004 shares of our unregistered common stock pursuant to post-closing obligations in connection with our previous acquisitions of The Crypsis Group, Gamma Networks, Inc., and Sinefa Group, Inc. (the "Transactions").

The Transactions did not involve any underwriters, any underwriting discounts or commissions, or any public offering. The issuances of the securities pursuant to the Transactions were exempt from registration under the Securities Act of 1933, as amended (the "Act") by virtue of Section 4(a)(2) of the Act and Rule 506 of Regulation D promulgated thereunder.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table summarizes stock repurchases during the three months ended July 31, 2022 (in millions, except per share amounts):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[(1)]	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs[(1)]
May 1, 2022 to May 31, 2022[(1)(2)]	0.0	$ 436.37	—	$ 450.0
June 1, 2022 to June 30, 2022[(1)(2)]	0.5	$ 482.86	0.5	$ 196.3
July 1, 2022 to July 31, 2022[(1)(2)]	0.3	$ 486.05	0.3	$ 85.0
Total	0.8	$ 483.50	0.8	

(1) On February 26, 2019, we announced that our board of directors authorized a $1.0 billion share repurchase program, which is funded from available working capital. In December 2020 and August 2021, we announced additional $700.0 million and $676.1 million increases to this share repurchase program, respectively, bringing the total authorization to $2.4 billion, with $85.0 million remaining as of July 31, 2022. The expiration date of this repurchase authorization was extended to December 31, 2022, and our repurchase program may be suspended or discontinued at any time. Repurchases under our program are to be made at management's discretion on the open market, through privately negotiated transactions, transactions structured through investment banking institutions, block purchase techniques, 10b5-1 trading plans, or a combination of the foregoing.

(2) Includes shares of restricted common stock delivered by certain employees upon vesting of equity awards to satisfy tax withholding requirements. The number of shares delivered by these employees to satisfy tax withholding requirements during the period was not significant.

Stock Price Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or incorporated by reference into any filing of Palo Alto Networks, Inc. under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Historically, we have compared the cumulative total return on our common stock with that of the NYSE Composite Index and the NYSE Arca Tech 100 Index. As a result of the change in our listing from the NYSE to Nasdaq in October 2021, we have added the Nasdaq 100 Index, the Standard & Poor's 500 Index and the Standard & Poor's Information Technology Index to the indexes that we have historically used.

This performance graph compares the cumulative total return on our common stock with that of the Nasdaq 100 Index, the Standard & Poor's 500 Index, the Standard & Poor Information Technology Index, the NYSE Composite Index and the NYSE Arca Tech 100 Index for the five years ended July 31, 2022. This performance graph assumes $100 was invested on July 31, 2017, in each of the common stock of Palo Alto Networks, Inc., the Nasdaq 100 Index, the Standard & Poor's 500 Index, the Standard & Poor's Information Technology Index, the NYSE Composite Index, and the NYSE Arca Tech 100 Index, and assumes the reinvestment of any dividends. The stock price performance on this performance graph is not necessarily indicative of future stock price performance.

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Company/Index	7/31/2017	7/31/2018	7/31/2019	7/31/2020	7/31/2021	7/31/2022
Palo Alto Networks, Inc.	$ 100.00	$ 150.45	$ 171.91	$ 194.20	$ 302.82	$ 378.74
Nasdaq 100 Index	$ 100.00	$ 122.99	$ 133.48	$ 185.46	$ 254.41	$ 220.19
S&P 500 Index	$ 100.00	$ 114.01	$ 120.65	$ 132.42	$ 177.92	$ 167.20
S&P Information Technology Index	$ 100.00	$ 126.83	$ 144.57	$ 198.12	$ 274.74	$ 257.30
NYSE Composite Index	$ 100.00	$ 108.32	$ 109.18	$ 104.16	$ 138.73	$ 128.08
NYSE Arca Tech 100 Index	$ 100.00	$ 124.87	$ 134.35	$ 155.18	$ 215.23	$ 187.52

ITEM 6. [RESERVED]

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 consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. The following discussion and analysis contains forward-looking statements based on current expectations and assumptions that are subject to risks and uncertainties, which could cause our actual results to differ materially from those anticipated or implied by any forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this Annual Report on Form 10-K, and in particular, the risks discussed under the caption "Risk Factors" in Part I, Item 1A of this report.

Our Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is organized as follows:

- ***Overview.*** A discussion of our business and overall analysis of financial and other highlights in order to provide context for the remainder of MD&A.
- ***Key Financial Metrics.*** A summary of our GAAP and non-GAAP key financial metrics, which management monitors to evaluate our performance.
- ***Results of Operations.*** A discussion of the nature and trends in our financial results and an analysis of our financial results comparing fiscal 2022 to fiscal 2021. For discussion and analysis related to our financial results comparing fiscal 2021 to 2020, 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 2021, which was filed with the Securities and Exchange Commission on September 3, 2021.
- ***Liquidity and Capital Resources.*** An analysis of changes on our balance sheets and cash flows, and a discussion of our financial condition and our ability to meet cash needs.
- ***Contractual Obligations and Commitments.*** An overview of our contractual obligations, contingent liabilities, commitments, and off-balance sheet arrangements outstanding as of July 31, 2022, including expected payment schedules.
- ***Critical Accounting Estimates.*** A discussion of our accounting policies that require critical estimates, assumptions, and judgments.
- ***Recent Accounting Pronouncements.*** A discussion of expected impacts of impending accounting changes on financial information to be reported in the future.

Overview

We empower enterprises, organizations, service providers, and government entities to protect themselves against today's most sophisticated cyber threats. Our cybersecurity platforms and services help secure enterprise users, networks, clouds, and endpoints by delivering comprehensive cybersecurity backed by industry leading artificial intelligence and automation. We are a leading provider of zero trust solutions that start with the next-generation of zero trust network access to secure remote workforces and extend into securing all users, applications and infrastructure with zero trust principles. Our security solutions are designed to reduce customers' total cost of ownership by improving operational efficiency and eliminating the need for siloed point products. Our company focuses on delivering value in five fundamental areas:

Network Security:

- Our network security platform, which includes our ML-Powered Next-Generation Firewalls, available in a number of form factors, including physical, virtual, and containerized appliances, as well as a cloud-delivered service, has been a leader in the industry for ten consecutive years. Our network security platform also includes our Cloud-Delivered Security Services, such as Threat Prevention, Advanced Threat Prevention, WildFire®, Advanced URL Filtering, DNS Security, IoT Security, GlobalProtect™, SD-WAN, Enterprise Data Loss Prevention ("Enterprise DLP"), SaaS Security API and SaaS Security Inline. Through these add-on security services, our customers are able to secure their content, applications, users, and devices across our network security platform as well as the Prisma® and Cortex® product lines. Panorama™, our network security management solution, available as hardware or virtual machine, can centrally manage our network security platform irrespective of form factor, location, or scale.

Secure Access Service Edge:

- Prisma Access is our next-generation Zero Trust Network Access ("ZTNA") platform that provides secure network access for all employees with unified policy management and continuous threat inspection. We have recently introduced ZTNA 2.0, which addresses major shortcomings in the first-generation ZTNA products in the industry (which we refer to as ZTNA 1.0). Prisma Access delivers granular least-privileged access along with continuous trust verification and security inspection and protects security for all applications and data across the enterprise infrastructure. Prisma Access, when combined with Prisma SD-WAN, provides a comprehensive single-vendor Secure Access Service Edge ("SASE") offering that is used to secure remote workforces and enable the cloud-delivered branch.

Cloud Security:

- We enable cloud native security through our Prisma Cloud platform. As a comprehensive Cloud Native Application Protection Platform ("CNAPP"), Prisma Cloud secures hybrid and multi-cloud environments for applications, data, and the entire cloud native technology stack across the full development lifecycle; from code to runtime. For inline network security on multi and hybrid-cloud environments, we also offer our VM-Series and CN-Series Firewall offerings.

Security Operations:

- We deliver the next generation of endpoint security, security analytics and security automation solutions through our Cortex portfolio. These include our industry-leading extended detection and response platform Cortex XDR® to prevent, detect, and respond to complex cybersecurity attacks, Cortex XSOAR® for security orchestration, automation, and response ("SOAR"), Cortex Xpanse® for attack surface management ("ASM") and Cortex Data Lake allowing our customers to collect and analyze large amounts of context-rich data across endpoints, networks, and clouds. These products are delivered as software or SaaS subscriptions.

Threat Intelligence and Security Consulting (Unit 42):

- We enable security teams with up-to-date threat intelligence and deep cybersecurity expertise before, during and after attacks through our Unit 42 threat research and security consulting team. Unit 42 offers incident response, risk management, board advisory and proactive cybersecurity assessment services.

For fiscal 2022 and 2021, total revenue was $5.5 billion and $4.3 billion, respectively, representing year-over-year growth of 29.3%. Our growth reflects the increased adoption of our portfolio, which consists of product, subscriptions, and support. We believe our portfolio will enable us to benefit from recurring revenues and new revenues as we continue to grow our end-customer base. As of July 31, 2022, we had end-customers in over 180 countries. Our end-customers represent a broad range of industries, including education, energy, financial services, government entities, healthcare, Internet and media, manufacturing, public sector, and telecommunications, and include almost all of the Fortune 100 companies and a majority of the Global 2000 companies in the world. We maintain a field sales force that works closely with our channel partners in developing sales opportunities. We primarily use a two-tiered, indirect fulfillment model whereby we sell our products, subscriptions, and support to our distributors, which, in turn, sell to our resellers, which then sell to our end-customers.

Our product revenue grew to $1.4 billion or 24.8% of total revenue for fiscal 2022, representing year-over-year growth of 21.7%. Product revenue is primarily generated from sales of our appliances, primarily our ML-Powered Next-Generation Firewall, which is available in a number of form factors, including as physical, virtual, and containerized appliances. Our ML-Powered Next-Generation Firewall incorporates our PAN-OS operating system, which provides a consistent set of capabilities across our entire network security product line. Our products are designed for different performance requirements throughout an organization, ranging from our PA-410, which is designed for small organizations and remote or branch offices, to our top-of-the-line PA-7080, which is designed for large-scale data centers and service provider use. The same firewall functionality that is delivered in our physical appliances is also available in our VM-Series virtual firewalls, which secure virtualized and cloud-based computing environments, and in our CN-Series container firewalls, which secure container environments and traffic.

Our subscription and support revenue grew to $4.1 billion or 75.2% of total revenue for fiscal 2022, representing year-over-year growth of 32.0%. Our subscriptions provide our end-customers with near real-time access to the latest antivirus, intrusion prevention, web filtering, modern malware prevention, data loss prevention, and cloud access security broker capabilities across the network, endpoints, and the cloud. When end-customers purchase our physical, virtual, or container firewall appliances, or certain cloud offerings, they typically purchase support in order to receive ongoing security updates, upgrades, bug fixes, and repairs. In addition to the subscriptions purchased with these appliances, end-customers may also purchase other subscriptions on a per-user, per-endpoint, or capacity-based basis. We also offer professional services, including incident response, risk management, and digital forensic services.

We continue to invest in innovation as we evolve and further extend the capabilities of our portfolio, as we believe that innovation and timely development of new features and products are essential to meeting the needs of our end-customers and improving our competitive position. During fiscal 2022, we introduced several new offerings, including: Prisma Cloud 3.0, Prisma Access 3.0, AIOps for NGFW, PAN-OS 10.2, and Cloud NGFW for AWS.

We believe that the growth of our business and our short-term and long-term success are dependent upon many factors, including our ability to extend our technology leadership, grow our base of end-customers, expand deployment of our portfolio and support offerings within existing end-customers, and focus on end-customer satisfaction. To manage any future growth effectively, we must continue to improve and expand our information technology and financial infrastructure, our operating and administrative systems and controls, and our ability to manage headcount, capital, and processes in an efficient manner. While these areas present significant opportunities for us, they also pose challenges and risks that we must successfully address in order to sustain the growth of our business and improve our operating results. For additional information regarding the challenges and risks we face, see the "Risk Factors" section in Part I, Item 1A of this Annual Report on Form 10-K.

Impact of COVID-19 and Other Macroeconomic Factors on Our Business

We are actively monitoring, evaluating, and responding to developments relating to COVID-19, which has resulted in and is expected to continue to result in significant global, social, and business disruption. While we instituted a global work-from-home policy beginning in March 2020, which has been modified to provide employees with the choice to work in our offices for a set number of days per week or completely remotely, we did not experience significant disruption in our work operations during fiscal 2022. We will continue to actively monitor the situation, including progress made through vaccinations, and we will make further changes to our business operations as may be required by federal, state, or local authorities or that we determine are in the best interests of our employees, end-customers, partners, suppliers, and stockholders. Our focus remains on the safety of our employees, and we strive to protect the health and well-being of the communities in which we operate, in part, by providing technology to our employees, end-customers, and partners to help them do their best work while working remotely.

COVID-19 has affected our end-customers' spending and could lead them to delay or defer purchasing decisions, and lengthen sales cycles and payment terms, which could materially adversely impact our business, results of operations, and overall financial performance. The extent of the impact of COVID-19 on our operational and financial performance will depend on developments, including the duration and spread of the virus and its variants, impact on our end-customers' spending, volume of sales and length of our sales cycles, impact on our partners, suppliers, and employees, actions that may be taken by governmental authorities, and other factors identified in Part I, Item 1A "Risk Factors" in this Form 10-K. The global supply chain and the semiconductor industry are experiencing significant challenges. We have seen supply chain challenges increase, including chip and component shortages, which have, in certain cases, caused delays for us in acquiring chips, components and inventory and have resulted in increased costs as compared to historic levels. While we incurred increased costs and experienced increased lead time for certain product deliveries to our end-customers, we continue to work to minimize the effects from supply chain challenges.

In addition, our overall performance depends in part on worldwide economic and geopolitical conditions. Worsening economic conditions, including inflation, higher interest rates, fluctuations in foreign exchange rates and other changes in economic conditions, may adversely affect our financial performance.

Key Financial Metrics

We monitor the key financial metrics set forth in the tables 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, gross margin, and the components of operating loss and margin below under "Results of Operations."

	July 31, 2022	July 31, 2021
	(in millions)	
Total deferred revenue	$ 6,994.0	$ 5,024.0
Cash, cash equivalents, and investments	$ 4,686.4	$ 3,789.4

	Year Ended July 31, 2022	2021	2020
	(dollars in millions)		
Total revenue	$ 5,501.5	$ 4,256.1	$ 3,408.4
Total revenue year-over-year percentage increase	29.3 %	24.9 %	17.5 %
Gross margin	68.8 %	70.0 %	70.7 %
Operating loss	$ (188.8)	$ (304.1)	$ (179.0)
Operating margin	(3.4)%	(7.1)%	(5.3)%
Billings	$ 7,471.5	$ 5,452.2	$ 4,301.7
Billings year-over-year percentage increase	37.0 %	26.7 %	23.3 %
Cash flow provided by operating activities	$ 1,984.7	$ 1,503.0	$ 1,035.7
Free cash flow (non-GAAP)	$ 1,791.9	$ 1,387.0	$ 821.3

- ***Deferred Revenue.*** Our deferred revenue primarily consists of amounts that have been invoiced but have not been recognized as revenue as of the period end. The majority of our deferred revenue balance consists of subscription and support revenue that is recognized ratably over the contractual service period. We monitor our deferred revenue balance because it represents a significant portion of revenue to be recognized in future periods.
- ***Billings.*** We define billings as total revenue plus the change in total deferred revenue, net of acquired deferred revenue, during the period. We consider billings to be a key metric used by management to manage our business. We believe billings provides investors with an important indicator of the health and visibility of our business because it includes subscription and support revenue, which is recognized ratably over the contractual service period, and product revenue, which is recognized at the time of shipment, provided that all other conditions for revenue recognition have been met. We consider billings to be a useful metric for management and investors, particularly if we continue to experience increased sales of subscriptions and strong renewal rates for subscription and support offerings, and as we monitor our near-term cash flows. While we believe that billings provides useful information to investors and others in understanding and evaluating our operating results in the same manner as our management, it is important to note that other companies, including companies in our industry, may not use billings, may calculate 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. We calculate billings in the following manner:

	Year Ended July 31, 2022	2021	2020
	(in millions)		
Billings:			
Total revenue	$ 5,501.5	$ 4,256.1	$ 3,408.4
Add: change in total deferred revenue, net of acquired deferred revenue	1,970.0	1,196.1	893.3
Billings	$ 7,471.5	$ 5,452.2	$ 4,301.7

- ***Cash Flow Provided by Operating Activities.*** We monitor cash flow provided by operating activities as a measure of our overall business performance. Our cash flow provided by operating activities is driven in large part by sales of our products and from up-front payments for subscription and support offerings. Monitoring cash flow provided by operating activities enables us to analyze our financial performance without the non-cash effects of certain items such as depreciation, amortization, and share-based compensation costs, thereby allowing us to better understand and manage the cash needs of our business.
- ***Free Cash Flow (non-GAAP).*** We define free cash flow, a non-GAAP financial measure, as cash provided by operating activities less purchases of property, equipment, and other assets. We consider free cash flow to be a profitability and liquidity measure that provides useful information to management and investors about the amount of cash generated by the business after necessary capital expenditures. A limitation of the utility of free cash flow as a measure of our financial performance and liquidity is that it does not represent the total increase or decrease in our cash balance for the period. In addition, it is important to note that other companies, including companies in our industry, may not use free cash flow, may calculate free cash flow in a different manner than we do, 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, the most directly comparable financial measure calculated and presented in accordance with GAAP, is provided below:

	Year Ended July 31,		
	2022	2021	2020
	(in millions)		
Free cash flow (non-GAAP):			
Net cash provided by operating activities	$ 1,984.7	$ 1,503.0	$ 1,035.7
Less: purchases of property, equipment, and other assets	192.8	116.0	214.4
Free cash flow (non-GAAP)	$ 1,791.9	$ 1,387.0	$ 821.3
Net cash provided by (used in) investing activities	$ (933.4)	$ (1,480.6)	$ 288.0
Net cash provided by (used in) financing activities	$ (806.6)	$ (1,104.0)	$ 673.0

Results of Operations

The following table summarizes our results of operations for the periods presented and as a percentage of our total revenue for those periods based on our consolidated statements of operations data. The period to period comparison of results is not necessarily indicative of results for future periods.

	Year Ended July 31,					
	2022		2021		2020	
	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue
	(dollars in millions)					
Revenue:						
Product	$ 1,363.1	24.8 %	$ 1,120.3	26.3 %	$ 1,064.2	31.2 %
Subscription and support	4,138.4	75.2 %	3,135.8	73.7 %	2,344.2	68.8 %
Total revenue	5,501.5	100.0 %	4,256.1	100.0 %	3,408.4	100.0 %
Cost of revenue:						
Product	455.5	8.3 %	308.5	7.2 %	294.4	8.6 %
Subscription and support	1,263.2	22.9 %	966.4	22.8 %	705.1	20.7 %
Total cost of revenue(1)	1,718.7	31.2 %	1,274.9	30.0 %	999.5	29.3 %
Total gross profit	3,782.8	68.8 %	2,981.2	70.0 %	2,408.9	70.7 %
Operating expenses:						
Research and development	1,417.7	25.8 %	1,140.4	26.8 %	768.1	22.5 %
Sales and marketing	2,148.9	39.0 %	1,753.8	41.1 %	1,520.2	44.7 %
General and administrative	405.0	7.4 %	391.1	9.2 %	299.6	8.8 %
Total operating expenses(1)	3,971.6	72.2 %	3,285.3	77.1 %	2,587.9	76.0 %
Operating loss	(188.8)	(3.4) %	(304.1)	(7.1) %	(179.0)	(5.3) %
Interest expense	(27.4)	(0.5) %	(163.3)	(3.8) %	(88.7)	(2.6) %
Other income, net	9.0	0.1 %	2.4	0.0 %	35.9	1.1 %
Loss before income taxes	(207.2)	(3.8) %	(465.0)	(10.9) %	(231.8)	(6.8) %
Provision for income taxes	59.8	1.1 %	33.9	0.8 %	35.2	1.0 %
Net loss	$ (267.0)	(4.9) %	$ (498.9)	(11.7) %	$ (267.0)	(7.8) %

(1) Includes share-based compensation as follows:

	Year Ended July 31,		
	2022	2021	2020
	(in millions)		
Cost of product revenue	$ 9.3	$ 6.2	$ 5.7
Cost of subscription and support revenue	110.2	93.0	77.7
Research and development	471.1	428.9	274.6
Sales and marketing	304.7	269.9	214.5
General and administrative	118.1	128.9	92.0
Total share-based compensation	$ 1,013.4	$ 926.9	$ 664.5

Revenue

Our revenue consists of product revenue and subscription and support revenue. Revenue is recognized upon transfer of control of the corresponding promised products and subscriptions and support to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those products and subscriptions and support. We expect our revenue to vary from quarter to quarter based on seasonal and cyclical factors.

Product Revenue

Product revenue is derived from sales of our appliances, primarily our ML-Powered Next-Generation Firewall, which is available in a number of form factors, including as physical, virtual, and containerized appliances. Product revenue also includes revenue derived from software licenses of Panorama. Our appliances and software licenses include a broad set of built-in networking and security features and functionalities. We recognize product revenue at the time of hardware shipment or delivery of software license.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
Product	$ 1,363.1	$ 1,120.3	$ 242.8	21.7 %	$ 1,120.3	$ 1,064.2	$ 56.1	5.3 %

Product revenue increased for fiscal 2022 compared to fiscal 2021 primarily due to increased demand for our new generation of products, which includes customer transition from our legacy products.

Subscription and Support Revenue

Subscription and support revenue is derived primarily from sales of our subscription and support offerings. Our contractual subscription and support contracts are typically one to five years. We recognize revenue from subscriptions and support over time as the services are performed. As a percentage of total revenue, we expect our subscription and support revenue to vary from quarter to quarter and increase over the long term as we introduce new subscriptions, renew existing subscription and support contracts, and expand our installed end-customer base.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
Subscription	$ 2,539.0	$ 1,898.8	$ 640.2	33.7 %	$ 1,898.8	$ 1,405.3	$ 493.5	35.1 %
Support	1,599.4	1,237.0	362.4	29.3 %	1,237.0	938.9	298.1	31.7 %
Total subscription and support	$ 4,138.4	$ 3,135.8	$ 1,002.6	32.0 %	$ 3,135.8	$ 2,344.2	$ 791.6	33.8 %

Subscription and support revenue increased for fiscal 2022 compared to fiscal 2021 due to increased demand for our subscription and support offerings from our end-customers. The mix between subscription revenue and support revenue will fluctuate over time, depending on the introduction of new subscription offerings, renewals of support services, and our ability to increase sales to new and existing end-customers.

Revenue by Geographic Theater

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
Americas	$ 3,802.6	$ 2,937.5	$ 865.1	29.5 %	$ 2,937.5	$ 2,318.0	$ 619.5	26.7 %
EMEA	1,055.8	817.3	238.5	29.2 %	817.3	671.9	145.4	21.6 %
APAC	643.1	501.3	141.8	28.3 %	501.3	418.5	82.8	19.8 %
Total revenue	$ 5,501.5	$ 4,256.1	$ 1,245.4	29.3 %	$ 4,256.1	$ 3,408.4	$ 847.7	24.9 %

With respect to geographic theaters, the Americas contributed the largest portion of the year-over-year increases in revenue for fiscal 2022 due to its larger and more established sales force compared to our other theaters. Revenue from Europe, the Middle East, and Africa ("EMEA") and Asia Pacific and Japan ("APAC") increased year-over-year for fiscal 2022 due to increasing investment in global sales force in order to support our growth and innovation.

Cost of Revenue

Our cost of revenue consists of cost of product revenue and cost of subscription and support revenue.

Cost of Product Revenue

Cost of product revenue primarily includes costs paid to our manufacturing partners for procuring components and manufacturing our products. Our cost of product revenue also includes personnel costs, which consist of salaries, benefits, bonuses, share-based compensation and travel and entertainment associated with our operations organization, amortization of intellectual property licenses, product testing costs, shipping and tariff costs, and shared costs. Shared costs consist of certain facilities, depreciation, benefits, recruiting, and information technology costs that we allocate based on headcount. We expect our cost of product revenue to fluctuate with our product revenue.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Cost of product revenue	$ 455.5	$ 308.5	$ 147.0	47.6 %	$ 308.5	$ 294.4	$ 14.1	4.8 %
Number of employees at period end	149	127	22	17.3 %	127	117	10	8.5 %

Cost of product revenue increased for fiscal 2022 compared to fiscal 2021 primarily due to an increase in the volume of product sold. The remaining increase in costs was primarily driven by supply chain challenges.

Cost of Subscription and Support Revenue

Cost of subscription and support revenue includes personnel costs for our global customer support and technical operations organizations, customer support and repair costs, third-party professional services costs, data center and cloud hosting service costs, amortization of acquired intangible assets and capitalized software development costs, and shared costs. We expect our cost of subscription and support revenue to increase as our installed end-customer base grows and adoption of our cloud-based subscription offerings increases.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Cost of subscription and support revenue	$ 1,263.2	$ 966.4	$ 296.8	30.7 %	$ 966.4	$ 705.1	$ 261.3	37.1 %
Number of employees at period end	2,515	2,108	407	19.3 %	2,108	1,402	706	50.4 %

Cost of subscription and support revenue increased for fiscal 2022 compared to fiscal 2021 primarily due to increased costs to support the growth of our subscription and support offerings. Personnel costs grew $135.4 million to $547.8 million for fiscal 2022 compared to fiscal 2021 primarily due to headcount growth. The remaining increase was primarily due to increased cloud hosting service costs to support our cloud-based subscription offerings, outside service costs for global customer support resulting from the expansions of our customer base and product portfolio, and shared costs.

Gross Margin

Gross margin has been and will continue to be affected by a variety of factors, including the introduction of new products, manufacturing costs, the average sales price of our products, cloud hosting service costs, personnel costs, the mix of products sold, and the mix of revenue between product and subscription and support offerings. Our virtual and higher-end firewall products generally have higher gross margins than our lower-end firewall products within each product series. We expect our gross margins to vary over time depending on the factors described above.

	Year Ended July 31,					
	2022		2021		2020	
	Amount	Gross Margin	Amount	Gross Margin	Amount	Gross Margin
	(dollars in millions)					
Product	$ 907.6	66.6 %	$ 811.8	72.5 %	$ 769.8	72.3 %
Subscription and support	2,875.2	69.5 %	2,169.4	69.2 %	1,639.1	69.9 %
Total gross profit	$ 3,782.8	68.8 %	$ 2,981.2	70.0 %	$ 2,408.9	70.7 %

Product gross margin decreased for fiscal 2022 compared to fiscal 2021 primarily due to higher costs related to our product offerings driven by supply chain challenges.

Subscription and support gross margin was relatively flat for fiscal 2022 compared to fiscal 2021.

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, share-based compensation, travel and entertainment, and with regard to sales and marketing expense, sales commissions. Our operating expenses also include shared costs, which consist of certain facilities, depreciation, benefits, recruiting, and information technology costs that we allocate based on headcount to each department. We expect operating expenses generally to increase in absolute dollars and decrease over the long term as a percentage of revenue as we continue to scale our business. As of July 31, 2022, we expect to recognize approximately $1.8 billion of share-based compensation expense over a weighted-average period of approximately 2.6 years, excluding additional share-based compensation expense related to any future grants of share-based awards. Share-based compensation expense is generally recognized on a straight-line basis over the requisite service periods of the awards.

Research and Development

Research and development expense consists primarily of personnel costs. Research and development expense also includes prototype related expenses and shared costs. We expect research and development expense to increase in absolute dollars as we continue to invest in our future products and services, although our research and development expense may fluctuate as a percentage of total revenue.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Research and development	$ 1,417.7	$ 1,140.4	$ 277.3	24.3 %	$ 1,140.4	$ 768.1	$ 372.3	48.5 %
Number of employees at period end	3,268	2,595	673	25.9 %	2,595	1,821	774	42.5 %

Research and development expense increased for fiscal 2022 compared to fiscal 2021 primarily due to an increase in personnel costs, which grew $193.5 million to $1.1 billion, primarily due to headcount growth. The increase in research and development expense was further driven by increased shared costs and third-party product development costs.

Sales and Marketing

Sales and marketing expense consists primarily of personnel costs, including commission expense. Sales and marketing expense also includes costs for market development programs, promotional and other marketing costs, professional services, and shared costs. We continue to strategically invest in headcount and have grown our sales presence. We expect sales and marketing expense to continue to increase in absolute dollars as we increase the size of our sales and marketing organizations to grow our customer base, increase touch points with end-customers, and expand our global presence, although our sales and marketing expense may fluctuate as a percentage of total revenue.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Sales and marketing	$ 2,148.9	$ 1,753.8	$ 395.1	22.5 %	$ 1,753.8	$ 1,520.2	$ 233.6	15.4 %
Number of employees at period end	5,167	4,493	674	15.0 %	4,493	3,800	693	18.2 %

Sales and marketing expense increased for fiscal 2022 compared to fiscal 2021 primarily due to an increase in personnel costs, which grew $291.8 million to $1.6 billion, primarily due to headcount growth and increased travel and entertainment expenses. The increase in sales and marketing expense was further driven by an increase in costs associated with marketing activities.

General and Administrative

General and administrative expense consists primarily of personnel costs and shared costs for our executive, finance, human resources, information technology, and legal organizations, and professional services costs, which consist primarily of legal, auditing, accounting, and other consulting costs. We expect general and administrative expense to increase in absolute dollars as we increase the size of our general and administrative organizations and incur additional costs to support our business growth, although our general and administrative expense may fluctuate as a percentage of total revenue.

	Year Ended July 31,				Year Ended July 31,			
	2022	2021	Change		2021	2020	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
General and administrative	$ 405.0	$ 391.1	$ 13.9	3.6 %	$ 391.1	$ 299.6	$ 91.5	30.5 %
Number of employees at period end	1,462	1,150	312	27.1 %	1,150	874	276	31.6 %

General and administrative expenses increased for fiscal 2022 compared to fiscal 2021 primarily due to personnel costs, which grew $24.6 million to $268.6 million, partially offset by a decrease in acquisition-related costs. The increase in personnel costs was primarily due to headcount growth, partially offset by lower share-based compensation related to accelerated vesting of equity awards in connection with acquisitions.

Interest Expense

Interest expense primarily consists of interest expense related to our 0.75% Convertible Senior Notes due 2023 (the “2023 Notes”) and the 0.375% Convertible Senior Notes due 2025 (the “2025 Notes,” and together with “2023 Notes,” the “Notes”).

	Year Ended July 31,				Year Ended July 31,			
	2022	2021	Change		2021	2020	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
Interest expense	$ 27.4	$ 163.3	$ (135.9)	(83.2) %	$ 163.3	$ 88.7	$ 74.6	84.1 %

Interest expense decreased for fiscal 2022 compared to fiscal 2021 primarily because we no longer recognize interest expense for amortization of the debt discount as a result of the adoption of new debt guidance. Refer to Note 1. Description of Business and Summary of Significant Accounting Policies and Note 10. Debt in Part II, Item 8 of this Annual Report on Form 10-K for more information.

Other Income, Net

Other income, net includes interest income earned on our cash, cash equivalents, and investments, and gains and losses from foreign currency remeasurement and foreign currency transactions.

	Year Ended July 31,				Year Ended July 31,			
	2022	2021	Change		2021	2020	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
				(dollars in millions)				
Other income, net	$ 9.0	$ 2.4	$ 6.6	275.0 %	$ 2.4	$ 35.9	$ (33.5)	(93.3) %

Other income, net increased for fiscal 2022 compared to fiscal 2021 primarily due to increased foreign currency exchange gains and higher interest income earned on our cash, cash equivalent, and investment balances as a result of higher interest rates for fiscal 2022 compared to fiscal 2021, partially offset by increased losses related to non-designated derivative instruments.

Provision for Income Taxes

Provision for income taxes consists primarily of income taxes in foreign jurisdictions in which we conduct business and withholding taxes. We maintain a full valuation allowance for domestic and certain foreign deferred tax assets, including net operating loss carryforwards and certain domestic tax credits. Our valuation allowance has caused, and may continue to cause, disproportionate relationships between our overall effective tax rate and other jurisdictional measures.

	Year Ended July 31,		Change		Year Ended July 31,		Change	
	2022	2021			2021	2020		
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Provision for income taxes	$ 59.8	$ 33.9	$ 25.9	76.4 %	$ 33.9	$ 35.2	$ (1.3)	(3.7) %
Effective tax rate	(28.9) %	(7.3) %			(7.3) %	(15.2) %		

We recorded an income tax provision for fiscal 2022. The provision for income taxes for fiscal 2022 was primarily due to income taxes in profitable foreign jurisdictions and withholding taxes. Our provision for income taxes increased for fiscal 2022 compared to fiscal 2021, primarily due to foreign income and withholding taxes. Refer to Note 15. Income Taxes in Part II, Item 8 of this Annual Report on Form 10-K for more information.

Liquidity and Capital Resources

	July 31,	
	2022	2021
	(in millions)	
Working capital[(1)]	$ (1,891.4)	$ (469.4)
Cash, cash equivalents, and investments:		
Cash and cash equivalents	$ 2,118.5	$ 1,874.2
Investments	2,567.9	1,915.2
Total cash, cash equivalents, and investments	$ 4,686.4	$ 3,789.4

(1) Current liabilities included net carrying amounts of convertible senior notes of $3.7 billion and $1.6 billion as of July 31, 2022 and 2021, respectively. Refer to Note 10. Debt in Part II, Item 8 of this Annual Report on Form 10-K for information on the Notes.

As of July 31, 2022, our total cash, cash equivalents, and investments of $4.7 billion were held for general corporate purposes. As of July 31, 2022, we had no unremitted earnings when evaluating our outside basis difference relating to our U.S. investment in foreign subsidiaries. However, there could be local withholding taxes payable due to various foreign countries if certain lower tier earnings are distributed. Withholding taxes that would be payable upon remittance of these lower tier earnings are not expected to be material.

Debt

In July 2018, we issued the 2023 Notes with an aggregate principal amount of $1.7 billion. In June 2020, we issued the 2025 Notes with an aggregate principal amount of $2.0 billion. The 2023 Notes mature on July 1, 2023 and the 2025 Notes mature on June 1, 2025; however, under certain circumstances, holders may surrender their Notes of a series for conversion prior to the applicable maturity date. Upon conversion of the Notes of a series, we will pay cash equal to the aggregate principal amount of the Notes of such series to be converted, and, at our election, will pay or deliver cash and/or shares of our common stock for the amount of our conversion obligation in excess of the aggregate principal amount of the Notes of such series being converted. The sale price condition for the Notes was met during the fiscal quarter ended July 31, 2022, and as a result, holders may convert their Notes at any time during the fiscal quarter ending October 31, 2022. If all of the holders of the Notes converted their Notes during this period, we would be obligated to settle the $3.7 billion principal amount of the Notes in cash. We believe that our cash provided by operating activities, our existing cash, cash equivalents and investments, and existing sources of and access to financing will be sufficient to meet our anticipated cash needs should the holders choose to convert their Notes during the fiscal quarter ending October 31, 2022 or hold the 2023 Notes until maturity on July 1, 2023. As of July 31, 2022, substantially all of our Notes remained outstanding. Refer to Note 10. Debt in Part II, Item 8 of this Annual Report on Form 10-K for more information on the Notes.

In September 2018, we entered into a credit agreement (the "Credit Agreement") that provides for a $400.0 million unsecured revolving credit facility (the "Credit Facility"), with an option to increase the amount of the Credit Facility by up to an additional $350.0 million, subject to certain conditions. As of July 31, 2022, there were no amounts outstanding, and we were in compliance with all covenants under the Credit Agreement. Refer to Note 10. Debt in Part II, Item 8 of this Annual Report on Form 10-K for more information on the Credit Agreement.

Capital Return

In February 2019, our board of directors authorized a $1.0 billion share repurchase program. In December 2020 and August 2021, our board of directors authorized additional $700.0 million and $676.1 million increases, respectively, bringing the total authorization under this share repurchase program to $2.4 billion. Repurchases will be funded from available working capital and may be made at management's discretion from time to time. The expiration date of this repurchase authorization was extended to December 31, 2022, and our repurchase program may be suspended or discontinued at any time. As of July 31, 2022, 85.0 million remained available for future share repurchases under this repurchase program. In February 2020, our board of directors approved the repurchase of $1.0 billion of our common stock through an accelerated share repurchase ("ASR") transaction, which was in addition to our current authorization. During fiscal 2020, we completed the ASR transaction with an aggregate of 5.2 million shares of our common stock repurchased and retired. Refer to Note 13. Stockholders' Equity in Part II, Item 8 of this Annual Report on Form 10-K for information on these repurchase programs.

Leases and Other Material Cash Requirements

We have entered into various non-cancelable operating leases primarily for our facilities with original lease periods expiring through the year ending July 31, 2032, with the most significant leases relating to our corporate headquarters in Santa Clara, California. As of July 31, 2022, we have total operating lease obligations of $338.4 million recorded on our consolidated balance sheet.

As of July 31, 2022, our commitments to purchase products, components, cloud and other services totaled $2.4 billion. Refer to Note 12. Commitments and Contingencies in Part II, Item 8 of this Annual Report on Form 10-K for more information on these commitments.

Cash Flows

The following table summarizes our cash flows for the years ended July 31, 2022, 2021, and 2020:

	Year Ended July 31,		
	2022	2021	2020
		(in millions)	
Net cash provided by operating activities	$ 1,984.7	$ 1,503.0	$ 1,035.7
Net cash provided by (used in) investing activities	(933.4)	(1,480.6)	288.0
Net cash provided by (used in) financing activities	(806.6)	(1,104.0)	673.0
Net increase (decrease) in cash, cash equivalents, and restricted cash	$ 244.7	$ (1,081.6)	$ 1,996.7

Cash from operations could be affected by various risks and uncertainties, including, but not limited to, the effects of COVID-19 and other risks detailed in Part I, Item 1A "Risk Factors" in this Form 10-K. We believe that our cash flow from operations with existing cash and cash equivalents will be sufficient to meet our anticipated cash needs for at least the next 12 months and thereafter for the foreseeable future. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support development efforts, the expansion of sales and marketing activities, the introduction of new and enhanced products and subscription and support offerings, the costs to acquire or invest in complementary businesses and technologies, the costs to ensure access to adequate manufacturing capacity, the investments in our infrastructure to support the adoption of our cloud-based subscription offerings, the repayment obligations associated with our Notes, the continuing market acceptance of our products and subscription and support offerings and macroeconomic events such as COVID-19. In addition, from time to time, we may incur additional tax liability in connection with certain corporate structuring decisions.

We may also choose to seek additional equity or debt financing. In the event that additional financing is required from outside sources, we may not be able to raise it 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 may be adversely affected.

Operating Activities

Our operating activities have consisted of net losses adjusted for certain non-cash items and changes in assets and liabilities. Our largest source of cash provided by our operations is receipts from our product revenue and subscription and support revenue.

Cash provided by operating activities during fiscal 2022 was $2.0 billion, an increase of $481.7 million compared to fiscal 2021. The increase was primarily due to growth of our business as reflected by increases in billings and collections during fiscal 2022, partially offset by higher cash expenditure to support our business growth.

Investing Activities

Our investing activities have consisted of capital expenditures, net investment purchases, sales, and maturities, and business acquisitions. We expect to continue such activities as our business grows.

Cash used in investing activities during fiscal 2022 was $933.4 million, a decrease of $547.2 million compared to fiscal 2021. The decrease was primarily due to a decrease in net cash payments for business acquisitions, partially offset by an increase in net investment purchases, sales and maturities during fiscal 2022.

Financing Activities

Our financing activities have consisted of cash used to repurchase shares of our common stock, proceeds from sales of shares through employee equity incentive plans, and payments for tax withholding obligations of certain employees related to the net share settlement of equity awards.

Cash used in financing activities during fiscal 2022 was $806.6 million, a decrease of $297.4 million compared to fiscal 2021. The decrease was primarily due to a decrease in repurchases of our common stock during fiscal 2022.

Critical Accounting Estimates

Our consolidated financial statements have been prepared in accordance with GAAP. 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 could differ materially from those estimates due to risks and uncertainties, including uncertainty in the current economic environment. To the extent that there are material differences between these estimates and our actual results, our future consolidated financial statements will be affected.

We believe that of our significant accounting policies described in Note 1. Description of Business and Summary of Significant Accounting Policies in Part II, Item 8 of this Annual Report on Form 10-K, the critical accounting estimates, assumptions, and judgments that have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

The majority of our contracts with our customers include various combinations of our products and subscriptions and support. Our appliances and software licenses have significant standalone functionalities and capabilities and, accordingly, are distinct from our subscriptions and support services, as the customer can benefit from the product without these services and such services are separately identifiable within the contract. We account for multiple agreements with a single customer as a single contract if the contractual terms and/or substance of those agreements indicate that they may be so closely related that they are, in effect, parts of a single contract. The amount we are due in exchange for delivering on the contract is allocated to each performance obligation based on its relative standalone selling price.

We establish standalone selling price using the prices charged for a deliverable when sold separately. If not observable through past transactions, we estimate the standalone selling price based on our pricing model and our go-to-market strategy, which include factors such as type of sales channel (channel partner or end-customer), the geographies in which our offerings were sold (domestic or international) and offering type (products, subscriptions, or support). As our business offerings evolve over time, we may be required to modify our estimated standalone selling prices, and as a result the timing and classification of our revenue could be affected.

Deferred Contract Costs

We defer contract costs that are recoverable and incremental to obtaining customer sales contracts. Contract costs, which primarily consist of sales commissions, are amortized on a systematic basis that is consistent with the transfer to the customer of the goods or services to which the asset relates. Sales commissions for initial contracts that are not commensurate with renewal commissions are amortized over a benefit period of five years, consistent with the revenue recognition pattern of the performance obligations in the related contracts including expected renewals. The benefit period is determined by taking into consideration contract length, technology life, and other quantitative and qualitative factors. The expected renewals are estimated based on historical renewal trends. Sales commissions for initial contracts that are commensurate and sales commissions for renewal contracts are amortized over the related contractual period in proportion to the revenue recognized.

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 consolidated 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.

Significant judgment is 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 past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

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 likely than not 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.

Manufacturing Partner and Supplier Liabilities

We outsource most of our manufacturing, repair, and supply chain management operations to our EMS provider, which procures components and assembles our products based on our demand forecasts. These forecasts of future demand are based upon historical trends and analysis from our sales and product management functions as adjusted for overall market conditions. We accrue costs for manufacturing purchase commitments in excess of our forecasted demand, including costs for excess components or for carrying costs incurred by our manufacturing partners and component suppliers. Actual component usage and product demand may be materially different from our forecast and could be caused by factors outside of our control, which could have an adverse impact on our results of operations. To date, we have not accrued 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 accrue for loss contingencies 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.

From time to time, we are involved in disputes, litigation, and other legal actions. However, there are many uncertainties associated with any litigation, and these actions or other third-party claims against us may cause us to incur substantial settlement charges, which are inherently difficult to estimate and could adversely affect our results of operations. The actual liability in any such matters may be materially different from our estimates, which could result in the need to adjust our liability and record additional expenses.

Goodwill, Intangibles, and Other Long-Lived Assets

We make significant estimates, assumptions, and judgments when valuing goodwill and other purchased intangible assets in connection with the initial purchase price allocation of an acquired entity, as well as when evaluating impairment of goodwill and other purchased intangible assets on an ongoing basis. These estimates are based upon a number of factors, including historical experience, market conditions, and information obtained from the management of the acquired company. Critical estimates in valuing certain intangible assets include, but are not limited to, cash flows that an asset is expected to generate in the future, discount rates, the time and expense that would be necessary to recreate the assets, and the profit margin a market participant would receive. The amounts and useful lives assigned to identified intangible assets impact the amount and timing of future amortization expense.

We evaluate goodwill for impairment on an annual basis in our fourth fiscal quarter or more frequently if we believe impairment indicators exist. We have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of our reporting unit is less than its carrying amount, including goodwill. The qualitative assessment includes our evaluation of relevant events and circumstances affecting our single reporting unit, including macroeconomic, industry, and market conditions, our overall financial performance, and trends in the market price of our common stock. If qualitative factors indicate that it is more likely than not that our reporting unit's fair value is less than its carrying amount, then we will perform the quantitative impairment test by comparing our reporting unit's carrying amount, including goodwill, to its fair value. If the carrying amount of our reporting unit exceeds its fair value, an impairment loss will be recognized in an amount equal to that excess but limited to the total amount of goodwill. To date, the results of our qualitative assessment have indicated that the quantitative goodwill impairment test is not necessary.

We evaluate purchased intangible assets and other long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Such events or changes in circumstances include, but are not limited to, a significant decrease in the fair value of the underlying asset or asset group, a significant decrease in the benefits realized from the acquired assets, difficulty and delays in integrating the business, or a significant change in the operations of the acquired assets or use of an asset or asset group. A long-lived asset is considered impaired if its carrying amount exceeds the estimated future undiscounted cash flows the asset or asset group is expected to generate. Critical estimates in determining whether a long-lived asset is considered impaired include the amount and timing of future cash flows that the asset or asset group is expected to generate. If a long-lived asset is considered to be impaired, the impairment to be recognized is the amount by which the carrying amount of the asset exceeds the fair value of the asset or asset group, which is estimated using a present value technique. Critical estimates in determining the fair value of an asset or asset group and the amount of impairment to recognize include, but are not limited to, the amount and timing of future cash flows that the asset or asset group is expected to generate and the discount rate. Determining the fair value of an asset or asset group is highly judgmental in nature and involves the use of significant estimates and assumptions for market participants. We base our fair value estimates on assumptions we believe to be reasonable but that are unpredictable and inherently uncertain. Actual future results may differ from those estimates.

Recent Accounting Pronouncements

Refer to "Recently Issued Accounting Pronouncements" in Note 1. Description of Business and Summary of Significant Accounting Policies in Part II, Item 8 of this Annual Report on Form 10-K for a description of recent accounting pronouncements and our expectation of their impact, if any, on our results of operations and financial condition.

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 of the United States and are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates. Additionally, fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations. The effect of an immediate 10% adverse change in foreign exchange rates on monetary assets and liabilities at July 31, 2022 would not be material to our financial condition or results of operations. As of July 31, 2022, foreign currency transaction gains and losses and exchange rate fluctuations have not been material to our consolidated financial statements. We enter into foreign currency derivative contracts with maturities of 16 months or less which we designate as cash flow hedges to manage the foreign currency exchange risk associated with our foreign currency denominated operating expenditures. The effectiveness of our existing hedging transactions and the availability and effectiveness of any hedging transactions we may decide to enter into in the future may be limited, and we may not be able to successfully hedge our exposure, which could adversely affect our financial condition and operating results. Refer to Note 6. Derivative Instruments in Part II, Item 8 of this Annual Report on Form 10-K for more information.

As our international operations grow, our risks associated with fluctuations in foreign currency exchange rates will become greater, and we will continue to reassess our approach to managing this risk. In addition, a weakening U.S. dollar can increase the costs of our international expansion and a strengthening U.S. dollar can increase the real cost of our products to our end-customers outside of the United States, leading to delays in the purchase of our products and services. For additional information, see the risk factor entitled "*We are exposed to fluctuations in foreign currency exchange rates, which could negatively affect our financial condition and operating results.*" in Part 1, Item 1A of this Annual Report on Form 10-K.

Interest Rate Risk

The primary objectives of our investment activities are to preserve principal, provide liquidity, and maximize income without significantly increasing risk. Most of the securities we invest in are subject to interest rate risk. To minimize this risk, we maintain our portfolio of cash, cash equivalents, and short-term investments in a variety of securities, including commercial paper, money market funds, U.S. government and agency securities, corporate debt securities, and asset-backed securities. To assess the interest rate risk, we performed a sensitivity analysis to determine the impact a change in interest rates would have on the value of the investment portfolio. Based on investment positions as of July 31, 2022, a hypothetical 100 basis point increase in interest rates across all maturities would result in a $20.6 million decline in the fair market value of the portfolio. Such losses would only be realized if we sold the investments prior to maturity. Conversely, a hypothetical 100 basis point decrease in interest rates would lead to a $20.6 million increase in the fair market value of the portfolio.

In July 2018, we issued $1.7 billion aggregate principal amount of 0.75% Convertible Senior Notes due 2023 (the "2023 Notes") and in June 2020, we issued $2.0 billion aggregate principal amount of 0.375% Convertible Senior Notes due 2025 (the "2025 Notes"). We carry these instruments at face value less unamortized discount and unamortized issuance costs on our consolidated balance sheets. As these instruments have a fixed annual interest rate, we have no financial and economic exposure associated with changes in interest rates. However, the fair value of fixed rate instruments fluctuates when interest rates change, and additionally, in the case of either series of Notes, when the market price of our common stock fluctuates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Palo Alto Networks, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Palo Alto Networks, Inc. (the Company) as of July 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended July 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at July 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended July 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have 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 July 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated September 6, 2022 expressed an unqualified opinion thereon.

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 Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

	Revenue Recognition
Description of the Matter	As described in Note 1 to the consolidated financial statements, the Company's contracts with customers sometimes contain multiple performance obligations, which are accounted for separately if they are distinct. In such cases, the transaction price is then allocated to the distinct performance obligations on a relative standalone selling price basis, and revenue is recognized when control of the distinct performance obligation is transferred. For example, product revenue is recognized at the time of hardware shipment or delivery of software license, and subscription and support revenue is recognized over time as the services are performed. Auditing the Company's revenue recognition was complex, including the identification and determination of distinct performance obligations and the timing of revenue recognition. For example, there were nonstandard terms and conditions that required judgment to determine the distinct performance obligations and the impact on the timing of revenue recognition.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's process and controls to identify and determine the distinct performance obligations and the timing of revenue recognition. To test the identification and determination of the distinct performance obligations and the timing of revenue recognition, our audit procedures included, among others, reading the executed contract and purchase order to understand the contract, identifying the performance obligation(s), determining the distinct performance obligations, and evaluating the timing of revenue recognition for a sample of individual sales transactions. We evaluated the accuracy of the Company's contract summary documentation, specifically related to the identification and determination of distinct performance obligations and the timing of revenue recognition.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2009.

San Jose, California
September 6, 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Palo Alto Networks, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Palo Alto Networks, Inc.'s internal control over financial reporting as of July 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Palo Alto Networks, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of July 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of July 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended July 31, 2022, and the related notes and our report dated September 6, 2022 expressed an unqualified opinion thereon.

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 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/ Ernst & Young LLP

San Jose, California
September 6, 2022

PALO ALTO NETWORKS, INC.

CONSOLIDATED BALANCE SHEETS
(In millions, except per share data)

	July 31, 2022	July 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 2,118.5	$ 1,874.2
Short-term investments	1,516.0	1,026.9
Accounts receivable, net of allowance for credit losses of $8.9 and $11.2 at July 31, 2022 and July 31, 2021, respectively	2,142.5	1,240.4
Short-term deferred contract costs	317.7	276.5
Prepaid expenses and other current assets	320.2	229.3
Total current assets	6,414.9	4,647.3
Property and equipment, net	357.8	318.4
Operating lease right-of-use assets	242.0	262.9
Long-term investments	1,051.9	888.3
Long-term deferred contract costs	550.1	494.6
Goodwill	2,747.7	2,710.1
Intangible assets, net	384.5	498.6
Other assets	504.7	421.4
Total assets	$ 12,253.6	$ 10,241.6
Liabilities, temporary equity and stockholders' equity		
Current liabilities:		
Accounts payable	$ 128.0	$ 56.9
Accrued compensation	461.1	430.6
Accrued and other liabilities	399.2	329.4
Deferred revenue	3,641.2	2,741.9
Convertible senior notes, net	3,676.8	1,557.9
Total current liabilities	8,306.3	5,116.7
Convertible senior notes, net	—	1,668.1
Long-term deferred revenue	3,352.8	2,282.1
Long-term operating lease liabilities	276.1	313.4
Other long-term liabilities	108.4	97.7
Total liabilities	12,043.6	9,478.0
Commitments and contingencies (Note 12)		
Temporary equity	—	129.1
Stockholders' equity:		
Preferred stock; $0.0001 par value; 100.0 shares authorized; none issued and outstanding at July 31, 2022 and July 31, 2021	—	—
Common stock and additional paid-in capital; $0.0001 par value; 1,000.0 shares authorized; 99.6 and 97.3 shares issued and outstanding at July 31, 2022 and July 31, 2021, respectively	1,932.7	2,311.2
Accumulated other comprehensive loss	(55.6)	(9.9)
Accumulated deficit	(1,667.1)	(1,666.8)
Total stockholders' equity	210.0	634.5
Total liabilities, temporary equity and stockholders' equity	$ 12,253.6	$ 10,241.6

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except per share data)

	Year Ended July 31, 2022	2021	2020
Revenue:			
Product	$ 1,363.1	$ 1,120.3	$ 1,064.2
Subscription and support	4,138.4	3,135.8	2,344.2
Total revenue	5,501.5	4,256.1	3,408.4
Cost of revenue:			
Product	455.5	308.5	294.4
Subscription and support	1,263.2	966.4	705.1
Total cost of revenue	1,718.7	1,274.9	999.5
Total gross profit	3,782.8	2,981.2	2,408.9
Operating expenses:			
Research and development	1,417.7	1,140.4	768.1
Sales and marketing	2,148.9	1,753.8	1,520.2
General and administrative	405.0	391.1	299.6
Total operating expenses	3,971.6	3,285.3	2,587.9
Operating loss	(188.8)	(304.1)	(179.0)
Interest expense	(27.4)	(163.3)	(88.7)
Other income, net	9.0	2.4	35.9
Loss before income taxes	(207.2)	(465.0)	(231.8)
Provision for income taxes	59.8	33.9	35.2
Net loss	$ (267.0)	$ (498.9)	$ (267.0)
Net loss per share, basic and diluted	$ (2.71)	$ (5.18)	$ (2.76)
Weighted-average shares used to compute net loss per share, basic and diluted	98.5	96.4	96.9

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In millions)

	Year Ended July 31,		
	2022	2021	2020
Net loss	$ (267.0)	$ (498.9)	$ (267.0)
Other comprehensive income (loss), net of tax:			
Change in unrealized gains (losses) on investments	(25.0)	(3.0)	1.0
Cash flow hedges:			
Change in unrealized gains (losses)	(54.0)	1.1	8.3
Net realized (gains) losses reclassified into earnings	33.3	(18.5)	4.9
Net change on cash flow hedges	(20.7)	(17.4)	13.2
Other comprehensive income (loss)	(45.7)	(20.4)	14.2
Comprehensive loss	$ (312.7)	$ (519.3)	$ (252.8)

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions)

	Common Stock and Additional Paid-In Capital		Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance as of July 31, 2019	96.8	$ 2,490.9	$ (3.7)	$ (900.9)	$ 1,586.3
Net loss	—	—	—	(267.0)	(267.0)
Other comprehensive income	—	—	14.2	—	14.2
Issuance of common stock in connection with employee equity incentive plans	3.6	84.0	—	—	84.0
Taxes paid related to net share settlement of equity awards	—	(22.7)	—	—	(22.7)
Share-based compensation for equity-based awards	—	674.4	—	—	674.4
Repurchase and retirement of common stock	(6.1)	(1,198.1)	—	—	(1,198.1)
Settlement of warrants	2.0	—	—	—	—
Equity component of convertible senior notes, net	—	398.7	—	—	398.7
Issuance of warrants	—	202.8	—	—	202.8
Purchase of note hedges	—	(370.8)	—	—	(370.8)
Balance as of July 31, 2020	96.3	2,259.2	10.5	(1,167.9)	1,101.8
Net loss	—	—	—	(498.9)	(498.9)
Other comprehensive loss	—	—	(20.4)	—	(20.4)
Issuance of common stock in connection with employee equity incentive plans	3.7	104.0	—	—	104.0
Taxes paid related to net share settlement of equity awards	—	(28.9)	—	—	(28.9)
Share-based compensation for equity-based awards	—	943.4	—	—	943.4
Repurchase and retirement of common stock	(4.0)	(1,178.1)	—	—	(1,178.1)
Issuance of common and restricted common stock in connection with acquisitions	1.3	340.7	—	—	340.7
Temporary equity reclassification	—	(129.1)	—	—	(129.1)
Balance as of July 31, 2021	97.3	2,311.2	(9.9)	(1,666.8)	634.5
Cumulative-effect adjustment from adoption of new accounting pronouncement	—	(581.9)	—	266.7	(315.2)
Net loss	—	—	—	(267.0)	(267.0)
Other comprehensive loss	—	—	(45.7)	—	(45.7)
Issuance of common stock in connection with employee equity incentive plans	4.1	137.3	—	—	137.3
Taxes paid related to net share settlement of equity awards	—	(50.3)	—	—	(50.3)
Share-based compensation for equity-based awards	—	1,031.4	—	—	1,031.4
Repurchase and retirement of common stock	(1.8)	(915.0)	—	—	(915.0)
Balance as of July 31, 2022	99.6	$ 1,932.7	$ (55.6)	$ (1,667.1)	$ 210.0

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Year Ended July 31,		
	2022	2021	2020
Cash flows from operating activities			
Net loss	$ (267.0)	$ (498.9)	$ (267.0)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Share-based compensation for equity-based awards	1,011.1	894.5	658.4
Depreciation and amortization	282.6	260.4	206.1
Gain related to facility exit	—	—	(3.1)
Amortization of deferred contract costs	362.1	298.0	254.4
Amortization of debt discount and debt issuance costs	7.2	142.9	73.9
Reduction of operating lease right-of-use assets	54.4	44.5	47.4
Amortization of investment premiums, net of accretion of purchase discounts	13.5	13.1	(6.2)
Repayments of convertible senior notes attributable to debt discount	—	(0.1)	—
Changes in operating assets and liabilities, net of effects of acquisitions:			
Accounts receivable, net	(902.0)	(172.4)	(435.6)
Deferred contract costs	(458.8)	(440.8)	(407.4)
Prepaid expenses and other assets	(141.0)	(299.1)	(1.6)
Accounts payable	69.3	(11.8)	(12.8)
Accrued compensation	30.4	105.1	75.7
Accrued and other liabilities	(47.1)	(28.5)	(39.8)
Deferred revenue	1,970.0	1,196.1	893.3
Net cash provided by operating activities	1,984.7	1,503.0	1,035.7
Cash flows from investing activities			
Purchases of investments	(2,271.7)	(1,958.9)	(1,180.8)
Proceeds from sales of investments	449.2	131.1	314.0
Proceeds from maturities of investments	1,118.9	1,240.5	1,952.7
Business acquisitions, net of cash acquired	(37.0)	(777.3)	(583.5)
Purchases of property, equipment, and other assets	(192.8)	(116.0)	(214.4)
Net cash provided by (used in) investing activities	(933.4)	(1,480.6)	288.0
Cash flows from financing activities			
Repayments of convertible senior notes	(0.6)	(0.9)	—
Payments for debt issuance costs	—	(0.2)	—
Proceeds from borrowings on convertible senior notes, net	—	—	1,979.1
Proceeds from issuance of warrants	—	—	202.8
Purchase of note hedges	—	—	(370.8)
Repurchases of common stock	(892.3)	(1,178.1)	(1,198.1)
Proceeds from sales of shares through employee equity incentive plans	136.6	104.0	84.0
Payments for taxes related to net share settlement of equity awards	(50.3)	(28.8)	(22.7)
Payment of deferred consideration related to prior year business acquisition	—	—	(1.3)
Net cash provided by (used in) financing activities	(806.6)	(1,104.0)	673.0
Net increase (decrease) in cash, cash equivalents, and restricted cash	244.7	(1,081.6)	1,996.7
Cash, cash equivalents, and restricted cash—beginning of period	1,880.1	2,961.7	965.0
Cash, cash equivalents, and restricted cash—end of period	$ 2,124.8	$ 1,880.1	$ 2,961.7
Reconciliation of cash, cash equivalents, and restricted cash to the consolidated balance sheets			
Cash and cash equivalents	$ 2,118.5	$ 1,874.2	$ 2,958.0
Restricted cash included in prepaid expenses and other current assets	6.3	5.4	2.8
Restricted cash included in other assets	—	0.5	0.9
Total cash, cash equivalents, and restricted cash	$ 2,124.8	$ 1,880.1	$ 2,961.7
Non-cash investing and financing activities			
Equity consideration for business acquisitions	$ (2.5)	$ (365.4)	$ (11.0)
Supplemental disclosures of cash flow information			
Cash paid for income taxes	$ 34.6	$ 24.9	$ 17.2
Cash paid for contractual interest	$ 20.2	$ 20.0	$ 13.5

See notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

Palo Alto Networks, Inc. (the "Company," "we," "us," or "our"), headquartered in Santa Clara, California, was incorporated in March 2005 under the laws of the State of Delaware and commenced operations in April 2005. We empower enterprises, organizations, service providers, and government entities to secure their users, networks, clouds and endpoints by delivering comprehensive cybersecurity backed by artificial intelligence and automation.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP"). The consolidated financial statements include all adjustments necessary for a fair presentation of our annual results. All adjustments are of a normal recurring nature.

Principles of Consolidation

The consolidated financial statements include our accounts and our wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported and disclosed in the consolidated financial statements and the accompanying notes. We evaluate our estimates on an ongoing basis. Management estimates include, but are not limited to, the standalone selling price for our products and services, share-based compensation, fair value of assets acquired and liabilities assumed in business combinations, the assessment of recoverability of our intangibles and goodwill, valuation allowance against deferred tax assets, manufacturing partner and supplier liabilities, deferred contract cost benefit period, and loss contingencies. We base our estimates on assumptions, both historical and forward looking, that we believe are reasonable. Actual results could differ materially from those estimates due to risks and uncertainties, including uncertainty in the current economic environment.

Concentrations

Financial instruments that subject us to concentrations of credit risk consist primarily of cash and cash equivalents, investments, derivative contracts, accounts receivable and financing receivables.

We invest only in high-quality credit instruments and our cash and cash equivalents and available-for-sale investments consist primarily of fixed income securities. Management believes that the financial institutions that hold our investments 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 derivative contracts expose us to credit risk to the extent that the counterparties may be unable to meet the terms of the arrangement. We mitigate this credit risk by transacting with major financial institutions with high credit ratings and also enter into master netting arrangements, which permit net settlement of transactions with the same counterparty. We are not required to pledge, and are not entitled to receive, cash collateral related to these derivative instruments. We do not enter into derivative contracts for trading or speculative purposes.

Our accounts receivable are primarily derived from our distributors in various geographical locations. Our financing receivables are with qualified end-customers. We perform ongoing credit evaluations and generally do not require collateral on accounts receivable or financing receivables.

As of July 31, 2022, three distributors individually represented 10% or more of our gross accounts receivable, and in the aggregate represented 47.7% of our gross accounts receivable. As of July 31, 2022, two end-customers represented 10% or more of our gross financing receivables, and in aggregate represented 33.7% of our gross financing receivables.

For fiscal 2022, three distributors represented 10% or more of our total revenue, representing 29.7%, 12.4%, and 11.5%, respectively. No single end-customer accounted for more than 10% of our total revenue in fiscal 2022, 2021, or 2020.

We rely on an electronics manufacturing services provider ("EMS provider") to assemble most of our products and sole source component suppliers for a certain number of our components.

Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive income (loss). Our other comprehensive income (loss) includes unrealized gains and losses on available-for-sale investments and unrealized gains and losses on cash flow hedges.

Foreign Currency Transactions

The functional currency of our foreign subsidiaries is the U.S. dollar. Monetary assets and liabilities denominated in foreign currencies have been remeasured into U.S. dollars using the exchange rates in effect at the balance sheet dates. Foreign currency remeasurement gains and losses and foreign currency transaction gains and losses are not significant to the consolidated financial statements.

Fair Value

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 categorize assets and liabilities recorded or disclosed at fair value on our consolidated balance sheets based upon the level of judgment associated with inputs used to measure their fair value. The categories are as follows:

- Level 1—Inputs are unadjusted quoted prices in active markets for identical assets or liabilities.
- Level 2—Inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the assets or liabilities, either directly or indirectly through market corroboration, for substantially the full term of the financial instruments.
- Level 3—Inputs are unobservable inputs based on our own assumptions used to measure assets and liabilities at fair value. The inputs require significant management judgment or estimation.

Our financial assets and liabilities that are measured at fair value on a recurring basis include marketable securities and derivative financial instruments. Goodwill, intangible assets, and other long-lived assets are measured at fair value on a nonrecurring basis, only if impairment is indicated. 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.

Cash, Cash Equivalents, and Investments

We consider all highly liquid investments with original maturities of three months or less at the date of purchase to be cash equivalents. Investments not considered cash equivalents, and with maturities of one year or less from the consolidated balance sheet date, are classified as short-term investments. Investments with maturities greater than one year from the consolidated balance sheet date are classified as long-term investments.

We determine the classification of our investments in marketable debt securities at the time of purchase and reevaluate such determination at each balance sheet date. Our marketable debt securities are classified as available-for-sale. Debt securities in an unrealized loss position are written down to its fair value with the corresponding charge recorded in other income, net in our consolidated statements of operations, if it is more likely than not that we will be required to sell the impaired security before recovery of its amortized cost basis, or we have the intention to sell the security. If neither of these conditions are met, we determine whether a credit loss exists by comparing the present value of the expected cash flows of the security with its amortized cost basis. An allowance for credit losses is recorded in other income, net in our consolidated statements of operations for an amount not to exceed the unrealized loss. Unrealized losses that are not credit-related are included in accumulated other comprehensive income (loss) ("AOCI") in stockholders' equity.

Accounts Receivable

Trade accounts receivable are recorded at the invoiced amount, net of allowances for credit losses. The allowance for credit losses is based on our assessment of collectability. Management regularly reviews the adequacy of the allowance for credit losses on a collective basis by considering the age of each outstanding invoice, each customer's expected ability to pay and collection history, current market conditions, and reasonable and supportable forecasts of future economic conditions. Accounts receivable deemed uncollectible are charged against the allowance for credit losses. For the years ended July 31, 2022 and 2021, the allowance for credit losses activity was not significant.

Financing Receivables

We provide financing arrangements for certain qualified end-user customers to purchase our products and services. Payment terms on these financing arrangements are up to five years. Financing receivables are recorded at amortized cost, which approximates fair value. We may sell, in certain instances, these financing arrangements on a non-recourse basis to third party financial institutions. The financing receivables are derecognized upon transfer as these sales qualify as true sales.

We evaluate the allowance for credit losses by assessing the risks and losses inherent in our financing receivables on either an individual or a collective basis. Our assessment considers various factors, including lifetime expected losses determined using customer risk profile, current economic conditions that may affect a customer's ability to pay, and forward-looking economic considerations. Financing receivables deemed uncollectible are charged against the allowance for credit losses. Short-term financing receivables are included in prepaid expenses and other current assets, and long-term financing receivables are included in other assets on our consolidated balance sheets.

Derivatives

We are exposed to foreign currency exchange risk. Substantially all of our revenue is transacted in U.S. dollars, however, a portion of our operating expenditures are incurred outside of the United States and are denominated in foreign currencies, making them subject to fluctuations in foreign currency exchange rates. We enter into foreign currency derivative contracts with maturities of 16 months or less, which we designate as cash flow hedges, to manage the foreign currency exchange risk associated with our operating expenditures.

Our derivative financial instruments are recorded at fair value, on a gross basis, as either assets or liabilities on our consolidated balance sheets. Gains or losses related to our cash flow hedges are recorded as a component of AOCI on our consolidated balance sheets and are reclassified into the financial statement line item associated with the underlying hedged transaction in our consolidated statements of operations when the underlying hedged transaction is recognized in earnings. Gains or losses related to non-designated derivative instruments are recognized in other income, net in our consolidated statements of operations for each period until the instrument matures, is terminated, is re-designated as a qualified cash flow hedge, or is sold. Derivatives designated as cash flow hedges are classified in our consolidated statements of cash flows in the same manner as the underlying hedged transaction, primarily within cash flows from operating activities.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally three to ten years. Leasehold improvements are depreciated over the shorter of the estimated useful lives of the improvements or the remaining lease term. Land is not depreciated.

Business Combinations

We include the results of operations of the businesses that we acquire as of the respective dates of acquisition. We allocate the fair value of the purchase price of our acquisitions to the assets acquired and liabilities assumed, generally based on their estimated fair values. The excess of the purchase price over the fair values of these identifiable assets and liabilities is recorded as goodwill. Additional information existing as of the acquisition date but unknown to us may become known during the remainder of the measurement period, not to exceed 12 months from the acquisition date, which may result in changes to the amounts and allocations recorded.

Intangible Assets

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. Acquisition-related in-process research and development represents the fair value of incomplete research and development projects that have not reached technological feasibility as of the date of acquisition. Initially, these assets are not subject to amortization. Assets related to projects that have been completed are transferred to developed technology, which are subject to amortization.

Impairment of Goodwill, Intangible Assets, and Other Long-Lived Assets

Goodwill is evaluated for impairment on an annual basis in the fourth quarter of our fiscal year, and whenever events or changes in circumstances indicate the carrying amount of goodwill may not be recoverable. We have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of our single reporting unit is less than its carrying amount, including goodwill. If we determine that it is more likely than not that the fair value is less than its carrying amount, then the quantitative impairment test will be performed. Under the quantitative impairment test, if the carrying amount exceeds its fair value, we will recognize an impairment loss in an amount equal to that excess but limited to the total amount of goodwill.

We evaluate events and changes in circumstances that could indicate carrying amounts of purchased intangible assets and other long-lived assets may not be recoverable. When such events or changes in circumstances occur, we assess the recoverability of these assets or asset groups by determining whether or not the carrying amount 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 or asset group, we record an impairment loss for the amount by which the carrying amount exceeds the fair value of the asset or asset group.

We did not recognize any impairment losses on our goodwill, intangible assets, or other long-lived assets during the years ended July 31, 2022, 2021, and 2020.

Manufacturing Partner and Supplier Liabilities

We outsource most of our manufacturing, repair, and supply chain management operations to our EMS provider and payments to it are a significant portion of our cost of product revenue. Although we are contractually obligated to purchase manufactured products and components, we generally do not own the components and manufactured products. Product title transfers from our EMS provider to us and immediately to our customers upon shipment. Our EMS provider assembles our products using design specifications, quality assurance programs, and standards that we establish, and it procures components and assembles 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 record a liability for manufacturing purchase commitments in excess of our forecasted demand including costs for excess components or for carrying costs incurred by our manufacturing partners and component suppliers. Through July 31, 2022, we have not accrued any significant costs associated with this exposure.

Convertible Senior Notes

Prior to August 1, 2021, our convertible senior notes were separated into a liability and an equity component. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that did not have an associated convertible feature, using a discounted cash flow model with a risk-adjusted yield. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the par value of the notes as a whole. This difference represented a debt discount that was amortized to interest expense using the effective interest method over the term of the notes. The equity component was not remeasured as it continued to meet the conditions for equity classification. Transaction costs related to the issuance of the notes were allocated to the liability and equity components using the same proportions as the proceeds from the notes. Transaction costs attributable to the liability component were netted with the liability component and amortized to interest expense using the effective interest method over the term of the notes. Transaction costs attributable to the equity component were netted with the equity component of the notes in additional paid-in capital. Upon the notes becoming convertible, the net carrying amount of the liability component was classified as a current liability and a portion of the equity component representing the conversion option was reclassified to temporary equity. The portion of the equity component classified as temporary equity was measured as the difference between the principal and net carrying amount of the notes, excluding debt issuance costs.

Upon adoption of the new debt guidance on August 1, 2021, our convertible senior notes are accounted for entirely as a liability and measured at their amortized cost. Transaction costs related to the issuance of the notes are netted with the liability and are amortized on a straight-line basis, which approximates the effective interest rate method, to interest expense over the term of the notes.

Revenue Recognition

Our revenue consists of product revenue and subscription and support revenue. Revenue is recognized when control of promised products, subscriptions and support services are transferred to customers, in an amount that reflects the expected consideration in exchange for those products and services.

We determine revenue recognition through the following steps:

- Identification of the contract, or contracts, with a customer.
- Identification of the performance obligations in the contract.
- Determination of the transaction price.
- Allocation of the transaction price to the performance obligations in the contract.
- Recognition of revenue when, or as, we satisfy a performance obligation.

Revenues are reported net of sales taxes. Shipping charges billed to our customers are included in revenues and related costs are included in cost of revenue.

Product Revenue

Product revenue is derived primarily from sales of our appliances. Product revenue also includes revenue derived from software licenses of Panorama and the VM-Series. Our appliances and software licenses include a broad set of built-in networking and security features and functionalities. We recognize product revenue at the time of hardware shipment or delivery of software license.

Subscription and Support Revenue

Subscription and support revenue is derived primarily from sales of our subscription and support offerings. We recognize subscription and support revenue over time as the services are performed. Our contractual subscription and support contracts are typically one to five years.

Contracts with Multiple Performance Obligations

The majority of our contracts with our customers include various combinations of our products and subscriptions and support. Our appliances and software licenses have significant standalone functionalities and capabilities. Accordingly, these appliances and software licenses are distinct from our subscriptions and support services as the customer can benefit from the product without these services and such services are separately identifiable within the contract. We account for multiple agreements with a single customer as a single contract if the contractual terms and/or substance of those agreements indicate that they may be so closely related that they are, in effect, parts of a single contract. The amount of consideration we expect to receive in exchange for delivering on the contract is allocated to each performance obligation based on its relative standalone selling price. If a contract contains a single performance obligation, no allocation is required.

We establish standalone selling price using the prices charged for a deliverable when sold separately. If the standalone selling price is not observable through past transactions, we estimate the standalone selling price based on our pricing model and our go-to-market strategy, which include factors such as type of sales channel (reseller, distributor, or end-customer), the geographies in which our offerings were sold (domestic or international), and offering type (products, subscriptions, or support).

Deferred Revenue

We record deferred revenue when cash payments are received or due in advance of our performance. Our payment terms typically require payment within 30 to 45 days of the date we issue an invoice. The current portion of deferred revenue represents the amounts that are expected to be recognized as revenue within one year of the consolidated balance sheet date.

Deferred Contract Costs

We defer contract costs that are recoverable and incremental to obtaining customer sales contracts. Contract costs, which primarily consist of sales commissions, are amortized on a systematic basis that is consistent with the transfer to the customer of the goods or services to which the asset relates. Sales commissions paid for initial contracts are generally not commensurate with the commissions paid for renewal contracts, given the substantive difference in commission rates in proportion to their respective contract values. Sales commissions for initial contracts that are not commensurate are amortized over a benefit period of five years, consistent with the revenue recognition pattern of the performance obligations in the related contracts including expected renewals. The benefit period is determined by taking into consideration contract length, technology life, and other quantitative and qualitative factors. The expected renewals are estimated based on historical renewal trends. Sales commissions for initial contracts that are commensurate and sales commissions for renewal contracts are amortized over the related contractual period in proportion to the revenue recognized.

We classify deferred contract costs as short-term or long-term based on when we expect to recognize the expense. The amortization of deferred contract costs is included in sales and marketing expense in our consolidated statements of operations. Deferred contract costs are periodically reviewed for impairment. We did not recognize any impairment losses on our deferred contract costs during the years ended July 31, 2022, 2021, or 2020.

Software Development Costs

Internally developed software includes security software developed to meet our internal needs to provide cloud-based subscription offerings to our end-customers and business software that we customize to meet our specific operational needs. These capitalized costs consist of internal compensation related costs and external direct costs incurred during the application development stage and will be amortized over a useful life of three to five years. As of July 31, 2022 and 2021, we capitalized as other assets on our consolidated balance sheets $130.9 million and $114.8 million in costs, respectively, net of accumulated amortization, for security software developed to meet our internal needs to provide our cloud-based subscription offerings. We recognized amortization expense of $62.4 million, $47.8 million, and $31.3 million related to these capitalized costs as cost of subscription and support revenue in our consolidated statements of operations during the years ended July 31, 2022, 2021, and 2020, respectively.

The costs to develop software that is marketed externally have not been capitalized as we believe our current software development process is essentially completed concurrent with the establishment of technological feasibility. As such, all related software development costs are expensed as incurred and included in research and development expense in our consolidated statements of operations.

Share-Based Compensation

Compensation expense related to share-based transactions is measured and recognized in the consolidated financial statements based on fair value on the grant date. We recognize share-based compensation expense for awards with only service conditions on a straight-line basis over the requisite service period of the related award. We recognize share-based compensation expense for awards with market conditions and awards with performance conditions on a straight-line basis over the requisite service period for each separately vesting portion of the award and, for awards with performance conditions, when it is probable that the performance condition will be achieved. We account for forfeitures of all share-based payment awards when they occur.

Leases

We determine if an arrangement is a lease at inception. We evaluate the classification of leases at commencement and, as necessary, at modification. Operating leases related balances are included in operating lease right-of-use assets, accrued and other liabilities, and long-term operating lease liabilities on our consolidated balance sheets. We did not have any material finance leases in any of the periods presented.

Operating lease right-of-use assets represent our right to use an underlying asset for the lease term. Operating lease liabilities represent our obligation to make payments arising from the lease. Operating lease right-of-use assets and liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is our incremental borrowing rate, because the interest rates implicit in most of our leases are not readily determinable. Our incremental borrowing rate is estimated to approximate the interest rate on a collateralized basis with similar terms and payments, and in economic environments where the leased asset is located. Operating lease right-of-use assets also include adjustments related to lease incentives, prepaid or accrued rent and initial direct lease costs. Operating lease right-of-use assets are subject to evaluation for impairment or disposal on a basis consistent with other long-lived assets.

Our lease terms may include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. We generally use the base, non-cancelable lease term when determining the lease assets and liabilities. Operating lease cost is recognized on a straight-line basis over the lease term.

We account for lease and non-lease components as a single lease component and do not recognize right-of-use assets and lease liabilities for leases with a term of 12 months or less. Payments under our lease arrangements are primarily fixed, however, certain lease agreements contain variable payments, which are expensed as incurred and not included in the operating lease right-of-use assets and liabilities. Variable lease payments are primarily comprised of real estate taxes, common area maintenance charges, and insurance costs.

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 consolidated 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.

Significant judgment is 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 past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

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 likely than not to be realized upon ultimate settlement.

Loss Contingencies

We are subject to the possibility of various loss contingencies arising in the ordinary course of business. In determining loss contingencies, 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. 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.

Recently Adopted Accounting Pronouncements

Acquired Contract Assets and Contract Liabilities

In October 2021, the Financial Accounting Standards Board ("FASB") issued authoritative guidance that requires companies to apply revenue guidance to recognize and measure contract assets and contract liabilities from contracts with customers acquired in a business combination on the acquisition date, instead of measuring them at fair value. We early adopted this guidance in our first quarter of fiscal 2022 on a prospective basis. The adoption of this standard did not have a material impact on our consolidated financial statements.

Debt with Conversion Options

In August 2020, the FASB issued authoritative guidance that simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments. The standard reduces the number of models used to account for convertible instruments and simplifies the classification of debt on the balance sheet.

We adopted this standard in our first quarter of fiscal 2022 using the modified-retrospective approach, under which financial results reported in periods prior to fiscal 2022 were not adjusted. The adoption of this standard resulted in an increase to convertible senior notes, net of $444.3 million, a decrease to accumulated deficit of $266.7 million, and a decrease to additional paid-in capital and temporary equity of $711.0 million upon adoption.

2. Revenue

Disaggregation of Revenue

The following table presents revenue by geographic theater (in millions):

	Year Ended July 31,		
	2022	2021	2020
Revenue:			
Americas			
United States	$ 3,560.3	$ 2,747.8	$ 2,157.6
Other Americas	242.3	189.7	160.4
Total Americas	3,802.6	2,937.5	2,318.0
Europe, the Middle East, and Africa (“EMEA”)	1,055.8	817.3	671.9
Asia Pacific and Japan (“APAC”)	643.1	501.3	418.5
Total revenue	$ 5,501.5	$ 4,256.1	$ 3,408.4

The following table presents revenue for groups of similar products and services (in millions):

	Year Ended July 31,		
	2022	2021	2020
Revenue:			
Product	$ 1,363.1	$ 1,120.3	$ 1,064.2
Subscription and support			
Subscription	2,539.0	1,898.8	1405.3
Support	1,599.4	1,237.0	938.9
Total subscription and support	4,138.4	3,135.8	2,344.2
Total revenue	$ 5,501.5	$ 4,256.1	$ 3,408.4

Deferred Revenue

During the years ended July 31, 2022 and 2021, we recognized approximately $2.7 billion and $2.0 billion of revenue pertaining to amounts that were deferred as of July 31, 2021 and 2020, respectively.

Remaining Performance Obligations

Revenue expected to be recognized from remaining performance obligations was $8.2 billion as of July 31, 2022, of which we expect to recognize approximately $4.1 billion over the next 12 months and the remainder thereafter.

3. Fair Value Measurements

The following table presents our financial assets and liabilities measured at fair value on a recurring basis as of July 31, 2022 and 2021 (in millions):

	July 31, 2022				July 31, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash equivalents:								
Money market funds	$ 1,205.2	$ —	$ —	$ 1,205.2	$ 124.2	$ —	$ —	$ 124.2
Certificates of deposit	—	155.3	—	155.3	—	150.4	—	150.4
Commercial paper	—	69.1	—	69.1	—	—	—	—
Corporate debt securities	—	19.5	—	19.5	—	1.0	—	1.0
U.S. government and agency securities	—	10.0	—	10.0	—	116.3	—	116.3
Non-U.S. government and agency securities	—	5.1	—	5.1	—	—	—	—
Total cash equivalents	1,205.2	259.0	—	1,464.2	124.2	267.7	—	391.9
Short-term investments:								
Certificates of deposit	—	116.4	—	116.4	—	12.4	—	12.4
Commercial paper	—	79.0	—	79.0	—	—	—	—
Corporate debt securities	—	505.0	—	505.0	—	208.9	—	208.9
U.S. government and agency securities	—	798.2	—	798.2	—	762.1	—	762.1
Non-U.S. government and agency securities	—	17.4	—	17.4	—	43.5	—	43.5
Total short-term investments	—	1,516.0	—	1,516.0	—	1,026.9	—	1,026.9
Long-term investments:								
Certificates of deposit	—	—	—	—	—	5.0	—	5.0
Corporate debt securities	—	761.2	—	761.2	—	180.7	—	180.7
U.S. government and agency securities	—	118.2	—	118.2	—	674.1	—	674.1
Non-U.S. government and agency securities	—	—	—	—	—	28.5	—	28.5
Asset-backed securities	—	172.5	—	172.5	—	—	—	—
Total long-term investments	—	1,051.9	—	1,051.9	—	888.3	—	888.3
Prepaid expenses and other current assets:								
Foreign currency forward contracts	—	2.4	—	2.4	—	4.1	—	4.1
Total prepaid expenses and other current assets	—	2.4	—	2.4	—	4.1	—	4.1
Other assets:								
Foreign currency forward contracts	—	0.7	—	0.7	—	0.1	—	0.1
Total other assets	—	0.7	—	0.7	—	0.1	—	0.1
Total assets measured at fair value	$ 1,205.2	$ 2,830.0	$ —	$ 4,035.2	$ 124.2	$ 2,187.1	$ —	$ 2,311.3

	July 31, 2022				July 31, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Accrued and other liabilities:								
Foreign currency forward contracts	$ —	$ 32.4	$ —	$ 32.4	$ —	$ 6.4	$ —	$
Total accrued and other liabilities	—	32.4	—	32.4	—	6.4	—	
Other long-term liabilities:								
Foreign currency forward contracts	—	0.8	—	0.8	—	0.5	—	
Total other long-term liabilities	—	0.8	—	0.8	—	0.5	—	
Total liabilities measured at fair value	$ —	$ 33.2	$ —	$ 33.2	$ —	$ 6.9	$ —	$

Refer to Note 10. Debt, for the carrying amount and estimated fair value of our convertible senior notes as of July 31, 2022 and 2021.

4. Cash Equivalents and Investments

Available-for-sale Debt Securities

The following tables summarize the amortized cost, unrealized gains and losses, and fair value of our available-for-sale debt securities (in millions):

	July 31, 2022			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Cash equivalents:				
Certificates of deposit	$ 155.3	$ —	$ —	$ 155.3
Commercial paper	69.1	—	—	69.1
Corporate debt securities	19.5	—	—	19.5
U.S. government and agency securities	10.0	—	—	10.0
Non-U.S. government and agency securities	5.0	0.1	—	5.1
Total available-for-sale cash equivalents	$ 258.9	$ 0.1	$ —	$ 259.0
Investments:				
Certificates of deposit	$ 116.5	$ —	$ (0.1)	$ 116.4
Commercial paper	79.1	—	(0.1)	79.0
Corporate debt securities	1,276.8	1.3	(11.9)	1,266.2
U.S. government and agency securities	928.1	0.1	(11.8)	916.4
Non-U.S. government and agency securities	17.6	—	(0.2)	17.4
Asset-backed securities	173.4	0.2	(1.1)	172.5
Total available-for-sale investments	$ 2,591.5	$ 1.6	$ (25.2)	$ 2,567.9

	July 31, 2021			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Cash equivalents:				
Certificates of deposit	$ 150.4	$ —	$ —	$ 150.4
Corporate debt securities	1.0	—	—	1.0
U.S. government and agency securities	116.3	—	—	116.3
Total available-for-sale cash equivalents	$ 267.7	$ —	$ —	$ 267.7
Investments:				
Certificates of deposit	$ 17.4	$ —	$ —	$ 17.4
Corporate debt securities	389.2	0.5	(0.1)	389.6
U.S. government and agency securities	1,435.1	1.1	—	1,436.2
Non-U.S. government and agency securities	72.0	—	—	72.0
Total available-for-sale investments	$ 1,913.7	$ 1.6	$ (0.1)	$ 1,915.2

As of July 31, 2022, the gross unrealized losses that have been in a continuous unrealized loss position for less than 12 months were $24.8 million, which were related to $2.0 billion of available-for-sale debt securities, and the gross unrealized losses that have been in a continuous unrealized loss position for more than 12 months were not material. The gross unrealized losses on our available-for-sale debt securities as of July 31, 2021 were not material.

Unrealized losses related to our available-for-sale debt securities are due to interest rate fluctuations as opposed to credit quality. We do not intend to sell any of the securities in an unrealized loss position and it is not likely that we would be required to sell these securities before recovery of their amortized cost basis, which may be at maturity. We did not recognize any credit losses related to our available-for-sale debt securities during the years ended July 31, 2022 and 2021.

The following table summarizes the amortized cost and fair value of our available-for-sale debt securities as of July 31, 2022, by contractual years-to-maturity (in millions):

	Amortized Cost	Fair Value
Due within one year	$ 1,789.4	$ 1,775.0
Due between one and three years	965.2	956.4
Due between three to five years	91.5	91.2
Due between five to ten years	4.3	4.3
Total	$ 2,850.4	$ 2,826.9

Marketable Equity Securities

Marketable equity securities consist of money market funds and are included in cash and cash equivalents on our consolidated balance sheets. As of July 31, 2022 and 2021, the carrying value of our marketable equity securities were $1.2 billion and $124.2 million, respectively. There were no unrealized gains or losses recognized for these securities during the years ended July 31, 2022, 2021, and 2020.

5. Financing Receivables

The following table summarizes our short-term and long-term financing receivables (in millions):

	July 31,	
	2022	2021
Short-term financing receivables, gross	$ 112.6	$ 80.0
Allowance for credit losses	(1.3)	(1.0)
Short-term financing receivables, net	$ 111.3	$ 79.0
Long-term financing receivables, gross	$ 194.6	$ 198.6
Allowance for credit losses	(2.5)	(4.3)
Long-term financing receivables, net	$ 192.1	$ 194.3

There was no significant activity in allowance for credit losses during the years ended July 31, 2022 and 2021. Past due amounts on financing receivables were not material as of July 31, 2022 and 2021.

6. Derivative Instruments

As of July 31, 2022 and 2021, the total notional amount of our outstanding foreign currency forward contracts was $856.9 million and $531.9 million, respectively. Refer to Note 3. Fair Value Measurements for the fair value of our derivative instruments as reported on our consolidated balance sheets as of July 31, 2022.

As of July 31, 2022, unrealized losses in AOCI related to our cash flow hedges were $24.8 million, of which $22.0 million of losses are expected to be recognized into earnings within the next 12 months. As of July 31, 2021, unrealized gains and losses in AOCI related to our cash flow hedges were not material.

7. Acquisitions

Fiscal 2022

During the year ended July 31, 2022, we completed acquisitions for a combined total purchase consideration of $40.1 million, which was primarily cash. We have accounted for these transactions as business combinations, and recorded goodwill of $37.6 million. The goodwill is not deductible for income tax purposes.

Fiscal 2021

Bridgecrew Inc.

On March 2, 2021, we completed our acquisition of Bridgecrew Inc. (“Bridgecrew”), a privately-held cloud security company. We expect the acquisition will expand our Prisma Cloud offering to deliver security across the full application lifecycle. The total purchase consideration for the acquisition of Bridgecrew was $156.9 million, which consisted of the following (in millions):

	Amount
Cash	$ 155.9
Fair value of replacement awards	1.0
Total	$ 156.9

As part of the acquisition, we issued $42.5 million of replacement awards, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on preliminary estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 129.6
Identified intangible assets	21.6
Cash	9.0
Net liabilities assumed	(3.3)
Total	$ 156.9

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Bridgecrew technology into our platforms. The goodwill is not deductible for income tax purposes.

The following table presents details of the identified intangible asset acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 21.6	6 years

Expanse Inc.

On December 15, 2020, we completed our acquisition of Expanse Inc. (“Expanse”), a privately-held company specializing in attack surface management. We expect the acquisition will enrich our Cortex offerings and provide organizations an integrated view of the enterprise to combine external, internal, and threat data. The total purchase consideration for the acquisition of Expanse was $797.2 million, which consisted of the following (in millions):

		Amount
Cash	$	434.9
Common stock (1.1 million shares)		340.7
Fair value of replacement awards		21.6
Total	$	797.2

As part of the acquisition, we issued replacement equity awards, which included 0.2 million shares of our restricted common stock. The total fair value of the replacement equity awards was $160.0 million, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on preliminary estimated fair values, as presented in the following table (in millions):

		Amount
Goodwill	$	598.2
Identified intangible assets		160.3
Cash		51.1
Net liabilities assumed		(12.4)
Total	$	797.2

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Expanse technology into our platforms. The goodwill is not deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

		Fair Value	Estimated Useful Life
Developed technology	$	123.4	6 years
Customer relationships		36.9	10 years
Total	$	160.3	

Sinefa Group, Inc.

On November 24, 2020, we completed our acquisition of Sinefa Group, Inc. and its wholly owned subsidiaries (“Sinefa”), a privately-held digital experience monitoring company. We expect the acquisition will extend our Prisma Access offering. The total purchase consideration for the acquisition of Sinefa was $27.0 million, which consisted of the following (in millions):

		Amount
Cash	$	26.9
Fair value of replacement awards		0.1
Total	$	27.0

As part of the acquisition, we issued $11.5 million of replacement equity awards, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on preliminary estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 13.7
Identified intangible assets	20.4
Net liabilities assumed	(7.1)
Total	$ 27.0

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Sinefa technology into our platforms. The goodwill is deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 18.6	6 years
Customer relationships	1.8	8 years
Total	$ 20.4	

The Crypsis Group

On September 17, 2020, we completed our acquisition of The Crypsis Group ("Crypsis"), an incident response, risk management, and digital forensics consulting firm. We expect the acquisition will expand our capabilities and strengthen our Cortex strategy. The total purchase consideration for the acquisition of Crypsis was $227.7 million, which consisted of the following (in millions):

	Amount
Cash	$ 225.7
Fair value of replacement awards	2.0
Total	$ 227.7

As part of the acquisition, we issued $27.1 million of replacement awards, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on preliminary estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 157.6
Identified intangible assets	54.4
Net assets acquired	15.7
Total	$ 227.7

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Crypsis technology into our platforms. The goodwill is deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 6.9	3 years
Customer relationships	47.5	7 years
Total	$ 54.4	

Fiscal 2020

CloudGenix Inc.

On April 21, 2020, we completed our acquisition of CloudGenix, Inc. ("CloudGenix"), a privately-held company. We believe the acquisition will strengthen our secure access service edge ("SASE") offering. The total purchase consideration for the acquisition of CloudGenix was $402.7 million, which consisted of the following (in millions):

	Amount
Cash	$ 396.1
Fair value of replacement awards	6.6
Total	$ 402.7

As part of the acquisition, we issued $30.3 million of replacement awards, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 301.2
Identified intangible assets	109.9
Cash	8.3
Net liabilities assumed	(16.7)
Total	$ 402.7

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating CloudGenix technology into our portfolio. The goodwill is not deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 67.2	5 years
Customer relationships	42.7	10 years
Total	$ 109.9	

Aporeto, Inc.

On December 23, 2019, we completed our acquisition of Aporeto, Inc. ("Aporeto"), a privately-held machine identity-based microsegmentation company. We believe the acquisition will strengthen our cloud-native security platform capabilities delivered by Prisma Cloud. The total purchase consideration for the acquisition of Aporeto was $144.1 million, which consisted of the following (in millions):

	Amount
Cash	$ 139.8
Fair value of replacement awards	4.3
Total	$ 144.1

As part of the acquisition, we issued $16.4 million of replacement awards, of which the portion attributable to services performed prior to the acquisition date was allocated to purchase consideration. The remaining fair value was allocated to future services and will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 111.3
Identified intangible assets	23.8
Cash	10.5
Net liabilities assumed	(1.5)
Total	$ 144.1

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Aporeto's technology into our platform. The goodwill is not deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 20.5	7 years
Customer relationships	3.3	4 years
Total	$ 23.8	

Zingbox, Inc.

On September 20, 2019, we completed our acquisition of Zingbox, Inc. ("Zingbox"), a privately-held Internet of Things ("IoT") security company. We believe the acquisition will accelerate our delivery of IoT security through our ML-Powered Next-Generation Firewall and Cortex offerings. The total purchase consideration for the acquisition of Zingbox was $66.4 million in cash.

As part of the acquisition, we issued replacement equity awards with a total fair value of $5.7 million, which will be expensed over the remaining service periods as share-based compensation.

We have accounted for this transaction as a business combination and allocated the purchase consideration to assets acquired and liabilities assumed based on estimated fair values, as presented in the following table (in millions):

	Amount
Goodwill	$ 48.1
Identified intangible assets	20.4
Net liabilities assumed	(2.1)
Total	$ 66.4

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Zingbox's technology into our portfolio. The goodwill is not deductible for income tax purposes.

The following table presents details of the identified intangible assets acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	$ 18.6	5 years
Customer relationships	1.8	8 years
Total	$ 20.4	

Additional Acquisition-Related Information

Pro forma results of operations have not been presented because the effects of the acquisitions were not material to our consolidated statements of operations.

Additional information related to our acquisitions completed in fiscal 2022, such as that related to income tax and other contingencies, existing as of the acquisition date but unknown to us may become known during the remainder of the measurement period, not to exceed 12 months from the respective acquisition date, which may result in changes to the amounts and allocations recorded.

8. Goodwill and Intangible Assets

Goodwill

The following table presents details of our goodwill during the year ended July 31, 2022 (in millions):

		Amount
Balance as of July 31, 2021	$	2,710.1
Goodwill acquired		37.6
Balance as of July 31, 2022	$	2,747.7

Purchased Intangible Assets

The following table presents details of our purchased intangible assets (in millions):

	July 31,					
	2022			2021		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Intangible assets subject to amortization:						
Developed technology	$ 600.7	$ (347.9)	$ 252.8	$ 596.2	$ (243.8)	$ 352.4
Customer relationships	172.7	(52.2)	120.5	172.7	(30.6)	142.1
Acquired intellectual property	11.3	(4.8)	6.5	7.9	(3.8)	4.1
Trade name and trademarks	9.4	(9.4)	—	9.4	(9.4)	—
Other	0.9	(0.1)	0.8	1.8	(1.8)	—
Total intangible assets subject to amortization	795.0	(414.4)	380.6	788.0	(289.4)	498.6
Intangible assets not subject to amortization:						
In-process research and development	3.9	—	3.9	—	—	—
Total purchased intangible assets	$ 798.9	$ (414.4)	$ 384.5	$ 788.0	$ (289.4)	$ 498.6

We recognized amortization expense of $126.9 million, $117.8 million, and $77.3 million for the years ended July 31, 2022, 2021, and 2020, respectively.

The following table summarizes estimated future amortization expense of our intangible assets subject to amortization as of July 31, 2022 (in millions):

		Fiscal years ending July 31,					
	Total	2023	2024	2025	2026	2027	2028 and Thereafter
Future amortization expense	$ 380.6	$ 101.1	$ 91.1	$ 77.4	$ 55.6	$ 28.5	$ 26.9

9. Property and Equipment

The following table presents details of our property and equipment, net (in millions):

	July 31,	
	2022	2021
Computers, equipment, and software	$ 404.3	$ 352.1
Leasehold improvements	249.3	231.6
Land	87.2	49.6
Demonstration units	41.6	43.8
Furniture and fixtures	45.1	40.3
Total property and equipment, gross	827.5	717.4
Less: accumulated depreciation	(469.7)	(399.0)
Total property and equipment, net	$ 357.8	$ 318.4

During the year ended July 31, 2022, we purchased 4.6 acres of land adjacent to our headquarters in Santa Clara, California, along with the associated buildings, for $39.5 million to accommodate future expansion of our headquarters. This amount was recorded in property and equipment, net on our consolidated balance sheet as of July 31, 2022.

We recognized depreciation expense of $92.8 million, $94.2 million, and $96.0 million related to property and equipment during the years ended July 31, 2022, 2021, and 2020, respectively.

10. Debt

Convertible Senior Notes

In July 2018, we issued $1.7 billion aggregate principal amount of 0.75% Convertible Senior Notes due 2023 (the “2023 Notes”) and, in June 2020, we issued $2.0 billion aggregate principal amount of 0.375% Convertible Senior Notes due 2025 (the “2025 Notes,” and together with the 2023 Notes, the “Notes”). The 2023 Notes bear interest at a fixed rate of 0.75% per year, payable semi-annually in arrears on January 1 and July 1 of each year, beginning on January 1, 2019. The 2025 Notes bear interest at a fixed rate of 0.375% per year, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2020. Each series of the convertible notes is governed by an indenture between us, as the issuer, and U.S. Bank National Association, as Trustee (individually, each an “Indenture,” and together, the “Indentures”). The Notes of each series are unsecured, unsubordinated obligations and the applicable Indenture governing each series of Notes does not contain any financial covenants or restrictions on the payments of dividends, the incurrence of indebtedness, or the issuance or repurchase of securities by us or any of our subsidiaries. The 2023 Notes and the 2025 Notes mature on July 1, 2023 and June 1, 2025, respectively. We cannot redeem the 2023 Notes prior to maturity. We may redeem for cash all or any portion of the 2025 Notes, at our option, on or after June 5, 2023, and prior to the 31st scheduled trading day immediately preceding the maturity date 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 during any 30 consecutive trading day period ending on and including the trading day preceding the date on which we provide notice of redemption. The redemption will be at a price equal to 100% of the principal amount of the 2025 Notes and adjusted for interest. If we call any or all of the 2025 Notes for redemption, holders may convert such 2025 Notes called for redemption at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date.

The following table presents details of our Notes (number of shares in millions):

	Conversion Rate per $1,000 Principal	Initial Conversion Price	Convertible Date	Initial Number of Shares
2023 Notes	3.7545	$ 266.35	April 1, 2023	6.4
2025 Notes	3.3602	$ 297.60	March 1, 2025	6.7

Holders of the Notes may surrender their Notes for conversion at their option at any time prior to the close of business on the business day immediately preceding their respective convertible dates only under the following circumstances:

- during any fiscal quarter commencing after the fiscal quarters ending on October 31, 2018 and October 31, 2020 for the 2023 Notes and the 2025 Notes, respectively (and only during such fiscal quarter), if the last reported sale price of our 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 fiscal quarter is greater than or equal to 130% of the applicable conversion price for the respective Notes on each applicable trading day (the “sale price condition”);
- 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 applicable series of 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 applicable conversion rate for the respective Notes on each such trading day; or
- upon the occurrence of specified corporate events.

On or after the respective convertible date, holders may surrender all or any portion of their Notes for conversion at any time prior to the close of business on the second scheduled trading day immediately preceding the applicable maturity date regardless of the foregoing conditions, and such conversions will be settled upon the applicable maturity date. Upon conversion, holders of the Notes of a series will receive cash equal to the aggregate principal amount of the Notes of such series to be converted, and, at our election, cash and/or shares of our common stock for any amounts in excess of the aggregate principal amount of the Notes of such series being converted.

The conversion price will be subject to adjustment in some events. Holders of the Notes of a series who convert their Notes of such series in connection with certain corporate events that constitute a “make-whole fundamental change” under the applicable Indenture are, under certain circumstances, entitled to an increase in the conversion rate for such series of Notes. Additionally, upon the occurrence of a corporate event that constitutes a “fundamental change” under the applicable Indenture, holders of the Notes of such series may require us to repurchase for cash all or a portion of the Notes of such series at a repurchase price equal to 100% of the principal amount of the Notes of such series plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The sale price condition for the Notes was met during the fiscal quarter ended July 31, 2022, and as a result, holders may convert their Notes at any time during the fiscal quarter ending October 31, 2022. The net carrying amount of the Notes was classified as a current liability on our consolidated balance sheet as of July 31, 2022.

The sale price condition for the 2023 Notes was met during the fiscal quarter ended July 31, 2021, and as a result, holders may convert their 2023 Notes at any time during the fiscal quarter ended October 31, 2021. Accordingly, the net carrying amount of the 2023 Notes was classified as a current liability and the portion of the equity component representing the conversion option was classified as temporary equity on our consolidated balance sheet as of July 31, 2021. The sale price condition for the 2025 Notes was not met during the fiscal quarter ended July 31, 2021. Since the 2025 Notes were not convertible during the fiscal quarter ended October 31, 2021, the associated net carrying amount was classified as a long-term liability and the equity component was included in additional paid-in capital on our consolidated balance sheet as of July 31, 2021.

The following table sets forth the components of the Notes (in millions):

	July 31, 2022[(1)]			July 31, 2021		
	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total
Liability component:						
Principal	$ 1,691.9	$ 1,999.4	$ 3,691.3	$ 1,692.0	$ 2,000.0	$ 3,692.0
Less: debt discount and debt issuance costs, net of amortization	(2.6)	(11.9)	(14.5)	(134.1)	(331.9)	(466.0)
Net carrying amount	$ 1,689.3	$ 1,987.5	$ 3,676.8	$ 1,557.9	$ 1,668.1	$ 3,226.0
Equity component (including amounts classified as temporary equity)	$ —	$ —	$ —	$ 315.0	$ 403.0	$ 718.0

(1) As described in Note 1. Description of Business and Summary of Significant Accounting Policies, we adopted new debt guidance effective August 1, 2021, using a modified retrospective method, under which financial results reported in prior periods were not adjusted. Upon adoption, our convertible senior notes are accounted for entirely as a liability and measured at their amortized cost. Transaction costs related to the issuance of the notes are netted with the liability and are amortized on a straight-line basis, which approximates the effective interest rate method, to interest expense over the term of the notes.

The total estimated fair value of the 2023 Notes and 2025 Notes were $3.2 billion and $3.5 billion at July 31, 2022, respectively and $2.6 billion and $2.9 billion at July 31, 2021, respectively. The fair value was determined based on the closing trading price per $100 of the applicable series of the Notes as of the last day of trading for the period. We consider the fair value of the Notes at July 31, 2022 and 2021 to be a Level 2 measurement. The fair value of the Notes is primarily affected by the trading price of our common stock and market interest rates.

The following table sets forth interest expense recognized related to the Notes (dollars in millions):

	Year Ended July 31, 2022			Year Ended July 31, 2021			Year Ended July 31, 2020		
	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total
Contractual interest expense	$ 12.7	$ 7.5	$ 20.2	$ 12.7	$ 7.5	$ 20.2	$ 12.7	$ 1.1	$ 13.8
Amortization of debt discount[(1)]	—	—	—	63.5	74.3	137.8	60.9	10.5	71.4
Amortization of debt issuance costs	2.8	4.4	7.2	2.3	2.8	5.1	2.1	0.4	2.5
Total interest expense recognized	$ 15.5	$ 11.9	$ 27.4	$ 78.5	$ 84.6	$ 163.1	$ 75.7	$ 12.0	$ 87.7
Effective interest rate of the liability component	0.9 %	0.6 %		5.2 %	5.4 %		5.2 %	5.4 %	

(1) Upon adoption of the new debt guidance on August 1, 2021, the conversion option is no longer separately accounted for as debt discount. Our convertible senior notes are accounted for entirely as a liability.

Note Hedges

To minimize the impact of potential economic dilution upon conversion of our convertible senior notes, we entered into separate convertible note hedge transactions (the “2023 Note Hedges,” with respect to the 2023 Notes, the “2025 Note Hedges,” with respect to the 2025 Notes, and the 2023 Notes Hedges together with 2025 Note Hedges, the “Note Hedges”) with respect to our common stock concurrent with the issuance of each series of the Notes.

The following table presents details of our Note Hedges (in millions):

	Initial Number of Shares		Aggregate Purchase
2023 Note Hedges	6.4	$	332.0
2025 Note Hedges	6.7	$	370.8

The Note Hedges cover shares of our common stock at a strike price per share that corresponds to the initial applicable conversion price of the applicable series of the Notes, which are also subject to adjustment, and are exercisable upon conversion of the applicable series of the Notes. The Note Hedges will expire upon maturity of the applicable series of the Notes. The Note Hedges are separate transactions and are not part of the terms of the applicable series of the Notes. Holders of the Notes of either series will not have any rights with respect to the Note Hedges. Any shares of our common stock receivable by us under the Note Hedges are excluded from the calculation of diluted earnings per share as they are antidilutive. The aggregate amounts paid for the Note Hedges are included in additional paid-in capital on our consolidated balance sheets.

Warrants

Separately, but concurrently with the issuance of each series of our convertible senior notes, we entered into transactions whereby we sold warrants (the "2023 Warrants," with respect to the 2023 Notes, the "2025 Warrants," with respect to the 2025 Notes, and the 2023 Warrants together with the 2025 Warrants, the "Warrants") to acquire shares of our common stock, subject to anti-dilution adjustments. The 2023 Warrants and 2025 Warrants are exercisable beginning October 2023 and September 2025, respectively.

The following table presents details of our Warrants (in millions, except per share data):

	Initial Number of Shares		Strike Price per Share		Aggregate Proceeds
2023 Warrants	6.4	$	417.80	$	145.4
2025 Warrants	6.7	$	408.47	$	202.8

The shares issuable under the Warrants will be included in the calculation of diluted earnings per share when the average market value per share of our common stock for the reporting period exceeds the applicable strike price for such series of Warrants. The Warrants are separate transactions and are not part of either series of Notes or Note Hedges and are not remeasured through earnings each reporting period. Holders of the Notes of either series will not have any rights with respect to the Warrants. The aggregate proceeds received from the sale of the Warrants are included in additional paid-in capital on our consolidated balance sheets.

Revolving Credit Facility

On September 4, 2018, we entered into a credit agreement (the "Credit Agreement") with certain institutional lenders that provides for a $400.0 million unsecured revolving credit facility (the "Credit Facility"), with an option to increase the amount of the Credit Facility by up to an additional $350.0 million, subject to certain conditions. The Credit Facility matures on the earlier of (i) September 4, 2023 and (ii) the date that is 91 days prior to the stated maturity of our 2023 Notes if (a) any of the 2023 Notes are still outstanding and (b) our unrestricted cash and cash equivalents are less than the then outstanding principal amount of our 2023 Notes plus $400.0 million.

The borrowings under the Credit Facility currently bear interest, at our option, at a base rate plus a spread of 0.00% to 0.75%, or an adjusted LIBO Rate plus a spread of 1.00% to 1.75%, in each case with such spread being determined based on our leverage ratio. We are obligated to pay an ongoing commitment fee on undrawn amounts at a rate of 0.125% to 0.250%, depending on our leverage ratio. In March 2021, the ICE Benchmark Administration, the administrator of LIBO Rate, announced that it will cease publication of LIBO Rate by June 2023. Under the terms of our Credit Facility, in the event of the discontinuance of the LIBO Rate, a mutually agreed-upon alternative benchmark rate will be established to replace the LIBO Rate, which may include the Secured Overnight Financing Rate ("SOFR"). We do not anticipate that the discontinuance of the LIBO Rate will materially impact our liquidity or financial position.

As of July 31, 2022, there were no amounts outstanding and we were in compliance with all covenants under the Credit Agreement.

11. Leases

We have entered into various non-cancelable operating leases primarily for our facilities with original lease periods expiring through the year ending July 31, 2032, with the most significant leases relating to corporate headquarters in Santa Clara.

In May 2015 and October 2015, we entered into a total of three lease agreements for approximately 941,000 square feet of corporate office space in Santa Clara, California, which serves as our current corporate headquarters. The leases contain rent holiday periods, scheduled rent increases, lease incentives, and renewal options which allow the lease terms to be extended beyond their expiration dates of July 2028 through July 2046. Rental payments under the three lease agreements are approximately $412.0 million over the lease term.

In September 2012, we entered into two lease agreements for a total of approximately 300,000 square feet of space in Santa Clara, California, which served as our previous corporate headquarters through August 2017, when we relocated to our current corporate campus. In December 2019, we terminated these leases prior to their expiration date. The early termination fee is $25.0 million, payable in equal quarterly installments from April 2020 through July 2023. Upon termination, we recorded a decrease of $13.6 million in operating lease liabilities based on the payment schedule of the early termination fee discounted by the incremental borrowing rate for the remaining payment term. We also decreased right-of-use assets by $8.7 million upon surrendering possession of the properties. As a result, during the year ended July 31, 2020, we recorded a gain of $3.1 million net of other related fees of $1.8 million in general and administrative expense in our consolidated statements of operations.

During the years ended July 31, 2022, 2021 and 2020, our net cost for operating leases was $89.7 million, $75.2 million, and $80.4 million, respectively, primarily consisting of operating lease costs of $67.6 million, $59.3 million, and $63.5 million, respectively. Our net cost for operating leases also included variable lease costs, short-term lease costs and sublease income in the periods presented.

The following tables present additional information for our operating leases (in millions, except for years and percentages):

	Year Ended July 31,		
	2022	2021	2020
Operating cash flows used in payments of operating lease liabilities	$ 81.5	$ 81.7	$ 78.3
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 33.0	$ 48.6	$ 28.4

	July 31, 2022	July 31, 2021
Weighted-average remaining lease term	5.5 years	6.1 years
Weighted-average discount rate	4.0 %	3.8 %

The following table presents maturities of operating lease liabilities as of July 31, 2022 (in millions):

	Amount
Fiscal years ending July 31:	
2023	$ 73.5
2024	66.6
2025	64.5
2026	62.1
2027	56.0
2028 and thereafter	57.4
Total operating lease payments	380.1
Less: imputed interest	(41.7)
Present value of operating lease liabilities	$ 338.4
Current portion of operating lease liabilities[1]	$ 62.3
Long-term operating lease liabilities	$ 276.1

[1] Current portion of operating lease liabilities is included in accrued and other liabilities on our consolidated balance sheet.

As of July 31, 2022, we have additional non-cancelable operating leases for office space that had been signed but had not yet commenced with total future minimum lease payments of $26.0 million. These leases will commence in fiscal 2023, with lease terms ranging from three to ten years.

12. Commitments and Contingencies

Purchase Commitments

Manufacturing Purchase Commitments

In order to reduce manufacturing lead times and plan for adequate supply, we enter into agreements with manufacturing partners and component suppliers to procure inventory based on our demand forecasts. The following table presents details of the aggregate future minimum or fixed purchase commitments under these arrangements excluding obligations under contracts that we can cancel without a significant penalty as of July 31, 2022 (in millions):

		Fiscal years ending July 31,					
	Total	2023	2024	2025	2026	2027	2028 and Thereafter
Manufacturing purchase commitments	$ 331.7	$ 226.7	$ 30.0	$ 35.0	$ 40.0	$ —	$ —

Other Purchase Commitments

We have entered into various non-cancelable agreements with certain service providers, under which we are committed to minimum or fixed purchases. The following table presents details of the aggregate future non-cancelable purchase commitments under these agreements as of July 31, 2022 (in millions):

		Fiscal years ending July 31,					
	Total	2023	2024	2025	2026	2027	2028 and Thereafter
Other purchase commitments	$ 1,881.4	$ 82.7	$ 368.5	$ 413.9	$ 531.6	$ 483.9	$ 0.8

Additionally, we have a $162.2 million minimum purchase commitment with a service provider through September 2027 with no specified annual commitments.

Mutual Covenant Not to Sue and Release Agreement

In January 2020, we executed a Mutual Covenant Not to Sue and Release Agreement for $50.0 million to extend an existing covenant not to sue for seven years. As the primary benefit of the arrangement was attributable to future use, the amount was recorded in other assets on our consolidated balance sheets and is amortized to cost of product revenue in our consolidated statements of operations over the estimated period of benefit of seven years.

Litigation

We are subject to legal proceedings, claims, and litigation arising in the ordinary course of business, including intellectual property litigation. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. We accrue for contingencies when we believe that a loss is probable and that we can reasonably estimate the amount of any such loss.

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. As of July 31, 2022, we have not recorded any significant accruals for loss contingencies associated with such legal proceedings, determined that an unfavorable outcome is probable or reasonably possible, or determined that the amount or range of any possible loss is reasonably estimable.

Indemnification

Under the indemnification provisions of our standard sales related contracts, we agree to defend our end-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 payments made to us for the alleged infringing products over the preceding twelve months under the agreement. However, certain agreements include indemnification provisions that could potentially expose us to losses in excess of these payments. In addition, we indemnify our officers, directors, and certain key employees while they are serving in good faith in their company capacities. To date, we have not recorded any accruals for loss contingencies associated with indemnification claims or determined that an unfavorable outcome is probable or reasonably possible.

13. Stockholders' Equity

Share Repurchase Program

In February 2019, our board of directors authorized a $1.0 billion share repurchase program, which is funded from available working capital. In December 2020 and August 2021, our board of directors authorized additional $700.0 million and $676.1 million increases to this share repurchase program, respectively, bringing the total authorization under this share repurchase program to $2.4 billion (our "current authorization"). The expiration date of our current authorization was extended to December 31, 2022, and our repurchase program may be suspended or discontinued at any time. Repurchases may be made at management's discretion from time to time on the open market, through privately negotiated transactions, transactions structured through investment banking institutions, block purchase techniques, 10b5-1 trading plans, or a combination of the foregoing.

The following table summarizes the share repurchase activity under our share repurchase program (in millions, except per share amounts):

	Year Ended July 31,		
	2022	2021	2020
Number of shares repurchased	1.8	4.0	0.9
Weighted average price per share [(1)]	$ 512.49	$ 294.87	$ 209.12
Aggregate purchase price [(1)]	$ 915.0	$ 1,178.1	$ 198.1

(1) Includes transaction costs

As of July 31, 2022, $85.0 million remained available for future share repurchases under our current repurchase authorization. The total price of the shares repurchased and related transaction costs are reflected as a reduction to common stock and additional paid-in capital on our consolidated balance sheets.

Accelerated Stock Repurchase

In February 2020, our board of directors approved the repurchase of $1.0 billion of our common stock through an accelerated share repurchase ("ASR") transaction with a financial institution. This ASR transaction was in addition to our share repurchase program.

During the fiscal year ended July 31, 2020, we completed the ASR transaction with an aggregate of 5.2 million shares of our common stock repurchased and retired. The total price of the ASR transaction is reflected as a reduction to common stock and additional paid-in capital on our consolidated balance sheet.

14. Equity Award Plans

Share-Based Compensation Plans

Equity Incentive Plans

Our 2021 Equity Incentive Plan (our "2021 Plan") became effective in December 2021 and replaced our 2012 Equity Incentive Plan (our "2012 Plan"). Our 2021 Plan provides for the granting of stock options, stock appreciation rights, restricted stock awards ("RSAs"), restricted stock units ("RSUs"), performance shares ("PSAs"), performance-based stock units ("PSUs") and performance stock options ("PSOs") to our employees, directors, and consultants. Upon effectiveness of the 2021 Plan, the 2012 Plan was terminated and no further awards will be granted under the 2012 Plan. Awards that were outstanding upon such termination remained outstanding pursuant to their original terms, and any subsequent expiration, cancellation or forfeiture of awards under our 2012 Plan are returned to our 2021 Plan.

The majority of our equity awards are RSUs, which generally vest over a period of three to four years from the date of grant. Until vested, RSUs do not have the voting and dividend participation rights of common stock and the shares underlying the awards are not considered issued and outstanding. Our options expire no more than ten years after the date of grant.

We grant PSUs to certain employees, which vest over a period of one to four years from the date of grant. The actual number of PSUs earned and eligible to vest is determined based on the level of achievement against revenue growth, pre-established billings and operating margin goals, or pre-defined individual performance targets for the fiscal year, and market conditions, if applicable. During the year ended July 31, 2022, we granted 0.1 million shares of PSUs, which contain service, performance and market conditions. The performance condition is based on revenue growth, whereas the market condition measures our total shareholder return ("TSR") relative to the TSR of the companies listed in the Standard & Poor's 500 index. In addition to this grant, we have also approved the future grant of 0.1 million shares of PSUs with similar terms, which will be considered granted at the time their related vesting conditions are established in the next two years.

We have also granted PSOs with both a market condition and a service condition to certain executives. The market condition for PSOs granted in the fiscal years 2018 and 2019 requires the price of our common stock to equal or exceed $297.75, $397.00, $496.25, and $595.50 based on the average closing price for 30 consecutive trading days during the four-, five-, six-, and seven-and-a-half-year periods following the date of grant in fiscal year 2018 and 2019, respectively. The market condition for PSOs granted in the fiscal year 2021 requires the price of our common stock to equal or exceed $397.00, $496.25, $595.50 and $700.00 based on the average closing price for 30 consecutive trading days during the three-, four-, five-, and six-and-a-half-year periods following the date of grant. All of the PSOs granted in the fiscal year 2021 were forfeited in the same fiscal year and are no longer outstanding. To the extent that the market condition has been met, one-fourth of the PSOs will vest on each anniversary date of the grant date for such PSOs, subject to continued service. All outstanding PSOs may be exercised prior to vesting ("early exercise"). Shares of common stock issued upon early exercise of the PSOs will be restricted and, at our option, subject to repurchase if the option holder ceases to be a service provider. The maximum contractual term of our outstanding PSOs is seven and a half years from the date of grant, depending on vesting period. As of July 31, 2022, all stock price targets for our outstanding PSOs have been satisfied.

We net-share settle equity awards held by certain employees by withholding shares upon vesting to satisfy tax withholding obligations. The shares withheld to satisfy employee tax withholding obligations are returned to our 2021 Plan and will be available for future issuance. Payments for employees' tax obligations to the tax authorities are recognized as a reduction to additional paid-in capital and reflected as financing activities in our consolidated statements of cash flows.

A total of 13.1 million shares of our common stock are reserved for issuance pursuant to our equity incentive plans as of July 31, 2022.

2012 Employee Stock Purchase Plan

Our 2012 Employee Stock Purchase Plan was adopted by our board of directors and approved by the stockholders on June 5, 2012, and was effective upon completion of our initial public offering ("IPO"). On August 29, 2017, we amended and restated our 2012 Employee Stock Purchase Plan (our "2012 ESPP") to extend the length of our offering periods from 6 to 24 months.

Our 2012 ESPP permits 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 purchase date. If the fair market value of our common stock on the purchase date is lower than the first trading day of the offering period, the current offering period will be cancelled after purchase and a new 24-month offering period will begin. Under our 2012 ESPP, each 24-month offering period consists of four consecutive 6-month purchase periods, with purchase dates on the first trading day on or after February 28 and August 31 of each year. Participants may purchase shares of common stock through payroll deductions of up to 15% of their eligible compensation, subject to purchase limits of 625 shares per six-month purchase period and $25,000 worth of stock for each calendar year. Shares purchased under our 2012 ESPP during the fiscal years ended July 31, 2022, 2021 and 2020 were 0.7 million, 0.6 million and 0.6 million, at an average exercise price of $192.81 per share, $161.07 per share and $146.90 per share respectively.

A total of 4.9 million shares of our common stock are available for sale under our 2012 ESPP as of July 31, 2022. On the first day of each fiscal year, the number of shares in the reserve may be increased by the lesser of (i) 2,000,000 shares, (ii) 1% of the outstanding shares of our common stock on the first day of the fiscal year, or (iii) such other amount as determined by our board of directors.

Assumed Share-Based Compensation Plans

In connection with our acquisitions, we have assumed equity incentive plans of certain acquired companies (collectively "the Assumed Plans"). The equity awards assumed in connection with each acquisition were granted from their respective assumed plans. The assumed equity awards will be settled in shares of our common stock and will retain the terms and conditions under which they were originally granted. No additional equity awards will be granted under and forfeited awards will not be returned to the Assumed Plans. Refer to Note 7. Acquisitions for more information on our acquisitions and the related equity awards assumed.

Stock Option Activities

The following table summarizes the stock option and PSO activity under our stock plans during the years ended July 31, 2022, 2021, and 2020 (in millions, except per share amounts):

	Stock Options Outstanding				PSOs Outstanding			
	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Balance—July 31, 2019	0.3	$ 14.53	2.2	$ 81.4	3.7	$ 193.99	6.2	$ 120.1
Exercised	(0.2)	$ 11.46			—	$ —		
Forfeited	—	$ —			(0.9)	$ 193.51		
Balance—July 31, 2020	0.1	$ 19.59	1.5	$ 34.2	2.8	$ 194.14	5.2	$ 170.9
Granted	—	$ —			0.2	$ 304.29		
Exercised	0.0	$ 12.82			—	$ —		
Forfeited	—	$ 7.84			(0.2)	$ 304.29		
Balance—July 31, 2021	0.1	$ 26.20	0.8	$ 27.4	2.8	$ 194.14	4.2	$ 566.8
Exercised	(0.1)	$ 18.72			—	$ —		
Forfeited	—	$ —			(0.1)	$ 184.24		
Balance—July 31, 2022	0.0	$ 55.36	0.5	$ 6.7	2.7	$ 194.55	3.2	$ 809.3
Exercisable—July 31, 2022	0.0	$ 55.36	0.5	$ 6.7	2.7	$ 194.55	3.2	$ 809.3

The weighted-average grant-date fair value of PSOs granted during the year ended July 31, 2021 was $82.12 per share. The intrinsic value of options exercised during the years ended July 31, 2022, 2021, and 2020 was $29.2 million, $22.2 million and $50.2 million, respectively.

RSU and PSU Activities

The following table summarizes the RSU and PSU activity under our stock plans during the years ended July 31, 2022, 2021, and 2020 (in millions, except per share amounts):

	RSUs Outstanding			PSUs Outstanding		
	Number of Shares	Weighted-Average Grant-Date Fair Value Per Share	Aggregate Intrinsic Value	Number of Shares	Weighted-Average Grant-Date Fair Value Per Share	Aggregate Intrinsic Value
Balance—July 31, 2019	6.9	$ 188.16	$ 1,554.0	0.3	$ 197.86	$ 67.0
Granted[(1)(2)]	3.5	$ 211.38		0.4	$ 248.55	
Vested[(3)]	(2.8)	$ 181.19		(0.1)	$ 166.90	
Forfeited	(1.0)	$ 188.18		0.0	$ 175.88	
Balance—July 31, 2020	6.6	$ 203.30	$ 1,688.1	0.6	$ 231.42	$ 147.2
Granted[(1)(2)]	4.1	$ 297.89		0.8	$ 321.45	
Vested[(3)]	(2.9)	$ 200.91		(0.1)	$ 195.60	
Forfeited	(0.9)	$ 226.79		0.0	$ 235.98	
Balance—July 31, 2021	6.9	$ 257.56	$ 2,760.2	1.3	$ 292.93	$ 498.4
Granted[(1)]	1.9	$ 494.54		0.3	$ 351.14	
Vested[(3)]	(3.0)	$ 257.07		(0.4)	$ 250.42	
Forfeited	(0.9)	$ 286.49		(0.2)	$ 321.92	
Balance—July 31, 2022	4.9	$ 346.54	$ 2,456.9	1.0	$ 319.15	$ 513.7

(1) For PSUs, shares granted represent the aggregate maximum number of shares that may be earned and issued with respect to these awards over their full terms.

(2) Includes 0.4 million RSUs assumed in connection with the acquisitions of Crypsis, Sinefa, Expanse and Bridgecrew, with weighted-average grant-date fair value of $241.43, $297.17, $317.45 and $354.66, respectively, for the year ended July 31, 2021, and 0.1 million RSUs assumed in connection with the acquisitions of Zingbox, Aporeto and CloudGenix, with weighted-average grant-date fair value of $208.25, $231.30 and $181.48, respectively, for the year ended July 31, 2020.

(3) Includes time-based vesting for PSUs.

The aggregate fair value, as of the respective vesting dates, of RSUs vested during the years ended July 31, 2022, 2021, and 2020 was $1.6 billion, $986.4 million, and $615.7 million, respectively. The aggregate fair value, as of the respective vesting dates, of PSUs vested during the year ended July 31, 2022, 2021, and 2020 was $184.0 million, $20.8 million and $11.9 million, respectively.

Shares Available for Grant

The following table presents the stock activity and the total number of shares available for grant under our equity incentive plans as of July 31, 2022 (in millions):

	Number of shares
Balance—July 31, 2021	11.3
Authorized	8.8
Cancelled upon effectiveness of the 2021 Plan	(14.6)
RSUs and PSUs granted	(2.2)
PSOs, RSUs, and PSUs forfeited	1.2
Shares withheld for taxes	0.1
Balance—July 31, 2022	4.6

Share-Based Compensation

We record share-based compensation awards based on estimated fair value as of the grant date. The fair value of RSUs and PSUs not subject to market conditions is based on the closing market price of our common stock on the date of grant.

The fair value of the PSUs subject to the market condition is estimated on the grant date using a Monte Carlo simulation model. No such PSUs were granted during the years ended July 31, 2021 or 2020. The following table summarizes the assumptions used and the resulting grant-date fair value of our PSUs subject to the market condition granted during the year ended July 31, 2022:

	Year Ended July 31, 2022
Volatility	36.0% - 41.1%
Expected term (in years)	1.4 - 3.0
Dividend yield	— %
Risk-free interest rate	0.2% - 2.0%
Grant-date fair value per share	$411.49 - $782.13

The expected volatility is based on the historical volatility of our common stock. The expected term is based on the length of each tranche's performance period from the grant date. The dividend yield assumption is based on our current expectations about our anticipated dividend policy. The risk-free interest rate is based on the implied yield available on U.S. Treasury zero-coupon issues with maturities that approximate the expected term.

The fair value of PSOs is estimated on the grant date using a Monte Carlo simulation model, which predicts settlement of the options midway between the vesting term and the contractual term. No PSOs were granted during the years ended July 31, 2022 or 2020. The following table summarizes the assumptions used and the resulting grant-date fair values of our PSOs granted during the year ended July 31, 2021:

	Year Ended July 31, 2021
Volatility	35.9 %
Dividend yield	— %
Risk-free interest rate	0.6 %
Weighted-average grant-date fair value per share	$ 82.12

The expected volatility is based on a combination of implied volatility from traded options on our common stock and the historical volatility of our common stock. The dividend yield assumption is based on our current expectations about our anticipated dividend policy. The risk-free interest rate is based on the implied yield available on U.S. Treasury zero-coupon issues with terms equal to the contractual terms of each tranche.

The fair value of shares issued under our 2012 ESPP are estimated on the grant date using the Black-Scholes option pricing model. The following table summarizes the assumptions used and the resulting grant-date fair values of our ESPP:

	Year Ended July 31,		
	2022	2021	2020
Volatility	33.6% - 39.4%	34.9% - 42.6%	31.0% - 35.7%
Expected term (in years)	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Dividend yield	— %	— %	— %
Risk-free interest rate	0.1% - 1.4%	0.1%	0.9% - 1.9%
Grant-date fair value per share	$112.76 - $222.30	$69.48 - $129.05	$46.75 - $66.47

The expected volatility is based on a combination of implied volatility from traded options on our common stock and the historical volatility of our common stock. The expected term represents the term from the first day of the offering period to the purchase dates within each offering period. The dividend yield assumption is based on our current expectations about our anticipated dividend policy. The risk-free interest rate is based on the implied yield available on U.S. Treasury zero-coupon issues with maturities that approximate the expected term.

The following table summarizes share-based compensation included in costs and expenses (in millions):

	Year Ended July 31,		
	2022	2021	2020
Cost of product revenue	$ 9.3	$ 6.2	$ 5.7
Cost of subscription and support revenue	110.2	93.0	77.7
Research and development	471.1	428.9	274.6
Sales and marketing	304.7	269.9	214.5
General and administrative	118.1	128.9	92.0
Total share-based compensation	$ 1,013.4	$ 926.9	$ 664.5

As of July 31, 2022, total compensation cost related to unvested share-based awards not yet recognized was $1.8 billion. This cost is expected to be amortized over a weighted-average period of approximately 2.6 years. Future grants will increase the amount of compensation expense to be recorded in these periods.

15. Income Taxes

The following table presents the components of income (loss) before income taxes (in millions):

	Year Ended July 31,		
	2022	2021	2020
United States	$ (152.3)	$ (482.2)	$ (56.1)
Foreign	(54.9)	17.2	(175.7)
Total	$ (207.2)	$ (465.0)	$ (231.8)

The following table summarizes our provision for income taxes (in millions):

	Year Ended July 31,		
	2022	2021	2020
Federal:			
Current	$ 2.6	$ 3.3	$ 3.8
Deferred	(0.3)	(5.9)	(1.3)
State:			
Current	1.5	1.7	1.3
Deferred	0.1	0.1	0.1
Foreign:			
Current	58.8	41.3	39.2
Deferred	(2.9)	(6.6)	(7.9)
Total	$ 59.8	$ 33.9	$ 35.2

For the year ended July 31, 2022, our provision for income taxes increased compared to the year ended July 31, 2021, primarily due to foreign income and withholding taxes.

For the year ended July 31, 2021, our provision for income taxes decreased slightly compared to the year ended July 31, 2020, primarily due to tax benefits from changes in our valuation allowances.

The following table presents the items accounting for the difference between income taxes computed at the federal statutory income tax rate and our provision for income taxes:

	Year Ended July 31,		
	2022	2021	2020
Federal statutory rate	21.0 %	21.0 %	21.0 %
Effect of:			
State taxes, net of federal tax benefit	2.7	1.3	3.0
Effects of non-U.S. operations	(16.5)	(3.1)	667.5
Change in valuation allowance	(158.7)	(40.7)	(714.1)
Share-based compensation	83.6	5.0	(5.1)
Tax credits	41.5	9.9	17.9
Non-deductible expenses	(2.5)	(1.3)	(3.9)
Other, net	—	0.6	(1.5)
Total	(28.9) %	(7.3) %	(15.2) %

In fiscal 2020, we transferred certain intellectual property rights to a wholly owned United Kingdom subsidiary, primarily to align our legal structure to our evolving operations. The tax benefit from an increase in the tax basis of intellectual property rights resulted in an increase in effects of non-U.S. operations and was fully offset by a full valuation.

The following table presents the components of our deferred tax assets and liabilities as of July 31, 2022 and 2021 (in millions):

	July 31,	
	2022	2021
Deferred tax assets:		
Accruals and reserves	$ 227.1	$ 125.0
Deferred revenue	475.5	364.9
Net operating loss carryforwards	759.1	556.7
Tax credits	317.4	230.8
Share-based compensation	59.2	53.9
Fixed assets and intangible assets	1,742.6	1,789.6
Interest carryforward	55.8	19.2
Gross deferred tax assets	3,636.7	3,140.1
Valuation allowance	(3,414.1)	(2,933.3)
Total deferred tax assets	222.6	206.8
Deferred tax liabilities:		
Deferred contract costs	(183.6)	(165.4)
Other deferred tax liabilities	(27.8)	(32.3)
Total deferred tax liabilities	(211.4)	(197.7)
Net deferred tax assets	$ 11.2	$ 9.1

A valuation allowance is provided when it is more likely than not that the deferred tax asset will not be realized. Realization of deferred tax assets is dependent upon future taxable income, if any, the amount and timing of which are uncertain. At such time, if it is determined that it is more likely than not that the deferred tax assets are realizable, the valuation allowance will be adjusted. As of July 31, 2022, we have provided a valuation allowance for our federal, state, United Kingdom and certain other foreign deferred tax assets that we believe will, more likely than not, be unrealizable. The net valuation allowance increased by $0.5 billion from the year ended July 31, 2021 to the year ended July 31, 2022, primarily due to an increase in our NOL carryforwards and deferred revenue as a result of current year operations.

As of July 31, 2022, we had federal, state, and foreign NOL carryforwards of approximately $2.0 billion, $1.0 billion, and $1.8 billion, respectively, as reported on our tax returns, available to reduce future taxable income, if any. If not utilized, our federal and state NOL carryforwards will expire in various amounts at various dates beginning in the years ending July 31, 2033 and July 31, 2023, respectively. Our foreign NOL will carry forward indefinitely.

As of July 31, 2022, we had federal and state research and development tax credit carryforwards of approximately $243.8 million and $197.4 million, respectively, as reported on our tax returns. If not utilized, the federal credit carryforwards will expire in various amounts at various dates beginning in the year ending July 31, 2026. The state credit will carry forward indefinitely.

As of July 31, 2022, we had foreign tax credit carryforwards of $3.5 million as reported on our tax returns. If not utilized, the foreign tax credit carryforwards will expire in various amounts at various dates beginning in the year ending July 31, 2023.

Utilization of the NOL carryforwards and credits may be subject to a substantial 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 NOLs and credits before utilization.

As of July 31, 2022, we had $414.0 million of unrecognized tax benefits, $76.1 million of which would affect income tax expense if recognized, after consideration of our valuation allowance in the United States and other assets. As of July 31, 2021, we had $372.9 million of unrecognized tax benefits, $68.7 million of which would affect income tax expense if recognized, after consideration of our valuation allowance in the United States and other assets. We do not expect the amount of unrecognized tax benefits as of July 31, 2022 to materially change over the next 12 months.

We file federal, state, and foreign income tax returns in jurisdictions with varying statutes of limitations. Generally, all years remain subject to adjustment due to our NOL and credit carryforwards. We currently have ongoing tax audits in various jurisdictions and at various times. The primary focus of these audits is, generally, profit allocation. The ultimate amount and timing of any future settlements cannot be predicted with reasonable certainty.

We recognize both interest and penalties associated with uncertain tax positions as a component of income tax expense. During the years ended July 31, 2022, 2021, and 2020, we recognized income tax expense related to interest and penalties of $5.2 million, $3.5 million, and $1.6 million, respectively. We had accrued interest and penalties on our consolidated balance sheets related to unrecognized tax benefits of $20.9 million and $15.7 million as of July 31, 2022 and 2021, respectively.

The following table presents a reconciliation of the beginning and ending amount of our gross unrecognized tax benefits (in millions):

	Year Ended July 31,		
	2022	2021	2020
Unrecognized tax benefits at the beginning of the period	$ 372.9	$ 326.4	$ 314.5
Additions for tax positions taken in prior years	3.5	26.5	3.2
Reductions for tax positions taken in prior years	(7.4)	(2.5)	(1.6)
Additions for tax positions taken in the current year	45.0	22.5	10.3
Unrecognized tax benefits at the end of the period	$ 414.0	$ 372.9	$ 326.4

During the year ended July 31, 2022 and 2021, our additions for tax positions taken in the given year were primarily attributable to uncertain tax positions related to tax credits.

During the year ended July 31, 2020, our additions for tax positions taken in the given year were primarily attributable to intercompany transactions.

As of July 31, 2022, we had no unremitted earnings when evaluating our outside basis difference relating to our U.S. investment in foreign subsidiaries. However, there could be local withholding taxes payable due to various foreign countries if certain lower tier earnings are distributed. Withholding taxes that would be payable upon remittance of these lower tier earnings are not material.

16. Net Loss Per Share

Basic net loss per share is computed by dividing net loss by basic weighted-average shares outstanding during the period. Diluted net loss per share is computed by dividing net loss by diluted weighted-average shares outstanding, including potentially dilutive securities.

The following table presents the computation of basic and diluted net loss per share of common stock (in millions, except per share data):

	Year Ended July 31,		
	2022	2021	2020
Net loss	$ (267.0)	$ (498.9)	$ (267.0)
Weighted-average shares used to compute net loss per share, basic and diluted	98.5	96.4	96.9
Net loss per share, basic and diluted	$ (2.71)	$ (5.18)	$ (2.76)

The following securities were excluded from the computation of diluted net loss per share of common stock for the periods presented as their effect would have been antidilutive (in millions):

	Year Ended July 31,		
	2022	2021	2020
Convertible senior notes	13.1	13.1	13.1
Warrants related to the issuance of convertible senior notes	13.1	13.1	13.1
RSUs and PSUs	5.9	8.2	7.2
Options to purchase common stock, including PSOs	2.7	2.9	2.9
RSAs and PSAs	0.1	0.3	0.1
ESPP shares	0.2	0.3	0.3
Total	35.1	37.9	36.7

17. Other Income, Net

The following table sets forth the components of other income, net (in millions):

	Year Ended July 31,		
	2022	2021	2020
Interest income	$ 15.6	$ 8.5	$ 41.4
Foreign currency exchange gains (losses), net	1.8	(5.4)	(6.7)
Other	(8.4)	(0.7)	1.2
Total other income, net	$ 9.0	$ 2.4	$ 35.9

18. Segment Information

We conduct business globally and sales are primarily managed on a geographic theater basis. 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 have one business activity and 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.

The following table presents our long-lived assets, which consist of property and equipment, net and operating lease right-of-use assets, by geographic region (in millions):

	Year Ended July 31,	
	2022	2021
Long-lived assets:		
United States	$ 446.1	$ 461.1
Israel	55.4	61.9
Other countries	98.3	58.3
Total long-lived assets	$ 599.8	$ 581.3

Refer to Note 2. Revenue for revenue by geographic theater and revenue for groups of similar products and services for the years ended July 31, 2022, 2021, and 2020.

19. Subsequent Events

Share Repurchase

On August 19, 2022, our board of directors authorized a $915.0 million increase to our share repurchase program under the current authorization, bringing the total remaining authorization for future share repurchases to $1.0 billion. Repurchases may be made at management's discretion from time to time on the open market, through privately negotiated transactions, transactions structured through investment banking institutions, block purchase techniques, 10b5-1 trading plans, or a combination of the foregoing. The repurchase authorization will expire on December 31, 2023, and may be suspended or discontinued at any time without prior notice.

Stock Split Effected in the Form of a Stock Dividend ("Stock Split")

On August 22, 2022, we announced that our board of directors had approved a three-for-one stock split of our outstanding shares of common stock to be effected in the form of a stock dividend. Each stockholder of record at the close of business on September 6, 2022 (the "record date"), will receive, after the close of business on September 13, 2022, two additional shares for every share held on the record date, and trading will begin on a split-adjusted basis on September 14, 2022.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

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 pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). In designing and evaluating the 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.

Based on our evaluation, our chief executive officer and chief financial officer concluded that, as of July 31, 2022, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission (“SEC”) rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Management’s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) under the Exchange Act. Our management assessed the effectiveness of our internal control over financial reporting as of July 31, 2022, based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in Internal Control - Integrated Framework (2013 framework). Based on that assessment, management concluded that, as of July 31, 2022, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of July 31, 2022 has been audited by Ernst & Young LLP, the independent registered public accounting firm that audits our consolidated financial statements, as stated in their report which is included in Part II, Item 8 of this Annual Report on Form 10-K.

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 July 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Not applicable.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be contained in our definitive proxy statement to be filed with the SEC in connection with our 2022 annual meeting of stockholders (the "Proxy Statement"), which is expected to be filed not later than 120 days after the end of our fiscal year ended July 31, 2022, and is incorporated in this report by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Documents filed as part of this Annual Report on Form 10-K are as follows:

1. Consolidated Financial Statements

   Our Consolidated Financial Statements are listed in the "Index to Consolidated Financial Statements" under Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

   Financial statement schedules have been omitted because they are not required, not applicable, not present in amounts sufficient to require submission of the schedule, or the required information is shown in the Consolidated Financial Statements or the notes thereto.

3. Exhibits

   The following documents are incorporated by reference or are filed with this Annual Report on Form 10-K, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
3.1	Restated Certificate of Incorporation of the Registrant.	10-K	001-35594	3.1	October 4, 2012
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-35594	3.1	May 23, 2022
3.3	Certificate of Change of Location of Registered Agent and/or Registered Office.	8-K	001-35594	3.1	August 30, 2016
4.1	Indenture between the Registrant and U.S. Bank National Association, dated as of July 12, 2018.	8-K	001-35594	4.1	July 13, 2018
4.2	Indenture between the Registrant and U.S. Bank National Association, dated as of June 8, 2020.	8-K	001-35594	4.1	June 8, 2020
4.3	Form of Global 0.75% Convertible Senior Note due 2023 (included in Exhibit 4.1).	8-K	001-35594	4.2	July 13, 2018
4.4	Form of Global 0.375% Convertible Senior Note due 2023 (included in Exhibit 4.1).	8-K	001-35594	4.2	June 8, 2020
4.5	Description of Registrant's Securities.				
10.1*	Form of Indemnification Agreement between the Registrant and its directors and officers.	S-1/A	333-180620	10.1	July 9, 2012
10.2*	2012 Equity Incentive Plan and related form agreements.	10-Q	001-35594	10.2	November 26, 2019
10.3*	Form of 2012 Equity Incentive Plan Performance-Based Restricted Stock Unit Award Agreement	10-Q	001-35594	10.4	November 19, 2021
10.4*	2021 Equity Incentive Plan	S-8	333-261697	99.1	December 16, 2021
10.5*	Form of 2021 Equity Incentive Plan Global Stock Option Award Agreement	S-8	333-261697	99.2	December 16, 2021
10.6*	Form of 2021 Equity Incentive Plan Global Restricted Stock Unit Award Agreement	S-8	333-261697	99.3	December 16, 2021
10.7*	2012 Employee Stock Purchase Plan, as amended and restated, and related form agreements.				
10.8*	RedLock Inc. 2015 Stock Plan, as amended, and related form agreements under RedLock Inc. 2015 Stock Plan, as amended.	S-8	333-227901	99.1	October 19, 2018
10.9*	Demisto, Inc. 2015 Stock Option Plan, as amended.	S-8	333-230663	99.1	April 1, 2019

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.10*	Twistlock Ltd. Amended and Restated 2015 Share Option Plan.	S-8	333-232672	99.1	July 16, 2019
10.11*	Zingbox, Inc. Stock Incentive Plan, as amended and restated.	S-8	333-234059	99.1	October 2, 2019
10.12*	Aporeto, Inc. Amended and Restated 2015 Stock Option and Grant Plan.	S-8	333-235854	99.1	January 8, 2020
10.13*	CloudGenix Inc. 2013 Equity Incentive Plan.	S-8	333-238014	99.1	May 5, 2020
10.14*	Crypsis Group Holdings, LLC 2017 Equity Incentive Plan.	S-8	333-249387	99.1	October 8, 2020
10.15*	Sinefa Group, Inc. 2020 Stock Plan.	S-8	333-251423	99.1	December 17, 2020
10.16*	Expanse Holding Company, Inc. Amended and Restated 2012 Stock Incentive Plan.	S-8	333-251425	99.1	December 17, 2020
10.17*	Gamma Networks, Inc. 2018 Stock Option and Grant Plan	S-8	333-259327	99.1	September 3, 2021
10.18*	Bridgecrew, Inc. 2019 Stock Incentive Plan.	S-8	333-254042	99.1	March 9, 2021
10.19*	Employee Incentive Compensation Plan, as amended and restated.	10-Q	001-35594	10.2	November 25, 2014
10.20*	Clawback Policy, adopted as of August 29, 2017.	10-Q	001-35594	10.3	November 21, 2017
10.21*	Amended and Restated Outside Director Compensation Policy (last amended February 16, 2022)	10-Q	001-35594	10.4	February 23, 2022
10.22*	Continued Service Policy	10-Q	001-35594	10.3	May 20, 2022
10.23*	Palo Alto Networks, Inc. Deferred Compensation Plan effective June 1, 2022				
10.24*	New Offer Letter between the Registrant and Mark D. McLaughlin, dated May 31, 2018.	8-K	001-35594	10.1	June 4, 2018
10.25*	Employment Agreement between Palo Alto Networks (Israel Analytics) Ltd. and Nir Zuk, dated August 18, 2020.	10-Q	001-35594	10.1	November 19, 2020
10.26*	Offer Letter between the Registrant and Nikesh Arora, dated May 30, 2018.	8-K	001-35594	10.1	June 4, 2018
10.27*	Offer Letter between the Registrant and Josh Paul, dated August 5, 2021.	8-K	001-35594	10.1	September 8, 2021
10.28*	Confirmatory Employment Letter with Updated Change in Control Protection between the Registrant and Lee Klarich, dated December 19, 2011.	10-Q	001-35594	10.4	November 30, 2018
10.29*	Addendum to Employment Offer Letter by and between the Registrant and Dipak Golechha, dated March 17, 2021.	8-K	001-35594	10.1	March 19, 2021
10.30*	Addendum to Employment Offer Letter by and between the Registrant and Dipak Golechha, dated February 18, 2022.	10-Q	001-35594	10.1	May 20, 2022
10.31*	Employment Offer Letter by and between the Registrant and William "BJ" Jenkins, dated July 27, 2021.	8-K	001-35594	10.1	August 12, 2021
10.32*	Addendum to Employment Offer Letter between the Registrant and William "BJ" Jenkins dated February 18, 2022.	10-Q	001-35594	10.2	May 20, 2022

Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date
10.33*	Offer Letter between the Registrant and Amit K. Singh, dated October 11, 2018.	8-K	001-35594	10.1	October 15, 2018
10.34*	Addendum to Employment Offer Letter by and between the Registrant and Amit Singh, dated October 19, 2021.	10-Q	001-35594	10.2	November 19, 2021
10.35*	Second Addendum to Employment Offer Letter by and between the Registrant and Amit Singh, dated January 28, 2022.	10-Q	001-35594	10.5	February 23, 2022
10.36*	Form of Offer Letter between the Registrant and its directors.	10-K	001-35594	10.27	September 3, 2021
10.37**	Amended and Restated Flextronics Manufacturing Services Agreement, by and between the Registrant and Flextronics Telecom Systems Ltd., dated April 1, 2019.	10-Q	001-35594	10.1	May 30, 2019
10.38	Vendor Information Security Terms between the Registrant and Flextronics Telecom Systems Ltd. dated July 23, 2021	10-K	001-35594	10.29	September 3, 2021
10.39	Settlement, Release and Cross-License Agreement, dated May 27, 2014, by and between the Registrant and Juniper Networks, Inc.	8-K	001-35594	10.1	May 28, 2014
10.40	Purchase Agreement, dated July 10, 2018, by and among the Registrant and Citigroup Global Markets Inc. and Wells Fargo Securities, LLC, as representatives of the several Initial Purchasers named therein.	8-K	001-35594	10.1	July 13, 2018
10.41	Form of Convertible Note Hedge Confirmation.	8-K	001-35594	10.2	July 13, 2018
10.42	Form of Warrant Confirmation.	8-K	001-35594	10.3	July 13, 2018
10.43	Purchase Agreement, dated June 3, 2020, by and among the Registrant and Morgan Stanley & Co. LLC and Citigroup Global Markets Inc., as representatives of the several Initial Purchasers named therein.	8-K	001-35594	10.1	June 8, 2020
10.44	Form of Convertible Note Hedge Confirmation.	8-K	001-35594	10.2	June 8, 2020
10.45	Form of Warrant Confirmation.	8-K	001-35594	10.3	June 8, 2020
10.46	Lease between the Registrant and Santa Clara Campus Property Owner I LLC, dated May 28, 2015.	10-K	001-35594	10.29	September 17, 2015
10.47	Lease between the Registrant and Santa Clara Campus Property Owner I LLC, dated May 28, 2015.	10-K	001-35594	10.30	September 17, 2015
10.48	Lease between the Registrant and Santa Clara Campus Property Owner I LLC, dated May 28, 2015.	10-K	001-35594	10.31	September 17, 2015
10.49	Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated October 7, 2015.	8-K/A	001-35594	10.1	October 19, 2015
10.50	Amendment No. 1 to Lease by and between the Registrant and Santa Clara Phase I Property LLC, dated November 9, 2015.	10-Q	001-35594	10.2	November 24, 2015
10.51	Amendment No. 1 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated November 9, 2015.	10-Q	001-35594	10.3	November 24, 2015
10.52	Amendment No. 1 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated September 16, 2016.	10-Q	001-35594	10.1	November 22, 2016
10.53	Amendment No. 1 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated September 16, 2016.	10-Q	001-35594	10.2	November 22, 2016

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.54	Amendment No. 2 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated September 16, 2016.	10-Q	001-35594	10.3	November 22, 2016
10.55	Amendment No. 2 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated November 16, 2016.	10-Q	001-35594	10.1	March 1, 2017
10.56	Amendment No. 2 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated November 16, 2016.	10-Q	001-35594	10.2	March 1, 2017
10.57	Amendment No. 3 to Lease by and between the Registrant and Santa Clara Campus Property Owner I LLC, dated November 16, 2016.	10-Q	001-35594	10.3	March 1, 2017
10.58	Amendment No. 3 to Lease by and between the Registrant and Santa Clara EFH LLC, dated June 22, 2017.	10-K	001-35594	10.40	September 7, 2017
10.59	Amendment No. 3 to Lease by and between the Registrant and Santa Clara G LLC, dated June 22, 2017.	10-K	001-35594	10.41	September 7, 2017
10.60	Amendment No. 4 to Lease by and between the Registrant and Santa Clara EFH LLC, dated June 22, 2017.	10-K	001-35594	10.42	September 7, 2017
10.61	Amendment No. 4 to Lease by and between the Registrant and Santa Clara Phase III EFH LLC, dated September 29, 2017.	10-Q	001-35594	10.5	November 21, 2017
10.62	Amendment No. 4 to Lease by and between the Registrant and Santa Clara Phase III G LLC, dated September 29, 2017.	10-Q	001-35594	10.6	November 21, 2017
10.63	Amendment No. 5 to Lease by and between the Registrant and Santa Clara Phase III EFH LLC, dated September 29, 2017.	10-Q	001-35594	10.7	November 21, 2017
10.64	Credit Agreement, dated as of September 4, 2018, by and among the Registrant, the lenders from time to time party thereto and Citibank, N.A., as administrative agent.	8-K	001-35594	10.1	September 6, 2018
21.1	List of subsidiaries of the Registrant.				
23.1	Consent of Independent Registered Public Accounting Firm.				
24.1	Power of Attorney (contained in the signature page to this Annual Report on Form 10-K).				
31.1	Certification of the Chief Executive Officer pursuant to Section 302(a) of the Sarbanes-Oxley Act of 2002.				
31.2	Certification of the Chief Financial Officer pursuant to Section 302(a) of the Sarbanes-Oxley Act of 2002.				
32.1†	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2†	Certification of 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	XBRL Instance Document.				
101.SCH	XBRL Taxonomy Schema Linkbase Document.				
101.CAL	XBRL Taxonomy Calculation Linkbase Document.				

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
101.DEF	XBRL Taxonomy Definition Linkbase Document.				
101.LAB	XBRL Taxonomy Labels Linkbase Document.				
101.PRE	XBRL Taxonomy Presentation Linkbase Document.				
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)				

* Indicates a management contract or compensatory plan or arrangement.

** 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.

† The certifications attached as Exhibit 32.1 and Exhibit 32.2 that accompany this Annual Report on Form 10-K, are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

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 September 6, 2022.

PALO ALTO NETWORKS, INC.
By: /s/ NIKESH ARORA
Nikesh Arora
Chairman and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL THESE PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Nikesh Arora, Dipak Golechha, and Josh Paul, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, 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 all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their, his or her substitutes, may lawfully do or cause to be done by virtue thereof.

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/ NIKESH ARORA Nikesh Arora	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	September 6, 2022
/s/ DIPAK GOLECHHA Dipak Golechha	Chief Financial Officer (Duly Authorized Officer and Principal Financial Officer)	September 6, 2022
/s/ JOSH PAUL Josh Paul	Chief Accounting Officer (Duly Authorized Officer and Principal Accounting Officer)	September 6, 2022
/s/ MARK D. MCLAUGHLIN Mark D. McLaughlin	Vice Chairman and Director	September 6, 2022
/s/ NIR ZUK Nir Zuk	Chief Technology Officer and Director	September 6, 2022
/s/ APARNA BAWA Aparna Bawa	Director	September 6, 2022
/s/ ASHEEM CHANDNA Asheem Chandna	Director	September 6, 2022
/s/ JOHN M. DONOVAN John M. Donovan	Director	September 6, 2022
/s/ CARL ESCHENBACH Carl Eschenbach	Director	September 6, 2022
/s/ DR. HELENE D. GAYLE Dr. Helene D. Gayle	Director	September 6, 2022
/s/ JAMES J. GOETZ James J. Goetz	Director	September 6, 2022
/s/ RT HON SIR JOHN KEY Rt Hon Sir John Key	Director	September 6, 2022
/s/ MARY PAT MCCARTHY Mary Pat McCarthy	Director	September 6, 2022
/s/ LORRAINE TWOHILL Lorraine Twohill	Director	September 6, 2022