

**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, 2023

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
(State or other jurisdiction of
incorporation or organization)

20-2530195
(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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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 \$47,351,509,692 as of January 31, 2023, 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 18, 2023, 308,594,604 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 2023 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, 2023.

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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:

- expectations regarding drivers of and factors affecting growth in our business;
- 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;
- expected recurring revenues resulting from growth in our end-customers and increased adoption of our products and cloud-delivered security solutions;
- our expectations regarding future investments in research and development and product development, customer support, in our employees and in our sales force, including expectations regarding growth in our sales headcount;
- our expectation that we will continue to expand our global presence;
- expectations regarding our revenues, including the seasonality and cyclicity from quarter to quarter;
- our expectation that we will expand our facilities or add new facilities as we add employees and enter new geographic markets;
- 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 ability to successfully acquire and integrate companies and assets and our 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; 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 four fundamental areas:

Network Security:

- Our network security platform, designed to deliver complete zero trust solutions to our customers, includes our hardware and software ML-Powered Next-Generation Firewalls, as well as a cloud-delivered Secure Access Service Edge ("SASE"). Prisma® Access, our Security Services Edge ("SSE") solution, when combined with Prisma SD-WAN, provides a comprehensive single-vendor SASE offering that is used to secure remote workforces and enable the cloud-delivered branch. We have been recognized as a leader in network firewalls, SSE, and SD-WAN. Our network security platform also includes our cloud-delivered security services, such as Advanced Threat Prevention, Advanced WildFire®, Advanced URL Filtering, DNS Security, IoT/OT Security, GlobalProtect®, Enterprise Data Loss Prevention ("Enterprise DLP"), Artificial Intelligence for Operations ("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 their entire organization. Panorama®, our network security management solution, can centrally manage our network security platform irrespective of form factor, location, or scale.

Cloud Security:

- We enable cloud-native security through our Prisma Cloud platform. As a comprehensive Cloud Native Application Protection Platform ("CNAPP"), Prisma Cloud secures multi- and hybrid-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 security automation, security analytics, endpoint security, and attack surface management solutions through our Cortex portfolio. These include Cortex XSIAM, our AI security automation platform, Cortex XDR® for the prevention, detection, and response to complex cybersecurity attacks on the endpoint, Cortex XSOAR® for security orchestration, automation, and response ("SOAR"), and Cortex Xpanse™ for attack surface management ("ASM"). These products are delivered as SaaS or software subscriptions.

Threat Intelligence and Security Consulting (Unit 42):

- Unit 42 brings together world-renowned threat researchers with an elite team of incident responders and security consultants to create an intelligence-driven, response-ready organization to help customers proactively manage cyber risk. Our consultants serve as trusted advisors to our customers by assessing and testing their security controls against the right threats, transforming their security strategy with a threat-informed approach, and responding to security incidents on behalf of our clients.

Product, Subscription, and Support

Our customer offerings are available in the form of the product, subscription, and support offerings described below:

PRODUCTS

Hardware and software firewalls. 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 hardware and software firewalls 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 technologies. 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 firewalls come in a hardware 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”) and Microsoft Azure (“Azure”).

SD-WAN. Our SD-WAN 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.

Panorama. Panorama is our centralized security management solution for global control of our network security platform. 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 network security 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 for our network security platform in one location without the need to forward the logs and reliably expands log storage for long-term event investigation and analysis.

SUBSCRIPTIONS

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

Cloud-delivered security services:

- **Advanced 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 coverage. In addition, it offers inline deep learning to deliver real-time detection and prevention of unknown, evasive, and targeted command-and-control (“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.

- **Advanced WildFire.** This cloud-delivered security service 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. Advanced 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. In addition, Advanced WildFire defeats highly evasive modern malware at scale with a new infrastructure and patented analysis techniques, including intelligent runtime memory analysis, dependency emulation, malware family fingerprinting, and more. Once identified, whether in the cloud or inline, preventive measures are automatically generated and delivered in seconds or less to our network security platform.
- **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 C2. 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 C2.
- **DNS Security.** This cloud-delivered security service uses machine learning to proactively block malicious domains and stop attacks in progress. Unlike other solutions, it does not require endpoint routing configurations to be maintained and therefore cannot be bypassed. It allows our network security platform 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/OT Security.** This cloud-delivered security service uses machine learning to 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 network security platform. Other subscriptions 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 ("CASB") 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 in 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 CASB.
- **SaaS Security Inline.** SaaS Security Inline adds an inline service to automatically gain visibility and control over 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 network security platform, 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 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.
- **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:** AIOps is available in both free and licensed premium versions. AIOps redefines network operational experience by empowering security teams to proactively strengthen security posture and resolve network disruptions. AIOps provides continuous best practice recommendations powered by machine learning (“ML”) based on industry standards, security policy context, and advanced telemetry data collected from our network security customers to improve security posture. It also intelligently predicts health, performance, and capacity problems up to seven days in advance and provides actionable insights to resolve the predicted disruptions.

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 point-products into a single converged cloud-delivered offering, transforming network security and allowing organizations to enable secure hybrid workforces. 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. Prisma SD-WAN also provides the flexibility of deploying with an on-premises controller to help businesses meet their industry-specific security compliance requirements and manage deployments with application-defined policies. Our Prisma SD-WAN simplifies network and security operations using machine learning and automation.

Cloud Security:

- **Prisma Cloud.** Prisma Cloud is a comprehensive Cloud-Native Application Protection Platform (“CNAPP”), securing both cloud-native and lift-and-shift applications across multi- and hybrid-cloud environments. With broad security and compliance coverage and a flexible agentless, as well as agent-based, architecture, Prisma Cloud protects cloud-native applications across their lifecycle from code to cloud. The platform helps developers prevent risks as they code and build the application, secures the software supply chain and the continuous integration and continuous development (“CI/CD”) pipeline, and provides complete visibility and real-time protection for applications in the cloud.

With its code-to-cloud security capabilities, Prisma Cloud uniquely stitches together a complete security picture by tracing back thousands of cloud risks and vulnerabilities that occur in the application runtime to their origin in the code-and-build phase of the application. The platform enables organizations to “shift security left” and fix issues at the source (in code) before they proliferate as a large number of risks in the cloud. The contextualized visibility to alerts, attack paths, and vulnerabilities delivered by Prisma Cloud facilitates collaboration between security and development teams to drive down risks and deliver better security outcomes. The context helps security teams block attacks in the cloud runtime and developers fix risks in source code.

A comprehensive library of compliance frameworks included in Prisma Cloud vastly simplifies the task of maintaining compliance. Seamless integration with security orchestration tools ensures rapid remediation of vulnerabilities and security issues.

With a flexible, integrated platform that enables customers to license and activate cloud security capabilities that match their need, Prisma Cloud helps secure organizations at every stage in their cloud adoption journey. The platform enables security teams to consolidate multiple products that address individual risks with an integrated solution that also delivers best-in-class capabilities. Including the recently launched CI/CD security module, Prisma Cloud’s code-to-cloud CNAPP delivers comprehensive protection for applications and their code, infrastructure (workloads, network, and storage), data, APIs, and associated identities.

Security Operations:

- **Cortex XSIAM.** This cloud-based subscription is the AI security automation platform for the modern SOC, harnessing the power of AI to radically improve security outcomes and transform security operations. Cortex XSIAM customers can consolidate multiple products into a single unified platform, including EDR, XDR, SOAR, ASM, user behavior analytics (“UBA”), threat intelligence platform (“TIP”), and security information and event management (“SIEM”). Using a security-specific data model and applying AI, Cortex XSIAM automates data integration, analysis, and triage to respond to most alerts, enabling analysts to focus on only the incidents that require human intervention.

- **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, 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. 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 security orchestration automation and response (“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 the number of SOC alerts which require human intervention.
- **Cortex Xpanse.** This cloud-based subscription provides attack surface management (“ASM”), which is the ability for an organization to identify what an attacker would see among 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.

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, 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, which includes ongoing security updates, PAN-OS upgrades, bug fixes, and repairs. 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. Our scale and position in multiple areas of the security market enable us to leverage core competencies across hardware, software, and SaaS and also share expertise and research around threats, which allows us to respond to the rapidly changing 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 2023, we introduced several new offerings, including: Cortex XSIAM 1.0, major updates to Prisma Cloud (including three new security modules), Prisma Access 4.0, PAN-OS 11.0, Cloud NGFW for AWS, and Cloud NGFW for Azure. Additionally, we acquired productive investments that fit well within our long-term strategy. For example, we acquired Cider Security Ltd. (“Cider”), which we expect will support our Prisma Cloud’s platform approach to securing the entire application security lifecycle from code to cloud.

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 four categories:

- large companies that incorporate security features in their products, such as Cisco Systems, Inc. (“Cisco”), Microsoft, or those that have acquired, or may acquire, 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”), CrowdStrike, Inc. (“CrowdStrike”), and Zscaler, Inc. (“Zscaler”), that offer a mix of security products;

- startups and point-product vendors that offer independent or emerging solutions across various areas of security; and
- public cloud vendors and startups that offer solutions for cloud security (private, public, and hybrid cloud).

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 security solutions 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 solutions for a variety of security functions across a variety of deployment scenarios. Typical deployment scenarios include the enterprise network, the enterprise data center, cloud locations, and branch or remote locations. No single end-customer accounted for more than 10% of our total revenue in fiscal 2023, 2022, or 2021.

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 2023, 49.7% 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 pursue sales opportunities both through our direct sales force and as assisted by our channel partners, including leveraging cloud service provider marketplaces. 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, 2023, we had more than 7,100 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 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 Network Threat Trends Research 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 hardware shipment or delivery of software license. 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 13,948 as of July 31, 2023, our People Strategy is a critical element of our overall company strategy. Our People Strategy is a comprehensive approach to source, hire, onboard, develop, engage, and reward employees. Our approach is grounded on core tenants: respect each employee as an individual, demonstrate fairness and equity in all we do, facilitate flexibility, personalization, and choice whenever possible, and nurture a culture where employees are supported in doing the best work of their careers. Our values of disruption, execution, collaboration, inclusion, and integrity were co-created with employees and serve as the foundation of our culture.

Source & Hire. Sourcing diverse talent who possess the skills and capabilities to execute and add value to our culture form the cornerstone of our comprehensive approach to talent acquisition—a philosophy we call “The Way We Hire.” We utilize an array of methods to identify subject matter experts in their respective fields, emphasizing sourcing channels that connect us with underrepresented talents.

In an effort to foster career growth within Palo Alto Networks, we prioritize internal mobility. This allows current employees to progress either through a traditional career path or by exploring roles across various business functions, often culminating in promotions. We encourage existing employees to refer qualified individuals for our open positions, thus leveraging the collective networks of our team to attract a diverse range of expertise and perspectives.

We have made strides to understand job requirements and implement structured interviewing practices to identify candidates of the highest quality. By conducting thorough job analyses and creating success profiles, we have developed a deeper understanding of what is required for success in critical roles. We equip our hiring managers with essential training to identify and mitigate potential unconscious biases. Our interviewing process emphasizes values and competencies that we believe enhance our culture. This commitment extends to conducting interviews with diverse panelists and providing a balanced evaluation and quality interview experience for a diverse slate of candidates. We remain steadfast in our commitment to fairness, bias reduction, and equal opportunities for all potential hires.

A key to our hiring process is the Global Hiring Committees, introduced in fiscal 2023. These committees play a significant role in elevating our hiring standards by promoting shared understanding, reducing biases, enhancing objectivity, and ensuring the recruitment of diverse talent. The Committees foster effective collaboration using a common language and consensus-driven decision-making.

Onboard & Develop. We believe that each member of our workforce is unique, and that their integration into Palo Alto Networks and their career journey involve unique needs, interests, and goals. That is why our development programs are grounded on individualization, flexibility, and choice. From onboarding to ongoing development, our FLEXLearn philosophy offers multiple paths to assess, develop, and grow.

Our onboarding experience starts with “pre-boarding.” Before an employee’s start date, they are provided access to foundational tools to help them prepare to join Palo Alto Networks. We view pre-boarding as fundamental to introducing new employees to our culture, building trust, and facilitating rapid productivity. Welcome Day is a combination of in-person, virtual learning platforms and communication channels that provide new employees with inspirational, often personalized, onboarding experiences that carry on through the first year of employment. We have specialized learning tracks for interns and new graduates that have been recognized as best in class externally to support early-in-career individuals in acclimating to our culture as they progress on their career journey. 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.

Following onboarding, there are a variety of ways that employees can assess their interests and skills, build a development plan specific to those insights, and continue to grow. Our development initiatives are delivered to employees through a comprehensive platform, FLEXLearn. The platform contains curated content and programs, such as assessment instruments, thousands of courses, workshops, and mentoring and coaching services. Leaders and executives also have access to specialized learning tracks that help them strategize, mobilize, and deliver maximum personal and team performance. Employees have full agency to direct their growth at their pace and choosing. Development information about core business elements, 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 33 hours of development through the FLEXLearn platform during fiscal 2023.

Engage & Reward. We aim to foster engagement through a multifaceted approach to collect, understand, and act on employee feedback. Our comprehensive communication and listening strategy utilizes in-person and technology-enabled channels. We share and collect information through corporate and functional “All Hands” meetings, including several meetings specifically focused on employee-centered topics in an “Ask Me Anything” format. Digital Displays across our sites, our intranet platform, monthly and weekly email communications, and an active Slack platform provide a regular flow of information to and between employees and leadership. In addition to these channels that reach large audiences, we conduct regular executive listening sessions, including small group convenings with our CEO and other C-suite leaders, and ad-hoc pulse surveys to better understand employee engagement, sentiment, well-being, and the ability to transition to a hybrid work model.

Employee sentiment is also collected from external sources, such as web platforms that crowdsource feedback. Employees provide commentary to platforms such as Glassdoor, Comparably, and others and insights from those platforms are used to measure engagement. In addition, based on employee participation in an anonymous survey, the Best Practice Institute has certified Palo Alto Networks as a “most loved workplace” (2021, 2022, and 2023). Palo Alto Networks has been recognized by Glassdoor, Comparably, Human Rights Campaign, Disability Index, and others as an employer of choice. Our CEO has also earned a 92% employee approval rating on Glassdoor, a top percentile score.

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, quarterly performance feedback, semi-annual performance reviews to use of our Cheers for Peers peer recognition program, employees get continuous input about the value they bring to the organization.

These engagement and recognition strategies have informed our holistic People Strategy, including our Inclusion and Diversity (“I&D”) initiatives and Internal Mobility program. Based on the outcomes from external sources, insights from internal sources, our modest attrition rate (compared to market trends), and strong participation in our Internal Mobility program, we believe employees at Palo Alto Networks feel engaged and rewarded.

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 corporate I&D programs focus on five principles—our workforce should feel psychologically safe, they should understand, listen, and support one another, and they should elevate others. These principles are the foundation of our approach to I&D, which we call P.U.L.S.E.

We have eleven employee network groups (“ENG”s) that play a vital role in building understanding and awareness. Over 29% of our global workforce was involved in at least one ENG as of July 31, 2023. ENG’s are also allocated funding to make charitable grants to organizations advancing their causes. We involve our ENG’s 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, performance elevation, and rewards and recognition programs. The diversity of our board of directors, with women representing 40% of our board as of July 31, 2023, is an example of our commitment to inclusion and diversity.

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE

We recognize our duty to address environmental, social, and governance (“ESG”) practices. From our science-based approach to emissions reductions 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. We remain committed to our goals of utilizing 100% renewable energy by 2030, reducing our greenhouse gas (“GHG”) emissions and working across our value chain, and with coalitions, to address climate change. We made progress towards our goals in fiscal 2023 through several milestones. We engaged with a local utility provider to power our Santa Clara, California headquarters with 100% renewable energy effective January 1, 2023. Our near-term scope 1, 2, and 3 emissions reduction goals, aligned to a warming scenario of 1.5° Celsius, were verified by the Science Based Targets initiative. We were recognized by Carbon Disclosure Project (“CDP”) as an “A-List” company and a “Supplier Engagement Leader.” We remain committed to being transparent about our progress over time through annual reporting.

Social. In addition to our People Strategy described in the section titled “Human Capital” above, we prioritized the health and safety of our global workforce. 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 2023, 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 2023 continued to execute our social impact programs. We made charitable grants to support organizations providing services in our core funding areas of education, including academic scholarships, diversity, and basic needs. We expanded our work to provide cybersecurity curriculum to schools, universities, and nonprofit organizations to help individuals of all ages 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. All employees 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 any worsening of the economic environment may exacerbate the risks described below, any of which could have a material impact on us.

Risk Factor Summary

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

- Our operating results may be adversely affected by unfavorable economic and market conditions and the uncertain geopolitical environment.
- 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 revenue growth rate in recent periods may not be indicative of our future performance, and we may not be able to maintain profitability, which could cause our business, financial condition, and operating results to suffer.
- Our operating results may vary significantly from period to period, which makes our results difficult to predict and could cause our results to fall short of expectations, and such results may not be indicative of future performance.
- Seasonality may cause fluctuations in our revenue.
- If we are unable to sell new and additional product, subscription, and support offerings to our end-customers, especially to large enterprise customers, our future revenue and operating results will be harmed.
- 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 or renewals of these subscription and support offerings are not immediately reflected in full in our operating results.
- The sales prices of our products, subscriptions, and support offerings may decrease, which may reduce our revenue and gross profits and adversely impact our financial results.
- 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.
- We are exposed to the credit and liquidity risk of our 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.
- We face intense competition in our market and we may lack sufficient financial or other resources to maintain or improve our competitive position.
- 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.
- 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.
- Issues in the development and deployment of Artificial Intelligence (“AI”) may result in reputational harm and legal liability and could adversely affect our results of operations.
- 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.
- 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.
- 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.
- Because we depend on manufacturing partners to build and ship our hardware 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 hardware 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 hardware products come from limited sources of supply, we are susceptible to supply shortages or supply changes, which, in certain cases, have disrupted or delayed our scheduled product deliveries to our end-customers, increased our costs and may result in the loss of sales and end-customers.
- If we are unable to attract, retain, and motivate our key technical, sales, and management personnel, our business could suffer.
- 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 face risks associated with having operations and employees located in Israel.
- We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets.
- Our actual or perceived failure to adequately protect personal data could have a material adverse effect on our business.
- We may have exposure to greater than anticipated tax liabilities.
- 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.
- 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 our 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.
- Our reputation and/or business could be negatively impacted by environmental, social, and governance (“ESG”) matters and/or our reporting of such matters.
- Failure to comply with governmental laws and regulations could harm our business.
- 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.
- We may still incur substantially more debt or take other actions that would diminish our ability to make payments on our Notes when due.
- The market price of our common stock historically has been volatile, and the value of an investment in our common stock could decline.
- The convertible note hedge and warrant transactions may affect the value of our common stock.
- 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 stock held by all other stockholders.
- 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.
- We do not intend to pay dividends for the foreseeable future.
- 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.
- 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.
- 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.

Risks Related to Global Economic and Geopolitical Conditions

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, changes in public policies such as domestic and international regulations, taxes, any increases in interest rates, fluctuations in foreign currency exchange rates, or international trade agreements, international trade disputes, 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 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.

Risks Related to Our Business

RISKS RELATED TO OUR GROWTH

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, and we expect it to continue to grow over the next year. For example, from the end of fiscal 2022 to the end of fiscal 2023, our headcount increased from 12,561 to 13,948 employees. In addition, as we have grown, the number of end-customers has also increased, and we have 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.

We may not be able to successfully implement, scale, or manage improvements to our systems, processes, and controls in an efficient or timely manner, which could result in material disruptions of our operations and business. 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 materially harm our business performance and operating results.

Our revenue growth rate in recent periods may not be indicative of our future performance, and we may not be able to maintain profitability, which could cause our business, financial condition, and operating results to suffer.

We have experienced revenue growth rates of 25.3% and 29.3% in fiscal 2023 and fiscal 2022, respectively. Our revenue for any 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 maintain profitability or maintain or increase cash flow on a consistent basis.

In addition, we have incurred losses in fiscal years prior to fiscal 2023 and, as a result, we had an accumulated deficit of \$1.2 billion as of July 31, 2023. 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 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 maintaining profitability or maintaining or increasing cash flow on a consistent basis, or satisfying our capital commitments. If we are unable to navigate these challenges as we encounter them, our business, financial condition, and operating results may suffer.

Our operating results may vary significantly from period to period, which makes our results difficult to predict and could cause our results to fall short of expectations, and such results may not be indicative of future performance.

Our operating results have fluctuated in the past, and will likely continue to fluctuate in the future, as a result of a number of factors, many of which are outside of our control and may be difficult to predict, including those factors described in this Risk Factor section. For example, 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, 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), our revenue could fall below our expectations and the estimates of analysts for that quarter. Due to these fluctuations, comparing our revenue, margins, or other operating results on a period-to-period basis may not be meaningful, and our past results should not be relied on as an indication of our future performance.

This variability and unpredictability could also result in our failure to meet our revenue, margin, or other operating result expectations contained in any forward-looking statements (including financial or business expectations we have provided) 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.

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; 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.

RISKS RELATED TO OUR PRODUCTS AND TECHNOLOGY

If we are unable to sell new and additional product, subscription, and support offerings to our end-customers, especially to large enterprise 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, especially large enterprise customers, and create demand for our new offerings. 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. If our efforts to sell additional products and subscriptions to our end-customers are not successful, our revenues may grow more slowly than expected or decline.

Sales to large enterprise end-customers, which is part of our growth strategy, involve risks that may not be present, or that are present to a lesser extent, with sales to smaller entities, such as (a) longer sales cycles and the associated risk that substantial time and resources may be spent on a potential end-customer that elects not to purchase our products, subscriptions, and support, and (b) increased purchasing power and leverage held by large end-customers in negotiating contractual arrangements. Deployments for large enterprise end-customers are also more complex, require greater product functionality, scalability, and a broader range of services, and are more time-consuming. All of these factors add further risk to business conducted with these end-customers. Failure to realize sales from large enterprise end-customers could materially and adversely affect our business, operating results, and financial condition.

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 or renewals 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 77.1% of total revenue in fiscal 2023, 75.2% of total revenue in fiscal 2022, and 73.7% of total revenue in fiscal 2021. Sales and renewals of 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, the frequency and severity of subscription outages, our product uptime or latency, the prices of our products and subscriptions, and reductions in our end-customers' spending levels. 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. 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. 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, because we recognize subscription and support revenue over the term of the relevant service period, which is typically one to five years, a decline in 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.

The sales prices of our products, subscriptions, and support offerings may decrease, which may reduce our revenue and 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. Furthermore, we anticipate that the sales prices and gross profits for our products could decrease over product life cycles. Declining sales prices could adversely affect our revenue, gross profits, and profitability.

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. For fiscal 2023, three distributors individually represented 10% or more of our total revenue and in the aggregate represented 49.7% of our total revenue. As of July 31, 2023, two distributors individually represented 10% or more of our gross accounts receivable and in the aggregate represented 37.6% of our gross accounts receivable.

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 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.

We are exposed to the credit and liquidity risk of our 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 and deferred payments due to, among other things, macro-economic conditions. To respond to this demand, our customer financing activities have increased and will likely continue to increase in the future. Increases in deferred payments result in payments being made over time, negatively impacting our short-term cash flows, and subject us to risk of non-payment by our customers, including as a result of insolvency. We monitor customer payment capability in granting such financing arrangements, seek to limit the amounts to what we believe customers can pay and maintain reserves we believe are adequate to cover exposure for doubtful accounts to mitigate credit risks of these customers. However, there can be no assurance that these programs will be effective in reducing our credit risks. 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.

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. If we are unable to adequately control these risks, our business, operating results, and financial condition could be harmed. In addition, in the past, we have experienced non-material losses due to bankruptcies among customers. If these losses increase due to global economic conditions, they could harm our business 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.

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 four categories:

- large companies that incorporate security features in their products, such as Cisco, Microsoft, or those that have acquired, or may acquire, security vendors and have the technical and financial resources to bring competitive solutions to the market;
- independent security vendors, such as Check Point, Fortinet, CrowdStrike, and Zscaler, that offer a mix of security products;
- startups and point-product vendors that offer independent or emerging solutions across various areas of security; and
- public cloud vendors and startups that offer solutions for cloud security (private, public, and hybrid cloud).

Many of our competitors have greater financial, technical, marketing, sales, and other resources, greater name recognition, longer operating histories, and a larger base of customers than we do. They may be able to devote greater resources to the promotion and sale of products and services than we can, and they may offer lower pricing than we do. Further, they may have greater resources for research and development of new technologies, the provision of customer support, and the pursuit of acquisitions. They may also have larger and more mature intellectual property portfolios, and broader and more diverse product and service offerings, which 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 incorporating cybersecurity features into their existing products or services and product bundling, selling at zero or negative margins, and offering concessions or a closed technology offering. Some competitors may have broader distribution and established relationships with distribution partners and end-customers. Other competitors specialize in providing protection from a single type of security threat, which may allow them to deliver these specialized security products to the market more quickly than we can.

We also face competition from companies that have entrenched legacy offerings at end-user customers. End-user customers have also often 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. In addition, as our customers refresh the security products bought in prior years, they may seek to consolidate vendors, which may result in current customers choosing to purchase products from our competitors. Due to budget constraints or economic downturns, organizations may add solutions to their existing network security infrastructure rather than replacing it with our products and subscriptions.

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. Our competitors and potential competitors may be able to develop new or disruptive technologies, products, or services, and leverage new business models that are equal or superior to ours, achieve greater market acceptance of their products and services, disrupt our markets, and increase sales by utilizing different distribution channels than we do. In addition, new and enhanced technologies, including AI and machine learning, continue to increase our competition. To compete successfully, we must accurately anticipate technology developments and deliver innovative, relevant, and useful products, services, and technologies in a timely manner. 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. If we are unable to compete successfully, or if competing successfully requires us to take aggressive pricing or other actions, our business, financial condition, and results of operations would be adversely affected.

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 have difficulty retaining key personnel of the acquired business. 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. In addition, any acquisitions may be viewed negatively by our customers, financial markets, or investors and may not ultimately strengthen our competitive position or achieve our goals and business strategy.

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. The occurrence of any of these risks could harm our business, operating results, and financial condition.

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 continues 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. If we fail to effectively anticipate, identify, and respond to rapidly evolving technological and market developments in a timely manner, our business will be harmed.

In order to anticipate and respond effectively to rapid technological changes and market developments, as well as evolving security threats, we must invest effectively in research and development to increase the reliability, availability, and scalability of our existing products and subscriptions and introduce new products and subscriptions. Our investments in research and development, including investments in AI, may not result in design or performance improvements, marketable products, subscriptions, or features, or may not achieve the cost savings or additional revenue that we expect. In addition, new and evolving products and services, including those that use AI, require significant investment and raise ethical, technological, legal, regulatory, and other challenges, which may negatively affect our brands and demand for our products and services. Because all of these investment areas are inherently risky, no assurance can be given that such strategies and offerings will be successful or will not harm our reputation, financial condition, and operating results.

In addition, 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 and address end-customers' changing needs and emerging technological trends in the enterprise security industry, including in the areas of AI, mobility, virtualization, cloud computing, and software-defined networks, our business could be harmed.

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.

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, achieve market acceptance of our products and subscriptions, or that products, subscriptions, and technologies developed by others will not render our products, subscriptions, and technologies obsolete or noncompetitive.

Issues in the development and deployment of AI may result in reputational harm and legal liability and could adversely affect our results of operations.

We have incorporated, and are continuing to develop and deploy, AI into many of our products and solutions, including services that support our products and solutions. AI presents challenges and risks that could affect our products and solutions, and therefore our business. For example, AI algorithms may have flaws, and datasets used to train models may be insufficient or contain biased information. These potential issues could subject us to regulatory risk, legal liability, including under new proposed legislation regulating AI in jurisdictions such as the EU and regulations being considered in other jurisdictions, and brand or reputational harm.

The rapid evolution of AI, including potential government regulation of AI, requires us to invest significant resources to develop, test, and maintain AI in our products and services in a manner that meets evolving requirements and expectations. The rules and regulations adopted by policymakers over time may require us to make changes to our business practices. Developing, testing, and deploying AI systems may also increase the cost profile of our offerings due to the nature of the computing costs involved in such systems.

The intellectual property ownership and license rights surrounding AI technologies, as well as data protection laws related to the use and development of AI, are currently not fully addressed by courts or regulators. The use or adoption of AI technologies in our products may result in exposure to claims by third parties of copyright infringement or other intellectual property misappropriation, which may require us to pay compensation or license fees to third parties. The evolving legal, regulatory, and compliance framework for AI technologies may also impact our ability to protect our own data and intellectual property against infringing use.

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, 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, or some combination of these. 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. In addition, 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. 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.

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, defects or errors in our subscription updates or our products could result in a failure to effectively update end-customers’ hardware and cloud-based products. Our data centers and networks may experience technical failures and downtime 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 varied 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. While we maintain insurance coverage for certain types of losses, our insurance coverage may not adequately cover any claim asserted against us, if at all. 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.

In addition, 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 and 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.

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. 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 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. If we are not able to hire such resources fast enough to keep up with unexpected demand, 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 up our support resources, our sales productivity will be negatively impacted, which would harm our revenues. Accordingly, 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 OPERATIONS

Because we depend on manufacturing partners to build and ship our hardware 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 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 hardware 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 hardware products that are sourced outside the United States may subject us to geopolitical risks, additional logistical risks or risks associated with complying with local rules and regulations in foreign countries.

Significant changes to existing international trade agreements could lead to sourcing or logistics disruption resulting from import delays or the imposition of increased tariffs on our sourcing partners. For example, the United States and Chinese governments have each enacted, and discussed additional, import tariffs. Some components that we import for final manufacturing in the United States have been impacted by these tariffs. As a result, our costs have increased and we have raised, and may be required to further raise, prices on our hardware products, all of which could severely impair our ability to fulfill orders.

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. Any production interruptions for any reason, such as a natural disaster, epidemic or pandemic, 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 hardware 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 hardware 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. 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 hardware 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 may lead to shortages that result in delayed hardware 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 hardware products come from limited sources of supply, we are susceptible to supply shortages or supply changes, which, in certain cases, have disrupted or delayed our scheduled product deliveries to our end-customers, increased our costs and may result in the loss of sales and end-customers.

Our hardware 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, power outages, or health risks. In addition, we continue to experience supply chain disruption and have incurred increased costs resulting from inflationary pressures. We are also monitoring the tensions between China and Taiwan, and between the U.S. and China, which could have an adverse impact on our business or results of operations in future periods.

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 hardware products could be delayed or halted, or we could be forced to expedite shipment of such components or our hardware 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 hardware 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 hardware products and the expense of redesigning our hardware products would result in lost sales opportunities and damage to customer relationships, which would adversely affect our business and operating results.

If we are unable to attract, retain, and motivate our key technical, sales, and management personnel, our business could suffer.

Our future success depends, in part, on our ability to continue to attract, retain, and motivate the members of our management team and other key employees. For example, we are substantially dependent on the continued service of our engineering personnel because of the complexity of our offerings. Competition for highly skilled personnel, particularly in engineering, including in the areas of AI and machine learning, is often intense, especially in the San Francisco Bay Area, where we have a substantial presence and need for such personnel. In addition, the industry in which we operate generally experiences high employee attrition. Our future performance depends on the continuing services and contributions of our senior management to execute on our business plan and to identify and pursue new opportunities and product innovations. 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.

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.

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.

Our ability to grow our business and our future success will depend to a significant extent on our ability to expand our operations and customer base worldwide. Many of our customers, resellers, partners, suppliers, and manufacturers operate around the world. Operating in a global marketplace, we are subject to risks associated with having an international reach and compliance and regulatory requirements. We may experience difficulties in attracting, managing, and retaining an international staff, and we may not be able to recruit and maintain successful strategic distributor relationships internationally. 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, tensions between China and Taiwan, and continued hostilities in the Middle East;
- unexpected changes in, or the application of, foreign and domestic laws and regulations (including intellectual property rights protections), regulatory practices, trade restrictions, and foreign legal requirements, including those applicable to the importation, certification, and localization of our products, tariffs, and tax laws and treaties, including regulatory and trade policy changes adopted by the current administration, such as the Sanctions on Russia, or foreign countries in response to regulatory changes adopted by the current administration; and
- non-compliance with U.S. and foreign laws, including antitrust regulations, anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act and 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.

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.

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

Our sales contracts are denominated in U.S. dollars, and therefore, our revenue is not subject to foreign currency risk; however, in the event of a strengthening of the U.S. dollar against foreign currencies in which we conduct business, the cost of our products to our end-customers outside of the United States would increase, which 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 foreign currency denominated sales, increasing our foreign currency risk.

Our operating expenses incurred outside the United States and denominated in foreign currencies are generally 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, 2023, the total notional amount of our outstanding foreign currency forward contracts was \$957.5 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 face risks associated with having operations and employees located in Israel.

As a result of various of our acquisitions, including Cider, 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, including the recent political unrest in Israel. 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.

RISKS RELATED TO PRIVACY AND DATA PROTECTION

Our actual or perceived failure to adequately protect personal data could have a material adverse effect on our business.

A wide variety of laws and regulations apply to the collection, use, retention, protection, disclosure, transfer, and other processing of personal data in jurisdictions where we and our customers operate. Compliance with these laws and regulations is difficult and costly. These laws and regulations are also subject to frequent and unexpected changes, new or additional laws or regulations may be adopted, and rulings that invalidate prior laws or regulations may be issued. For example, we are subject to the E.U. General Data Protection Regulation (“E.U. GDPR”) and the U.K. General Data Protection Regulation (“U.K. GDPR,” and collectively the “GDPR”), both of which impose stringent data protection requirements, provide for costly penalties for noncompliance (up to the greater of (a) €20 million under the “E.U. GDPR” or £17.5 million under the “U.K. GDPR,” and (b) 4% of annual worldwide turnover), and confer the right upon data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations.

The GDPR requires, among other things, that personal data be transferred outside of the E.U. (or, in the case of the U.K. GDPR, the U.K.) to the United States and other jurisdictions only where adequate safeguards are implemented or a derogation applies. In practice, we rely on standard contractual clauses approved under the GDPR to carry out such transfers and to receive personal data subject to the GDPR (directly or indirectly) in the United States. In the future, we may self-certify to the EU-U.S. Data Privacy Framework (“EU-U.S. DPF”), which has been approved for transfers of personal data subject to the GDPR to the United States and requires public disclosures of adherence to data protection principles and the submission of jurisdiction to European regulatory authorities. Following the “Schrems II” decision by the Court of Justice of the European Union, transfers of personal data to recipients in third countries are also subject to additional assessments and safeguards beyond the implementation of approved transfer mechanisms. The decision 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.

Among other effects, we may experience additional costs associated with increased compliance burdens, reduced demand for our offerings from current or prospective customers in the European Economic Area (“EEA”), Switzerland, and the U.K. (collectively, “Europe”) to use our products, on account of the risks identified in the Schrems II decision, and we may find it necessary or desirable to make further changes to our processing of personal data of European residents. 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, including in the event we self-certify to the EU-U.S. DPF. Moreover, much like with Schrems II, we anticipate future legal challenges to the approved data transfer mechanisms between Europe and the United States, including a challenge to the EU-U.S. DPF. Such legal challenges could result in additional legal and regulatory risk, compliance costs, and 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, and distract management and technical personnel. These potential liabilities and enforcement actions could also have an overall negative affect on our business, operating results, and financial condition.

We are also subject to the California Consumer Privacy Act, as amended by the California Privacy Rights Act (collectively, the “CCPA”). The CCPA requires, among other things, covered companies to provide enhanced disclosures to California consumers and to afford such consumers certain rights regarding their personal data, including the right to opt out of data sales for targeted advertising, and creates a private right of action to individuals affected by a data breach, if the breach was caused by a lack of reasonable security. The effects of the CCPA have been significant, requiring 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. These include laws enacted in at least ten states, which all go into effect by January 1, 2026.

We may also from time to time be subject to obligations relating to personal data by contract, or face assertions that we are subject to self-regulatory obligations or industry standards. Additionally, the Federal Trade Commission and many state attorneys general are more regularly bringing enforcement actions in connection with federal and state consumer protection laws for false or deceptive acts or practices in relation to the online collection, use, dissemination, and security of personal data. Internationally, data localization laws may mandate that personal data collected in a foreign country be processed and stored within that country. New legislation affecting the scope of personal data and personal information where we or our customers and partners have operations, especially relating to classification of Internet Protocol (“IP”) addresses, machine identification, AI, 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. Notably, public perception of potential 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. Each of these laws and regulations, and any changes to these laws and regulations, or new laws and 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.

Tax, Accounting, Compliance, and Regulatory Risks

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 various other jurisdictions, are subject to interpretation and certain jurisdictions may aggressively interpret their laws, regulations, and policies, including 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 or acquired technology or determining the proper charges for intercompany arrangements, which could increase our worldwide effective tax rate and harm our financial position and operating results. Some tax authorities of jurisdictions other than the United States may seek to assert extraterritorial taxing rights on our transactions or operations. It is possible that domestic or international tax authorities may subject us to tax examinations, or audits, and such tax authorities may disagree with certain positions we have taken, and any adverse outcome of such an examination, review or audit could result in additional tax liabilities and penalties and otherwise 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, regulations, policies, or decisions in the United States or in the 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 U.S. 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, 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.

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 our 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.

If we are unable to assert that our internal controls are effective, our independent registered public accounting firm may not be able to formally attest to the effectiveness of our internal control over financial reporting. If, in the future, our chief executive officer, chief financial officer, or independent registered public accounting firm determines 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, causing investor perceptions to be adversely affected and potentially resulting in a decline in the market price of our 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 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. These laws and regulations may also impact our innovation and business drivers in developing new and emerging technologies (e.g., AI and machine learning). 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.

Risks Related to Our Notes and Common Stock

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 June 2020, we issued our 2025 Notes (the "2025 Notes"). We will need to make cash payments (a) if holders of our 2025 Notes require us to repurchase all, or a portion of, their 2025 Notes upon the occurrence of a fundamental change (e.g., a change of control of Palo Alto Networks, Inc.) before the maturity date, (b) upon conversion of our 2025 Notes, or (c) to repay our 2025 Notes in cash at their maturity unless earlier converted or repurchased. Effective August 1, 2023 through October 31, 2023, all of the 2025 Notes are convertible. If all of the note holders decided to convert their 2025 Notes, we would be obligated to pay the \$2.0 billion principal amount of the 2025 Notes in cash. Under the terms of the 2025 Notes, we also have the option to settle the amount of our conversion obligation in excess of the aggregate principal amount of the 2025 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 2025 Notes may be limited by law, regulatory authority, or agreements governing our future indebtedness. Our failure to repurchase our 2025 Notes at a time when the repurchase is required by the applicable indenture governing such 2025 Notes or to pay cash upon conversion of such 2025 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 2025 Notes or to pay cash upon conversion of our 2025 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 incur substantial additional debt in the future, subject to the restrictions contained in our debt instruments, that could have the effect of diminishing our ability to make payments on our Notes when due.

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

The market price of our common stock has historically been, and is likely to continue to be, volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control and unrelated to our business, operating results, or financial condition. These fluctuations could cause a loss of all or part of an investment in our common stock. Factors that could cause fluctuations in the market price of our common stock include, but are not limited to:

- 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;
- sales or repurchases of large blocks of our common stock or substantial future sales by our directors, executive officers, employees, and significant stockholders;
- departures of key personnel; or
- geopolitical or economic uncertainty around the world.

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, divert our management's attention and resources from our business, and 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 2025 Notes, we entered into convertible note hedge transactions (the "2025 Note Hedges") with certain counterparties. In connection with each such sale of the 2025 Notes, we also entered into warrant transactions with the counterparties pursuant to which we sold warrants (the "2025 Warrants") for the purchase of our common stock. In addition, we also entered into warrant transactions in connection with our 2023 Notes (together with the 2025 Warrants, the "Warrants"). The Note Hedges for our 2025 Notes are generally expected to reduce the potential dilution to our common stock upon any conversion of our 2025 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 2025 Notes (and are likely to do so during any applicable observation period related to a conversion of our 2025 Notes). This activity could also cause or prevent an increase or a decrease in the market price of our common stock or our 2025 Notes, which could affect a note holder's ability to convert its 2025 Notes and, to the extent the activity occurs during any observation period related to a conversion of our 2025 Notes, it could affect the amount and value of the consideration that the note holder will receive upon conversion of our 2025 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 2025 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 stock held by 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, 2023, we had \$750.0 million available under our share repurchase program which will expire on December 31, 2023. 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, stockholders may only receive a return on their investments 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, 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 engage in future debt financings, the holders of such additional debt would 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. In addition, we may 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. 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.

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 around the world, including Israel and India. 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 18, 2023, there were 414 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, 2023, we issued a total of 3,569 shares of our unregistered common stock in connection with certain of our acquisitions (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

In February 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, August 2021, and August 2022, we announced additional \$700.0 million, \$676.1 million, and \$915.0 million increases to this share repurchase program, respectively, bringing the total authorization to \$3.3 billion, with \$750.0 million remaining as of July 31, 2023. The expiration date of this repurchase authorization was extended to December 31, 2023, 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. During the three months ended July 31, 2023, we did not repurchase any shares pursuant to our share repurchase program.

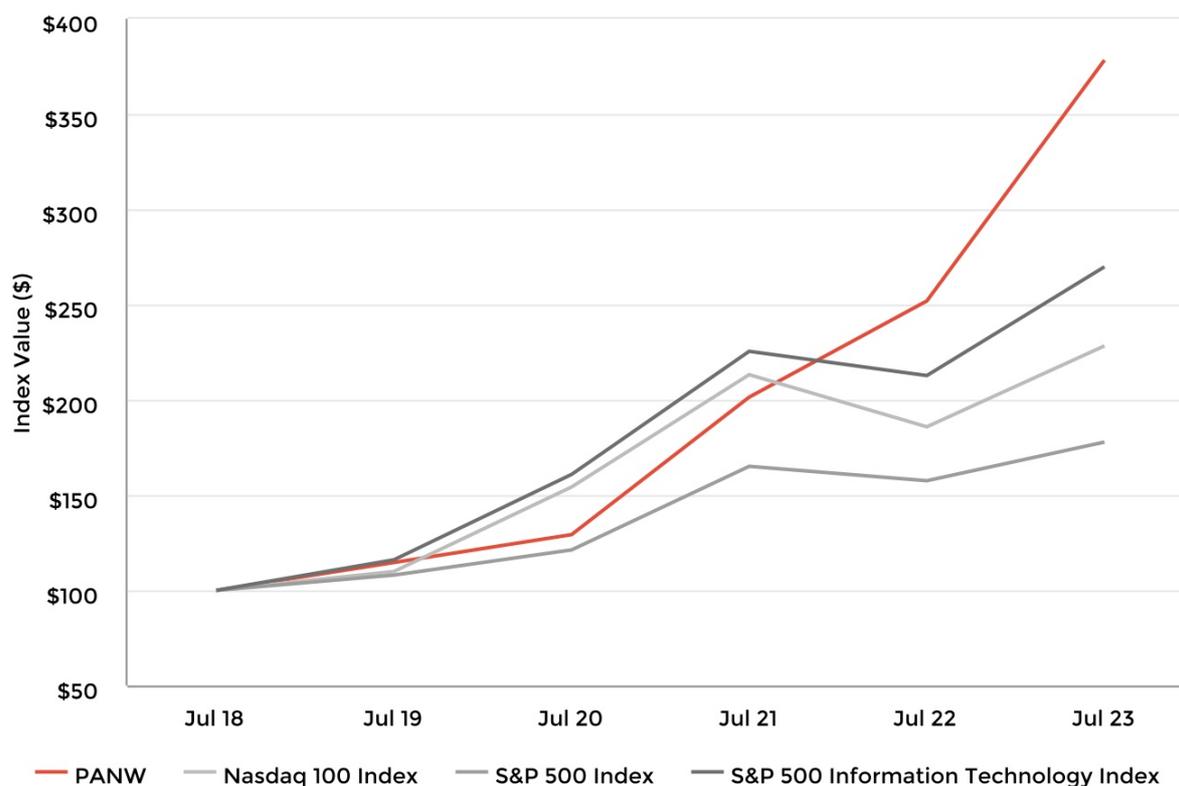
Between June 1, 2023 and June 30, 2023 and July 1, 2023 and July 31, 2023, shares of restricted stock were delivered by certain employees upon vesting of equity awards to satisfy tax withholding requirements. The average value of shares delivered to satisfy tax withholding requirements during these periods were \$246.53 per share and \$243.33 per share, respectively. The number of shares delivered to satisfy tax withholding requirements during these periods 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.

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, and the Standard & Poor's 500 Information Technology Index for the five years ended July 31, 2023. This performance graph assumes \$100 was invested on July 31, 2018, in each of the common stock of Palo Alto Networks, Inc., the Nasdaq 100 Index, the Standard & Poor's 500 Index, and the Standard & Poor's 500 Information Technology 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.

Palo Alto Networks, Inc. Comparison of Total Return Performance



Company/Index	7/31/2018	7/31/2019	7/31/2020	7/31/2021	7/31/2022	7/31/2023
Palo Alto Networks, Inc.	\$ 100.00	\$ 114.26	\$ 129.08	\$ 201.28	\$ 251.74	\$ 378.23
Nasdaq 100 Index	\$ 100.00	\$ 109.74	\$ 154.04	\$ 212.86	\$ 185.61	\$ 227.88
S&P 500 Index	\$ 100.00	\$ 107.99	\$ 120.90	\$ 164.96	\$ 157.31	\$ 177.78
S&P 500 Information Technology Index	\$ 100.00	\$ 115.72	\$ 160.75	\$ 225.10	\$ 212.69	\$ 269.79

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 U.S. 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 2023 to fiscal 2022. For discussion and analysis related to our financial results comparing fiscal 2022 to 2021, 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 2022, which was filed with the Securities and Exchange Commission on September 6, 2022.
- **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.
- **Critical Accounting Estimates.** A discussion of our accounting policies that require critical estimates, assumptions, and judgments.

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, 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 four fundamental areas:

Network Security:

- Our network security platform, designed to deliver complete zero trust solutions to our customers, includes our hardware and software ML-Powered Next-Generation Firewalls, as well as a cloud-delivered Secure Access Service Edge (“SASE”). Prisma® Access, our Security Services Edge (“SSE”) solution, when combined with Prisma SD-WAN, provides a comprehensive single-vendor SASE offering that is used to secure remote workforces and enable the cloud-delivered branch. We have been recognized as a leader in network firewalls, SSE, and SD-WAN. Our network security platform also includes our cloud-delivered security services, such as Advanced Threat Prevention, Advanced WildFire®, Advanced URL Filtering, DNS Security, IoT/OT Security, GlobalProtect®, Enterprise Data Loss Prevention (“Enterprise DLP”), Artificial Intelligence for Operations (“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 their entire organization. Panorama®, our network security management solution, can centrally manage our network security platform irrespective of form factor, location, or scale.

Cloud Security:

- We enable cloud-native security through our Prisma Cloud platform. As a comprehensive Cloud Native Application Protection Platform (“CNAPP”), Prisma Cloud secures multi- and hybrid-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 security automation, security analytics, endpoint security, and attack surface management solutions through our Cortex portfolio. These include Cortex XSIAM, our AI security automation platform, Cortex XDR® for the prevention, detection, and response to complex cybersecurity attacks on the endpoint, Cortex XSOAR® for security orchestration, automation, and response (“SOAR”), and Cortex Xpanse™ for attack surface management (“ASM”). These products are delivered as SaaS or software subscriptions.

Threat Intelligence and Security Consulting (Unit 42):

- Unit 42 brings together world-renowned threat researchers with an elite team of incident responders and security consultants to create an intelligence-driven, response-ready organization to help customers proactively manage cyber risk. Our consultants serve as trusted advisors to our customers by assessing and testing their security controls against the right threats, transforming their security strategy with a threat-informed approach, and responding to security incidents on behalf of our clients.

For fiscal 2023 and 2022, total revenue was \$6.9 billion and \$5.5 billion, respectively, representing year-over-year growth of 25.3%. 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, 2023, 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. 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 \$1.6 billion or 22.9% of total revenue for fiscal 2023, representing year-over-year growth of 15.8%. Product revenue is derived from sales of our appliances, primarily our ML-Powered Next-Generation Firewall. Product revenue also includes revenue derived from software licenses of Panorama, SD-WAN, and the VM-Series. 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 appliances and software licenses include a broad set of built-in networking and security features and functionalities. 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 \$5.3 billion or 77.1% of total revenue for fiscal 2023, representing year-over-year growth of 28.4%. 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 2023, we introduced several new offerings, including: Cortex XSIAM 1.0, major updates to Prisma Cloud (including three new security modules), Prisma Access 4.0, PAN-OS 11.0, Cloud NGFW for AWS, and Cloud NGFW for Azure. Additionally, we acquired productive investments that fit well within our long-term strategy. For example, in December 2022, we acquired Cider, which we expect will support our Prisma Cloud’s platform approach to securing the entire application security lifecycle from code to cloud.

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 Macroeconomic Developments and Other Factors on Our Business

Our overall performance depends in part on worldwide economic and geopolitical conditions and their impact on customer behavior. Worsening economic conditions, including inflation, higher interest rates, slower growth, fluctuations in foreign exchange rates, and other conditions, may adversely affect our results of operations and financial performance.

We continue to experience supply chain disruption and incur increased costs resulting from inflationary pressures. We are monitoring the tensions between China and Taiwan, and between the U.S. and China, which could have an adverse impact on our business or results of operations in future periods.

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 income (loss) and margin below under "Results of Operations."

	July 31,			
	2023		2022	
(in millions)				
Total deferred revenue	\$	9,296.4	\$	6,994.0
Cash, cash equivalents, and investments	\$	5,437.9	\$	4,686.4

	Year Ended July 31,					
	2023	2022	2021			
(dollars in millions)						
Total revenue	\$	6,892.7	\$	5,501.5	\$	4,256.1
Total revenue year-over-year percentage increase		25.3 %		29.3 %		24.9 %
Gross margin		72.3 %		68.8 %		70.0 %
Operating income (loss)	\$	387.3	\$	(188.8)	\$	(304.1)
Operating margin		5.6 %		(3.4)%		(7.1)%
Billings	\$	9,194.4	\$	7,471.5	\$	5,452.2
Billings year-over-year percentage increase		23.1 %		37.0 %		26.7 %
Cash flow provided by operating activities	\$	2,777.5	\$	1,984.7	\$	1,503.0
Free cash flow (non-GAAP)	\$	2,631.2	\$	1,791.9	\$	1,387.0

- 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 hardware shipment or delivery of software license, 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,		
	2023	2022	2021
	(in millions)		
Billings:			
Total revenue	\$ 6,892.7	\$ 5,501.5	\$ 4,256.1
Add: change in total deferred revenue, net of acquired deferred revenue	2,301.7	1,970.0	1,196.1
Billings	<u>\$ 9,194.4</u>	<u>\$ 7,471.5</u>	<u>\$ 5,452.2</u>

- 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 share-based compensation costs, depreciation and amortization, 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 U.S. GAAP, is provided below:

	Year Ended July 31,		
	2023	2022	2021
	(in millions)		
Free cash flow (non-GAAP):			
Net cash provided by operating activities	\$ 2,777.5	\$ 1,984.7	\$ 1,503.0
Less: purchases of property, equipment, and other assets	146.3	192.8	116.0
Free cash flow (non-GAAP)	<u>\$ 2,631.2</u>	<u>\$ 1,791.9</u>	<u>\$ 1,387.0</u>
Net cash used in investing activities	<u>\$ (2,033.8)</u>	<u>\$ (933.4)</u>	<u>\$ (1,480.6)</u>
Net cash used in financing activities	<u>\$ (1,726.3)</u>	<u>\$ (806.6)</u>	<u>\$ (1,104.0)</u>

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,					
	2023		2022		2021	
	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue
(dollars in millions)						
Revenue:						
Product	\$ 1,578.4	22.9 %	\$ 1,363.1	24.8 %	\$ 1,120.3	26.3 %
Subscription and support	5,314.3	77.1 %	4,138.4	75.2 %	3,135.8	73.7 %
Total revenue	6,892.7	100.0 %	5,501.5	100.0 %	4,256.1	100.0 %
Cost of revenue:						
Product	418.3	6.1 %	455.5	8.3 %	308.5	7.2 %
Subscription and support	1,491.4	21.6 %	1,263.2	22.9 %	966.4	22.8 %
Total cost of revenue ⁽¹⁾	1,909.7	27.7 %	1,718.7	31.2 %	1,274.9	30.0 %
Total gross profit	4,983.0	72.3 %	3,782.8	68.8 %	2,981.2	70.0 %
Operating expenses:						
Research and development	1,604.0	23.3 %	1,417.7	25.8 %	1,140.4	26.8 %
Sales and marketing	2,544.0	36.9 %	2,148.9	39.0 %	1,753.8	41.1 %
General and administrative	447.7	6.5 %	405.0	7.4 %	391.1	9.2 %
Total operating expenses ⁽¹⁾	4,595.7	66.7 %	3,971.6	72.2 %	3,285.3	77.1 %
Operating income (loss)	387.3	5.6 %	(188.8)	(3.4)%	(304.1)	(7.1)%
Interest expense	(27.2)	(0.4)%	(27.4)	(0.5)%	(163.3)	(3.8)%
Other income, net	206.2	3.0 %	9.0	0.1 %	2.4	— %
Income (loss) before income taxes	566.3	8.2 %	(207.2)	(3.8)%	(465.0)	(10.9)%
Provision for income taxes	126.6	1.8 %	59.8	1.1 %	33.9	0.8 %
Net income (loss)	\$ 439.7	6.4 %	\$ (267.0)	(4.9)%	\$ (498.9)	(11.7)%

⁽¹⁾ Includes share-based compensation as follows:

	Year Ended July 31,		
	2023	2022	2021
	(in millions)		
Cost of product revenue	\$ 9.8	\$ 9.3	\$ 6.2
Cost of subscription and support revenue	123.4	110.2	93.0
Research and development	488.4	471.1	428.9
Sales and marketing	335.3	304.7	269.9
General and administrative	130.4	118.1	128.9
Total share-based compensation	\$ 1,087.3	\$ 1,013.4	\$ 926.9

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. Product revenue also includes revenue derived from software licenses of Panorama, SD-WAN, 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.

	Year Ended July 31,				Year Ended July 31,				
	2023		2022		2022		2021		Change
	Amount	Amount	Amount	%	Amount	Amount	Amount	%	
	(dollars in millions)								
Product	\$ 1,578.4	\$ 1,363.1	\$ 215.3	15.8 %	\$ 1,363.1	\$ 1,120.3	\$ 242.8	21.7 %	

Product revenue increased for fiscal 2023 compared to fiscal 2022 driven by increased demand for our new generation of hardware products, increased software revenue primarily due to a new go-to-market strategy for certain Network Security offerings and an increased demand for our VM-Series virtual firewalls, partially offset by decreased revenue from our prior generation of hardware products.

SUBSCRIPTION AND SUPPORT REVENUE

Subscription and support revenue is derived primarily from sales of our subscription and support offerings. Our 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,				Year Ended July 31,				
	2023		2022		2022		2021		Change
	Amount	Amount	Amount	%	Amount	Amount	Amount	%	
	(dollars in millions)								
Subscription	\$ 3,335.4	\$ 2,539.0	\$ 796.4	31.4 %	\$ 2,539.0	\$ 1,898.8	\$ 640.2	33.7 %	
Support	1,978.9	1,599.4	379.5	23.7 %	1,599.4	1,237.0	362.4	29.3 %	
Total subscription and support	\$ 5,314.3	\$ 4,138.4	\$ 1,175.9	28.4 %	\$ 4,138.4	\$ 3,135.8	\$ 1,002.6	32.0 %	

Subscription and support revenue increased for fiscal 2023 compared to fiscal 2022 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,				Year Ended July 31,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Americas	\$ 4,719.9	\$ 3,802.6	\$ 917.3	24.1 %	\$ 3,802.6	\$ 2,937.5	\$ 865.1	29.5 %
EMEA	1,359.6	1,055.8	303.8	28.8 %	1,055.8	817.3	238.5	29.2 %
APAC	813.2	643.1	170.1	26.5 %	643.1	501.3	141.8	28.3 %
Total revenue	\$ 6,892.7	\$ 5,501.5	\$ 1,391.2	25.3 %	\$ 5,501.5	\$ 4,256.1	\$ 1,245.4	29.3 %

Revenue from the Americas, Europe, the Middle East, and Africa (“EMEA”) and Asia Pacific and Japan (“APAC”) increased year-over-year for fiscal 2023 as we continued to increase investment in our global sales force in order to support our growth and innovation. Our three geographic theaters had similar year-over-year revenue growth rates for fiscal 2023, with the Americas contributing the highest increase in revenue due to its larger scale.

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 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 revenue from hardware products.

	Year Ended July 31,				Year Ended July 31,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Cost of product revenue	\$ 418.3	\$ 455.5	\$ (37.2)	(8.2)%	\$ 455.5	\$ 308.5	\$ 147.0	47.6 %

Cost of product revenue decreased for fiscal 2023 compared to fiscal 2022 due to a favorable hardware product mix.

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,				Year Ended July 31,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Cost of subscription and support revenue	\$ 1,491.4	\$ 1,263.2	\$ 228.2	18.1 %	\$ 1,263.2	\$ 966.4	\$ 296.8	30.7 %

Cost of subscription and support revenue increased for fiscal 2023 compared to fiscal 2022 primarily due to increased costs to support the growth of our subscription and support offerings. Cloud hosting service costs, which support our cloud-based subscription offerings, increased \$101.0 million for fiscal 2023 compared to fiscal 2022. Personnel costs grew \$97.0 million for fiscal 2023 compared to fiscal 2022 primarily due to headcount growth.

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,					
	2023		2022		2021	
	Amount	Gross Margin	Amount	Gross Margin	Amount	Gross Margin
	(dollars in millions)					
Product	\$ 1,160.1	73.5 %	\$ 907.6	66.6 %	\$ 811.8	72.5 %
Subscription and support	3,822.9	71.9 %	2,875.2	69.5 %	2,169.4	69.2 %
Total gross profit	\$ 4,983.0	72.3 %	\$ 3,782.8	68.8 %	\$ 2,981.2	70.0 %

Product gross margin increased for fiscal 2023 compared to fiscal 2022 primarily due to increased software revenue and a favorable hardware product mix.

Subscription and support gross margin increased for fiscal 2023 compared to fiscal 2022, primarily due to our growth in subscription and support revenue, which outpaced the subscription and support costs.

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, 2023, we expect to recognize approximately \$2.0 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,				Year Ended July 31,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
	(dollars in millions)							
Research and development	\$ 1,604.0	\$ 1,417.7	\$ 186.3	13.1 %	\$ 1,417.7	\$ 1,140.4	\$ 277.3	24.3 %

Research and development expense increased for fiscal 2023 compared to fiscal 2022 primarily due to increased personnel costs, which grew \$154.2 million, largely due to headcount growth.

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,				Year Ended July 31,			
	2023	2022	Change		2022	2021	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
(dollars in millions)								
Sales and marketing	\$ 2,544.0	\$ 2,148.9	\$ 395.1	18.4 %	\$ 2,148.9	\$ 1,753.8	\$ 395.1	22.5 %

Sales and marketing expense increased for fiscal 2023 compared to fiscal 2022 primarily due to increased personnel costs, which grew \$290.7 million, largely due to headcount growth and increased travel and entertainment expenses. The increase in sales and marketing expense was further driven by increased costs associated with sales and marketing events and go-to-market initiatives.

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 over time 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,			
	2023	2022	Change		2022	2021	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
(dollars in millions)								
General and administrative	\$ 447.7	\$ 405.0	\$ 42.7	10.5 %	\$ 405.0	\$ 391.1	\$ 13.9	3.6 %

General and administrative expenses increased for fiscal 2023 compared to fiscal 2022 primarily due to increased personnel costs, which grew \$23.2 million, largely due to share-based compensation related to our recent acquisitions and headcount growth. The increase in general and administrative expense was further driven by slightly higher reserves due to increased receivables as a result of our business growth.

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,			
	2023	2022	Change		2022	2021	Change	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
(dollars in millions)								
Interest expense	\$ 27.2	\$ 27.4	\$ (0.2)	(0.7)%	\$ 27.4	\$ 163.3	\$ (135.9)	(83.2)%

Interest expense remained relatively flat for fiscal 2023 compared to fiscal 2022.

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,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
(dollars in millions)								
Other income, net	\$ 206.2	\$ 9.0	\$ 197.2	2,191.1 %	\$ 9.0	\$ 2.4	\$ 6.6	275.0 %

Other income, net increased for fiscal 2023 compared to fiscal 2022 primarily due to higher interest income as a result of higher interest rates and higher average cash, cash equivalent, and investments balances for fiscal 2023 compared to fiscal 2022.

PROVISION FOR INCOME TAXES

Provision for income taxes consists primarily of U.S. taxes driven by capitalization of research and development expenditures, foreign income taxes, 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. We regularly evaluate the need for a valuation allowance. Due to recent profitability, a reversal of our valuation allowance in certain jurisdictions in the foreseeable future is reasonably possible.

	Year Ended July 31,				Year Ended July 31,			
	2023		2022		2022		2021	
	Amount	Amount	Amount	%	Amount	Amount	Amount	%
(dollars in millions)								
Provision for income taxes	\$ 126.6	\$ 59.8	\$ 66.8	111.7 %	\$ 59.8	\$ 33.9	\$ 25.9	76.4 %
Effective tax rate	22.4 %	(28.9)%			(28.9)%	(7.3)%		

Our provision for income taxes for fiscal 2023 was primarily due to U.S. federal and state income taxes, withholding taxes, and foreign income taxes. Our effective tax rate varied for fiscal 2023 compared to fiscal 2022, primarily due to our profitability in fiscal 2023 and an increase in U.S. taxes driven by capitalization of research and development expenditures with no offsetting deferred benefit due to our valuation allowance. This increase was offset by releases of uncertain tax positions during fiscal 2023 resulting from tax settlements. 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,	
	2023	2022
(in millions)		
Working capital ⁽¹⁾	\$ (1,689.5)	\$ (1,891.4)
Cash, cash equivalents, and investments:		
Cash and cash equivalents	\$ 1,135.3	\$ 2,118.5
Investments	4,302.6	2,567.9
Total cash, cash equivalents, and investments	\$ 5,437.9	\$ 4,686.4

⁽¹⁾ Current liabilities included net carrying amounts of convertible senior notes of \$2.0 billion and \$3.7 billion as of July 31, 2023 and 2022, 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, 2023, our total cash, cash equivalents, and investments of \$5.4 billion were held for general corporate purposes. As of July 31, 2023, 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 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. The 2023 Notes were converted prior to or settled on the maturity date of July 1, 2023. During fiscal 2023, we repaid in cash \$1.7 billion in aggregate principal amount of the 2023 Notes and issued 11.4 million shares of common stock to the holders for the conversion value in excess of the principal amount of the 2023 Notes converted, which were fully offset by shares we received from our exercise of the associated note hedges. In June 2020, we issued the 2025 Notes with an aggregate principal amount of \$2.0 billion. The 2025 Notes mature on June 1, 2025; however, under certain circumstances, holders may surrender their 2025 Notes for conversion prior to the applicable maturity date. Upon conversion of the 2025 Notes, we will pay cash equal to the aggregate principal amount of the 2025 Notes 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 2025 Notes being converted. The sale price condition for the 2025 Notes was met during the fiscal quarter ended July 31, 2023, and as a result, holders may convert their 2025 Notes during the fiscal quarter ending October 31, 2023. If all of the holders convert their 2025 Notes during this period, we would be obligated to settle the \$2.0 billion principal amount of the 2025 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 2025 Notes during the fiscal quarter ending October 31, 2023 or hold the 2025 Notes until maturity on June 1, 2025. As of July 31, 2023, substantially all of our 2025 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 April 2023, we entered into a new credit agreement (the “2023 Credit Agreement”) that provides for a \$400.0 million unsecured revolving credit facility (the “2023 Credit Facility”), with an option to increase the amount of the 2023 Credit Facility by up to an additional \$350.0 million, subject to certain conditions. The interest rates and commitment fees are also subject to upward and downward adjustments based on our progress towards the achievement of certain sustainability goals related to greenhouse gas emissions. As of July 31, 2023, there were no amounts outstanding, and we were in compliance with all covenants under the 2023 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, August 2021, and August 2022, our board of directors authorized additional \$700.0 million, \$676.1 million, and \$915.0 million increases to this share repurchase program, respectively, bringing the total authorization under this share repurchase program to \$3.3 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, 2023, and our repurchase program may be suspended or discontinued at any time. As of July 31, 2023, \$750.0 million remained available for future share repurchases under this repurchase program. 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, 2033, with the most significant leases relating to our corporate headquarters in Santa Clara, California. As of July 31, 2023, we have total operating lease obligations of \$339.4 million recorded on our consolidated balance sheet.

As of July 31, 2023, our commitments to purchase products, components, cloud and other services totaled \$1.8 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, 2023, 2022, and 2021:

	Year Ended July 31,		
	2023	2022	2021
	(in millions)		
Net cash provided by operating activities	\$ 2,777.5	\$ 1,984.7	\$ 1,503.0
Net cash used in investing activities	(2,033.8)	(933.4)	(1,480.6)
Net cash used in financing activities	(1,726.3)	(806.6)	(1,104.0)
Net increase (decrease) in cash, cash equivalents, and restricted cash	\$ (982.6)	\$ 244.7	\$ (1,081.6)

Cash from operations could be affected by various risks and uncertainties 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. 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 income (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 billings.

Cash provided by operating activities during fiscal 2023 was \$2.8 billion, an increase of \$792.8 million compared to fiscal 2022. The increase was primarily due to growth of our business as reflected by increases in collections during fiscal 2023, 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 2023 was \$2.0 billion, an increase of \$1.1 billion compared to fiscal 2022. The increase was primarily due to an increase in purchases of investments and an increase in net cash payments for business acquisitions, partially offset by an increase in proceeds from sales and maturities of investments during fiscal 2023.

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 2023 was \$1.7 billion, an increase of \$919.7 million compared to fiscal 2022. The increase was primarily due to repayments of our 2023 Notes upon maturity, partially offset by a decrease in repurchases of our common stock during fiscal 2023.

Critical Accounting Estimates

Our consolidated financial statements have been prepared in accordance with U.S. 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. 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.

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 (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.

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 all future benefits including, but not limited to, net operating losses, research and development credit carryforwards, and basis differences relating to our global intangible low-taxed income. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount more likely than not 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. Through July 31, 2023, 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 reasonably possible, then we disclose the possible loss or range of the possible loss or state that such an estimate cannot be made. 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. Refer to the “Litigation” subheading in Note 12. Commitments and Contingencies in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding our litigation.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Exchange Risk

Our sales contracts are denominated in U.S. dollars. A portion of our operating expenditures 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, 2023 would not be material to our financial condition or results of operations. As of July 31, 2023, 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 24 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 and services 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 a diversified portfolio of cash, cash equivalents, and investments, consisting only of investment-grade 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, 2023, a hypothetical 100 basis point increase in interest rates across all maturities would result in a \$55.5 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 \$55.5 million increase in the fair market value of the portfolio.

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 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 debt instruments fluctuates when interest rates change, and additionally, in the case of the 2025 Notes, when the market price of our common stock fluctuates.

Item 8. Financial Statements and Supplementary Data

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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, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended July 31, 2023, 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, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended July 31, 2023, 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, 2023, 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 1, 2023 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 1, 2023

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, 2023, 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, 2023, 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, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended July 31, 2023, and the related notes and our report dated September 1, 2023 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 1, 2023

PALO ALTO NETWORKS, INC.

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

	July 31,	
	2023	2022
Assets		
Current assets:		
Cash and cash equivalents	\$ 1,135.3	\$ 2,118.5
Short-term investments	1,254.7	1,516.0
Accounts receivable, net of allowance for credit losses of \$7.8 and \$8.9 at July 31, 2023 and July 31, 2022, respectively	2,463.2	2,142.5
Short-term financing receivables, net	388.8	111.3
Short-term deferred contract costs	339.2	317.7
Prepaid expenses and other current assets	466.8	208.9
Total current assets	6,048.0	6,414.9
Property and equipment, net	354.5	357.8
Operating lease right-of-use assets	263.3	242.0
Long-term investments	3,047.9	1,051.9
Long-term financing receivables, net	653.3	192.1
Long-term deferred contract costs	547.1	550.1
Goodwill	2,926.8	2,747.7
Intangible assets, net	315.4	384.5
Other assets	344.8	312.6
Total assets	\$ 14,501.1	\$ 12,253.6
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 132.3	\$ 128.0
Accrued compensation	548.3	461.1
Accrued and other liabilities	390.8	399.2
Deferred revenue	4,674.6	3,641.2
Convertible senior notes, net	1,991.5	3,676.8
Total current liabilities	7,737.5	8,306.3
Long-term deferred revenue	4,621.8	3,352.8
Long-term operating lease liabilities	279.2	276.1
Other long-term liabilities	114.2	108.4
Total liabilities	12,752.7	12,043.6
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock; \$0.0001 par value; 100.0 shares authorized; none issued and outstanding at July 31, 2023 and July 31, 2022	—	—
Common stock and additional paid-in capital; \$0.0001 par value; 1,000.0 shares authorized; 308.3 and 298.8 shares issued and outstanding at July 31, 2023 and July 31, 2022, respectively	3,019.0	1,932.7
Accumulated other comprehensive loss	(43.2)	(55.6)
Accumulated deficit	(1,227.4)	(1,667.1)
Total stockholders' equity	1,748.4	210.0
Total liabilities and stockholders' equity	\$ 14,501.1	\$ 12,253.6

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

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

	Year Ended July 31,		
	2023	2022	2021
Revenue:			
Product	\$ 1,578.4	\$ 1,363.1	\$ 1,120.3
Subscription and support	5,314.3	4,138.4	3,135.8
Total revenue	6,892.7	5,501.5	4,256.1
Cost of revenue:			
Product	418.3	455.5	308.5
Subscription and support	1,491.4	1,263.2	966.4
Total cost of revenue	1,909.7	1,718.7	1,274.9
Total gross profit	4,983.0	3,782.8	2,981.2
Operating expenses:			
Research and development	1,604.0	1,417.7	1,140.4
Sales and marketing	2,544.0	2,148.9	1,753.8
General and administrative	447.7	405.0	391.1
Total operating expenses	4,595.7	3,971.6	3,285.3
Operating income (loss)	387.3	(188.8)	(304.1)
Interest expense	(27.2)	(27.4)	(163.3)
Other income, net	206.2	9.0	2.4
Income (loss) before income taxes	566.3	(207.2)	(465.0)
Provision for income taxes	126.6	59.8	33.9
Net income (loss)	\$ 439.7	\$ (267.0)	\$ (498.9)
Net income (loss) per share, basic	\$ 1.45	\$ (0.90)	\$ (1.73)
Net income (loss) per share, diluted	\$ 1.28	\$ (0.90)	\$ (1.73)
Weighted-average shares used to compute net income (loss) per share, basic	303.2	295.6	289.1
Weighted-average shares used to compute net income (loss) per share, diluted	342.3	295.6	289.1

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In millions)

	Year Ended July 31,		
	2023	2022	2021
Net income (loss)	\$ 439.7	\$ (267.0)	\$ (498.9)
Other comprehensive income (loss), net of tax:			
Change in unrealized gains (losses) on investments	(13.0)	(25.0)	(3.0)
Cash flow hedges:			
Change in unrealized gains (losses)	(0.2)	(54.0)	1.1
Net realized (gains) losses reclassified into earnings	25.6	33.3	(18.5)
Net change on cash flow hedges	25.4	(20.7)	(17.4)
Other comprehensive income (loss)	12.4	(45.7)	(20.4)
Comprehensive income (loss)	\$ 452.1	\$ (312.7)	\$ (519.3)

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, 2020	288.8	\$ 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	11.1	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	(12.0)	(1,178.1)	—	—	(1,178.1)
Issuance of common and restricted common stock in connection with acquisitions	4.0	340.7	—	—	340.7
Temporary equity reclassification	—	(129.1)	—	—	(129.1)
Balance as of July 31, 2021	291.9	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	12.3	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	(5.4)	(915.0)	—	—	(915.0)
Balance as of July 31, 2022	298.8	1,932.7	(55.6)	(1,667.1)	210.0
Net income	—	—	—	439.7	439.7
Other comprehensive income	—	—	12.4	—	12.4
Issuance of common stock in connection with employee equity incentive plans	11.3	259.7	—	—	259.7
Taxes paid related to net share settlement of equity awards	—	(20.4)	—	—	(20.4)
Share-based compensation for equity-based awards	—	1,097.0	—	—	1,097.0
Repurchase and retirement of common stock	(1.8)	(250.0)	—	—	(250.0)
Settlement of convertible notes	11.4	—	—	—	—
Settlement of note hedges	(11.4)	—	—	—	—
Balance as of July 31, 2023	308.3	\$ 3,019.0	\$ (43.2)	\$ (1,227.4)	\$ 1,748.4

See notes to consolidated financial statements.

PALO ALTO NETWORKS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Year Ended July 31,		
	2023	2022	2021
Cash flows from operating activities			
Net income (loss)	\$ 439.7	\$ (267.0)	\$ (498.9)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Share-based compensation for equity-based awards	1,074.5	1,011.1	894.5
Depreciation and amortization	282.2	282.6	260.4
Amortization of deferred contract costs	413.4	362.1	298.0
Amortization of debt discount and debt issuance costs	6.7	7.2	142.9
Reduction of operating lease right-of-use assets	49.9	54.4	44.5
Amortization of investment premiums, net of accretion of purchase discounts	(52.2)	13.5	13.1
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	(320.3)	(902.0)	(172.4)
Financing receivables, net	(738.7)	(30.1)	(272.6)
Deferred contract costs	(431.9)	(458.8)	(440.8)
Prepaid expenses and other assets	(265.3)	(110.9)	(26.5)
Accounts payable	1.0	69.3	(11.8)
Accrued compensation	84.4	30.4	105.1
Accrued and other liabilities	(67.6)	(47.1)	(28.5)
Deferred revenue	2,301.7	1,970.0	1,196.1
Net cash provided by operating activities	2,777.5	1,984.7	1,503.0
Cash flows from investing activities			
Purchases of investments	(5,460.4)	(2,271.7)	(1,958.9)
Proceeds from sales of investments	965.9	449.2	131.1
Proceeds from maturities of investments	2,811.5	1,118.9	1,240.5
Business acquisitions, net of cash acquired	(204.5)	(37.0)	(777.3)
Purchases of property, equipment, and other assets	(146.3)	(192.8)	(116.0)
Net cash used in investing activities	(2,033.8)	(933.4)	(1,480.6)

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Year Ended July 31,		
	2023	2022	2021
Cash flows from financing activities			
Repayments of convertible senior notes	(1,692.0)	(0.6)	(0.9)
Payments for debt issuance costs	—	—	(0.2)
Repurchases of common stock	(272.7)	(892.3)	(1,178.1)
Proceeds from sales of shares through employee equity incentive plans	258.8	136.6	104.0
Payments for taxes related to net share settlement of equity awards	(20.4)	(50.3)	(28.8)
Net cash used in financing activities	(1,726.3)	(806.6)	(1,104.0)
Net increase (decrease) in cash, cash equivalents, and restricted cash	(982.6)	244.7	(1,081.6)
Cash, cash equivalents, and restricted cash—beginning of period	2,124.8	1,880.1	2,961.7
Cash, cash equivalents, and restricted cash—end of period	\$ 1,142.2	\$ 2,124.8	\$ 1,880.1
Reconciliation of cash, cash equivalents, and restricted cash to the consolidated balance sheets			
Cash and cash equivalents	\$ 1,135.3	\$ 2,118.5	\$ 1,874.2
Restricted cash included in prepaid expenses and other current assets	6.9	6.3	5.4
Restricted cash included in other assets	—	—	0.5
Total cash, cash equivalents, and restricted cash	\$ 1,142.2	\$ 2,124.8	\$ 1,880.1
Non-cash investing and financing activities			
Equity consideration for business acquisitions	\$ (0.3)	\$ (2.5)	\$ (365.4)
Supplemental disclosures of cash flow information			
Cash paid for income taxes	\$ 147.1	\$ 34.6	\$ 24.9
Cash paid for contractual interest	\$ 20.2	\$ 20.2	\$ 20.0

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 enabled 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 (“U.S. 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.

Reclassification

Certain prior period amounts in the consolidated financial statements and accompanying notes have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the 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.

Stock Split Effected in the Form of a Stock Dividend (“Stock Split”)

On September 13, 2022, we executed a three-for-one stock split of our common stock, effected in the form of a stock dividend. The par value per share of our common stock remains unchanged at \$0.0001 per share after the Stock Split. All references made to share or per share amounts on the accompanying consolidated financial statements and applicable disclosures have been retroactively adjusted to reflect the effects of the Stock Split.

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 and channel partners. We perform ongoing credit evaluations and generally do not require collateral on accounts receivable or financing receivables.

As of July 31, 2023, two distributors individually represented 10% or more of our gross accounts receivable, and in the aggregate represented 37.6% of our gross accounts receivable. As of July 31, 2023, no end-customers or channel partners represented 10% or more of our gross financing receivables.

For fiscal 2023, three distributors represented 10% or more of our total revenue, representing 25.0%, 12.8%, and 11.9%, respectively. No single end-customer accounted for more than 10% of our total revenue in fiscal 2023, 2022, or 2021.

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

Comprehensive Income (Loss)

Comprehensive income (loss) is comprised of net income (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 on 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 on 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, where appropriate, 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, 2023 and 2022, the allowance for credit losses activity was not significant.

Financing Receivables

We provide financing arrangements for certain qualified end-customers and channel partners 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.

Derivatives

We are exposed to foreign currency exchange risk. 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 24 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 on 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 on 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 on 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. Land is not depreciated. The estimated useful lives of our depreciable assets are as follows:

Asset category	Useful life
Computers, equipment, and software	3 - 5 years
Demonstration units	3 - 4 years
Furniture and fixtures	5 years
Leasehold improvements	Lesser of 10 years or remaining lease term

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 using the straight-line method 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, 2023, 2022, and 2021.

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, 2023, 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 revenue 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, SD-WAN, 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.

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 (channel partner 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. The benefit period is determined by taking into consideration contract length, expected renewals, technology life, and other quantitative and qualitative factors. Sales commissions for initial contracts that are commensurate and sales commissions for renewal contracts are amortized over the related contractual period.

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 on 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, 2023, 2022, or 2021.

Software Development Costs

Internally developed software includes security software developed to deliver our cloud-based subscription offerings to our end-customers. 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 years. As of July 31, 2023 and 2022, we capitalized as other assets on our consolidated balance sheets \$132.1 million and \$130.9 million in costs, respectively, net of accumulated amortization, for security software developed to deliver our cloud-based subscription offerings. We recognized amortization expense of \$79.5 million, \$62.4 million, and \$47.8 million related to these capitalized costs as cost of subscription and support revenue on our consolidated statements of operations during the years ended July 31, 2023, 2022, and 2021, 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 on our consolidated statements of operations.

Share-Based Compensation

Compensation expense related to share-based transactions is measured at 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. 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. We recognize share-based compensation expense 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 lease 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 right-of-use assets and lease 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 all future benefits including, but not limited to, net operating losses, research and development credit carryforwards, and basis differences relating to our global intangible low-taxed income. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount more likely than not 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 reasonably possible, then we disclose the possible loss or range of the possible loss or state that such an estimate cannot be made. 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.

2. Revenue

Disaggregation of Revenue

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

	Year Ended July 31,		
	2023	2022	2021
Revenue:			
Americas			
United States	\$ 4,424.2	\$ 3,560.3	\$ 2,747.8
Other Americas	295.7	242.3	189.7
Total Americas	4,719.9	3,802.6	2,937.5
Europe, the Middle East, and Africa ("EMEA")	1,359.6	1,055.8	817.3
Asia Pacific and Japan ("APAC")	813.2	643.1	501.3
Total revenue	\$ 6,892.7	\$ 5,501.5	\$ 4,256.1

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

	Year Ended July 31,		
	2023	2022	2021
Revenue:			
Product	\$ 1,578.4	\$ 1,363.1	\$ 1,120.3
Subscription and support			
Subscription	3,335.4	2,539.0	1,898.8
Support	1,978.9	1,599.4	1,237.0
Total subscription and support	5,314.3	4,138.4	3,135.8
Total revenue	\$ 6,892.7	\$ 5,501.5	\$ 4,256.1

Deferred Revenue

During the years ended July 31, 2023 and 2022, we recognized approximately \$3.6 billion and \$2.7 billion of revenue pertaining to amounts that were deferred as of July 31, 2022 and 2021, respectively.

Remaining Performance Obligations

Remaining performance obligations were \$10.6 billion as of July 31, 2023, of which we expect to recognize as revenue approximately \$5.1 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, 2023 and 2022 (in millions):

	July 31, 2023				July 31, 2022			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash equivalents:								
Money market funds	\$ 476.1	\$ —	\$ —	\$ 476.1	\$ 1,205.2	\$ —	\$ —	\$ 1,205.2
Certificates of deposit	—	—	—	—	—	155.3	—	155.3
Commercial paper	—	151.4	—	151.4	—	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	—	—	—	—	—	5.1	—	5.1
Total cash equivalents	476.1	151.4	—	627.5	1,205.2	259.0	—	1,464.2
Short-term investments:								
Certificates of deposit	—	48.1	—	48.1	—	116.4	—	116.4
Commercial paper	—	213.8	—	213.8	—	79.0	—	79.0
Corporate debt securities	—	798.0	—	798.0	—	505.0	—	505.0
U.S. government and agency securities	—	190.6	—	190.6	—	798.2	—	798.2
Non-U.S. government and agency securities	—	—	—	—	—	17.4	—	17.4
Asset-backed securities	—	4.2	—	4.2	—	—	—	—
Total short-term investments	—	1,254.7	—	1,254.7	—	1,516.0	—	1,516.0
Long-term investments:								
Corporate debt securities	—	2,484.3	—	2,484.3	—	761.2	—	761.2
U.S. government and agency securities	—	22.0	—	22.0	—	118.2	—	118.2
Non-U.S. government and agency securities	—	36.6	—	36.6	—	—	—	—
Asset-backed securities	—	505.0	—	505.0	—	172.5	—	172.5
Total long-term investments	—	3,047.9	—	3,047.9	—	1,051.9	—	1,051.9
Prepaid expenses and other current assets:								
Foreign currency forward contracts	—	19.1	—	19.1	—	2.4	—	2.4
Total prepaid expenses and other current assets	—	19.1	—	19.1	—	2.4	—	2.4
Other assets:								
Foreign currency forward contracts	—	1.7	—	1.7	—	0.7	—	0.7
Total other assets	—	1.7	—	1.7	—	0.7	—	0.7
Total assets measured at fair value	\$ 476.1	\$ 4,474.8	\$ —	\$ 4,950.9	\$ 1,205.2	\$ 2,830.0	\$ —	\$ 4,035.2

	July 31, 2023				July 31, 2022			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Accrued and other liabilities:								
Foreign currency forward contracts	\$ —	\$ 18.7	\$ —	\$ 18.7	\$ —	\$ 32.4	\$ —	\$ 32.4
Total accrued and other liabilities	—	18.7	—	18.7	—	32.4	—	32.4
Other long-term liabilities:								
Foreign currency forward contracts	—	1.6	—	1.6	—	0.8	—	0.8
Total other long-term liabilities	—	1.6	—	1.6	—	0.8	—	0.8
Total liabilities measured at fair value	\$ —	\$ 20.3	\$ —	\$ 20.3	\$ —	\$ 33.2	\$ —	\$ 33.2

Refer to Note 10. Debt, for the carrying amount and estimated fair value of our convertible senior notes as of July 31, 2023 and 2022.

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, 2023			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Cash equivalents:				
Commercial paper	\$ 151.4	\$ —	\$ —	\$ 151.4
Total available-for-sale cash equivalents	\$ 151.4	\$ —	\$ —	\$ 151.4
Investments:				
Certificates of deposit	\$ 48.1	\$ —	\$ —	\$ 48.1
Commercial paper	214.1	—	(0.3)	213.8
Corporate debt securities	3,313.5	1.3	(32.5)	3,282.3
U.S. government and agency securities	214.2	—	(1.6)	212.6
Non-U.S. government and agency securities	37.2	—	(0.6)	36.6
Asset-backed securities	512.0	0.2	(3.0)	509.2
Total available-for-sale investments	\$ 4,339.1	\$ 1.5	\$ (38.0)	\$ 4,302.6

	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	<u>\$ 258.9</u>	<u>\$ 0.1</u>	<u>\$ —</u>	<u>\$ 259.0</u>
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	<u>\$ 2,591.5</u>	<u>\$ 1.6</u>	<u>\$ (25.2)</u>	<u>\$ 2,567.9</u>

As of July 31, 2023, the gross unrealized losses that have been in a continuous unrealized loss position for less than 12 months were \$30.7 million, which were related to \$3.4 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 \$7.3 million, which were related to \$481.8 million of available-for-sale debt securities. 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.

Unrealized losses related to our available-for-sale debt securities are primarily 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, 2023 and 2022.

The following table summarizes the amortized cost and fair value of our available-for-sale debt securities as of July 31, 2023, by contractual years-to-maturity (in millions):

	Amortized Cost	Fair Value
Due within one year	\$ 1,414.8	\$ 1,406.1
Due between one and three years	2,478.8	2,456.0
Due between three and five years	523.4	518.8
Due between five and ten years	52.5	52.3
Due after ten years	21.0	20.8
Total	<u>\$ 4,490.5</u>	<u>\$ 4,454.0</u>

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, 2023 and 2022, the carrying value of our marketable equity securities were \$476.1 million and \$1.2 billion, respectively. There were no unrealized gains or losses recognized for these securities during the years ended July 31, 2023, 2022, and 2021.

5. Financing Receivables

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

	July 31,	
	2023	2022
Short-term financing receivables, gross	\$ 435.1	\$ 115.0
Unearned income	(42.9)	(2.4)
Allowance for credit losses	(3.4)	(1.3)
Short-term financing receivables, net	<u>\$ 388.8</u>	<u>\$ 111.3</u>
Long-term financing receivables, gross	\$ 698.6	\$ 196.1
Unearned income	(39.2)	(1.5)
Allowance for credit losses	(6.1)	(2.5)
Long-term financing receivables, net	<u>\$ 653.3</u>	<u>\$ 192.1</u>

Our financing receivables portfolio primarily consists of high-quality investment-grade receivables as of July 31, 2023 and 2022. There was no significant activity in allowance for credit losses during the years ended July 31, 2023 and 2022. Past due amounts on financing receivables were not material as of July 31, 2023 and 2022.

6. Derivative Instruments

As of July 31, 2023 and 2022, the total notional amount of our outstanding foreign currency forward contracts was \$957.5 million and \$856.9 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, 2023.

As of July 31, 2023, unrealized gains and losses in AOCI related to our cash flow hedges were a \$0.7 million net gain, of which \$2.7 million in gains are expected to be recognized into earnings within the next 12 months. As of July 31, 2022, unrealized gains and losses in AOCI related to our cash flow hedges were a \$24.8 million net loss.

7. Acquisitions

Fiscal 2023

Cider Security Ltd.

On December 20, 2022, we completed our acquisition of Cider Security Ltd. ("Cider"), a privately-held cloud security company. We expect the acquisition will support Prisma Cloud's platform approach to securing the entire application security lifecycle from code to cloud. The total purchase consideration for the acquisition of Cider was \$198.3 million, which consisted of the following (in millions):

	Amount
Cash	\$ 198.0
Fair value of replacement awards	0.3
Total	<u>\$ 198.3</u>

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 \$48.6 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	\$ 164.6
Identified intangible assets	27.8
Cash	12.4
Net liabilities assumed	(6.5)
Total	<u>\$ 198.3</u>

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

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

	Fair Value	Estimated Useful Life
Developed technology	\$ 27.8	5 years

Other acquisition

In April 2023, we completed an acquisition for total purchase consideration of \$18.9 million in cash. We have accounted for this transaction as a business combination and recorded goodwill of \$14.5 million. The goodwill is not deductible for income tax purposes.

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	<u>\$ 156.9</u>

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 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	<u>\$ 156.9</u>

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 the identified intangible asset acquired (in millions, except years):

	Fair Value	Estimated Useful Life
Developed technology	\$ 21.6	6 years

Expense Inc.

On December 15, 2020, we completed our acquisition of Expense Inc. (“Expense”), 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 Expense 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	<u>\$ 797.2</u>

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 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	<u>\$ 797.2</u>

Goodwill generated from this business combination is primarily attributable to the assembled workforce and expected post-acquisition synergies from integrating Expense 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	<u>\$ 160.3</u>	

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	<u>\$ 27.0</u>

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 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	<u>\$ 27.0</u>

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	<u>\$ 20.4</u>	

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	<u>\$ 227.7</u>

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 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	<u>\$ 227.7</u>

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	<u>\$ 54.4</u>	

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 2023, such as that related to income tax and other contingencies, existing as of the acquisition date 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, 2023 (in millions):

	Amount
Balance as of July 31, 2022	\$ 2,747.7
Goodwill acquired	179.1
Balance as of July 31, 2023	<u>\$ 2,926.8</u>

Purchased Intangible Assets

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

	July 31,					
	2023			2022		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Intangible assets subject to amortization:						
Developed technology	\$ 633.2	\$ (429.4)	\$ 203.8	\$ 600.7	\$ (347.9)	\$ 252.8
Customer relationships	172.7	(73.9)	98.8	172.7	(52.2)	120.5
Acquired intellectual property	14.6	(6.2)	8.4	11.3	(4.8)	6.5
Trade name and trademarks	9.4	(9.4)	—	9.4	(9.4)	—
Other	0.9	(0.4)	0.5	0.9	(0.1)	0.8
Total intangible assets subject to amortization	<u>830.8</u>	<u>(519.3)</u>	<u>311.5</u>	<u>795.0</u>	<u>(414.4)</u>	<u>380.6</u>
Intangible assets not subject to amortization:						
In-process research and development	3.9	—	3.9	3.9	—	3.9
Total purchased intangible assets	<u>\$ 834.7</u>	<u>\$ (519.3)</u>	<u>\$ 315.4</u>	<u>\$ 798.9</u>	<u>\$ (414.4)</u>	<u>\$ 384.5</u>

We recognized amortization expense of \$104.9 million, \$126.9 million, and \$117.8 million for the years ended July 31, 2023, 2022, and 2021, respectively.

The following table summarizes estimated future amortization expense of our intangible assets subject to amortization as of July 31, 2023 (in millions):

	Fiscal years ending July 31,						
	Total	2024	2025	2026	2027	2028	2029 and Thereafter
Future amortization expense	\$ 311.5	\$ 97.9	\$ 84.2	\$ 62.4	\$ 35.3	\$ 13.7	\$ 18.0

9. Property and Equipment

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

	July 31,	
	2023	2022
Computers, equipment, and software	\$ 432.9	\$ 404.3
Leasehold improvements	268.9	249.3
Land	87.2	87.2
Demonstration units	46.9	41.6
Furniture and fixtures	46.9	45.1
Total property and equipment, gross	882.8	827.5
Less: accumulated depreciation	(528.3)	(469.7)
Total property and equipment, net	\$ 354.5	\$ 357.8

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.

We recognized depreciation expense of \$95.9 million, \$92.8 million, and \$94.2 million related to property and equipment during the years ended July 31, 2023, 2022, and 2021, 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 were converted prior to or settled on the maturity date of July 1, 2023 in accordance with their terms. The 2025 Notes mature on June 1, 2025. 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 ⁽¹⁾	11.2635	\$ 88.78	April 1, 2023	19.1
2025 Notes	10.0806	\$ 99.20	March 1, 2025	20.1

⁽¹⁾ The 2023 Notes were converted prior to or settled on the maturity date of July 1, 2023.

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.

Holders of the 2023 Notes were able to early convert their 2023 Notes in fiscal 2023 up to April 1, 2023 as the sales price condition had been met. Conversion requests for the 2023 Notes received on or after April 1, 2023 were settled upon maturity of the 2023 Notes. Holders of the 2025 Notes were able to early convert their 2025 Notes in fiscal 2023 as the sales price condition was met. During the year ended July 31, 2023, we repaid in cash \$1.7 billion in aggregate principal amount of the Notes and issued 11.4 million shares of common stock to the holders of the Notes for the conversion value in excess of the principal amount. These shares were fully offset by shares we received from the corresponding exercise of the associated note hedges.

The sale price condition for the 2025 Notes was met during the fiscal quarter ended July 31, 2023, and as a result, holders may convert their 2025 Notes during the fiscal quarter ending October 31, 2023. The net carrying amount of the 2025 Notes was classified as a current liability on our consolidated balance sheet as of July 31, 2023.

The sale price condition for the Notes was met during the fiscal quarter ended July 31, 2022, and as a result, holders could convert their Notes during the fiscal quarter ended 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 following table sets forth the net carrying amount of our Notes (in millions):

	July 31, 2023			July 31, 2022		
	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total
Principal	\$ —	\$ 1,999.3	\$ 1,999.3	\$ 1,691.9	\$ 1,999.4	\$ 3,691.3
Less: debt issuance costs, net of amortization	—	(7.8)	(7.8)	(2.6)	(11.9)	(14.5)
Net carrying amount	\$ —	\$ 1,991.5	\$ 1,991.5	\$ 1,689.3	\$ 1,987.5	\$ 3,676.8

The total estimated fair value of the 2025 Notes was \$5.0 billion at July 31, 2023. 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. 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, 2023 and 2022 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, 2023			Year Ended July 31, 2022			Year Ended July 31, 2021		
	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total	2023 Notes	2025 Notes	Total
Contractual interest expense	\$ 11.6	\$ 7.5	\$ 19.1	\$ 12.7	\$ 7.5	\$ 20.2	\$ 12.7	\$ 7.5	\$ 20.2
Amortization of debt discount ⁽¹⁾	—	—	—	—	—	—	63.5	74.3	137.8
Amortization of debt issuance costs	2.6	4.1	6.7	2.8	4.4	7.2	2.3	2.8	5.1
Total interest expense recognized	\$ 14.2	\$ 11.6	\$ 25.8	\$ 15.5	\$ 11.9	\$ 27.4	\$ 78.5	\$ 84.6	\$ 163.1
Effective interest rate of the liability component	0.9 %	0.6 %		0.9 %	0.6 %		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 ⁽¹⁾	19.1	\$ 332.0
2025 Note Hedges	20.1	\$ 370.8

⁽¹⁾ The 2023 Note Hedges were settled as a result of the conversions of the 2023 Notes prior to or on July 1, 2023.

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.

As a result of the conversions of the 2023 Notes settled during the year ended July 31, 2023, we exercised the corresponding portion of our 2023 Note Hedges and received 11.4 million shares of our common stock during the period. As of July 31, 2023, none of our 2023 Note Hedges were outstanding.

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 over 60 scheduled trading days 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	19.1	\$ 139.27	\$ 145.4
2025 Warrants	20.1	\$ 136.16	\$ 202.8

The shares issuable under the Warrants are 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 “2018 Credit Agreement”) with certain institutional lenders that provides for a \$400.0 million unsecured revolving credit facility (the “2018 Credit Facility”), with an option to increase the amount of the 2018 Credit Facility by up to an additional \$350.0 million, subject to certain conditions. The 2018 Credit Facility expired in April 2023.

On April 13, 2023, we entered into a new credit agreement (the “2023 Credit Agreement”) with certain institutional lenders that provides for a \$400.0 million unsecured revolving credit facility (the “2023 Credit Facility”), with an option to increase the amount by up to an additional \$350.0 million, subject to certain conditions. The 2023 Credit Facility matures on April 13, 2028.

The borrowings under the 2023 Credit Facility bear interest, at our option, at a base rate plus a spread of 0.000% to 0.375%, or an adjusted term Secured Overnight Financing Rate (“SOFR”) plus a spread of 1.000% to 1.375%, 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 0.090% to 0.150%, depending on our leverage ratio. The interest rates and commitment fees are also subject to upward and downward adjustments based on our progress towards the achievement of certain sustainability goals related to greenhouse gas emissions.

As of July 31, 2023, there were no amounts outstanding and we were in compliance with all covenants under the 2023 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, 2033, with the most significant leases relating to our 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.

During the years ended July 31, 2023, 2022, and 2021, our net cost for operating leases was \$91.3 million, \$89.7 million, and \$75.2 million, respectively, primarily consisting of operating lease costs of \$64.2 million, \$67.6 million, and \$59.3 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,		
	2023	2022	2021
Operating cash flows used in payments of operating lease liabilities	\$ 82.7	\$ 81.5	\$ 81.7
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 71.1	\$ 33.0	\$ 48.6
	July 31, 2023		July 31, 2022
Weighted-average remaining lease term	5.7 years		5.5 years
Weighted-average discount rate	4.7 %		4.0 %

The following table presents maturities of operating lease liabilities as of July 31, 2023 (in millions):

	Amount
Fiscal years ending July 31:	
2024	\$ 74.3
2025	73.4
2026	67.8
2027	60.5
2028	59.6
2029 and thereafter	57.2
Total operating lease payments	392.8
Less: imputed interest	(53.4)
Present value of operating lease liabilities	\$ 339.4
Current portion of operating lease liabilities ⁽¹⁾	\$ 60.2
Long-term operating lease liabilities	\$ 279.2

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

As of July 31, 2023, we had additional non-cancelable operating leases for office space that had been signed but had not yet commenced with total future minimum lease payments of \$72.1 million. These leases are expected to commence on or after fiscal 2024, with lease terms ranging from two to twelve 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 as of July 31, 2023 (in millions):

	Fiscal years ending July 31,						
	Total	2024	2025	2026	2027	2028	2029 and Thereafter
Manufacturing purchase commitments	\$ 157.4	\$ 82.4	\$ 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, 2023 (in millions):

	Fiscal years ending July 31,						
	Total	2024	2025	2026	2027	2028	2029 and Thereafter
Other purchase commitments	\$ 1,519.2	\$ 94.0	\$ 420.6	\$ 519.4	\$ 483.8	\$ 0.6	\$ 0.8

Additionally, we have a \$155.6 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 on our consolidated statements of operations over the estimated period of benefit of seven years.

Litigation

We are subject to legal proceedings, claims, tax matters, and litigation arising in the ordinary course of business, including, for instance, intellectual property and patent litigation. We accrue for contingencies when we believe that a loss is probable and that we can reasonably estimate the amount of any such loss. As of July 31, 2023, we have not recorded any significant accruals for loss contingencies associated with such matters.

Legal matters could include speculative, substantial or indeterminate monetary amounts. Significant judgment is required to determine both the likelihood of there being a loss and the estimated amount of a loss related to such matters, and we may be unable to estimate the reasonably possible loss or range of loss. The outcomes of outstanding legal matters are inherently unpredictable, and could, either individually or in aggregate, have a material adverse effect on us and our results of operations. To the extent there is a reasonable possibility that a loss exceeding amounts already recognized may be incurred, we will either disclose the estimated additional loss or state that such an estimate cannot be made.

The following matters arose in the ordinary course of business.

Centripetal Networks, Inc. v. Palo Alto Networks

On March 12, 2021, Centripetal Networks, Inc., filed a lawsuit against us in the United States District Court for the Eastern District of Virginia. The lawsuit alleges that our products infringe multiple Centripetal patents. We successfully challenged certain of these patents, which were found unpatentable by the U.S. Patent and Trademark Office. The complaint requests injunctive relief, monetary damages, and attorneys fees. In addition, Centripetal filed infringement contentions on certain of their patents in the European Patent Office in Germany, to which we filed invalidity challenges. Those matters are still pending. The court has set a trial date of January 22, 2024 on the remaining patents. We are unable, at this time, to reasonably estimate a possible loss or potential range of loss, if any.

Finjan, Inc. v. Palo Alto Networks

On November 4, 2014, Finjan, Inc., filed a lawsuit against us in the United States District Court for the Northern District of California. The lawsuit alleges that our products infringe multiple Finjan patents. The complaint requests injunctive relief, monetary damages, and attorneys fees. The court has set a trial date of April 8, 2024. We are unable, at this time, to reasonably estimate a possible loss or potential range of loss, if any.

Taasera v. Palo Alto Networks

On March 22, 2022, we filed a declaratory judgment action in the United States District Court for the Southern District of New York ("S.D.N.Y.") seeking a ruling that we are not infringing various Taasera patents. Taasera challenged jurisdiction in S.D.N.Y, which issue is currently on appeal with the Federal Circuit. Pursuant to an order of the Judicial Panel on Multidistrict Litigation, this matter has been consolidated in the United States District Court for the Eastern District of Texas with several other patent infringement matters brought by Taasera. The court has set April 1, 2024 as the date for the start of consecutive trials of these consolidated matters. The complaint requests injunctive relief, monetary damages, and attorneys fees. We are unable, at this time, to reasonably estimate a possible loss or potential range of loss, if any.

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, August 2021, and August 2022, our board of directors authorized additional \$700.0 million, \$676.1 million, and \$915.0 million increases to this share repurchase program, respectively, bringing the total authorization under this share repurchase program to \$3.3 billion (our "current authorization"). The expiration date of our current authorization was extended to December 31, 2023, 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,		
	2023	2022	2021
Number of shares repurchased	1.8	5.4	12.0
Weighted-average price per share ⁽¹⁾	\$ 138.65	\$ 170.83	\$ 98.29
Aggregate purchase price ⁽¹⁾	\$ 250.0	\$ 915.0	\$ 1,178.1

⁽¹⁾ Includes transaction costs

As of July 31, 2023, \$750.0 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.

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 PSUs generally vest over a period of one to four years from the date of grant. The number of PSUs eligible to vest is determined based on the level of achievement against certain performance conditions, market conditions, and a combination thereof.

During the year ended July 31, 2023, we granted 0.9 million shares of PSUs with both service and market conditions. The market conditions are satisfied when the price of our common stock is equal to or exceeds stock price targets of \$233.33, \$266.67, \$300.00, and \$333.33 based on the average closing price for 30 consecutive trading days during the three- or four-year period following the date of grant. To the extent the market conditions have been met, one-fourth of the awards will vest on each anniversary date of the grant date, subject to continued service. During the year ended July 31, 2023, the first stock price target for these PSU awards was met, and the related shares will vest when the underlying service conditions are satisfied.

During the year ended July 31, 2023, we granted 0.8 million shares of PSUs, which contain service and market conditions. The service conditions are satisfied after a period of five years. The market condition is measured based on our TSR relative to the TSR of the companies listed in the Standard & Poor's 500 index.

During the years ended July 31, 2023 and 2022, we granted 1.6 million and 0.6 million shares of PSUs, respectively, which contain service, performance and market conditions. The service conditions are satisfied after a period of one to three years. The performance conditions are based on revenue growth or billing growth. The market condition is measured based on our total shareholder return ("TSR") relative to the TSR of the companies listed in the Standard & Poor's 500 index. As of July 31, 2023, we have approved 2.3 million shares of PSUs, which will be granted upon the performance condition being established during the next two years.

We have also granted PSOs with both service and market conditions. The market condition for PSOs granted in the fiscal years 2018 and 2019 requires the price of our common stock to equal or exceed \$99.25, \$132.33, \$165.42, and \$198.50 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 \$132.33, \$165.42, \$198.50 and \$233.33 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 conditions are met, one-fourth of the PSOs vest on each anniversary date of the grant date for such PSOs, subject to continued service. 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, 2023, all of our outstanding PSOs have been fully vested.

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 on our consolidated statements of cash flows.

A total of 35.6 million shares of our common stock are reserved for issuance pursuant to our equity incentive plans as of July 31, 2023.

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 1,875 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, 2023, 2022 and 2021 were 1.2 million, 2.1 million and 1.9 million, at an average exercise price of \$138.30 per share, \$64.27 per share, and \$53.69 per share, respectively.

A total of 16.4 million shares of our common stock are available for sale under our 2012 ESPP as of July 31, 2023. On the first day of each fiscal year, the number of shares in the reserve may be increased by the lesser of (i) 6,000,000 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, 2023, 2022, and 2021 (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, 2020	0.4	\$ 6.53	1.5	\$ 34.2	8.3	\$ 64.71	5.2	\$ 170.9
Granted	—	\$ —			0.5	\$ 101.43		
Exercised	(0.2)	\$ 4.27			—	\$ —		
Forfeited	0.0	\$ 2.61			(0.5)	\$ 101.43		
Balance—July 31, 2021	0.2	\$ 8.74	0.8	\$ 27.4	8.3	\$ 64.71	4.2	\$ 566.8
Exercised	(0.2)	\$ 6.24			—	\$ —		
Forfeited	—	\$ —			(0.3)	\$ 61.41		
Balance—July 31, 2022	0.0	\$ 18.45	0.5	\$ 6.7	8.0	\$ 64.85	3.2	\$ 809.3
Exercised	0.0	\$ 18.45			(1.6)	\$ 63.39		
Balance—July 31, 2023	—	\$ —	0.0	\$ —	6.4	\$ 65.20	2.2	\$ 1,184.6
Exercisable—July 31, 2023	—	\$ —	0.0	\$ —	6.4	\$ 65.20	2.2	\$ 1,184.6

The intrinsic value of options exercised during the years ended July 31, 2023, 2022, and 2021 was \$237.7 million, \$29.2 million, and \$22.2 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, 2023, 2022, and 2021 (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, 2020	19.8	\$ 67.75	\$ 1,688.1	1.7	\$ 77.14	\$ 147.2
Granted ⁽¹⁾⁽²⁾	12.3	\$ 99.30		2.5	\$ 107.15	
Vested ⁽³⁾	(8.8)	\$ 66.97		(0.2)	\$ 65.20	
Forfeited	(2.6)	\$ 75.60		(0.2)	\$ 78.65	
Balance—July 31, 2021	20.7	\$ 85.85	\$ 2,760.2	3.8	\$ 97.64	\$ 498.4
Granted ⁽¹⁾	5.9	\$ 164.85		0.8	\$ 117.05	
Vested ⁽³⁾	(9.0)	\$ 85.69		(1.1)	\$ 83.47	
Forfeited	(2.8)	\$ 95.50		(0.4)	\$ 107.31	
Balance—July 31, 2022	14.8	\$ 115.51	\$ 2,456.9	3.1	\$ 106.38	\$ 513.7
Granted ⁽¹⁾	5.8	\$ 169.04		3.6	\$ 142.88	
Vested ⁽³⁾	(7.0)	\$ 110.93		(1.3)	\$ 112.72	
Forfeited	(1.5)	\$ 128.05		(0.4)	\$ 136.95	
Balance—July 31, 2023	12.1	\$ 142.61	\$ 3,013.0	5.0	\$ 128.64	\$ 1,242.3

⁽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 1.2 million RSUs assumed in connection with the acquisitions of Crypsis, Sinefa, Expanse and Bridgecrew, with weighted-average grant-date fair values of \$80.48, \$99.06, \$105.82 and \$118.22, respectively, for the year ended July 31, 2021.

⁽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, 2023, 2022, and 2021 was \$1.3 billion, \$1.6 billion, and \$986.4 million, respectively. The aggregate fair value, as of the respective vesting dates, of PSUs vested during the years ended July 31, 2023, 2022, and 2021 was \$218.9 million, \$184.0 million, and \$20.8 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, 2023 (in millions):

	Number of shares
Balance—July 31, 2022	13.9
Authorized	6.0
RSUs and PSUs granted	(9.4)
RSUs and PSUs forfeited	1.8
Shares withheld for taxes	0.1
Balance—July 31, 2023	12.4

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 market conditions is estimated on the grant date using a Monte Carlo simulation model. No such PSUs were granted during the year ended July 31, 2021. The following table summarizes the assumptions used and the resulting grant-date fair value of our PSUs subject to market conditions granted during the years ended July 31, 2023 and 2022:

	Year Ended July 31,	
	2023	2022
Volatility	38.3% - 44.8%	36.0% - 41.1%
Expected term (in years)	1.0 - 5.0	1.4 - 3.0
Dividend yield	— %	— %
Risk-free interest rate	3.2% - 4.1%	0.2% - 2.0%
Grant-date fair value per share	\$91.77 - \$280.41	\$137.16 - \$260.71

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 PSOs midway between the vesting term and the contractual term. No PSOs were granted during the years ended July 31, 2023 and 2022. 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	\$27.37

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,		
	2023	2022	2021
Volatility	38.6% - 44.7%	33.6% - 39.4%	34.9% - 42.6%
Expected term (in years)	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Dividend yield	— %	— %	— %
Risk-free interest rate	3.3% - 5.2%	0.1% - 1.4%	0.1%
Grant-date fair value per share	\$48.78 - \$74.06	\$37.59 - \$74.10	\$23.16 - \$43.02

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,		
	2023	2022	2021
Cost of product revenue	\$ 9.8	\$ 9.3	\$ 6.2
Cost of subscription and support revenue	123.4	110.2	93.0
Research and development	488.4	471.1	428.9
Sales and marketing	335.3	304.7	269.9
General and administrative	130.4	118.1	128.9
Total share-based compensation	\$ 1,087.3	\$ 1,013.4	\$ 926.9

As of July 31, 2023, total compensation cost related to unvested share-based awards not yet recognized was \$2.0 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,		
	2023	2022	2021
United States	\$ 374.3	\$ (152.3)	\$ (482.2)
Foreign	192.0	(54.9)	17.2
Total	\$ 566.3	\$ (207.2)	\$ (465.0)

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

	Year Ended July 31,		
	2023	2022	2021
Federal:			
Current	\$ 26.1	\$ 2.6	\$ 3.3
Deferred	19.3	(0.3)	(5.9)
State:			
Current	44.0	1.5	1.7
Deferred	0.4	0.1	0.1
Foreign:			
Current	44.0	58.8	41.3
Deferred	(7.2)	(2.9)	(6.6)
Total	\$ 126.6	\$ 59.8	\$ 33.9

For the year ended July 31, 2023, our provision for income taxes increased compared to the year ended July 31, 2022, primarily due to our profitability in fiscal 2023 and an increase in U.S. taxes driven by capitalization of research and development expenditure with no offsetting deferred benefit due to our valuation allowance.

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.

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,		
	2023	2022	2021
Federal statutory rate	21.0 %	21.0 %	21.0 %
Effect of:			
State taxes, net of federal tax benefit	2.8	2.7	1.3
Effects of non-U.S. operations	9.7	(16.5)	(3.1)
Change in valuation allowance	15.5	(158.7)	(40.7)
Share-based compensation	(12.6)	83.6	5.0
Tax credits	(15.6)	41.5	9.9
Non-deductible expenses	2.3	(2.5)	(1.3)
Other, net	(0.7)	—	0.6
Total	<u>22.4 %</u>	<u>(28.9)%</u>	<u>(7.3)%</u>

The following table presents the components of our deferred tax assets and liabilities as of July 31, 2023 and 2022 (in millions):

	July 31,	
	2023	2022
Deferred tax assets:		
Accruals and reserves	\$ 88.5	\$ 141.1
Operating lease liabilities	94.1	86.0
Deferred revenue	708.1	475.5
Net operating loss carryforwards	551.0	759.1
Tax credits	338.9	317.4
Capitalized research expenditures	354.8	—
Share-based compensation	66.0	59.2
Fixed assets and intangible assets	1,698.3	1,803.6
Interest carryforward	—	55.8
Gross deferred tax assets	<u>3,899.7</u>	<u>3,697.7</u>
Valuation allowance	(3,586.7)	(3,414.1)
Total deferred tax assets	<u>313.0</u>	<u>283.6</u>
Deferred tax liabilities:		
Operating lease right-of-use assets	(73.5)	(61.0)
Deferred contract costs	(186.7)	(183.6)
Other deferred tax liabilities	(58.2)	(27.8)
Total deferred tax liabilities	<u>(318.4)</u>	<u>(272.4)</u>
Net deferred tax assets (liabilities)	<u>\$ (5.4)</u>	<u>\$ 11.2</u>

A valuation allowance is provided when it is more likely than not that the deferred tax asset will not be realized. We regularly evaluate the need for a valuation allowance. We evaluate and weigh all available positive and negative evidence such as historic results, future reversals of existing deferred tax liabilities, projected future taxable income, as well as prudent and feasible tax-planning strategies. The assessment requires significant judgment and is performed in each of the applicable jurisdictions. Due to recent profitability, a reversal of our valuation allowance in certain jurisdictions in the foreseeable future is reasonably possible. As of July 31, 2023, 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 \$172.6 million from the year ended July 31, 2022 to the year ended July 31, 2023, primarily due to capitalization of research and development expenditures and deferred revenue, partially offset by net operating losses and intangible assets.

As of July 31, 2023, we had federal, state, and foreign net operating loss carryforwards of approximately \$66.2 million, \$447.8 million, and \$2.0 billion, respectively, as reported on our tax returns, available to reduce future taxable income, if any. If not utilized, our federal and state net operating loss carryforwards will expire in various amounts at various dates beginning in the years ending July 31, 2034 and July 31, 2026, respectively. Our foreign net operating loss will carry forward indefinitely.

As of July 31, 2023, we had federal and state research and development tax credit carryforwards of approximately \$323.9 million and \$249.3 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, 2028. The state credit carryforwards have no expiration.

As of July 31, 2023, we had foreign tax credit carryforwards of \$10.6 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, 2024.

Utilization of the net operating loss 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 net operating losses and credits before utilization.

As of July 31, 2023, we had \$360.0 million of unrecognized tax benefits, \$70.4 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, 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. We do not expect the amount of unrecognized tax benefits as of July 31, 2023 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 net operating loss 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 year ended July 31, 2023, we recognized a net income tax benefit related to interest and penalties of \$4.8 million. During the years ended July 31, 2022 and 2021, we recognized income tax expense related to interest and penalties of \$5.2 million and \$3.5 million, respectively. We had accrued interest and penalties on our consolidated balance sheets related to unrecognized tax benefits of \$5.1 million and \$20.9 million as of July 31, 2023 and 2022, 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,		
	2023	2022	2021
Unrecognized tax benefits at the beginning of the period	\$ 414.0	\$ 372.9	\$ 326.4
Additions for tax positions taken in prior years	7.8	3.5	26.5
Reductions for tax positions taken in prior years	(99.8)	(7.4)	(2.5)
Additions for tax positions taken in the current year	66.9	45.0	22.5
Reduction relating to audit settlement	(28.9)	—	—
Unrecognized tax benefits at the end of the period	<u>\$ 360.0</u>	<u>\$ 414.0</u>	<u>\$ 372.9</u>

During the year ended July 31, 2023, our reductions in uncertain tax positions primarily related to settlements with non-U.S. tax authorities and remeasurement of certain unrecognized tax benefits. As a result of our settlement agreements with non-U.S. tax authorities, we paid a total of \$39.8 million, including interest and penalties.

Our additions for tax positions taken in the years ended July 31, 2023, 2022 and 2021 were primarily attributable to uncertain tax positions related to tax credits.

As of July 31, 2023, 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 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 Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing net income (loss) by basic weighted-average shares outstanding during the period. Diluted net income (loss) per share is computed by dividing net income (loss) by diluted weighted-average shares outstanding during the period giving effect to all potentially dilutive securities to the extent they are dilutive. Potentially dilutive securities include shares issuable upon conversion of our convertible senior notes using the if-converted method, warrants related to the issuance of convertible senior notes, and equity awards under our employee equity incentive plans using the treasury stock method.

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

	Year Ended July 31,		
	2023	2022	2021
Net income (loss)	\$ 439.7	\$ (267.0)	\$ (498.9)
Weighted-average shares used to compute net income (loss) per share, basic	303.2	295.6	289.1
Weighted-average effect of potentially dilutive securities:			
Convertible senior notes	17.9	—	—
Warrants related to the issuance of convertible senior notes	9.3	—	—
Employee equity incentive plans	11.9	—	—
Weighted-average shares used to compute net income (loss) per share, diluted	<u>342.3</u>	<u>295.6</u>	<u>289.1</u>
Net income (loss) per share, basic	<u>\$ 1.45</u>	<u>\$ (0.90)</u>	<u>\$ (1.73)</u>
Net income (loss) per share, diluted	<u>\$ 1.28</u>	<u>\$ (0.90)</u>	<u>\$ (1.73)</u>

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

	Year Ended July 31,		
	2023	2022	2021
Convertible senior notes	—	39.2	39.2
Warrants related to the issuance of convertible senior notes	—	39.2	39.2
Employee equity incentive plans	3.9	26.8	34.9
Total	<u>3.9</u>	<u>105.2</u>	<u>113.3</u>

17. Other Income, Net

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

	Year Ended July 31,		
	2023	2022	2021
Interest income	\$ 224.4	\$ 15.6	\$ 8.5
Foreign currency exchange gains (losses), net	(7.9)	1.8	(5.4)
Other, net	(10.3)	(8.4)	(0.7)
Total other income, net	<u>\$ 206.2</u>	<u>\$ 9.0</u>	<u>\$ 2.4</u>

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,	
	2023	2022
Long-lived assets:		
United States	\$ 400.4	\$ 446.1
Israel	76.8	55.4
Other countries	140.6	98.3
Total long-lived assets	<u>\$ 617.8</u>	<u>\$ 599.8</u>

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, 2023, 2022, and 2021.

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, 2023, 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, 2023, 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, 2023, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of July 31, 2023 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, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Trading Plans of Directors and Executive Officers

Set forth below is certain information regarding Rule 10b5-1 trading plans adopted by our directors and officers (as defined in Rule 16a-1(f)) during the fourth quarter of fiscal 2023. The Rule 10b5-1 trading plans listed below are each intended to satisfy the affirmative defense of Rule 10b5-1(c).

Name	Title	Date Plan Was Adopted	Expiration Date	Total Amount of Common Stock to be Sold Under the Plan
Nikesh Arora	Chairman and Chief Executive Officer	June 8, 2023	August 30, 2024 or when all shares have been sold	2,000,000
William "BJ" Jenkins, Jr.	President	May 26, 2023	June 29, 2024 or when all shares have been sold	13,000

No other officers or directors, as defined in Rule 16a-1(f), adopted, modified and/or terminated a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement," as defined in Regulation S-K Item 408, during the fourth quarter of fiscal 2023.

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 2023 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, 2023 and is incorporated herein 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 June 8, 2020.	8-K	001-35594	4.1	June 8, 2020
4.2	Form of Global 0.375% Convertible Senior Note due 2025 (included in Exhibit 4.1).	8-K	001-35594	4.2	June 8, 2020
4.3	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	333-268930	99.1	December 21, 2022
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-K	001-35594	10.7	September 6, 2022
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

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.9*	Aporeto, Inc. Amended and Restated 2015 Stock Option and Grant Plan.	S-8	333-235854	99.1	January 8, 2020
10.10*	CloudGenix Inc. 2013 Equity Incentive Plan.	S-8	333-238014	99.1	May 5, 2020
10.11*	Crypsis Group Holdings, LLC 2017 Equity Incentive Plan.	S-8	333-249387	99.1	October 8, 2020
10.12*	Sinefa Group, Inc. 2020 Stock Plan.	S-8	333-251423	99.1	December 17, 2020
10.13*	Expanse Holding Company, Inc. Amended and Restated 2012 Stock Incentive Plan	S-8	333-251425	99.1	December 17, 2020
10.14*	Gamma Networks, Inc. 2018 Stock Option and Grant Plan.	S-8	333-259327	99.1	September 3, 2021
10.15*	Bridgecrew, Inc. 2019 Stock Incentive Plan.	S-8	333-254042	99.1	March 9, 2021
10.16*	Cider Security Ltd. 2020 Equity Incentive Plan.	S-8	333-268931	99.1	December 21, 2022
10.17*	US Sub-Plan to Cider Security Ltd. 2020 Equity Incentive Plan.	S-8	333-268931	99.2	December 21, 2022
10.18*	Employee Incentive Compensation Plan, as amended and restated.	10-Q	001-35594	10.2	November 25, 2014
10.19*	Clawback Policy, adopted as of August 29, 2017.	10-Q	001-35594	10.3	November 21, 2017
10.20*	Amended and Restated Outside Director Compensation Policy (last amended February 16, 2022).	10-Q	001-35594	10.4	February 23, 2022
10.21*	Continued Service Policy.	10-Q	001-35594	10.3	May 20, 2022
10.22*	Palo Alto Networks, Inc. Deferred Compensation Plan effective June 1, 2022	10-K	001-35594	10.23	September 6, 2022
10.23*	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
10.24*	Offer Letter between the Registrant and Nikesh Arora, dated May 30, 2018.	8-K	001-35594	10.2	June 4, 2018
10.25*	Offer Letter between the Registrant and Josh Paul, dated August 5, 2021.	8-K	001-35594	10.1	September 8, 2021
10.26*	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
10.27*	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
10.28*	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
10.29*	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

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.30*	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
10.31*	Form of Offer Letter between the Registrant and its directors.	10-K	001-35594	10.27	September 3, 2021
10.32**	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
10.33	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
10.34	Form of Convertible Note Hedge Confirmation.	8-K	001-35594	10.2	June 8, 2020
10.35	Form of Warrant Confirmation.	8-K	001-35594	10.3	June 8, 2020
10.36	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
10.37	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
10.38	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
10.39	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
10.40	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
10.41	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
10.42	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
10.43	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
10.44	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
10.45	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
10.46	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
10.47	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

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.48	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
10.49	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
10.50	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
10.51	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
10.52	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
10.53	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
10.54	Credit Agreement, dated as of April 13, 2023 among the Registrant, the lenders party thereto and Wells Fargo, National Association, as administrative agent.	8-K	001-35594	10.1	April 19, 2023
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.				
101.DEF	XBRL Taxonomy Definition Linkbase Document.				
101.LAB	XBRL Taxonomy Labels Linkbase Document.				
101.PRE	XBRL Taxonomy Presentation Linkbase Document.				

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
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.

Item 16. Form 10-K Summary

Not applicable.

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 1, 2023.

**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:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ NIKESH ARORA</u> Nikesh Arora	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	September 1, 2023
<u>/s/ DIPAK GOLECHHA</u> Dipak Golechha	Chief Financial Officer (Duly Authorized Officer and Principal Financial Officer)	September 1, 2023
<u>/s/ JOSH PAUL</u> Josh Paul	Chief Accounting Officer (Duly Authorized Officer and Principal Accounting Officer)	September 1, 2023
<u>/s/ NIR ZUK</u> Nir Zuk	Chief Technology Officer and Director	September 1, 2023
<u>/s/ APARNA BAWA</u> Aparna Bawa	Director	September 1, 2023
<u>/s/ JOHN M. DONOVAN</u> John M. Donovan	Director	September 1, 2023
<u>/s/ CARL ESCHENBACH</u> Carl Eschenbach	Director	September 1, 2023
<u>/s/ DR. HELENE D. GAYLE</u> Dr. Helene D. Gayle	Director	September 1, 2023
<u>/s/ JAMES J. GOETZ</u> James J. Goetz	Director	September 1, 2023
<u>/s/ RT HON SIR JOHN KEY</u> Rt Hon Sir John Key	Director	September 1, 2023
<u>/s/ MARY PAT MCCARTHY</u> Mary Pat McCarthy	Director	September 1, 2023
<u>/s/ LORRAINE TWOHILL</u> Lorraine Twohill	Director	September 1, 2023

DESCRIPTION OF REGISTRANT'S SECURITIES

The following is a summary of information concerning the capital stock of Palo Alto Networks, Inc. (the "Company," "we," "us" or "our") and certain provisions of our restated certificate of incorporation ("COI") and amended and restated bylaws ("Bylaws") as they are currently in effect. This summary does not purport to be complete and does not contain all the information that may be important to you. This summary is qualified in its entirety by the provisions of our COI and Bylaws, each previously filed with the Securities and Exchange Commission and incorporated by reference as an exhibit to the Annual Report on Form 10-K, of which this Exhibit 4.5 is a part, as well as the applicable provisions of the Delaware General Corporate Law (the "DGCL"). We encourage you to read our COI, Bylaws, and to the applicable provisions of the DGCL carefully.

General

Our authorized capital stock consists of 1,100,000,000 shares, with a par value of \$0.0001 per share, of which 1,000,000,000 shares are designated as common stock and 100,000,000 shares are designated as preferred stock.

Common stock

The holders of our common stock are entitled to one vote per share in any election of directors and on all matters submitted to a vote of our stockholders and do not have cumulative voting rights. Accordingly, holders of a majority of the shares of our common stock entitled to vote in any election of directors may elect all of the directors standing for election. Subject to preferences that may be applicable to any preferred stock outstanding at the time, the holders of outstanding shares of common stock are entitled to receive ratably any dividends declared by our board of directors out of assets legally available. Upon our liquidation, dissolution, or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any then outstanding shares of preferred stock. Holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred stock

Our board of directors is authorized, without further action by our stockholders except as required by the listing standards of the Nasdaq Global Select Market ("Nasdaq"), to issue from time to time up to an aggregate of 100,000,000 shares of preferred stock in one or more series and to designate the rights, preferences, privileges, and restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, redemption rights, liquidation preference, sinking fund terms, and the number of shares constituting any series or the designation of any series, any or all of which may be greater than the rights of common stock.

Anti-takeover effects of the COI, Bylaws and Delaware law

Our COI and Bylaws contain certain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of the Company. These provisions and certain provisions of Delaware law, which are summarized below, could discourage takeovers, coercive or otherwise. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe

that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Undesignated preferred stock. As discussed above, our board of directors has the ability to designate and issue preferred stock with voting or other rights or preferences that could deter hostile takeovers or delay changes in our control or management.

Limits on the ability of stockholders to act by written consent or call a special meeting. Our COI provides that our stockholders may not act by written consent, which may lengthen the amount of time required to take stockholder actions. As a result, the holders of a majority of our capital stock would not be able to amend our COI or Bylaws or remove directors without holding a meeting of stockholders called in accordance with our Bylaws.

In addition, our COI and Bylaws provide that special meetings of the stockholders may be called only by chairman of our board of directors, the chief executive officer, the president (in the absence of a chief executive officer), or our board of directors. A stockholder may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors. Our board of directors may, at any time prior to the holding of a meeting of stockholders and for any reasonable reason, postpone or cancel such meeting.

Requirements for advance notification of stockholder nominations and proposals. Our COI and Bylaws contain advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of the board of directors. Under our Bylaws, eligible stockholders may nominate persons for our board of directors for inclusion in our proxy statement. To be eligible, a single stockholder, or group of up to 20 stockholders, must own 3% of our outstanding stock continuously from at least three years prior to such nomination through the date of our relevant annual meeting. The individual stockholder, or group of stockholders, may submit that number of director nominations not exceeding the greater of (a) two or (b) 20% of the number of directors in office. Any such nomination must comply with the requirements set forth in our Bylaws. These advance notice procedures may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed and may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempt to obtain control of our company.

Board classification. Our board of directors is divided into three classes. The directors in each class serve for a three-year term, one class being elected each year by our stockholders. This system of electing and removing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Election and removal of directors. Our COI and Bylaws contain provisions that establish specific procedures for appointing and removing members of our board of directors. Under our COI and Bylaws, vacancies and newly created directorships on our board of directors may be filled only by a majority of the directors then serving on the board of directors. Under our COI and Bylaws, directors may be removed only for cause by the affirmative vote of the holders of a majority of the shares then entitled to vote at an election of directors.

No cumulative voting. The Delaware General Corporation Law provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless the certificate of incorporation provides otherwise. Our COI and Bylaws do not expressly provide for cumulative voting. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board of directors' decision regarding a takeover.

Delaware anti-takeover statute. We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is ComputerShare Trust Company, N.A. The transfer agent's address is P.O. Box 43006, Providence, Rhode Island 02940-3006, and its telephone number is (781) 575-2000.

Exchange Listing

Our common stock is listed on Nasdaq under the symbol “PANW.”

**LIST OF SUBSIDIARIES
OF
PALO ALTO NETWORKS, INC.**

Name of Subsidiary	Jurisdiction of Incorporation
Palo Alto Networks (Australia) Pty Ltd	Australia
Sinefa Pty. Ltd.	Australia
Palo Alto Networks (Austria) GmbH	Austria
Palo Alto Networks Belgium B.V.B.A.	Belgium
Palo Alto Networks (Brasil) Ltda.	Brazil
Palo Alto Networks (Canada Technology), Inc.	Canada
Palo Alto Networks (Canada) Inc.	Canada
Palo Alto Networks (Shanghai) Co., Ltd.	China
PA Networks Costa Rica LLC SRL	Costa Rica
Palo Alto Networks (Czech) S.R.O.	Czechia
Palo Alto Networks Denmark ApS	Denmark
Palo Alto Networks (Finland) Oy	Finland
Palo Alto Networks (Germany) GmbH	Germany
Palo Alto Networks (Hungary) Kft	Hungary
Palo Alto Networks (India) Private Limited	India
Palo Alto Networks (India) Technologies Private Limited	India
Palo Alto Security Limited	Ireland
Crusoe Security Limited	Israel
Palo Alto Networks (Israel Analytics) Ltd.	Israel
Palo Alto Networks (Israel Services) Ltd.	Israel
Palo Alto Networks (Israel) Ltd.	Israel
Twistlock Ltd.	Israel
Cider Security Ltd.	Israel
Palo Alto Networks (Italy) S.R.L	Italy
Palo Alto Networks K.K. (Kabushiki Kaisha)	Japan
Palo Alto Networks (Mexico) S. de R.L. de C.V.	Mexico
Palo Alto Networks (New Zealand) Unlimited	New Zealand
Palo Alto Networks (Norway) AS	Norway
Palo Alto Networks (Poland) sp. z o.o.	Poland
PANW (Portugal) Unipessoal, LDA	Portugal
Palo Alto Networks (QFC) LLC	Qatar
Palo Alto Networks Korea, Ltd. - Yuhan Hoesa (YH)	S. Korea
Palo Alto Networks Saudi Arabia LLC	Saudi Arabia
Palo Alto Networks (Singapore) Holding Company Pte. Ltd.	Singapore
Palo Alto Networks (Singapore) PTE. LTD.	Singapore
Palo Alto Networks (South Africa) (Pty) Ltd.	South Africa
Palo Alto Networks (Iberia), S.L.	Spain
Palo Alto Networks (Switzerland) GmbH	Switzerland
Palo Alto Networks (EU) B.V.	The Netherlands
Palo Alto Networks (GEO) B.V.	The Netherlands
Palo Alto Networks (Netherlands) B.V.	The Netherlands
Palo Alto Networks Holdings B.V.	The Netherlands
Palo Alto Networks FZ LLC	United Arab Emirates
Palo Alto Networks FS International Limited	United Kingdom
Palo Alto Networks (UK Holding 1) Limited	United Kingdom
Palo Alto Networks (UK Holding 2) Limited	United Kingdom
Palo Alto Networks (UK) Limited	United Kingdom
3375 Scott Blvd LLC	Delaware
Aporeto LLC	Delaware
Evident.io LLC	Delaware
LightCyber, Inc.	Delaware
Palo Alto Networks (Malaysia), LLC	Delaware
Palo Alto Networks Financial Services, LLC	Delaware

Palo Alto Networks International, Inc.	Delaware
Palo Alto Networks Management, LLC	Delaware
Palo Alto Networks Public Sector, LLC	Delaware
Palo Alto Networks Venture Fund, LLC	Delaware
PAN Demisto LLC	Delaware
PAN II LLC	Delaware
PAN LLC	Delaware
PureSec, Inc.	Delaware
RedLock, LLC	Delaware
SecDo, Inc.	Delaware
Twistlock, Inc.	Delaware
Zingbox, Inc.	Delaware
CloudGenix, Inc.	Delaware
BridgeCrew LLC	Delaware
Sinefa Inc.	Delaware
Sinefa Group, LLC	Delaware
Expanse LLC	Delaware
Expanse Holding Company LLC	Delaware
Crypsis Digital Security, LLC	Virginia
Crypsis Group Holdings, LLC	Virginia
3408 Garrett Drive LLC	Delaware
Zycada Networks, Inc.	Delaware
Cider Security, Inc.	Delaware

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-3 No. 333-259332) of Palo Alto Networks, Inc.,
- (2) Registration Statement (Form S-8 No. 333-182762) pertaining to the 2005 Equity Incentive Plan, 2012 Equity Incentive Plan and the 2012 Employee Stock Purchase Plan of Palo Alto Networks, Inc.,
- (3) Registration Statements (Form S-8 No. 333-191340, 333-198859, 333-207003, 333-213547, 333-220383, 333-227322, 333-233689, 333-248626 and 333-259322) pertaining to the 2012 Equity Incentive Plan and the 2012 Employee Stock Purchase Plan of Palo Alto Networks, Inc.,
- (4) Registration Statement (Form S-8 No. 333-227901) pertaining to the RedLock Inc. 2015 Stock Plan,
- (5) Registration Statement (Form S-8 No. 333-230663) pertaining to the Demisto, Inc. 2015 Stock Option Plan,
- (6) Registration Statement (Form S-8 No. 333-232672) pertaining to the Twistlock Ltd. Amended and Restated 2015 Share Option Plan,
- (7) Registration Statement (Form S-8 No. 333-234059) pertaining to the Zingbox, Inc. Stock Incentive Plan,
- (8) Registration Statement (Form S-8 No. 333-235854) pertaining to the Aporeto, Inc. Amended and Restated 2015 Stock Option and Grant Plan,
- (9) Registration Statement (Form S-8 No. 333-238014) pertaining to the CloudGenix Inc. 2013 Equity Incentive Plan;
- (10) Registration Statement (Form S-8 No. 333-249387) pertaining to the Crypsis Group Holdings, LLC 2017 Equity Incentive Plan,
- (11) Registration Statement (Form S-8 No. 333-251423) pertaining to the Sinefa Group, Inc. 2020 Stock Plan,
- (12) Registration Statement (Form S-8 No. 333-251425) pertaining to the Expanse Holding Company, Inc. Amended and restated 2012 Stock Incentive Plan,
- (13) Registration Statement (Form S-8 No. 333-254042) pertaining to the Bridgecrew, Inc. 2019 Stock Incentive Plan,
- (14) Registration Statement (Form S-8 No. 333-259327) pertaining to the Gamma Networks, Inc. 2018 Stock Option and Grant Plan,
- (15) Registration Statement (Form S-8 No. 333-261697) pertaining to the 2021 Equity Incentive Plan,
- (16) Registration Statement (Form S-8 No. 333-267296) pertaining to the 2012 Employee Stock Purchase Plan,
- (17) Registration Statement (Form S-8 No. 333-268930) pertaining to the 2021 Equity Incentive Plan, and
- (18) Registration Statement (Form S-8 No. 333-268931) pertaining to the Cider Security Ltd. 2020 Equity Incentive Plan;

of our reports dated September 1, 2023, with respect to the consolidated financial statements of Palo Alto Networks, Inc. and the effectiveness of internal control over financial reporting of Palo Alto Networks, Inc. included in this Annual Report (Form 10-K) of Palo Alto Networks, Inc. for the year ended July 31, 2023.

/s/ Ernst & Young LLP

San Jose, California
September 1, 2023

**CERTIFICATION PURSUANT TO SECTION 302(a)
OF THE SARBANES-OXLEY ACT OF 2002**

I, Nikesh Arora, certify that:

1. I have reviewed this Annual Report on Form 10-K of Palo Alto Networks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ NIKESH ARORA

Nikesh Arora

Chief Executive Officer and Director

Date: September 1, 2023

**CERTIFICATION PURSUANT TO SECTION 302(a)
OF THE SARBANES-OXLEY ACT OF 2002**

I, Dipak Golechha, certify that:

1. I have reviewed this Annual Report on Form 10-K of Palo Alto Networks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ DIPAK GOLECHHA

Dipak Golechha
Chief Financial Officer

Date: September 1, 2023

**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**

I, Nikesh Arora, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report on Form 10-K of Palo Alto Networks, Inc. for the fiscal year ended July 31, 2023, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Palo Alto Networks, Inc.

/s/ NIKESH ARORA

Nikesh Arora

Chief Executive Officer and Director

Date: September 1, 2023

**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**

I, Dipak Golechha, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report on Form 10-K of Palo Alto Networks, Inc. for the fiscal year ended July 31, 2023, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Palo Alto Networks, Inc.

/s/ DIPAK GOLECHHA

Dipak Golechha

Chief Financial Officer

Date: September 1, 2023