UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

☒ **Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the fiscal year ended December 31, 2021
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 001-38600

TENABLE HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**47-5580846**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

6100 Merriweather Drive, Columbia, Maryland 21044
(Address of principal executive offices, including zip code)
(410) 872-0555
(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 exchange on which registered**
Common stock, par value $0.01 per share	TENB	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

As of June 30, 2021, the aggregate market value of the common stock of the registrant held by non-affiliates was approximately $3.9 billion.

The number of shares of the Registrant's common stock outstanding as of February 22, 2022 was 109,780,284.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to the 2022 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Securities and Exchange Commission within 120 days after the year ended December 31, 2021.

TENABLE HOLDINGS, INC.
TABLE OF CONTENTS

		Pa
PART I		
Item 1.	Business	
Item 1A.	Risk Factors	
Item 1B.	Unresolved Staff Comments	
Item 2.	Properties	
Item 3.	Legal Proceedings	
Item 4.	Mine Safety Disclosures	
PART II		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	
Item 6.	Selected Financial Data	
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	
Item 8.	Financial Statements and Supplementary Data	
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	
Item 9A.	Controls and Procedures	
Item 9B.	Other Information	
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	1
Item 11.	Executive Compensation	1
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	1
Item 13.	Certain Relationships and Related Transactions and Director Independence	1
Item 14.	Principal Accountant Fees and Services	1
PART IV		
Item 15.	Exhibits, Financial Statement Schedules	1
Item 16.	Form 10-K Summary	1
	Signatures	

PART I

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 that involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Statements that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In some cases, you can identify forward-looking statements by the words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “objective,” “ongoing,” “plan,” “predict,” “project,” “potential,” “should,” “will,” or “would,” or the negative of these terms, or other comparable terminology intended to identify statements about the future. These forward-looking statements include, but are not limited to, statements concerning the following:

- the anticipated impact of the global economic uncertainty and financial market conditions caused by the COVID-19 pandemic on our business, results of operations and financial condition, including on our sales and our revenue growth rate;
- our market opportunity;
- the effects of increased competition as well as innovations by new and existing competitors in our market;
- our ability to adapt to technological change, release new products and product features and effectively enhance, innovate and scale our enterprise platform and solutions;
- our ability to effectively manage or sustain our growth and to achieve profitability;
- our ability to maintain and expand our customer base, including by attracting new customers;
- our relationships with third parties, including channel partners;
- completed and potential acquisitions and integration of complementary businesses and technologies;
- our ability to maintain, or strengthen awareness of, our brand;
- perceived or actual problems with the security, integrity, reliability, compatibility and quality of our platform and solutions;
- future revenue, hiring plans, expenses, capital expenditures, capital requirements and stock performance;
- our ability to attract and retain qualified employees and key personnel and further expand our overall headcount;
- our ability to stay abreast of new or modified laws and regulations that currently apply or become applicable to our business both in the United States and internationally;
- our ability to maintain, protect and enhance our intellectual property;
- costs associated with defending intellectual property infringement and other claims; and
- the future trading prices of our common stock and the impact of securities analysts’ reports on these prices.

These statements represent the beliefs and assumptions of our management based on information currently available to us. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to those discussed in the section titled “Risk Factors” included under Part I, Item 1A. Such risks and uncertainties may be amplified by the COVID-19 pandemic and its potential impact on our business and the global economy. You should not rely upon forward-looking statements as predictions of future events. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances that occur after the date of this report.

Item 1. Business

Overview

We are a leading provider of Cyber Exposure solutions. Cyber Exposure is a discipline for managing, measuring and comparing cybersecurity risk in the digital era.

Digital transformation is driving radical change and is powering the economy and our social infrastructure. A digital-first economy is only sustainable if it is built with a solid cybersecurity foundation. As organizations modernize their IT infrastructures and adopt cloud or hybrid cloud architectures that are no longer housed in the confines of their traditional on-premise IT networks, they have less visibility and control over the security of these assets. Organizations are also increasingly implementing modern solutions, such as Cloud, DevOps, Infrastructure as Code, or IaC, Mobility, Internet of Things, or IoT, devices, digital identity, web applications and application containers, to enable the rapid development and deployment of new products, services and business models, as well as to drive operational efficiencies. Further, safety-critical Operational Technology, or OT, such as Industrial Control Systems, are now network-connected and must be secured from cybersecurity threats. As organizations implement these modern solutions, they significantly expand their cyber attack surface.

While other functions in an organization, such as finance and operations, have systems to help them manage and measure risk, cybersecurity risk has not historically been adequately measured or understood. We are building on our deep technology expertise as a pioneer in the vulnerability assessment and management market to provide broad visibility across the modern attack surface and deep insights to help security teams, executives and boards of directors prioritize and measure Cyber Exposure. We believe our Cyber Exposure solutions are transforming how cybersecurity risk is managed and measured and will help organizations more rapidly embrace digital transformation.

In 2021, 2020 and 2019 our total revenue was $541.1 million, $440.2 million and $354.6 million, respectively, representing year-over-year growth rates of 23% from 2020 to 2021 and 24% from 2019 to 2020. Our net loss was $46.7 million, $42.7 million and $99.0 million in 2021, 2020 and 2019, respectively. Our cash flows from operating activities were $96.8 million, $64.2 million and $(10.7) million in 2021, 2020 and 2019, respectively.

Our Enterprise Platform Offerings

Our enterprise platform enables organizations to answer foundational and strategic questions such as:

- Where are we exposed?
- Where should we prioritize remediation based on risk?
- Are we reducing our exposure over time?
- How do we compare to our peers?

We have continued to expand and diversify our platform offerings from traditional vulnerability management (VM) solutions, which include Tenable.sc and Nessus, to our cloud exposure solutions, which include Tenable.ep, Tenable.io, Tenable.cs, Tenable Web Scanning, or Tenable.io WAS, Tenable.ad and Tenable.ot. Our platform offerings provide broad visibility into security issues such as vulnerabilities, misconfigurations, internal and regulatory compliance violations and other indicators of the state of an organization’s security across IT infrastructure and applications, cloud environments, DevOps environments, Active Directory and Identity environments, and Industrial IoT and OT environments. We also provide deep analytics to help organizations score, trend and compare their cyber exposure over time, and communicate cyber risk in business terms to make better strategic decisions. Our platform offerings integrate and analyze data from our native collectors alongside IT asset, vulnerability and threat data from third-party systems and applications to prioritize security issues for remediation and focus an organization’s resources based on risk and business criticality.

Tenable.ep is our unified platform that helps organizations identify, assess and accurately prioritize cyber risks across the entire attack surface. In addition to streamlining risk-based vulnerability management, Tenable.ep delivers deep business insights that empower organizations to calculate, communicate and compare their cyber risk exposure over time with that of their industry peers. These advanced capabilities enable a better understanding of the overall effectiveness of security programs and provide a key guide for strategic decision-making. Tenable.ep includes Tenable.io, Tenable.cs, Tenable.io WAS, Tenable.ad, and Tenable Lumin risk analytics.

Tenable.io is our cloud-delivered software as a service, or SaaS, offering that provides organizations with a risk-based view of traditional and modern attack surfaces. Tenable.io is designed with views, workflows and dashboards to deliver a complete and continuous view of all assets, both known and previously unknown, and any associated vulnerabilities, internal and regulatory compliance violations, misconfigurations and other cybersecurity issues, prioritize these issues for remediation based on risk assessment and predictive analytics, and provide insightful remediation guidance. Tenable.io is available as a standalone solution or as part of Tenable.ep.

Tenable.cs is our cloud-native application platform that enables organizations to programmatically detect and fix cloud infrastructure misconfigurations in the design, build and runtime phases of the Software Development Lifecycle to prevent unresolved insecure configuration or exploitable vulnerabilities from reaching production. Tenable.cs secures IaC before deployment, maintains a secure posture in runtime, and controls policy deviations over time by synchronizing configuration between runtime and IaC. Tenable.cs also includes Frictionless or Nessus Assessment for cloud workloads as well as Container Security to assess cloud hosts and container images for vulnerabilities without the need to manage scan schedules, credentials or agents. Tenable.cs is available as a standalone solution, as part of Tenable.io or as part of Tenable.ep.

Tenable.io WAS provides easy-to-use, comprehensive and automated vulnerability scanning for modern web applications, and allows organizations to quickly configure and manage web app scans, enabling them to identify vulnerabilities and prioritize remediation. Tenable.io WAS is available as part of Tenable.io or Tenable.ep.

Tenable.ad is our solution to secure Active Directory environments by enabling users to find and fix existing weaknesses before they are exploited and detect and respond to ongoing attacks in real time without the need to deploy agents or use privileged accounts. Tenable.ad is sold as a stand-alone solution and integrates with Tenable.io and Tenable.sc.

Tenable.ot is our solution that provides threat detection, asset tracking, vulnerability management, and configuration control capabilities to protect OT environments, including industrial networks. Tenable.ot is sold as a stand-alone solution and integrates with Tenable.io and Tenable.sc.

Tenable.sc is our on-premise offering that provides a risk-based view of an organization's IT, security and compliance posture so organizations can quickly identify, investigate and prioritize their assets and vulnerabilities based on risk assessment and predictive analytics, and provide insightful remediation guidance.

Our enterprise platform offerings deliver the following capabilities:

- *Live asset discovery.* We can automatically discover a broad range of traditional and modern IT assets, including on-premises infrastructure, web applications, cloud environments, mobile devices, containers, IoT devices and OT systems. We use a combination of active scanning, passive network monitoring and public cloud monitoring via our connectors to identify known and unknown assets on the network.
- *Automated exposure assessment.* With every change in a customer's computing environment, we can automatically assess and identify where there are vulnerabilities, internal and regulatory compliance violations and misconfigurations across assets and cloud environments, such as missing software patches or outdated software versions. In addition, we can help optimize existing security technology investments to identify indicators of cyber exposure, such as improperly configured anti-virus software.
- *Deep analytics to allow for prioritization.* We combine our product, vulnerability data and threat intelligence with third-party data to provide business context and enable organizations to prioritize remediation efforts based on the business criticality of the asset and the likelihood of exploit. Predictive Prioritization enables organizations to reduce business risk by focusing on the vulnerabilities with the greatest likelihood of imminently being exploited. It combines Tenable vulnerability data with third-party threat and vulnerability data across more than 150 data sources using a proprietary machine learning algorithm developed by Tenable Research and data science teams to provide clear guidance on where to focus remediation efforts. Predictive Prioritization provides a threat-based view of vulnerabilities, which is a critical component of modern risk-based vulnerability management.

- *Open and extensible platform*. Our enterprise platform integrates with industry-leading IT workflow, security information and event management, or SIEM, and systems management tools to accelerate remediation and provide common visibility across security and IT operations teams.
- *Cyber exposure measurement.* Tenable Lumin leverages our expansive knowledge base of assets and vulnerabilities coupled with data science insights to help our customers objectively score, trend and benchmark cyber exposure across their organizations, including by business unit or geography, for comparison and best practices. We believe this capability is critical to help security executives effectively translate technical information and communicate cybersecurity risk to a non-technical audience, including the C-suite and the board of directors, to make better strategic decisions on where to focus investment to maximize cybersecurity risk reduction. As we continue to expand our database with more vulnerability and asset intelligence as well as additional third-party data sources, we anticipate that we will be able to leverage these insights in Lumin to measure an organization's cyber exposure beyond vulnerabilities to overall cybersecurity program effectiveness.

Nessus

Nessus is one of the most widely deployed vulnerability assessment solutions in the cybersecurity industry and underpins our enterprise platform. Since the introduction of Nessus in 1998, an extensive community of Nessus users has emerged. We continue to cultivate knowledge and affinity within this user base, which, when combined with our enterprise customers and our Tenable Research team of cybersecurity and data science experts, creates powerful network effects in the form of a continuous feedback loop of data and insights. We use these learnings to expand our assessment capabilities and coverage, continually optimize our solutions and inform our product strategy and innovation priorities. We believe these data and insights will also fuel and strengthen our benchmarking capabilities over time.

Nessus Professional is a vulnerability assessment solution for identifying security vulnerabilities, configuration issues and malware. Nessus Professional serves as both a stand-alone product designed for security consultants and practitioners performing one-time or ad-hoc assessment as well as an on-ramp product to our enterprise platform. With broad vulnerability coverage, accurate analysis and an easy-to-use interface, Nessus Professional offers a cost-effective and comprehensive solution for security consultants and users with ad-hoc assessment needs.

Nessus Essentials is our free version of our Nessus product, which includes vulnerability assessment for a limited number of assets, but does not include access to support and certain features that Nessus Professional customers enjoy.

Technology Architecture

Our platform is built from the ground up to support the needs of modern IT assets and environments. Our platform's scalability can meet the requirements of the largest global enterprise customers, which may require assessment for millions of assets.

Foundational elements of our technology architecture include:

- ***Public cloud infrastructure for agility.*** Our use of the public cloud delivers agility and market responsiveness without the capital investment or time delay involved with planning, purchasing and deploying hardware. It also provides a flexible cost profile in which capacity can be quickly adjusted up or down in response to new opportunities and market demand, with relatively modest fixed costs.
- ***Scalability.*** Our platform scales up and down to continuously meet customer demands, through the use of public cloud infrastructure around the world. This approach provides elastic resources for compute, data transfer and storage, and allows us to meet the needs of even the largest global enterprises and government agencies. Our platform manages and supports millions of assets for multiple enterprise customers across a variety of industries, with the ability to process millions of application programming interface, or API, calls daily. The platform can scale to support IoT deployments that are an order of magnitude larger than IT deployments.
- ***Availability.*** Our modern architecture, leveraging state-of-the-art public cloud services, offers high availability and high performance. It provides geographic redundancy, as well as automated backup, without the need for us to build redundant infrastructure. As a result, we offer a service level agreement for Tenable.io that promises 99.95% availability to help ensure the reliability of operation for our customers.

- ***Extensibility and integration.*** Our open API and software development kit, or SDK, enables import of data from third-party sources and sensors, including competitor products, to augment our native discovery, assessment and analytics. This is essential to providing a unified view of assets, vulnerabilities and exposure across the enterprise. These capabilities also enable flexible export of our data to third party systems.
- ***Unified Platform.*** Our products are built on a unified platform with a unified data model that enables us to share data, assets and vulnerabilities across our applications so our customers can run workflows and have a consistent user experience across our products.
- ***Widely adopted industry standard file format.*** The ".Nessus" file format for vulnerability data used in all of our products is openly documented and supported by dozens of products and programming languages, which simplifies integration with our ecosystem partners' technologies.

Our Technology Ecosystem

We have partnered and/or integrated with market leading technology companies to pioneer the industry's first Cyber Exposure ecosystem to help organizations build resilient cybersecurity programs. Our ecosystem consists of a variety of third-party data import sources into our platform offerings, as well as export of our data out to third-party IT systems. Our technology ecosystem connects disparate solutions and data to automate processes and accelerate an organization's ability to understand, manage and reduce its cyber exposure.

We integrate a variety of third-party data sources, including ticketing, configuration management databases, or CMDBs, and systems management, into our platform to augment our native data collection and help with analysis and remediation prioritization. Furthermore, our data is also exported out to enrich third-party IT management and security systems.

Our Growth Strategy

Our objectives are to maintain our market leadership in Cyber Exposure and to capture our large market opportunity. To accomplish these objectives, we intend to:

- ***Continue to Acquire New Enterprise Platform Customers.*** We believe there is a substantial opportunity to increase adoption of our enterprise platform offerings. We have experienced growth in new enterprise platform customers due to improved product capabilities and investments in sales and marketing. We intend to continue to aggressively pursue new domestic and international customers by adding sales capacity and leveraging our network of channel partnerships around the world.
- ***Expand Asset Coverage Within Our Customer Base***. We believe we have a significant opportunity to expand our relationships with our existing customers by targeting additional teams, business units or geographies, pursuing broad enterprise deployments and generally expanding our coverage of their IT assets and cross-selling new applications and solutions.
- ***Invest in Our Technology Platform***. We intend to continue to innovate, develop and broaden our exposure and traditional vulnerability management solutions, including expanding the coverage of emerging attack surfaces and asset types and the addition of analytical capabilities, to help our customers measure and manage their cyber exposure. As we collect more data and ingest more data from third-party sources, we believe our data set will become even more valuable over time, which will allow us to continue to develop new analytical products and capabilities to our existing product suite over time.
- ***Explore Acquisition Opportunities***. We intend to acquire other businesses, technology and/or development personnel that will expand and enhance the functionality of our platform offerings.
  - In February 2022, we acquired Cymptom to expand our products' ability to identify, understand and disrupt attack paths in enterprise networks.
  - In October 2021, we acquired Accurics to expand our cloud strategy and ability to assess IaC.
  - In April 2021, we acquired Alsid to expand our product offerings to include active directory security.

- In 2019, we acquired Indegy Ltd., or Indegy, to expand our depth of OT expertise and intelligence and our breadth of OT-specific capabilities from vulnerability management to asset inventory, configuration management and threat detection.

Customers

We sell and market our enterprise platform offerings through our field sales force that works closely with our channel partners, which includes a network of distributors and resellers, in developing sales opportunities. We use a two-tiered channel model whereby we sell our enterprise platform offerings to our distributors, which in turn sell to our resellers, which then sell to end users, which we call customers.

Our customers are located in over 170 countries and include enterprises of all sizes and span a wide range of industries, including manufacturing, energy and industrials; technology, media and telecommunications; banking, insurance and finance; government, education and non-profit; healthcare; and retail and consumer.

As of December 31, 2021, we had approximately 40,000 customers. At December 31, 2021 our customers included approximately 60% of the Fortune 500 and approximately 40% of the Global 2000. In 2021, 2020 and 2019, no single customer represented more than 2% of our revenue.

Sales and Marketing

Our sales strategy employs both a direct-touch approach through our sales forces and a low-touch approach through sales closed by our channel partners and transacted on our e-commerce website. Both direct-touch and channel-originated sales are fulfilled through our channel partnerships. Our sales and customer success renewal teams collaborate closely with our channel partners to prospect, manage and support our customers, developing and maintaining close relationships with all of our enterprise platform customers.

We sell to organizations of all sizes across a broad range of industries, with a specific focus on enterprise accounts. Our sales team is divided by customer size and geography, including the Americas; Europe, the Middle East and Africa ("EMEA"); and Asia Pacific and Japan.

Our partner ecosystem provides us with a number of advantages, including increased in-bound registered sales leads, broader geographic reach and greater deal velocity. Our channel partners include distributors, value-added resellers, system integrators and managed security service providers.

Our marketing efforts focus on cultivating brand awareness and leveraging our brand strength with Nessus, building demand across all segments with a specific emphasis on our enterprise customers and delivering tailored marketing programs focused on security executives, functional managers and security practitioners and consultants with Nessus. We also provide educational programs to DevOps teams for our Container Security and Web Application Scanning products. We execute marketing programs targeted at new customer acquisition, customer retention and cross-selling and up-selling of products across our platform.

Research and Development

We continue to invest substantial resources in research and development to enhance our platform offerings by developing new features, functionality, and applications. Our engineering expertise combines extensive security product development experience with individuals who possess deep cloud and user interface design background.

Additionally, our Tenable Research team includes a team of cybersecurity and data science experts who deliver Cyber Exposure intelligence, data science insights, alerts and security advisories. Frequent updates from Tenable Research ensure the latest vulnerability checks, zero-day research, and configuration benchmarks are available within our Cyber Exposure solutions.

We believe ongoing and timely development of new products and features is imperative to maintaining our competitive position. We continue to invest in development of our solutions across our global research and development team.

Our research and development expense was $116.4 million, $101.7 million and $87.1 million in 2021, 2020 and 2019, respectively.

Backlog

We define backlog as contractually committed orders to be invoiced under our existing agreements that are not included in the deferred revenue on our consolidated balance sheets. At December 31, 2021 and 2020, we had backlog of $27.7 million and $8.0 million, respectively. We expect substantially all of the backlog at December 31, 2021 to be invoiced within the following twelve months.

Competition

The market for cybersecurity solutions is fragmented, intensely competitive and constantly evolving. We compete with a range of established and emerging cybersecurity software and services vendors, as well as homegrown solutions. With the introduction of new technologies and market entrants, we expect the competitive environment to remain intense going forward. Our competitors include: vulnerability management and assessment vendors, including Qualys and Rapid7; diversified security software and services vendors; endpoint security vendors with nascent vulnerability assessment capabilities, including CrowdStrike; public cloud vendors and companies, such as Palo Alto Networks, that offer solutions for cloud security (private, public and hybrid cloud); and providers of point solutions that compete with some of the features present in our solutions. We also compete against internally-developed efforts that often use open source solutions.

We believe that the principal competitive factors affecting the market for cybersecurity solutions include product functionality, breadth and depth of offerings, flexibility of delivery models, ease of deployment and use, integration capabilities such as open APIs and scalability, uptime and performance. We believe that our suite of solutions generally competes favorably with respect to these factors and may serve as a complement to the solutions offered by our competitors in some cases. Some of our more established actual and potential competitors have greater name recognition, longer operating histories, more established customer relationships, larger marketing budgets and significantly greater resources than we do. In addition, as our market grows and rapidly changes, we expect it will continue to attract new competitors, including companies that are larger and more established than us and smaller emerging companies, which could introduce new products and services.

Intellectual Property

Our success depends in part upon our ability to protect our core technology and intellectual property. We rely on a combination of trade secrets, copyrights, patents and trademarks, as well as contractual protections, to establish and protect our intellectual property rights and protect our proprietary technology.

As of December 31, 2021, we had 23 issued patents and 15 patent applications pending in the United States. Our issued patents expire between 2027 and 2039 and cover our network scanning, monitoring and analysis technologies and additional features of our platform offerings. As of December 31, 2021, we had 15 registered trademarks and 13 trademark applications pending in the United States. We view our copyrights, trade secrets and know-how as a significant component of our intellectual property assets.

We also license certain software from third parties for integration into our solutions, including open source software and other software available on commercially reasonable terms. We cannot assure you that such third parties will maintain such software or continue to make it available.

We control 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, customers and partners, and our software is protected by U.S. and international copyright and trade secret laws. Despite our efforts to protect our trade secrets and proprietary rights through intellectual property rights, licenses and confidentiality and invention assignment agreements, unauthorized parties may still attempt to copy, reverse engineer, misappropriate or otherwise obtain and use our software and technology. In addition, we intend to continue to expand our international operations, and effective patent, copyright, trademark and trade secret protection may not be available or may be limited in foreign countries.

Government Regulation

Various federal, state and foreign legislative and regulatory bodies have legislation pending that could affect our business.

In the ordinary course of our business, we process personal information. Accordingly, we are, or may become, subject to numerous data privacy and security obligations, including federal, state, local, and foreign laws, regulations, guidance, and industry standards related to data privacy and security. Such obligations may include, without limitation, the Federal Trade Commission Act, the California Consumer Privacy Act of 2018, or the CCPA, the Colorado Privacy Act, Virginia's Consumer Data Protection Act, the European Union's General Data Protection Regulation 2016/679, or EU GDPR, the EU GDPR as it forms part of the United Kingdom law by virtue of section 3 of the European Union (Withdrawal) Act of 2018, or UK GDPR, and the ePrivacy Directive.

The CCPA and EU GDPR are examples of the increasingly stringent and evolving regulatory frameworks related to personal information. The EU GDPR applies to companies established in the European Economic Area, or EEA, and to companies established outside the EEA that process personal information in connection with the offering of goods or services to individuals in the EEA or the monitoring of the behavior of individuals in the EEA. The EU GDPR includes stringent and complex obligations on entities that receive or process personal information, along with significant penalties for non-compliance, more robust obligations on data processors and data controllers, greater rights for individuals, and heavier documentation requirements for data protection compliance programs. In addition, the EU GDPR increases the scrutiny of transfers of personal information from locations in the EEA to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws and imposes substantial fines for breaches and violations (up to the greater of €20 million or 4% of consolidated annual worldwide gross revenue). Similarly, the CCPA imposes many obligations on covered businesses, including to provide specific disclosures related to a business's collecting, using, and disclosing personal information and to respond to certain requests from California residents related to their personal information (for example, requests to know of the business's personal information processing activities, to delete the individual's personal information, and to opt out of certain personal information disclosures). The CCPA provides for civil penalties (up to $7,500 per violation) and has a private cause of action for data breaches.

Like other U.S.-based IT security products, our products are subject to U.S. export control laws and regulations, specifically the Export Administration Regulations, or EAR, U.S. economic and trade sanctions regulations and applicable foreign government import, export and use requirements. Certain of our products are subject to encryption controls under the EAR due to the nature of the product and its use or incorporation of encryption functionality. Under the encryption controls in the EAR, applicable products may only be exported outside of the United States with required export authorizations, such as a license, a license exception or other appropriate government authorizations. In addition to the restrictions under the EAR, U.S. export control laws and economic sanctions prohibit the export of products and services to countries, governments, entities or persons subject to U.S. embargoes or trade sanctions.

Human Capital

As of December 31, 2021, we had 1,617 employees, including 635 employees located outside of the United States. None of our U.S. employees are represented by a labor union or covered by a collective bargaining agreement. Certain international employees are subject to collective bargaining agreements in connection with local labor laws. We have not experienced any work stoppages, and we consider our relations with our employees to be good.

We believe in upholding a core set of values for our entire global workforce:

- ***One Tenable***: We are united as one Tenable team. We win together. We are one team internally, with our customers, with our partners and in the market.
- ***We Care***: About our work, about our customers, about one another and about our communities. We speak straight and we do the right thing.
- ***Deliver Results***: We set high goals, take bold risks, measure honestly and deliver results that exceed expectations.
- ***What We Do Matters***: The work that we do makes a difference in the world.

Our key human capital objectives are to attract, retain and develop our highly talented existing and future employees, while cultivating a diverse and inclusive workforce and environment to achieve exceptional business results. We strive to be a career destination where employees from all backgrounds are welcome and empowered, are treated with fairness and respect, can make a difference, and have the opportunity to grow.

Compensation, Benefits and Talent Development

We provide robust compensation and benefits packages to attract and retain our talent. We aim to incentivize our employees by aligning a portion of their compensation with the overall success of our business. In addition to base salary, our benefits packages include annual bonuses, equity awards, an employee stock purchase plan, retirement plans, along with health and wellness benefits. Equity awards of restricted stock units that vest over time are granted to new hires and to employees on an annual basis. Employees are eligible to participate in our Employee Stock Purchase Plan, in which employees may contribute a percentage of their compensation to purchase shares of our common stock at a discount. Our health and welfare benefits include health and life insurance, paid time off, family leave, and employee assistance programs. We are committed to a hybrid workplace strategy where employees have the flexibility to define the environment where they can do their best work.

We promote and support employee development and organizational effectiveness by providing high-quality learning and development programs as well as tuition assistance programs. These programs are designed to meet individual, team, and organizational needs and objectives. We strive to enhance learning and development programs to create a better workplace environment and to build a better Tenable.

Diversity and Inclusion

We seek to cultivate a diverse and inclusive workforce and environment to achieve exceptional business results. When we value and celebrate differences, we drive more innovation and grow closer to our customers, partners, and communities. We strive to be a career destination where employees from all backgrounds are welcome and empowered, treated with fairness and respect, presented with opportunities to make a difference, and provided opportunities to grow.

We undertake numerous efforts to increase diversity in our employee population and to foster a culture of fairness and belonging through a number of measures in our recruiting, engagement, retention, and outreach practices. Our dedicated Diversity and Inclusion Council and Employee Resource Groups – along with our committed leaders and managers – strive to attract and hire employees who bring broad diversity of background, thought, and style into the company and foster a sense of inclusion to make them want to stay. To support these initiatives, we build partnerships within our communities to support organizations and events that strive for greater representation of women and underrepresented minorities in cybersecurity, hold inclusion and bias mitigation training and offer targeted development opportunities to assist with career advancement. In addition to our global talent acquisition team receiving a diversity sourcing and recruiting certification, we have hired a team to help spearhead these initiatives.

Environmental Stewardship

Our Board and management team recognize that we have a role to play in environmental stewardship. We believe that environmentally responsible operating practices are important to generating value for our stockholders, being a good partner with our customers, and being a good employer to our employees.

Energy consumption and usage within data centers is an important component of our day-to-day operations of our business. We outsource our data center needs to Amazon Web Services (“AWS”). In 2014, AWS shared its long-term commitment to achieve 100 percent renewable energy usage for the global AWS infrastructure footprint. Additionally, our corporate headquarters is a LEED Certified Gold for Core Construction and we are pursuing an Energy Star rating.

Financial Information and Segments

Segment and geographic information required by Part I, Item 1 of Form 10-K can be found in Note 1 and Note 13 of the Notes to our Consolidated Financial Statements included in Part II, Item 8, Financial Statements, of this Form 10-K.

Corporate Information

Tenable Network Security, Inc., our predecessor, was incorporated under the laws of the State of Delaware in 2002. Tenable Holdings, Inc. was incorporated in Delaware in October 2015, and in November 2015, Tenable Network Security, Inc. was merged into our wholly-owned indirect subsidiary and in 2017 was renamed as Tenable, Inc.

Our principal executive offices are located at 6100 Merriweather Drive, Columbia, Maryland 21044. Our telephone number is (410) 872-0555. Our website address is www.tenable.com. The information contained on, or that can be accessed through, our website is not incorporated by reference, and you should not consider any information contained on, or that can be accessed through, our website as part of this Annual Report on Form 10-K.

“Tenable,” “Nessus,” “Tenable.io," "Lumin" and the Tenable logo, and other trademarks or service marks of Tenable Holdings, Inc. appearing in this Annual Report on Form 10-K are the property of Tenable Holdings, Inc. This Annual Report on Form 10-K contains additional trade names, trademarks and service marks of others, which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this Annual Report on Form 10-K may appear without the ® or TM symbols.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statement, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Exchange Act, are available for download free of charge from our investor relations website https://investors.tenable.com after we file them with the Securities and Exchange Commission, or the SEC. The SEC’s website https://www.sec.gov contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

The contents of any website referred to in this Form 10-K are not intended to be incorporated into this Annual Report on Form 10-K or in any other report or document we file with the SEC.

Item 1A. Risk Factors

Our operations and financial results are subject to significant risks and uncertainties including those described below. You should carefully consider the risks and uncertainties described below, in addition to other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and related notes. 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, may also become important factors that adversely affect our business. If any of the following risks or others not specified below materialize, our business, financial condition and results of operations could be materially and adversely affected.

Selected Risks Affecting Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in this “Risk Factors” section, including the following:

- Our business, operations and financial performance may be negatively affected by adverse changes in the evolving COVID-19 pandemic.
- We have a history of losses and may not achieve or maintain profitability in the future.
- We face intense competition. If we do not continue to innovate and offer solutions that address the dynamic cybersecurity landscape, we may not remain competitive.
- We may not be able to sustain our revenue growth rate in the future.
- We may not be able to scale our business quickly enough to meet our customers’ growing needs.
- Our brand, reputation and ability to attract, retain and serve our customers are dependent in part upon the reliability and accuracy of our data, solutions, infrastructure and those of third parties upon which we rely. If our information technology systems or data, or those of third parties upon which we rely, are or were compromised, or

if our solutions fail to detect vulnerabilities or incorrectly detect vulnerabilities, or if they contain undetected errors or defects, we could experience adverse consequences.

- Our future quarterly results of operations are likely to fluctuate significantly due to a wide range of factors, which makes our future results difficult to predict.
- Our business and results of operations depend substantially on our customers renewing their subscriptions with us and expanding the number of IT assets or IP addresses under their subscriptions. Any decline in our customer renewals, terminations or failure to convince our customers to expand their use of subscription offerings would harm our business, results of operations, and financial condition.
- We rely on third parties to maintain and operate certain elements of our network infrastructure.
- We are subject to stringent and changing obligations related to data privacy and security. Our failure or perceived failure to comply with such obligations could lead to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse business consequence.
- We rely on our third-party channel partner network of distributors and resellers to generate a substantial amount of our revenue.
- We rely on the performance of highly skilled personnel, including senior management and our engineering, professional services, sales and technology professionals, and our ability to increase our customer base will depend to a significant extent on our ability to expand our sales and marketing operations.

Risks Related to Our Business and Industry

Our business, operations and financial performance may be negatively affected by adverse changes in the evolving COVID-19 pandemic.

As of December 31, 2021, we have not seen a significant adverse impact to our financial position, results of operations, cash flows and liquidity as a result of the COVID-19 pandemic. However, the COVID-19 pandemic is continuing to evolve rapidly, and significant adverse changes in the spread or severity of COVID-19 infections and the resulting societal impact, and response thereto, could have material adverse impacts on our business, operations and financial performance. The COVID-19 pandemic resulted in travel and other restrictions, including state and local orders across the United States and in countries in which we operate that, among other things, directed individuals to follow social distancing guidelines and or to shelter at their places of residence, directed businesses and governmental agencies to cease non-essential operations at physical locations, prohibited certain non-essential gatherings and events and ordered cessation of non-essential travel. In response to public health directives and orders, we implemented work-from-home policies for our global workforce, including at our headquarters in Columbia, Maryland. As the COVID-19 pandemic has evolved and as these restrictions have eased or been reinstated in response to COVID-19 variants such as Delta and Omicron, we have continued to update our employee health and safety policies, including relating to business travel and in-person office work. As conditions permit, we will continue to allow some activities, including limited business travel and in-person work at the option of the employee at certain of our global office locations, including at our headquarters. In-person work at our offices or business travel could expose our employees to health risks, and us to associated liability, and could create additional risks and operational challenges that require us to make additional investments in the design, implementation and enforcement of new workplace and travel health and safety protocols. We expect to continue our hybrid work policies indefinitely and that many employees will choose to continue to work remotely or a hybrid of in-person and remote work, which presents risks, uncertainties and costs that could affect our performance, including operational and workplace culture challenges, uncertainty regarding office space needs and heightened vulnerability to cyberattacks. Further, we anticipate that our revenue growth could be adversely impacted by developments in the COVID-19 pandemic that negatively impact global economic conditions, including, for example, as a result of the tightening of health and safety restrictions in the United States or globally.

Adverse developments in the COVID-19 pandemic could also impact our partners, customers and service providers. Health concerns and political or governmental developments in response to COVID-19 has created or contributed to economic, social or labor instability or prolonged contractions in the industries in which our customers or partners operate. As a result, existing and potential customers have and may continue to choose to reduce or delay technology spending in response to the ongoing COVID-19 pandemic, or may attempt to renegotiate contracts and obtain concessions, which could materially and negatively impact our operating results, financial condition and prospects. Because our platform offerings are primarily sold on a subscription basis, any such adverse effects may not be fully reflected in our operating results until future periods, and such effects may be offset by temporary decreases in our expenses related to restrictions on the conduct of our business. We expect to incur additional costs as we resume business-related travel and return to the office, the timing and extent of which remains subject to ongoing developments in the COVID-19 pandemic.

The full extent to which changes in the COVID-19 pandemic impact our business and operations will depend on future developments that are highly uncertain and cannot be predicted with confidence at the time of this Form 10-K, such as the duration of the outbreak, the duration and effect of business disruptions, the ongoing effectiveness and widespread adoption of vaccines, both domestically and globally, the duration and ultimate effectiveness of the travel restrictions, quarantines, social distancing requirements and business closures in the United States and other countries to contain and treat the disease, and the impact of new variants or mutations of the coronavirus, such as the Delta or Omicron variants. An increase or extended period of global supply chain and economic disruption as a result of the COVID-19 pandemic could have a material negative impact on our business, results of operations, access to sources of liquidity and financial condition, though the full extent and duration of these impacts is uncertain. Accordingly, we do not yet know the full extent of potential impacts on our business and operations, or those of our partners and customers, or the global economy as a whole.

In addition, to the extent the ongoing COVID-19 pandemic adversely affects our business and results of operations, it may also have the effect of heightening many of the other risks and uncertainties described in this “Risk Factors” section.

We have a history of losses and may not achieve or maintain profitability in the future.

We have historically incurred net losses, including net losses of $46.7 million, $42.7 million and $99.0 million in 2021, 2020 and 2019, respectively. As of December 31, 2021, we had an accumulated deficit of $654.5 million. Because the market for our offerings is highly competitive and rapidly evolving and these solutions have not yet reached widespread adoption, it is difficult for us to predict our future results of operations. Further, although we have not seen a significant adverse impact to our financial position, results of operations, cash flows and liquidity as a result of the COVID-19 pandemic as of December 31, 2021, we do not yet know the full effects of the evolving pandemic, which increases the difficulty in predicting future results of operations.

While we have experienced significant revenue growth in recent periods, we are not certain whether or when we will obtain a high enough volume of sales of our offerings to sustain or increase our growth or achieve or maintain profitability in the future. We also expect our costs to increase in future periods, which could negatively affect our future operating results if our revenue does not increase at a greater rate. In particular, we expect to continue to expend substantial financial and other resources on:

- public cloud infrastructure and computing costs;
- research and development related to our offerings, including investments in our research and development team;
- sales and marketing, including a significant expansion of our sales organization, both domestically and internationally;
- continued international expansion of our business; and
- general and administrative expense, including legal and accounting expenses related to being a public company.

These investments may not result in increased revenue or growth in our business. If we are unable to increase our revenue at a rate sufficient to offset the expected increase in our costs, our business, financial position and results of operations will be harmed and we may not be able to achieve or maintain profitability over the long term. Additionally, we may encounter unforeseen operating expenses, difficulties, complications, delays and other unknown factors that may result in losses in future periods. If our revenue growth does not meet our expectations in future periods, our financial performance may be harmed, and we may not achieve or maintain profitability in the future.

We face intense competition. If we do not continue to innovate and offer solutions that address the dynamic cybersecurity landscape, we may not remain competitive.

The market for cybersecurity solutions is fragmented, intensely competitive and constantly evolving. We compete with a range of established and emerging cybersecurity software and services vendors, as well as homegrown solutions. With the introduction of new technologies and market entrants, we expect the competitive environment to remain intense going forward. Our competitors include: vulnerability management and assessment vendors, including Qualys and Rapid7; diversified security software and services vendors; endpoint security vendors with nascent vulnerability assessment capabilities, including CrowdStrike; public cloud vendors and companies, such as Palo Alto Networks, that offer solutions for cloud security (private, public and hybrid cloud); and providers of point solutions that compete with some of the features present in our solutions. We also compete against internally-developed efforts that often use open source solutions.

Some of our actual and potential competitors have significant advantages over us, such as longer operating histories, significantly greater financial, technical, marketing or other resources, stronger brand and business user recognition, larger intellectual property portfolios, government certifications and broader global distribution and presence. In addition, our industry is evolving rapidly and is becoming increasingly competitive. Companies that are larger and more established than us are focusing on cybersecurity and could directly compete with us. For example, in 2019 Microsoft introduced a vulnerability management offering as part of their existing endpoint security platform. Smaller companies could also launch new products and services that we do not offer and that could gain market acceptance quickly.

In addition, some of our larger competitors have substantially broader product offerings and can bundle competing products and services with other software offerings which customers may choose even if individual products have more limited functionality than our solutions. These competitors may also offer their products at a lower price, which could increase pricing pressure on our offerings and cause the average sales price for our offerings to decline. These larger competitors are also often better positioned to withstand any significant reduction in capital spending, and will therefore not be as susceptible to economic downturns. One component of our enterprise platform involves assessing Cyber Exposure in a public cloud environment. We are dependent upon the providers to allow our solutions to access their cloud offerings. If one or more cloud providers elected to offer exclusively their own cloud security product or otherwise eliminate the ability of our solutions to access their cloud on behalf of our customers, our business and financial results could be harmed.

Additionally, the cybersecurity market is characterized by very rapid technological advances, changes in customer requirements, frequent new product introductions and enhancements and evolving industry standards. Our success depends on continued innovation to provide features that make our solutions responsive to the cybersecurity landscape, including the shift to employees working from home or in hybrid environments and the increasing adoption by organizations of cloud or hybrid cloud architectures during the COVID-19 pandemic. Developing new solutions and product enhancements is uncertain, expensive and time-consuming, and there is no assurance that such activities will result in significant cost savings, revenue or other expected benefits. If we spend significant time and effort on research and development and are unable to generate an adequate return on our investment, our business and results of operations may be materially and adversely affected. Further, we may not be able to successfully anticipate or adapt to changing technology or customer requirements or the dynamic threat landscape on a timely basis, or at all, which would impair our ability to execute on our business strategy. Our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements or new or evolving attacks by, or indicators of compromise that identify, cyber bad actors.

Furthermore, our current and potential competitors may establish cooperative relationships among themselves or with third parties that may further enhance their resources and products and services offerings in the markets we address. In addition, current or potential competitors may be acquired by third parties with greater available resources, which may enable them to adapt more quickly to new technologies and customer needs, devote greater resources to the promotion or sale of their products and services, initiate or withstand substantial price competition, take advantage of other opportunities more readily or develop and expand their product and service offerings more quickly than we do. For all of these reasons, we may not be able to compete successfully against our current or future competitors.

We may not be able to sustain our revenue growth rate in the future.

From 2020 to 2021, our revenue grew from $440.2 million to $541.1 million, representing year-over-year growth of 23%. This growth was primarily from an increase in subscription revenue. Although we have experienced rapid growth historically and currently have high customer renewal rates, we may not continue to grow as rapidly in the future due to a decline in our renewal rates, failure to attract new customers or other factors. Any success that we may experience in the future will depend in large part on our ability to, among other things:

- maintain and expand our customer base;
- increase revenue from existing customers through increased or broader use of our offerings within their organizations;
- improve the performance and capabilities of our offerings through research and development;
- continue to develop and expand our enterprise platform;
- maintain the rate at which customers purchase and renew subscriptions to our enterprise platform offerings;
- continue to successfully expand our business domestically and internationally; and
- successfully compete with other companies.

If we are unable to maintain consistent revenue or revenue growth, including as a result of the ongoing COVID-19 pandemic or related macroeconomic conditions, our stock price could be volatile, and it may be difficult to achieve and maintain profitability. You should not rely on our revenue for any prior quarterly or annual periods as any indication of our future revenue or revenue growth.

We may be unable to rapidly and efficiently adjust our cost structure in response to significant revenue declines, which could adversely affect our operating results.

We recognize substantially all of our revenue ratably over the term of our subscriptions and, to a lesser extent, perpetual licenses ratably over an expected period of benefit and, as a result, downturns in sales may not be immediately reflected in our operating results.

We recognize substantially all of our revenue ratably over the terms of our subscriptions with customers, which generally occurs over a one-year period and, for our perpetual licenses, over a five-year expected period of benefit. As a result, a substantial portion of the revenue that we report in each period will be derived from the recognition of deferred revenue relating to agreements entered into during previous periods. Consequently, a decline in new sales or renewals in any one period, including as a result of the ongoing COVID-19 pandemic or related macroeconomic conditions, may not be immediately reflected in our revenue results for that period. This decline, however, would negatively affect our revenue in future periods. Accordingly, the effect of significant downturns in sales and market acceptance of our solutions and potential changes in our rate of renewals may not be fully reflected in our results of operations until future periods. This also makes it difficult for us to rapidly increase our revenue growth through additional sales in any period, as revenue from new customers generally will be recognized over the term of the applicable agreement.

We may not be able to scale our business quickly enough to meet our customers' growing needs.

As usage of our enterprise platform grows, and as customers expand in size or expand the number of IT assets or IP addresses under their subscriptions, we may need to devote additional resources to improving our technology architecture, integrating with third-party systems and maintaining infrastructure performance. In addition, we will need to appropriately scale our sales and marketing headcount, as well as grow our third-party channel partner network, to serve our growing customer base. If we are unable to scale our business appropriately, it could reduce the attractiveness of our solutions to customers, resulting in decreased sales to new customers, lower renewal rates by existing customers or the issuance of service credits or requested refunds, each of which could hurt our revenue growth and our reputation. Even if we are able to upgrade our systems and expand our personnel, any such expansion will be expensive and complex, requiring management time and attention. We could also face inefficiencies or operational failures as a result of our efforts to scale our infrastructure. Moreover, there are inherent risks associated with upgrading, improving and expanding our information technology systems. We cannot be sure that the expansion and improvements to our infrastructure and systems will be fully or effectively implemented on a timely basis, if at all. These efforts may reduce revenue and our margins and adversely impact our financial results.

If our enterprise platform offerings do not interoperate with our customers' network and security infrastructure, including remote devices, or with third-party products, websites or services, our results of operations may be harmed.

Our enterprise platform offerings, Tenable.ep, Tenable.io, Tenable.cs, Tenable.ad, Tenable.ot, and Tenable.sc must interoperate with our customers' existing network and security infrastructure, including remote devices. These complex systems are developed, delivered and maintained by the customer, their employees and a myriad of vendors and service providers. As a result, the components of our customers' infrastructure, including remote devices, have different specifications, rapidly evolve, utilize multiple protocol standards, include multiple versions and generations of products and may be highly customized. We must be able to interoperate and provide our security offerings to customers with highly complex and customized networks, including remote devices, which requires careful planning and execution between our customers, our customer support teams and our channel partners. Further, when new or updated elements of our customers' infrastructure, new usage trends, such as remote and hybrid work during the COVID-19 pandemic, or new industry standards or protocols are introduced, we may have to update or enhance our cloud platform and our other solutions to allow us to continue to provide service to customers. Our competitors or other vendors may refuse to work with us to allow their products to interoperate with our solutions, which could make it difficult for our cloud platform to function properly in customer networks that include these third-party products.

We may not deliver or maintain interoperability quickly or cost-effectively, or at all. These efforts require capital investment and engineering resources. If we fail to maintain compatibility of our cloud platform and our other solutions with our customers' network and security infrastructures, including for remote devices, our customers may not be able to fully utilize our solutions, and we may, among other consequences, lose or fail to increase our market share and experience reduced demand for our services, which would materially harm our business, operating results and financial condition.

Our brand, reputation and ability to attract, retain and serve our customers are dependent in part upon the reliability and accuracy of our data, solutions, infrastructure and those of third parties upon which we rely. If our information technology systems or data, or those of third parties upon which we rely, are or were compromised, or if our solutions fail to detect vulnerabilities or incorrectly detect vulnerabilities, or if they contain undetected errors or defects, we could experience adverse consequences.

In the ordinary course of our business, we may collect, store, use, transmit, disclose or otherwise process proprietary, confidential, and sensitive information, including personal information, intellectual property, and trade secrets. We rely on third party service providers and technologies to operate critical business systems, including processing this confidential and sensitive information.

Threats to information systems and data come from a variety of sources. In addition to computer "hackers," threat actors, personnel (such as through theft or misuse), sophisticated nation-states and nation-state-supported actors now engage in attacks. We and the third parties upon which we rely may be subject to a variety of evolving threats, including but not limited to: social-engineering attacks (including through phishing attacks); malicious code (such as viruses and worms); malware (including as a result of persistent threat intrusions); denial-of-service attacks (such as credential stuffing); personnel misconduct or error; ransomware attacks; supply-chain attacks; software bugs; server malfunctions; software or hardware failures; loss of data or other information technology assets; adware; telecommunications failures, and other similar threats. Ransomware attacks, including those from organized criminal threat actors, nation-states and nation-state supported actors, are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, loss of data, loss of income, significant extra expenses to restore data or systems, reputational loss and the diversion of funds. To alleviate the financial, operational and reputational impact of a ransomware attack, it may be necessary to make extortion payments, but we may be unable to do so if applicable laws prohibit such payments.

Any of these or similar threats could cause a security incident or other interruption. These incidents and interruptions can include, but are not limited to, gaining unauthorized access to digital systems for purposes of misappropriating assets or sensitive information, corrupting data or causing operational disruption. Because the techniques used to obtain unauthorized access, insert malicious code or otherwise sabotage systems change frequently and may not immediately produce signs of intrusion, we may be unable to implement adequate preventative measures or timely discover these intrusions.

If we, or a third party upon which we rely, experience a security incident or interruption, or are perceived to have experienced a security incident or interruption, we may experience adverse consequences. These consequences may include: government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting obligations and/or oversight; restrictions on processing information (including personal information); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; interruptions of our operations (including availability of data); financial loss; and other similar harm. We sell cybersecurity products and, as a result, may be at increased risk of being a target of cyberattacks designed to penetrate our platform or internal systems or to otherwise impede the performance of our products. We may be required to expend additional, significant resources, fundamentally change our business activities or practices, or modify our operations or information technology in an effort to protect against security incidents or other interruptions.

We have experienced, and may in the future experience, disruptions, outages and other performance problems due to a variety of factors, including infrastructure changes, deliberate or unintentional human or software errors, capacity constraints and fraud or cybersecurity attacks. Any disruptions or other performance problems with our solutions could harm our reputation and business and may damage our customers' businesses, including by interrupting their networking traffic or operational technology environments. Interruptions in our service delivery might reduce our revenue, cause us to issue credits to customers, subject us to potential liability and cause customers to not renew their purchases of our solutions.

In addition, if our solutions fail to detect vulnerabilities in our customers' cybersecurity infrastructure, including for remote devices, or if our solutions fail to identify new and increasingly complex methods of cyberattacks, our business and reputation may suffer. There is no guarantee that our solutions will detect all vulnerabilities, especially in light of the rapidly changing security landscape to which we must respond, including as a result of the increased remote work environment during the COVID-19 pandemic. Additionally, our solutions may falsely detect vulnerabilities or threats that do not actually exist. For example, our solutions rely on information provided by an active community of users who contribute new exploits, attacks and vulnerabilities. If the information from these third parties is inaccurate, the potential for false indications of security vulnerabilities increases. These false positives, while typical in the industry, may impair the perceived reliability of our offerings and adversely impact market acceptance of our products and could result in negative publicity, loss of customers and sales and increased costs to remedy any problem.

We have experienced errors or defects in the past in connection with the release of new solutions and product upgrades, and we expect that these errors or defects will be found from time to time in the future in new or enhanced solutions after commercial release. In addition, we use third parties to assist in the development of our products and these third parties could be a source of errors or defects. Defects may cause our solutions to be vulnerable to attacks, cause them to fail to detect vulnerabilities, or temporarily interrupt customers' networking traffic or operational technology environments, any of which may damage our customers' business and could hurt our reputation. If our solutions fail to detect vulnerabilities for any reason, we may incur significant costs, the attention of our key personnel could be diverted, our customers may delay or withhold payment to us or elect not to renew or other significant customer relations problems may arise. We may also be subject to liability claims for damages related to errors or defects in our solutions. A material liability claim or other occurrence that harms our reputation or decreases market acceptance of our solutions may harm our business and operating results.

Additionally, applicable data protection requirements may require us to implement specific security measures or use new or different industry-standard measures designed to protect against security incidents. Data protection requirements may also require us to notify relevant stakeholders of security incidents, including affected individuals, partners, collaborators, customers, regulators, law enforcement agencies and others. Such disclosures are costly, and the disclosures or failure to comply with such requirements could lead to adverse impacts, including reputational harm or fines and penalties. There can be no assurance that any limitations or exclusions of liabilities in our contracts would be enforceable or adequate or would otherwise protect us from liabilities or damages if we fail to comply with data protection requirements related to information security or security incidents. We cannot be sure that our insurance coverage, if any, will be adequate or otherwise protect us from or adequately mitigate liabilities or damages with respect to claims, costs, expenses, litigation, fines, penalties, business loss, data loss, regulatory actions or other impacts arising out of security incidents.

Our future quarterly results of operations are likely to fluctuate significantly due to a wide range of factors, which makes our future results difficult to predict.

Our revenue and results of operations have historically varied from period to period, and we expect that they will continue to do so as a result of a number of factors, many of which are outside of our control, including:

- the potential impact of the evolving COVID-19 pandemic on our business and that of our partners and customers;
- the level of demand for our enterprise platform;
- the introduction of new products and product enhancements by existing competitors or new entrants into our market, and changes in pricing for solutions offered by us or our competitors;
- the rate of renewal of subscriptions, and extent of expansion of assets under such subscriptions, with existing customers;
- the mix of customers licensing our products on a subscription basis as compared to a perpetual license;
- large customers failing to renew their subscriptions;
- the size, timing and terms of our subscription agreements with new customers;
- our ability to interoperate our solutions with our customers' network and security infrastructure, including remote devices;
- the timing and growth of our business, in particular through our hiring of new employees and international expansion;
- network outages, security breaches, technical difficulties or interruptions with our solutions (including security breaches by our service providers or vendors);
- changes in the growth rate of the markets in which we compete;
- the length of the license term, amount prepaid and other material terms of subscriptions to our solutions sold during a period;
- customers delaying purchasing decisions in anticipation of new developments or enhancements by us or our competitors or otherwise;
- changes in customers' budgets;
- seasonal variations related to sales and marketing and other activities, such as expenses related to our customers;
- our ability to increase, retain and incentivize the channel partners that market and sell our solutions;
- our ability to integrate our solutions with our ecosystem partners' technology;
- our ability to integrate any future acquisitions of businesses;
- our brand and reputation;
- the timing of our adoption of new or revised accounting pronouncements applicable to public companies and the impact on our results of operations;
- our ability to control costs, including our operating expenses, such as third-party cloud infrastructure costs and facilities costs;
- our ability to hire, train and maintain our direct sales force;
- unforeseen litigation and intellectual property infringement;
- fluctuations in our effective tax rate;
- general economic and political conditions, both domestically and internationally, as well as economic conditions specifically affecting industries in which our customers operate; and
- other events or factors, including those resulting from pandemics, war, incidents of terrorism or responses to these events.

Any one of these or other factors discussed elsewhere in this Annual Report on Form 10-K, or the cumulative effect of some of these factors, may result in fluctuations in our revenue and operating results, meaning that quarter-to-quarter comparisons of our revenue, results of operations and cash flows may not necessarily be indicative of our future performance and may cause us to miss our guidance and analyst expectations and may cause our stock price to decline.

In addition, we have historically experienced seasonality in entering into agreements with customers. We typically enter into a significantly higher percentage of agreements with new customers, as well as renewal agreements with existing customers, in the third and fourth quarters. The increase in customer agreements in the third quarter is primarily attributable to U.S. government and related agencies, and the increase in the fourth quarter is primarily attributable to large enterprise account buying patterns typical in the software industry. We expect that seasonality will continue to affect our operating results in the future and may reduce our ability to predict cash flow and optimize the timing of our operating expenses.

Our business and results of operations depend substantially on our customers renewing their subscriptions with us and expanding the number of IT assets or IP addresses under their subscriptions. Any decline in our customer renewals, terminations or failure to convince our customers to expand their use of subscription offerings would harm our business, results of operations, and financial condition.

Our subscription offerings are term-based and a majority of our subscription contracts are for one year in duration. In order for us to maintain or improve our results of operations, it is important that a high percentage of our customers renew their subscriptions with us when the existing subscription term expires, and renew on the same or more favorable terms. Our customers have no obligation to renew their subscriptions, and we may not be able to accurately predict customer renewal rates. In addition, the growth of our business depends in part on our customers expanding their use of subscription offerings and related services. Historically, some of our customers have elected not to renew their subscriptions with us for a variety of reasons, including as a result of changes in their strategic IT priorities, budgets, costs and, in some instances, due to competing solutions. Our retention rate may also decline or fluctuate if our existing customers choose to reduce or delay technology spending in response to economic conditions resulting from the ongoing COVID-19 pandemic or other macroeconomic factors that could lead to decreased spending, as well as a result of a number of other factors, including our customers' satisfaction or dissatisfaction with our software, the increase in the contract value of subscription and support contracts from new customers, the effectiveness of our customer support services, our pricing, the prices of competing products or services, mergers and acquisitions affecting our customer base, global economic conditions, and the other risk factors described in this Annual Report on Form 10-K. Additionally, many of our customers, including certain top customers, have the right to terminate their agreements with us for convenience and for other reasons. We cannot assure you that customers will maintain their agreements with us, renew subscriptions or increase their usage of our software. If our customers do not maintain or renew their subscriptions or renew on less favorable terms, or if we are unable to expand our customers' use of our software, our business, results of operations, and financial condition may be harmed.

We must maintain and enhance our brand.

We believe that developing and maintaining widespread awareness of our brand in a cost-effective manner is critical to achieving widespread acceptance of our enterprise platform and attracting new customers. Brand promotion activities may not generate customer awareness or increase revenue and, even if they do, any increase in revenue may not offset the expenses we incur in building our brand. If we fail to successfully promote and maintain our brand, or incur substantial expenses, we may fail to attract or retain customers necessary to realize a sufficient return on our brand-building efforts, or to achieve the widespread brand awareness that is critical for broad customer adoption of our solutions.

We rely on third parties to maintain and operate certain elements of our network infrastructure.

We utilize data centers located in North America, Europe and Asia to operate and maintain certain elements of our own network infrastructure. Some elements of this complex system are operated by third parties that we do not control and that could require significant time to replace. We expect this dependence on third parties to continue. For example, Tenable.io is hosted on Amazon Web Services, or AWS, which provides us with computing and storage capacity. Interruptions in our systems or the third-party systems on which we rely, particularly AWS, whether due to system failures, computer viruses, physical or electronic break-ins or other factors, could affect the security or availability of our solutions, network infrastructure and website.

Our existing data center facilities and third-party hosting providers have no obligations to renew their agreements with us on commercially reasonable terms or at all, and certain of the agreements governing these relationships may be terminated by either party with notice or access to hosting services may be restricted by the provider at any time, with no or limited notice. For example, our agreement with AWS allows AWS to terminate the agreement with two years' written notice and allows AWS, under certain circumstances, to temporarily restrict access to hosting services provided by AWS without prior notice. Although we expect that we could receive similar services from other third parties, if any of our arrangements with third parties, including AWS, are terminated, we could experience interruptions on our platform and in our ability to make our platform available to customers, as well as downtime, delays and additional expenses in arranging alternative cloud infrastructure services.

It is possible that our customers and potential customers would hold us accountable for any breach of security affecting third parties' infrastructure. We may incur significant liability from those customers and from third parties with respect to any such breach. Because our agreement with AWS limits their liability for damages, we may not be able to recover a material portion of our liabilities to our customers and third parties from AWS in the event of any breach affecting AWS systems.

Organizations may be reluctant to purchase our enterprise platform offerings that are cloud-based due to the actual or perceived vulnerability of cloud solutions.

Some organizations, including those in the defense industry and highly regulated industries such as healthcare and financial services, have historically been reluctant to use cloud-based solutions for cybersecurity because they have concerns regarding the risks associated with the reliability or security of the technology delivery model associated with these solutions. If we or other software companies with cloud-based offerings experience security incidents, breaches of customer data, disruptions in service delivery or other problems, the market for cloud-based solutions as a whole may be negatively impacted, which in turn would negatively impact our revenue and our growth prospects.

Our sales cycle is long and unpredictable.

The timing of sales of our offerings is difficult to forecast because of the length and unpredictability of our sales cycle, particularly with large enterprises and with respect to certain of our solutions. We sell our solutions primarily to IT departments that are managing a growing set of user and compliance demands, which has increased the complexity of customer requirements to be met and confirmed during the sales cycle and prolonged our sales cycle. Our average sales cycle with an enterprise customer is approximately four months, and to the extent we continue to enter into larger deals, our average sales cycle is likely to increase. Further, the length of time that potential customers devote to their testing and evaluation, contract negotiation and budgeting processes varies significantly, depending on the size of the organization and nature of the product or service under consideration. The ongoing COVID-19 pandemic and related economic uncertainty have also continued to impact the budgets and purchasing decisions and processes of certain of our customers and prospective customers, some of whom have added additional controls on expenditures and require additional internal approvals of expenditures, even if relatively small in dollar amount, all of which could lengthen our sales cycle. In addition, we might devote substantial time and effort to a particular unsuccessful sales effort, and as a result, we could lose other sales opportunities or incur expenses that are not offset by an increase in revenue, which could harm our business.

We are subject to stringent and changing obligations related to data privacy and security. Our failure or perceived failure to comply with such obligations, could lead to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse business consequences.

In the ordinary course of our business, we process personal information and other sensitive information, including proprietary and confidential business information, trade secrets, intellectual property, and sensitive third-party information. Our data processing activities subject us, and third parties upon which we rely, to numerous data privacy and security obligations, such as various laws, rules, regulations, guidance, industry standards, external and internal privacy policies, contracts, and other obligations that govern the processing of personal information by us and on our behalf.

In the United States, federal, state, and local governments have enacted numerous data privacy security laws, including data breach notification laws, personal information privacy laws, and consumer protection laws. For example, the California Consumer Privacy Act, or the CCPA, imposes obligations on businesses to which it applies including, but not limited to, providing specific disclosures in privacy notices and affording California residents certain rights related to their personal information. The CCPA allows for statutory fines for noncompliance (up to $7,500 per violation). Further, the California Privacy Rights Act, or CPRA, effective on January 1, 2023, will expand the CCPA, including by expanding certain consumers' rights. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CPRA, which could increase the risk of an enforcement action. Other states have enacted data privacy laws. For example, Virginia recently passed its Consumer Data Protection Act and Colorado recently passed the Colorado Privacy Act, both of which differ from the CPRA and go into effect on January 1, 2023 and July 1, 2023 respectively.

Outside the United States, an increasing number of laws, regulations, and industry standards apply to data privacy and security. For example, the European Union's General Data Protection Regulation, or EU GDPR, and the United Kingdom's GDPR, or UK GDPR, impose strict requirements for processing the personal information of individuals. Violations of these obligations carry significant potential consequences. For example, under the EU GDPR, government regulators may impose temporary or definitive bans on processing, as well as fines of up to €20 million or up to 4% of the annual global revenue, whichever is greater. We have an internal data privacy function that oversees and supervises our compliance with European and UK data protection regulations but, despite our efforts, we may fail, or be perceived to have failed, to comply.

Additionally, certain jurisdictions have enacted data localization laws and cross-border personal information transfer laws, which could make it more difficult to transfer personal information across jurisdictions (such as transferring or receiving personal information that originates in the EU or UK). Existing mechanisms that may facilitate cross-border personal information transfers may change or be invalidated. For example, absent appropriate safeguards or other circumstances, the EU GDPR generally restricts the transfer of personal information to countries outside of the European Economic Area, such as the United States, which the EU does not consider to provide an adequate level of data privacy and security, unless certain safeguards are in place. While we have taken steps to lawfully transfer personal information, the efficacy and longevity of these mechanisms remains uncertain.

Our obligations related to data privacy and security are quickly changing in an increasingly stringent fashion, creating some uncertainty as to the effective future legal framework. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or in conflict among jurisdictions. Existing and proposed laws and regulations can be costly to comply with, can delay or impede the development or adoption of our products and services and require significant management time and attention. Although we endeavor to comply with all data privacy and security obligations, we may at times fail (or be perceived to have failed) to do so. Moreover, despite our efforts, our personnel or third parties upon which we rely may fail to comply with such obligations, which could negatively impact our business operations and compliance posture. If we fail, or are perceived to have failed, to address or comply with applicable data privacy and security obligations, we could face significant consequences. These consequences include, but are not limited to: government enforcement actions (such as investigations, fines, penalties, audits, inspections); litigation (including class-related claims); additional reporting requirements and/or oversight. Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: interruptions or stoppages in our business operations, inability to process personal information or operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; reputational harm; loss of customers; reduction in the use of our products; or revision or restricting of our operations.

We rely on our third-party channel partner network of distributors and resellers to generate a substantial amount of our revenue.

Our success is dependent in part upon establishing and maintaining relationships with a variety of channel partners that we utilize to extend our geographic reach and market penetration. We use a two-tiered, indirect fulfillment model whereby we sell our products and services to our distributors, which in turn sell to our resellers, which then sell to our end users, which we call customers. We anticipate that we will continue to rely on this two-tiered sales model in order to help facilitate sales of our offerings as part of larger purchases in the United States and to grow our business internationally. In 2021, 2020 and 2019, we derived 92%, 91% and 90%, respectively, of our revenue from subscriptions and perpetual licenses sold through channel partners, and the percentage of revenue derived from channel partners may continue to increase in future periods. Ingram Micro, Inc., a distributor, accounted for 39%, 43% and 43% of our revenue in 2021, 2020 and 2019, respectively, and 32% of our accounts receivable as of December 31, 2021 and 41% as of December 31, 2020. Our agreements with our channel partners, including our agreement with Ingram Micro, are non-exclusive and do not prohibit them from working with our competitors or offering competing solutions, and some of our channel partners may have more established relationships with our competitors. Similarly, our channel partners have no obligations to renew their agreements with us on commercially reasonable terms or at all, and certain of the agreements governing these relationships may be terminated by either party at any time, with no or limited notice. For example, our agreement with Ingram Micro allows Ingram Micro to terminate the agreement in their discretion upon 30 days' written notice to us. If our channel partners choose to place greater emphasis on products of their own or those offered by our competitors or a result of an acquisition, competitive factors or other reasons do not continue to market and sell our solutions in an effective manner or at all, our ability to grow our business and sell our solutions, particularly in key international markets, may be adversely affected. In addition, our failure to recruit additional channel partners, or any reduction or delay in their sales of our solutions and professional services, including as a result of the ongoing COVID-19 pandemic, or conflicts between channel sales and our direct sales and marketing activities may harm our results of operations. Finally, even if we are successful, our relationships with channel partners may not result in greater customer usage of our solutions and professional services or increased revenue.

A portion of our revenue is generated from subscriptions and perpetual licenses sold to domestic governmental entities, foreign governmental entities and other heavily regulated organizations, which are subject to a number of challenges and risks.

A portion of our revenue is generated from subscriptions and perpetual licenses sold to governmental entities in the United States. Additionally, many of our current and prospective customers, such as those in the financial services, energy, insurance and healthcare industries, are highly regulated and may be required to comply with more stringent regulations in connection with subscribing to and implementing our enterprise platform. Selling licenses to these entities can be highly competitive, expensive and time-consuming, often requiring significant upfront time and expense without any assurance that we will successfully complete a sale. Governmental demand and payment for our enterprise platform may also be impacted by public sector budgetary cycles and funding authorizations, with funding reductions or delays adversely affecting public sector demand for our enterprise platform. In addition, governmental entities have the authority to terminate contracts at any time for the convenience of the government, which creates risk regarding revenue anticipated under our existing government contracts.

Further, governmental and highly regulated entities often require contract terms that differ from our standard customer arrangements, including terms that can lead to those customers obtaining broader rights in our solutions than would be expected under a standard commercial contract and terms that can allow for early termination. The U.S. government will be able to terminate any of its contracts with us either for its convenience or if we default by failing to perform in accordance with the contract schedule and terms. Termination for convenience provisions would generally enable us to recover only our costs incurred or committed, settlement expenses, and profit on the work completed prior to termination. Termination for default provisions do not permit these recoveries and would make us liable for excess costs incurred by the U.S. government in procuring undelivered items from another source. Contracts with governmental and highly regulated entities may also include preferential pricing terms. In the United States, federal government agencies may promulgate regulations, and the President may issue executive orders, requiring federal contractors to adhere to different or additional requirements after a contract is signed. If we do not meet applicable requirements of law or contract, we could be subject to significant liability from our customers or regulators. Even if we do meet these requirements, the additional costs associated with providing our enterprise platform to government and highly regulated customers could harm our operating results. Moreover, changes in the underlying statutory and regulatory conditions that affect these types of customers could harm our ability to efficiently provide them access to our enterprise platform and to grow or maintain our customer base. In addition, engaging in sales activities to foreign governments introduces additional compliance risks, including risks specific to anti-bribery regulations, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.K. Bribery Act 2010 and other similar statutory requirements prohibiting bribery and corruption in the jurisdictions in which we operate. Further, in some jurisdictions we may be required to obtain government certifications, which may be costly to maintain and, if we lost such certifications in the future or if such certification requirements changed, would restrict our ability to sell to government entities until we have attained such certifications.

Some of our revenue is derived from contracts with U.S. government entities, as well as subcontracts with higher-tier contractors. As a result, we are subject to federal contracting regulations, including the Federal Acquisition Regulation, or the FAR. Under the FAR, certain types of contracts require pricing that is based on estimated direct and indirect costs, which are subject to change.

In connection with our U.S. government contracts, we may be subject to government audits and review of our policies, procedures, and internal controls for compliance with contract terms, procurement regulations, and applicable laws. In certain circumstances, if we do not comply with the terms of a contract or with regulations or statutes, we could be subject to contract termination or downward contract price adjustments or refund obligations, could be assessed civil or criminal penalties, or could be debarred or suspended from obtaining future government contracts for a specified period of time. Any such termination, adjustment, sanction, debarment or suspension could have an adverse effect on our business.

In the course of providing our solutions and professional services to governmental entities, our employees and those of our channel partners may be exposed to sensitive government information. Any failure by us or our channel partners to safeguard and maintain the confidentiality of such information could subject us to liability and reputational harm, which could materially and adversely affect our results of operations and financial performance.

Our pricing model subjects us to various challenges that could make it difficult for us to derive expected value from our customers and we may need to reduce our prices or change our pricing model to remain competitive.

Subscriptions and perpetual licenses to our enterprise platform are generally priced based on the number of IP addresses or total IT assets that can be monitored. We expect that we may need to change our pricing from time to time. As competitors introduce new products that compete with ours or reduce their prices, we may be unable to attract new customers or retain existing customers based on our historical pricing. We also must determine the appropriate price to enable us to compete effectively internationally. Moreover, mid- to large-size enterprises may demand substantial price discounts as part of the negotiation of sales contracts and, as the amount of IT assets or IP addresses within our customers' organization grows, we may face additional pressure from our customers regarding our pricing. As a result, we may be required or choose to reduce our prices or change our pricing model, which could adversely affect our business, revenue, operating margins and financial condition.

Further, our subscription agreements and perpetual licenses generally provide that we can audit our customers’ use of our offerings to ensure compliance with the terms of such agreement or license and monitor an increase in IT assets and IP addresses being monitored. However, a customer may resist or refuse to allow us to audit their usage, in which case we may have to pursue legal recourse to enforce our rights under the agreement or license, which would require us to spend money, distract management and potentially adversely affect our relationship with our customers and users.

If our enterprise platform offerings do not achieve sufficient market acceptance, our results of operations and competitive position will suffer.

We spend substantial amounts of time and money to research and develop and enhance our enterprise platform offerings to meet our customers’ rapidly evolving demands. In addition, we invest in efforts to continue to add capabilities to our existing products and enable the continued detection of new network vulnerabilities. We typically incur expenses and expend resources upfront to market, promote and sell our new and enhanced offerings. Therefore, when we develop and introduce new or enhanced offerings, they must achieve high levels of market acceptance in order to justify the amount of our investment in developing and bringing them to market. For example, if Tenable Lumin does not garner widespread market adoption and implementation, our operating results and competitive position could suffer.

Further, we may make enhancements to our offerings that our customers do not like, find useful or agree with. We may also discontinue certain features, begin to charge for certain features that are currently free or increase fees for any of our features or usage of our offerings.

Our new offerings or enhancements and changes to our existing offerings could fail to attain sufficient market acceptance for many reasons, including:

- failure to predict market demand accurately, including changes in demand as a result of the ongoing COVID-19 pandemic or related macroeconomic trends, in terms of functionality and to supply offerings that meets this demand in a timely fashion;
- defects, errors or failures;
- negative publicity about their performance or effectiveness;

- delays in releasing our new offerings or enhancements to our existing offerings to the market;
- introduction or anticipated introduction of competing products by our competitors;
- poor business conditions for our customers, including as a result of the ongoing COVID-19 pandemic, causing them to delay or forgo IT purchases; and
- reluctance of customers to purchase cloud-based offerings.

If our new or enhanced offerings do not achieve adequate acceptance in the market, our competitive position will be impaired, and our revenue will be diminished. The adverse effect on our operating results may be particularly acute because of the significant research, development, marketing, sales and other expenses we will have incurred in connection with the new or enhanced offerings.

Our strategy of offering and deploying our solutions in the cloud, on-premises environments or using a hybrid approach causes us to incur increased expenses and may pose challenges to our business.

We offer and sell our enterprise platform for use in the cloud, on-premises environments or using a hybrid approach using the customer's own infrastructure. Our cloud offering enables our customers to eliminate the burden of provisioning and maintaining infrastructure and to scale their usage of our solutions quickly, while our on-premises offering allows for the customer's complete control over data security and software infrastructure. Historically, our solutions were developed in the context of the on-premises offering, and we have less operating experience offering and selling subscriptions to our solutions via our cloud offering. Although a substantial majority of our revenue has historically been generated from customers using our solutions on an on-premises basis, our customers are increasingly adopting our cloud offering. We expect that our customers will continue to move to our cloud offering and that it will become more central to our distribution model. We expect our gross profit to increase in absolute dollars and our gross margin to decrease to the extent that revenue from our cloud-based subscriptions increases as a percentage of revenue, although our gross margin could fluctuate from period to period. To support both on-premises environments and cloud instances of our product, our support team must be trained on and learn multiple environments in which our solution is deployed, which is more expensive than supporting only a cloud offering. Moreover, we must engineer our software for an on-premises environment, cloud offering and hybrid installation, which we expect will cause us additional research and development expense that may impact our operating results. As more of our customers transition to the cloud, we may be subject to additional competitive pressures, which may harm our business. We are directing a significant portion of our financial and operating resources to implement a robust and secure cloud offering for our customers, but even if we continue to make these investments, we may be unsuccessful in growing or implementing our cloud offering in a way that competes successfully against our current and future competitors and our business, results of operations and financial condition could be harmed.

Our customers' increased usage of our cloud-based offerings requires us to continually improve our computer network and infrastructure to avoid service interruptions or slower system performance.

As usage of our cloud-based offerings grows and as customers use them for more complicated applications, increased assets and with increased data requirements, we will need to devote additional resources to improving our platform architecture and our infrastructure in order to maintain the performance of our cloud offering. Any failure or delays in our computer systems could cause service interruptions or slower system performance. If sustained or repeated, these performance issues could reduce the attractiveness of our enterprise platform to customers. These performance issues could result in lost customer opportunities and lower renewal rates, any of which could hurt our revenue growth, customer loyalty and reputation.

A component of our growth strategy is dependent on our continued international expansion, which adds complexity to our operations.

We market and sell our solutions and professional services throughout the world and have personnel in many parts of the world. International operations generated 42% and 39% of our revenue in 2021 and 2020, respectively. Our growth strategy is dependent, in part, on our continued international expansion. We expect to conduct a significant amount of our business with organizations that are located outside the United States, particularly in Europe and Asia. We cannot assure that our expansion efforts into international markets will be successful in creating further demand for our solutions and professional services outside of the United States or in effectively selling our solutions and professional services in the international markets that we enter. Our current international operations and future initiatives will involve a variety of risks, including:

- increased management, infrastructure and legal costs associated with having international operations;
- reliance on channel partners;
- trade and foreign exchange restrictions, including potential changes in trade relations arising from policy initiatives;
- economic or political instability in foreign markets, including instability related to the United Kingdom's recent exit from the European Union and the corresponding impact on its ongoing legal, political, and economic relationship with the European Union and heightened levels of inflation;
- travel restrictions resulting from the COVID-19 pandemic, including restrictions on U.S. travelers entering some foreign countries;
- greater difficulty in enforcing contracts, accounts receivable collection and longer collection periods;
- changes in regulatory requirements, including, but not limited to data privacy, data protection and data security regulations;
- difficulties and costs of staffing, managing and potentially reorganizing foreign operations, including increased employee recruitment, training and retention costs related to global employment turnover trends and inflationary pressures in the labor market stemming from the COVID-19 pandemic;
- the uncertainty and limitation of protection for intellectual property rights in some countries;
- costs of compliance with foreign laws and regulations and the risks and costs of non-compliance with such laws and regulations;
- differing labor regulations in foreign jurisdictions where labor laws are generally more advantageous to employees, including deemed hourly wage and overtime regulations in these locations;
- costs of compliance with U.S. laws and regulations for foreign operations, including the FCPA, import and export control laws, tariffs, trade barriers, economic sanctions and other regulatory or contractual limitations on our ability to sell or provide our solutions in certain foreign markets, and the risks and costs of non-compliance;
- requirements to comply with foreign privacy, data protection and information security laws and regulations and the risks and costs of noncompliance;
- heightened risks of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, and irregularities in, financial statements;
- the potential for political unrest, pandemics, acts of terrorism, hostilities or war;
- management communication and integration problems resulting from cultural differences and geographic dispersion;
- costs associated with language localization of our solutions; and
- costs of compliance with multiple and possibly overlapping tax structures and regimes.

Our business, including the sales of our solutions and professional services by us and our channel partners, may be subject to foreign governmental regulations, which vary substantially from country to country and change from time to time. Our failure, or the failure by our channel partners, to comply with these regulations could adversely affect our business. Further, in many foreign countries it is common for others to engage in business practices that are prohibited by our internal policies and procedures or U.S. regulations applicable to us. Although we have implemented policies and procedures designed to comply with these laws and policies, there can be no assurance that our employees, contractors, channel partners and agents have complied, or will comply, with these laws and policies. Violations of laws or key control policies by our employees, contractors, channel partners or agents could result in delays in revenue recognition, financial reporting misstatements, fines, penalties or the prohibition of the importation or exportation of our solutions and could have a material adverse effect on our business and results of operations. If we are unable to successfully manage the challenges of international expansion and operations, our business and operating results could be adversely affected.

We rely on the performance of highly skilled personnel, including senior management and our engineering, professional services, sales and technology professionals, and our ability to increase our customer base will depend to a significant extent on our ability to expand our sales and marketing operations.

We believe our success has depended, and continues to depend, on the efforts and talents of our senior management team and our highly skilled team members, including our sales personnel, professional services personnel and software engineers. We do not maintain key person insurance on any of our executive officers or key employees. Our senior management and key employees are employed on an at-will basis, which means that they could terminate their employment with us at any time. The loss of any of our senior management or key employees could adversely affect our ability to execute our business plan, and we may not be able to find adequate replacements. We cannot ensure that we will be able to retain the services of any members of our senior management or other key employees.

Our ability to successfully pursue our growth strategy also depends on our ability to attract, motivate and retain our personnel. Competition for well-qualified employees in all aspects of our business is intense. The recent move by companies to offer a remote or hybrid work environment may increase competition for such employees outside of our traditional office locations. In addition, employee turnover rates in the broader global economy and inflationary pressures in the labor market have increased during the ongoing COVID-19 pandemic and may continue to be elevated, which has led, and could continue to lead. to increased recruiting, training and retention costs. If we do not succeed in attracting well-qualified employees, retaining and motivating existing employees or maintaining our corporate culture in a hybrid or remote work environment, our business would be adversely affected.

In addition, our ability to increase our customer base and achieve broader market acceptance of our Cyber Exposure solutions will depend to a significant extent on our ability to expand our sales force and our third-party channel partner network of distributors and resellers, both domestically and internationally. We may not be successful in attracting and retaining talented sales personnel or strategic partners, and any new sales personnel or strategic partners may not be able to achieve productivity in a reasonable period of time or at all. We also plan to dedicate significant resources to sales and marketing programs, including through electronic marketing campaigns and, when deemed safe to do so, trade event sponsorship and participation. All of these efforts will require us to invest significant financial and other resources and our business will be harmed if our efforts do not generate a correspondingly significant increase in revenue.

We must offer high-quality support.

Our customers rely on our personnel for support of our enterprise platform. High-quality support is important for the renewal of our agreements with existing customers and to our existing customers expanding the number of IP addresses or IT assets under their subscriptions. The importance of high-quality support will increase as we expand our business and pursue new customers. If we do not help our customers quickly resolve issues and provide effective ongoing support, our ability to sell new software to existing and new customers would suffer and our reputation with existing or potential customers would be harmed.

Our growth depends in part on the success of our strategic relationships with third parties.

In order to grow our business, we anticipate that we will continue to depend on relationships with strategic partners to provide broader customer coverage and solution delivery capabilities. We depend on partnerships with market leading technology companies to maintain and expand our Cyber Exposure ecosystem by integrating third party data into our platform. Identifying partners, and negotiating and documenting relationships with them, requires significant time and resources. Our agreements with our strategic partners generally are non-exclusive and do not prohibit them from working with our competitors or offering competing solutions. Our competitors may be effective in providing incentives to third parties to favor their products or services or to prevent or reduce subscriptions to our services. If our partners choose to place greater emphasis on products of their own or those offered by our competitors or do not effectively market and sell our product, our ability to grow our business and sell software and professional services may be adversely affected. In addition, acquisitions of our partners by our competitors could result in a decrease in the number of our current and potential customers, as our partners may no longer facilitate the adoption of our solutions by potential customers. We also license third-party threat data that is used in our solutions in order to deliver our offerings. In the future, this data may not be available to us on commercially reasonable terms, or at all. Any loss of the right to use any of this data could result in delays in the provisioning of our offerings until equivalent data is either developed by us, or, if available, is identified, obtained and integrated, which could harm our business.

If we are unsuccessful in establishing or maintaining our relationships with third parties, our ability to compete in the marketplace or to grow our revenue could be impaired and our operating results may suffer. Even if we are successful, we cannot assure you that these relationships will result in increased customer usage of our solutions or increased revenue.

Catastrophic events may disrupt our business.

Our corporate headquarters are located in Columbia, Maryland. The area around Washington, D.C. could be subject to terrorist attacks. Additionally, we rely on our network and third-party infrastructure and enterprise applications, internal technology systems and our website for our development, marketing, operational support, hosted services and sales activities.

While we have begun to initiate hybrid remote and in-person work policies, substantially all of our employees have been working remotely due to the COVID-19 pandemic, which may pose additional security risks. Our business operations are subject to interruption by natural disasters, including those related to the long-term effects of climate change, and other catastrophic events such as fire, floods, power loss, telecommunications failure, cyberattack, war or terrorist attack, or epidemic or pandemic, such as the COVID-19 pandemic. To the extent such events impact our corporate headquarters, other facilities, or off-premises infrastructure, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our software development, lengthy interruptions in our services, breaches of data security and loss of critical data, all of which could have an adverse effect on our future operating results.

Recent and future acquisitions could disrupt our business and adversely affect our business operations and financial results.

We have in the past acquired products, technologies and businesses from other parties, such as our 2021 acquisitions of Alsid and Accurics, and we expect to expand our current business by acquiring additional businesses or technologies in the future. Acquisitions involve many risks, including the following:

- an acquisition may negatively affect our financial results because it may require us to incur charges or assume substantial debt or other liabilities, may cause adverse tax consequences or unfavorable accounting treatment, may expose us to claims and disputes by third parties, including intellectual property claims and disputes, or may not generate sufficient financial return to offset additional costs and expenses related to the acquisition;
- we may encounter difficulties or unforeseen expenditures in integrating the business, technologies, products, personnel or operations of any company that we acquire, particularly if key personnel of the acquired company decide not to work for us;
- an acquisition may disrupt our ongoing business, divert resources, increase our expenses and distract our management;
- an acquisition may result in a delay or reduction of customer purchases for both us and the company acquired due to customer uncertainty about continuity and effectiveness of service from either company;
- we may encounter difficulties in, or may be unable to, successfully sell any acquired solutions;
- an acquisition may involve the entry into geographic or business markets in which we have little or no prior experience or where competitors have stronger market positions;
- our use of cash to pay for an acquisition would limit other potential uses for our cash; and
- if we incur debt to fund such acquisition, such debt may subject us to material restrictions on our ability to conduct our business as well as financial maintenance covenants.

The occurrence of any of these risks could have a material adverse effect on our business operations and financial results. In addition, we may only be able to conduct limited due diligence on an acquired company's operations. Following an acquisition, we may be subject to unforeseen liabilities arising from an acquired company's past or present operations and these liabilities may be greater than the warranty and indemnity limitations that we negotiate. Any unforeseen liability that is greater than these warranty and indemnity limitations could have a negative impact on our financial condition.

We may require additional capital to support business growth, and this capital might not be available on acceptable terms, if at all.

We expect that our existing cash and cash equivalents will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least the next 12 months. However, 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 or enhance our product, improve our operating infrastructure or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. Our current loan agreement includes, and we expect that any future agreements governing our indebtedness will include, restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly impaired, and our business may be adversely affected.

If we do not generate sufficient cash flows, we may be unable to service all of our indebtedness.

To service our indebtedness, we will require a significant amount of cash. Our ability to generate cash, make scheduled payments or to refinance our debt obligations depends on our successful financial and operating performance, which may be affected by a range of economic, competitive and business factors, many of which are outside of our control and some of which are described elsewhere in the "Risk Factors" section of this report.

If our cash flows and capital resources are insufficient to fund our debt service obligations, or to repay the term loan when it matures, we may have to undertake alternative financing plans, such as refinancing or restructuring our debt, selling assets or operations, reducing or delaying capital investments, or seeking to raise additional capital. We may not be able to refinance our debt, or any refinancing of our debt could be at higher interest rates and may require us to comply with more restrictive covenants that could further restrict our business operations. Our ability to implement successfully any such alternative financing plans will depend on a range of factors, including general economic conditions, the level of activity in capital markets generally, and the terms of our various debt instruments then in effect.

Covenants under our Credit Agreement may restrict our business and operations in many ways, and if we do not effectively manage our covenants, our financial conditions and results of operations could be adversely affected.

Our Credit Agreement imposes various covenants that limit our ability and/or our restricted subsidiaries' ability to, among other things:

- pay dividends or distributions, repurchase equity, prepay, redeem or repurchase certain debt, and make certain investments;
- incur additional debt and issue certain preferred stock;
- provide guarantees in respect of obligations of other persons;
- incur liens on assets;
- engage in certain asset sales, including capital stock of our subsidiaries;
- merge, consolidate with, or sell all or substantially all our assets to another person;
- enter into transactions with affiliates;
- enter into agreements that restrict distributions from our subsidiaries;
- designate subsidiaries as unrestricted subsidiaries; and
- prohibit certain restrictions on the ability of restricted subsidiaries to pay dividends or make other payments to us.

These covenants may:

- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions, or other general business purposes;
- limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions, or other general business purposes;
- require us to use a substantial portion of our cash flow from operations to make debt service payments;
- limit our flexibility to plan for, or react to, changes in our business and industry;
- place us at a competitive disadvantage compared to less leveraged competitors; and
- increase our vulnerability to the impact of adverse economic and industry conditions.

If we are unable to successfully manage the limitations and decreased flexibility on our business due to our significant debt obligations, we may not be able to capitalize on strategic opportunities or grow our business to the extent we would be able to without these limitations.

Our failure to comply with any of the covenants could result in a default under the Credit Agreement, which could permit the administrative agent or the lenders to cause the administrative agent to declare all or part of any of our outstanding senior secured term loans or revolving loans to be immediately due and payable or to exercise any remedies provided to the administrative agent, including, proceeding against the collateral granted to secure our obligations under the Credit Agreement. An event of default under the Credit Agreement could also lead to an event of default under the terms of certain of our other agreements. Any such event of default or any exercise of rights and remedies by our creditors could seriously harm our business.

The LIBOR calculation method may change, and LIBOR is expected to be phased out after 2021.

Loans under the Credit Agreement bear interest at a rate based on the London Interbank Offered Rate, or LIBOR. On July 27, 2017, the U.K. Financial Conduct Authority, or the FCA, announced that it will no longer require banks to submit rates for the calculation of LIBOR after 2021. However, the cessation date has been deferred to June 30, 2023 for the most commonly used tenors in U.S. dollar LIBOR (i.e., overnight and one, three and six months). This extension to 2023 means that many legacy U.S. dollar LIBOR contracts would terminate before related LIBOR rates cease to be published. In the meantime, actions by the FCA, other regulators, or law enforcement agencies may result in changes to the method by which LIBOR is calculated. If changes to LIBOR result in an increase in rates, our interest expense under the Credit Agreement would increase. Further, if LIBOR is no longer available, our Credit Agreement provides a process to determine a substitute rate, and if such substitute rate is higher than LIBOR, our interest expense under the Credit Agreement would increase.

The nature of our business requires the application of complex accounting rules and regulations. If there are significant changes in current principles, financial reporting standards or interpretations, or if our estimates or judgments relating to our critical accounting policies prove to be incorrect, we may experience unexpected financial reporting fluctuations and our results of operations could be adversely affected.

The accounting rules and regulations that we must comply with are complex and subject to interpretation by the Financial Accounting Standards Board, the Securities and Exchange Commission, or SEC, and various bodies formed to promulgate and interpret appropriate accounting principles. In addition, many companies' accounting disclosures are being subjected to heightened scrutiny by regulators and the public. Further, the accounting rules and regulations are continually changing in ways that could impact our financial statements.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States, or U.S. GAAP, requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in the section of this report titled "Management's Discussion and Analysis of Financial Condition and Results of Operations." Significant assumptions and estimates used in preparing our consolidated financial statements include the determination of the estimated economic life of perpetual licenses for revenue recognition, the estimated period of benefit for deferred commissions, useful lives of long-lived assets, the valuation of stock-based compensation, the incremental borrowing rate for operating leases, and the valuation of deferred tax assets. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our common stock.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. We might be required to change our accounting policies, alter our operational policies and implement new or enhance existing systems, or we may be required to restate our published financial statements, as a result of new standards, changes to existing standards and changes in their interpretation. Such changes to existing standards or changes in their interpretation may have an adverse effect on our reputation, business, financial position and profit, or cause an adverse deviation from our revenue and operating profit target, which may negatively impact our financial results.

Risks Related to Government Regulation, Data Collection and Intellectual Property

Our business could be adversely affected if our employees cannot obtain and maintain required security clearances or we cannot establish and maintain a required facility security clearance.

Certain U.S. government contracts may require our employees to maintain various levels of security clearances, and may require us to maintain a facility security clearance, to comply with Department of Defense, or DoD, requirements. The DoD has strict security clearance requirements for personnel who perform work in support of classified programs. Obtaining and maintaining a facility clearance and security clearances for employees can be a difficult, sometimes lengthy process. If we do not have employees with the appropriate security clearances, then a customer requiring classified work could terminate an existing contract or decide not to renew the contract upon its expiration. To the extent we are not able to obtain or maintain a facility security clearance, we may not be able to bid on or win new classified contracts, and existing contracts requiring a facility security clearance could be terminated.

Any failure to protect our proprietary technology and intellectual property rights could substantially harm our business and operating results.

Our success and ability to compete depend in part on our ability to protect our proprietary technology and intellectual property. To safeguard these rights, we rely on a combination of patent, trademark, copyright and trade secret laws and contractual protections in the United States and other jurisdictions, all of which provide only limited protection and may not now or in the future provide us with a competitive advantage.

As of December 31, 2021, we had 23 issued patents and 15 patent applications pending in the United States relating to our technology. We cannot assure you that any patents will issue from any patent applications, that patents that issue from such applications will give us the protection that we seek or that any such patents will not be challenged, invalidated or circumvented. Any patents that may issue in the future from our pending or future patent applications may not provide sufficiently broad protection and may not be enforceable in actions against alleged infringers. Obtaining and enforcing software patents in the United States is becoming increasingly challenging. Any patents we have obtained or may obtain in the future may be found to be invalid or unenforceable in light of recent and future changes in the law. We have registered the “Tenable,” “Nessus,” “Tenable.io” and "Lumin" trademarks and our Tenable logo in the United States and certain other countries. We have registrations and/or pending applications for additional trademarks in the United States; however, we cannot assure you that any future trademark registrations will be issued for pending or future applications or that any registered trademarks will be enforceable or provide adequate protection of our proprietary rights. While we have copyrights in our software, we do not typically register such copyrights with the Copyright Office. This failure to register the copyrights in our software may preclude us from obtaining statutory damages for infringement under certain circumstances. We also license software from third parties for integration into our software, including open source software and other software available on commercially reasonable terms. We cannot assure you that such third parties will maintain such software or continue to make it available.

In order to protect our unpatented proprietary technologies and processes, we rely on trade secret laws and confidentiality and invention assignment agreements with our employees, consultants, strategic partners, vendors and others. Despite our efforts to protect our proprietary technology and trade secrets, unauthorized parties may attempt to misappropriate, copy, reverse engineer or otherwise obtain and use them. In addition, others may independently discover our trade secrets, in which case we would not be able to assert trade secret rights, or develop similar technologies and processes. Further, several agreements may give customers limited rights to access portions of our proprietary source code, and the contractual provisions that we enter into may not prevent unauthorized use or disclosure of our proprietary technology or intellectual property and may not provide an adequate remedy in the event of unauthorized use or disclosure of our proprietary technology or intellectual property rights. Moreover, policing unauthorized use of our technologies, trade secrets and intellectual property is difficult, expensive and time-consuming, particularly in foreign countries where the laws may not be as protective of intellectual property rights as those in the United States and where mechanisms for enforcement of intellectual property rights may be weak. To the extent that we expand our activities outside of the United States, our exposure to unauthorized copying and use of our solutions and proprietary information may increase. We may be unable to determine the extent of any unauthorized use or infringement of our solutions, technologies or intellectual property rights.

There can be no assurance that the steps that we take will be adequate to protect our proprietary technology and intellectual property, that others will not develop or patent similar or superior technologies, solutions or services, or that our trademarks, patents, and other intellectual property will not be challenged, invalidated or circumvented by others. Furthermore, effective trademark, patent, copyright, and trade secret protection may not be available in every country in which our software is available or where we have employees or independent contractors. In addition, the legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights in internet and software-related industries are uncertain and still evolving.

In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect these rights. Litigation brought to protect and enforce our intellectual property rights could be costly, time-consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights. Our failure to secure, protect and enforce our intellectual property rights could seriously adversely affect our brand and adversely impact our business.

We may be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Companies in the software and technology industries, including some of our current and potential competitors, own significant numbers of patents, copyrights, trademarks and trade secrets and frequently enter into litigation based on allegations of infringement or other violations of intellectual property rights. In addition, many of these companies have the capability to dedicate substantially greater resources to enforce their intellectual property rights and to defend claims that may be brought against them. The litigation may involve patent holding companies or other adverse patent owners that have no relevant product revenue and against which our patents may therefore provide little or no deterrence. In the past, we have been subject to allegations of patent infringement that were unsuccessful, and we expect in the future to be subject to claims that we have misappropriated, misused, or infringed other parties' intellectual property rights, and, to the extent we gain greater market visibility or face increasing competition and as we acquire more companies, we face a higher risk of being the subject of intellectual property infringement claims, which is not uncommon with respect to enterprise software companies. We may in the future be subject to claims that employees or contractors, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of our competitors or other parties. To the extent that intellectual property claims are made against our customers based on their usage of our technology, we have certain obligations to indemnify and defend such customers from those claims. The term of our contractual indemnity provisions often survives termination or expiration of the applicable agreement. Large indemnity payments, defense costs or damage claims from contractual breach could harm our business, results of operations and financial condition.

There may be third-party intellectual property rights, including issued or pending patents that cover significant aspects of our technologies or business methods, including those relating to companies we acquire. Any intellectual property claims, with or without merit, could be very time-consuming, could be expensive to settle or litigate, could divert our management's attention and other resources and could result in adverse publicity. These claims could also subject us to making substantial payments for legal fees, settlement payments, and other costs or damages, potentially including treble damages if we are found to have willfully infringed patents or copyrights. These claims could also result in our having to stop making, selling, offering for sale, or using technology found to be in violation of a third party's rights. We might be required to seek a license for the third-party intellectual property rights, which may not be available on reasonable terms or at all. Even if a license is available to us, we may be required to pay significant upfront fees, milestones or royalties, which would increase our operating expenses. Moreover, to the extent we only have a license to any intellectual property used in our solutions, there may be no guarantee of continued access to such intellectual property, including on reasonable terms. As a result, we may be required to develop alternative non-infringing technology, which could require significant effort and expense. If a third party is able to obtain an injunction preventing us from accessing such third-party intellectual property rights, or if we cannot license or develop technology for any infringing aspect of our business, we would be forced to limit or stop sales of our software or cease business activities covered by such intellectual property, and may be unable to compete effectively. Any of these results would adversely affect our business, results of operations, financial condition and cash flows.

Portions of our solutions utilize open source software, and any failure to comply with the terms of one or more of these open source licenses could negatively affect our business.

Our software contains software made available by third parties under so-called "open source" licenses. From time to time, there have been claims against companies that distribute or use open source software in their products and services, asserting that such open source software infringes the claimants' intellectual property rights. We could be subject to suits by parties claiming that what we believe to be licensed open source software infringes their intellectual property rights. Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. In addition, certain open source licenses require that source code for software programs that are subject to the license be made available to the public and that any modifications or derivative works to such open source software continue to be licensed under the same terms. Further, certain open source licenses also include a provision that if we enforce any patents against the software programs that are subject to the license, we would lose the license to such software. If we were to fail to comply with the terms of such open source software licenses, such failures could result in costly litigation, lead to negative public relations or require that we quickly find replacement software which may be difficult to accomplish in a timely manner.

Although we monitor our use of open source software in an effort both to comply with the terms of the applicable open source licenses and to avoid subjecting our software to conditions we do not intend, the terms of many open source licenses have not been interpreted by U.S. courts, and there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our product or operate our business. By the terms of certain open source licenses, we could be required to release the source code of our software and to make our proprietary software available under open source licenses, if we combine or distribute our software with open source software in a certain manner. In the event that portions of our software are determined to be subject to an open source license, we could be required to publicly release the affected portions of our source code, re-engineer all, or a portion of, that software or otherwise be limited in the licensing of our software, each of which could reduce or eliminate the value of our product. Many of the risks associated with usage of open source software cannot be eliminated, and could negatively affect our business, results of operations and financial condition.

Risks Related to An Investment in Our Common Stock

Our stock price may be volatile, and the value of our common stock may decline.

The market price of our common stock may fluctuate substantially and depends on a number of factors, including those described in this "Risk Factors" section, many of which are beyond our control and may not be related to our operating performance. Factors that could cause fluctuations in the market price of our common stock include the following:

- actual or anticipated changes or fluctuations in our operating results;

- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- announcements by us or our competitors of new products or new or terminated significant contracts, commercial relationships or capital commitments;
- industry or financial analyst or investor reaction to our press releases, other public announcements and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- price and volume fluctuations in the overall stock market from time to time;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- failure to comply with the terms of the Credit Agreement;
- sales of shares of our common stock by us or our stockholders;
- failure of industry or financial analysts to maintain coverage of us, changes in financial estimates by any analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- actual or anticipated developments in our business or our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property rights or our solutions, or third-party proprietary rights;
- announced or completed acquisitions of businesses or technologies by us or our competitors;
- new or proposed laws or regulations or new interpretations of existing laws or regulations applicable to our business, including proposed changes to the U.S. corporate income tax rate and capital gains tax rates;
- any major changes in our management or our Board of Directors;
- general economic conditions and slow or negative growth of our markets; and
- other events or factors, including those resulting from pandemics, war, incidents of terrorism or responses to these events.

Recently, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies, including in connection with the COVID-19 pandemic. These fluctuations have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry fluctuations, as well as general economic, political, regulatory and market conditions, may negatively impact the market price of our common stock. In the past, companies that have experienced volatility in the market price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future, which could result in substantial costs and divert our management's attention.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not control these analysts or the content and opinions included in their reports. If our financial performance fails to meet analyst estimates or one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. In addition, the stock prices of many companies in the technology industry have declined significantly after those companies have failed to meet, or significantly exceed, the financial guidance publicly announced by the companies or the expectations of analysts. If our financial results fail to meet, or exceed, our announced guidance or the expectations of analysts or public investors, analysts could downgrade our common stock or publish unfavorable research about us. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Future sales of substantial amounts of our common stock in the public markets by us or our stockholders, or the perception such sales might occur, could reduce the price that our common stock might otherwise attain.

Sales of a substantial number of shares of our common stock in the public market by us or our stockholders, or the perception that these sales might occur, could depress the market price of our common stock, impair our ability to raise capital through the sale of additional equity securities and make it more difficult for you to sell your common stock at a time and price that you deem appropriate. Further, the number of new shares of our common stock issued by us in connection with raising additional capital in connection with a financing, acquisition, investment or otherwise could result in substantial dilution to our existing stockholders.

In addition, we have filed registration statements on Form S-8 under the Securities Act registering the issuance of shares of common stock subject to options and other equity awards issued or reserved for future issuance under our equity incentive plans. Shares registered under these registration statements, and under additional registration statements on Form S-8 that we may file to register additional shares of common stock pursuant to provisions of our equity incentive plans that provide for an automatic increase in the number of shares reserved and available for issuance each year, are available for sale in the public market subject to vesting arrangements and exercise of options and the restrictions of Rule 144 under the Securities Act in the case of our affiliates.

We do not intend to pay dividends for the foreseeable future and, as a result, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our Board of Directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments. In addition, our Credit Agreement contains restrictive covenants that prohibit us, subject to certain exceptions, from paying dividends on our common stock.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult, limit attempts by our stockholders to replace or remove members of our Board of Directors and our current management and could negatively impact the market price of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it difficult for stockholders to elect directors that are not nominated by the current members of our Board of Directors or take other corporate actions, including effecting changes in our management. These provisions include:

- a classified Board of Directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our Board of Directors;
- the ability of our Board of Directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the exclusive right of our Board of Directors to elect a director to fill a vacancy created by the expansion of our Board of Directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our Board of Directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairperson of our Board of Directors, Chief Executive Officer or president (in the absence of a chief executive officer) or a majority vote of our Board of Directors, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement for the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of the voting stock, voting together as a single class, to amend the provisions of our amended

and restated certificate of incorporation relating to the issuance of preferred stock and management of our business or our amended and restated bylaws, which may inhibit the ability of an acquirer to affect such amendments to facilitate an unsolicited takeover attempt;

- the ability of our Board of Directors, by majority vote, to amend our amended and restated bylaws, which may allow our Board of Directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend our amended and restated bylaws to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our Board of Directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

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.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware or the U.S. federal district courts will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders;
- any action asserting a claim against us arising pursuant to any provisions of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers or other employees. If a court were to find either exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

General Risks

We are subject to anti-corruption laws, anti-bribery and similar laws with respect to our domestic and international operations, and non-compliance with such laws can subject us to criminal and/or civil liability and materially harm our business and reputation.

We are subject to the anti-bribery laws of the jurisdictions in which we operate. These include the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the U.K. Bribery Act 2010, and other anti-corruption laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit our company from authorizing, offering, or providing, directly or indirectly, improper payments or benefits in order to gain or maintain business, including payments to recipients in the public or private sector. We use third-party law firms, accountants, and other representatives for regulatory compliance, sales, and other purposes in several countries. We sell directly and indirectly, via third-party representatives, to both private and government sectors in the United States and in other jurisdictions. Our employees and third-party representatives interact with these customers, which may include government officials. We can be held liable for the corrupt or other illegal activities of these third-party representatives, our employees, contractors, and other agents, even if we do not explicitly authorize such activities. Noncompliance with these laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension and/or debarment from contracting with certain persons, the loss of export privileges, reputational harm, adverse media coverage, and other collateral consequences. If any subpoenas or investigations are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our reputation, business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees. Enforcement actions and sanctions could further harm our business, results of operations, and financial condition. Moreover, as an issuer of securities, we also are subject to the accounting and internal controls provisions of the FCPA. These provisions require us to maintain accurate books and records and a system of internal controls sufficient to detect and prevent corrupt conduct. Failure to abide by these provisions may have an adverse effect on our business, operations or financial condition.

We are subject to governmental export and import controls and economic and trade sanctions that could impair our ability to conduct business in international markets and subject us to liability if we are not in compliance with applicable laws and regulations.

The United States and other countries maintain and administer export and import laws and regulations. Our products are subject to U.S. export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions administered by the U.S. Treasury Department's Office of Foreign Assets Control. We are required to comply with these laws and regulations. If we fail to comply with such laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including the possible loss of export or import privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers. Obtaining the necessary authorizations, including any required license, for a particular sale may be time-consuming, is not guaranteed and may result in the delay or loss of sales opportunities. In addition, changes in our solutions, or changes in applicable export or import laws and regulations may create delays in the introduction and sale of our products in international markets or, in some cases, prevent the export or import of our solutions to certain countries, governments or persons altogether. Any change in export or import laws and regulations or economic or trade sanctions, shift in the enforcement or scope of existing laws and regulations, or change in the countries, governments, persons or technologies targeted by such laws and regulations could also result in decreased use of our products, or in our decreased ability to export or sell our products to existing or potential customers. Any decreased use of our products or limitation on our ability to export or sell our products would likely adversely affect our business, financial condition, and results of operations.

Furthermore, we incorporate encryption technology into certain of our solutions. Various countries regulate the import of certain encryption technology, including import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our solutions or could limit our customers' ability to implement our solutions in those countries. Encrypted products and the underlying technology may also be subject to export control restrictions. Governmental regulation of encryption technology and regulation of imports or exports of encryption solutions, or our failure to obtain required import or export approval for our solutions, could harm our international sales and adversely affect our revenue. Compliance with applicable laws and regulations regarding the export and import of our solutions, including with respect to new solutions or changes in existing solutions, may create delays in the introduction of our solutions in international markets, prevent our customers with international operations from deploying our solutions globally or, in some cases, could prevent the export or import of our solutions to certain countries, governments, entities or persons altogether.

Moreover, U.S. export control laws and economic sanctions programs prohibit the shipment of certain products and services to countries, governments and persons that are subject to U.S. economic embargoes and trade sanctions. Any violations of such economic embargoes and trade sanction regulations could have negative consequences, including government investigations, penalties and reputational harm.

Uncertainties in the interpretation and application of existing, new and proposed tax laws could materially affect our tax obligations and effective tax rate. Our operating results may be negatively affected if we are required to pay additional taxes, including sales and use tax, value added tax, or other transaction taxes, and we could be subject to liability with respect to all or a portion of past or future sales.

The tax regimes to which we are subject or under which we operate, including income and non-income taxes, are unsettled and may be subject to significant change. For example, the 2017 Tax Cuts and Jobs Act, or the Tax Act, as modified in 2020 by the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, made broad and complex changes to the U.S. tax code, including changes to U.S. federal tax rates, additional limitations on the deductibility of interest, both positive and negative changes to the utilization of future net operating loss, or NOL, carryforwards, allowing for the expensing of certain capital expenditures, and adopting a modified territorial system. Many countries in the European Union, as well as a number of other countries and organizations such as the Organization for Economic Cooperation and Development and the European Commission, are actively considering changes to existing tax laws that, if enacted, could increase our tax obligations in countries where we do business. These proposals include changes to the existing framework to calculate income tax, as well as proposals to change or impose new types of non-income taxes, including taxes based on a percentage of revenue. The issuance of additional regulatory or accounting guidance related to existing or future laws, or changes proposed or implemented by the current or a future U.S. presidential administration, Congress, taxing authorities outside of the United States or otherwise, could materially affect our tax obligations and effective tax rate.

In addition, forecasts of our income tax position and effective tax rate for financial accounting purposes are complex and subject to significant judgment and uncertainty because our income tax position for each year combines the effects of a mix of profits earned and losses incurred by us in various tax jurisdictions with a broad range of income tax rates, as well as changes in the valuation of deferred tax assets and liabilities, the impact of various accounting rules and tax laws (and changes to these rules and tax laws), the results of examinations by various tax authorities, and the impact of any acquisition, business combination or other reorganization or financing transaction. To forecast our global tax rate, we estimate our pre-tax profits and losses and tax expense by jurisdiction. If the mix of profits and losses, our ability to use tax assets and attributes, our assessment of the need for valuation allowances, effective tax rates by jurisdiction or other factors are different than those estimated, our actual tax rate could be materially different than forecasted, which could have a material impact on our business, financial condition and results of operations.

We currently collect and remit sales and use, value added and other transaction taxes in certain of the jurisdictions where we do business based on our assessment of the amount of taxes owed by us in such jurisdictions. However, in some jurisdictions in which we do business, we do not believe that we owe such taxes, and therefore we currently do not collect and remit such taxes in those jurisdictions or record contingent tax liabilities in respect of those jurisdictions. A successful assertion that we are required to pay additional taxes in connection with sales of our solutions, or the imposition of new laws or regulations or the interpretation of existing laws and regulations requiring the payment of additional taxes, would result in increased costs and administrative burdens for us. If we are subject to additional taxes and determine to offset such increased costs by collecting and remitting such taxes from our customers, or otherwise passing those costs through to our customers, companies may be discouraged from using our solutions. Any increased tax burden may decrease our ability or willingness to compete in relatively burdensome tax jurisdictions, result in substantial tax liabilities related to past or future sales or otherwise harm our business and operating results.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

As of December 31, 2021 we had U.S. federal, state and foreign NOLs, of $398.5 million, $226.1 million, and $289.9 million, respectively, available to offset future taxable income, some of which begin to expire in 2030. Federal NOLs incurred in taxable years beginning after December 31, 2017 can be carried forward indefinitely, but the deductibility of federal NOLs in taxable years beginning after December 31, 2021, is subject to certain limitations. A lack of future taxable income would adversely affect our ability to utilize these NOLs before they expire.

In addition, under the provisions of the Internal Revenue Code of 1986, as amended, or the Internal Revenue Code, substantial changes in our ownership may limit the amount of pre-change NOLs that can be utilized annually in the future to offset taxable income. Section 382 of the Internal Revenue Code imposes limitations on a company’s ability to use its NOLs if one or more stockholders or groups of stockholders that own at least 5% of the company’s stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Similar rules may apply under state tax laws. Based upon an analysis as of December 31, 2020, we determined that we do not expect these limitations to materially impair our ability to use our NOLs prior to expiration. However, if changes in our ownership occurred after such date, or occur in the future, our ability to use our NOLs may be further limited. Subsequent statutory or regulatory changes in respect of the utilization of NOLs for federal or state purposes, such as suspensions on the use of NOLs or limitations on the deductibility of NOLs carried forward, or other unforeseen reasons, may result in our existing NOLs expiring or otherwise being unavailable to offset future income tax liabilities. For these reasons, we may not be able to utilize a material portion of the NOLs, even if we achieve profitability.

We are obligated to maintain proper and effective internal controls over financial reporting, and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act, or Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting on an annual basis. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. We are also required to disclose significant changes made in our internal control procedures on a quarterly basis.

During the evaluation and testing process of our internal controls, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the Nasdaq, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters in Columbia, Maryland consist of approximately 160,000 square feet under a lease that expires in February 2032. We maintain additional offices in multiple locations in the United States and internationally in Europe and the Middle East, Asia Pacific and South America. We believe that our current facilities are adequate to meet our ongoing needs and that suitable additional alternative spaces will be available in the future on commercially reasonable terms.

Item 3. Legal Proceedings

From time to time, we may be subject to legal proceedings and claims in the ordinary course of business. We are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, results of operations, financial condition or cash flows. We have received, and may in the future continue to receive, claims from third parties asserting, among other things, infringement of their intellectual property rights. Future litigation may be necessary to defend ourselves, our partners and our customers by determining the scope, enforceability and validity of third-party proprietary rights, or to establish our proprietary rights. The results of any current or future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

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 for Common Stock

Our common stock trades on the Nasdaq Global Select Market under the ticker symbol "TENB."

Holders of Record

At December 31, 2021, we had 18 holders of record. 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 any dividends on our common stock. In addition, our credit agreement with JPMorgan Chase Bank, N.A., as administrative agent and collateral agent, contains restrictive covenants that limit our ability to pay dividends on our common stock. We currently intend to retain all available funds and any future earnings for the operation and expansion of our business and do not anticipate declaring or paying cash dividends in the foreseeable future. The payment of any future dividends will be at the discretion of our board of directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our current and future debt agreements, and other factors that our board of directors may deem relevant.

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

None.

Table of Contents

Item 6. Selected Financial Data

The following selected consolidated statements of operations data for the years ended December 31, 2021, 2020 and 2019 and the selected consolidated balance sheet data as of December 31, 2021 and 2020 are derived from our audited consolidated financial statements included in this Annual Report on Form 10-K. The consolidated statements of operations data for the years ended December 31, 2018 and 2017 and consolidated balance sheet data as of December 31, 2019, 2018 and 2017 are from our audited financial statements not included in this Annual Report on Form 10-K.

You should read the following selected financial data with the historical consolidated financial statements and related notes to those statements, as well as “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included in this Annual Report on Form 10-K.

Consolidated Statements of Operations Data:	Year Ended December 31,				
(in thousands, except per share data)	**2021**	**2020**	**2019**	**2018**	**2017**
Revenue	$ 541,130	$ 440,221	$ 354,586	$ 267,360	$ 187,72
Cost of revenue[1]	106,396	77,554	60,818	43,167	25,58
Gross profit	434,734	362,667	293,768	224,193	162,13
Operating expenses:					
Sales and marketing[1]	270,158	224,277	228,035	173,344	116,29
Research and development[1]	116,432	101,687	87,064	76,698	57,67
General and administrative[1]	89,912	73,136	69,468	46,732	28,92
Total operating expenses	476,502	399,100	384,567	296,774	202,89
Loss from operations	(41,768)	(36,433)	(90,799)	(72,581)	(40,76
Interest (expense) income, net	(6,896)	1,244	5,830	2,355	(7
Other expense, net	(1,965)	(1,885)	(680)	(931)	(1
Loss before income taxes	(50,629)	(37,074)	(85,649)	(71,157)	(40,85
(Benefit) provision for income taxes	(3,952)	5,657	13,364	2,364	17
Net loss	(46,677)	(42,731)	(99,013)	(73,521)	(41,02
Accretion of Series A and B redeemable convertible preferred stock	—	—	—	(434)	(76
Net loss attributable to common stockholders	$ (46,677)	$ (42,731)	$ (99,013)	$ (73,955)	$ (41,78
Net loss per share attributable to common stockholders, basic and diluted[2]	$ (0.44)	$ (0.42)	$ (1.03)	$ (1.38)	$ (1.8
Weighted-average shares used to compute net loss per share attributable to common stockholders, basic and diluted	106,387	101,009	96,014	53,669	22,2

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,				
(in thousands)	**2021**	**2020**	**2019**	**2018**	**2017**
Cost of revenue	$ 4,446	$ 3,158	$ 2,817	$ 1,707	$ 28
Sales and marketing	29,410	19,842	16,032	6,911	1,57
Research and development	20,593	14,794	8,911	5,804	1,78
General and administrative	24,956	21,779	15,683	8,453	4,1
Total stock-based compensation expense	$ 79,405	$ 59,573	$ 43,443	$ 22,875	$ 7,76

(2) See Note 12 to our consolidated financial statements in this Annual Report on Form 10-K for details on the calculation of basic and diluted net loss per share attributable to common stockholders.

Consolidated Balance Sheet Data:	**December 31,**				
(in thousands)	**2021**	**2020**	**2019**	**2018**	**2017**
Cash and cash equivalents	$ 278,000	$ 178,223	$ 74,363	$ 165,116	$ 27,210
Working capital (deficit)[(1)]	265,556	108,891	35,319	142,484	(69,091)
Total assets	1,248,819	690,589	558,612	460,612	164,337
Deferred revenue, current and non-current	530,885	434,510	363,127	289,903	225,818
Term loan, net of issuance costs (net of current portion)	364,728	—	—	—	—
Redeemable convertible preferred stock	—	—	—	—	277,735
Accumulated deficit	(654,529)	(607,852)	(565,121)	(466,108)	(392,587)
Total stockholders' equity (deficit)	215,313	150,665	98,905	121,763	(371,665)

(1) We define working capital (deficit) as total current assets less total current liabilities. See our consolidated financial statements in this Annual Report on Form 10-K for further details regarding our current assets and current liabilities.

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 included elsewhere in this Annual Report on Form 10-K, or this Form 10-K. This Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements are often identified by the use of words such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “project,” “will,” “would” or the negative or plural of these words or similar expressions or variations. Such forward-looking statements are subject to a number of risks, uncertainties, assumptions and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified herein, and those discussed in the section titled “Risk Factors,” set forth in Part I, Item 1A of this Form 10-K and in our other filings with the SEC. Such risks and uncertainties may be amplified by the COVID-19 pandemic and its potential impact on our business and the global economy. You should not rely upon forward-looking statements as predictions of future events. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

Overview

We are a leading provider of Cyber Exposure solutions. Cyber Exposure is a discipline for managing, measuring and comparing cybersecurity risk in the digital era.

We have continued to expand and diversify our platform offerings from traditional vulnerability management (VM) solutions, which include Tenable.sc and Nessus, to our cloud exposure solutions, which include Tenable.ep, Tenable.io, Tenable.cs, Tenable Web Scanning, or Tenable.io WAS, Tenable.ad and Tenable.ot. Our platform offerings provide broad visibility into security issues such as vulnerabilities, misconfigurations, internal and regulatory compliance violations and other indicators of the state of an organization’s security across IT infrastructure and applications, cloud environments, DevOps environments, Active Directory and Identity environments, and Industrial IoT and OT environments. We also provide deep analytics to help organizations score, trend and compare their cyber exposure over time, and communicate cyber risk in business terms to make better strategic decisions. Our platform offerings integrate and analyze data from our native collectors alongside IT asset, vulnerability and threat data from third-party systems and applications to prioritize security issues for remediation and focus an organization’s resources based on risk and business criticality.

Our platform offerings are primarily sold on a subscription basis with a one-year term. Our subscription terms are generally not longer than three years. These offerings are typically prepaid in advance. To a lesser extent, we recognize revenue ratably from perpetual licenses and from the related ongoing maintenance.

We sell and market our products and services through our field sales force that works closely with our channel partners, which includes a network of distributors and resellers, in developing sales opportunities. We use a two-tiered channel model whereby we sell our enterprise platform offerings to our distributors, which in turn sell to our resellers, which then sell to end users, which we call customers.

Many of our enterprise platform customers initially use either our free or paid version of Nessus, one of the most widely deployed vulnerability assessment solutions in the cybersecurity industry. Nessus, which is sold on a stand-alone basis and is the technology that underpins our enterprise platform offerings, is designed to quickly and accurately identify security vulnerabilities, configuration issues and malware. Our free version of Nessus, Nessus Essentials, allows for vulnerability assessment over a limited number of IP addresses. We believe many of our Nessus customers begin with Nessus Essentials and subsequently upgrade to Nessus Professional, the paid version of Nessus; however, we expect a significant number of users to continue to use Nessus Essentials.

Revenue in 2021, 2020 and 2019 was $541.1 million, $440.2 million and $354.6 million, representing year-over-year growth of 23% and 24%, respectively. Our recurring revenue, which includes revenue from subscription arrangements for software and cloud-based solutions and maintenance associated with perpetual licenses, represented 94.6%, 93.6% and 91.8% of revenue in 2021, 2020 and 2019, respectively. Our net loss in 2021, 2020 and 2019 was $46.7 million, $42.7 million and $99.0 million, respectively, as we continue to invest in our business and market opportunity. Our cash flows from operating activities were $96.8 million, $64.2 million and $(10.7) million in 2021, 2020 and 2019, respectively.

COVID-19 Update

While we have not seen a significant adverse impact on our business from the pandemic as of December 31, 2021, the extent to which it will impact our business and operations will depend on future developments that are uncertain. We continue to monitor the impact of the COVID-19 pandemic on our customers, partners, employees and service providers. We have resumed limited business travel and adopted a hybrid work environment, which we expect will lead to additional costs. For additional information on the potential effects of the COVID-19 pandemic on our business, financial condition and results of operations, see the "Liquidity and Capital Resources" section below and “Risk Factors” in Part I, Item 1A of this Form 10-K.

Financial Highlights

Below are our key financial results:

	Year Ended December 31,		
(in thousands, except per share data)	**2021**	**2020**	**2019**
Revenue	$ 541,130	$ 440,221	$ 354,586
Loss from operations	(41,768)	(36,433)	(90,799)
Net loss	(46,677)	(42,731)	(99,013)
Net loss per share, basic and diluted	(0.44)	(0.42)	(1.03)
Net cash provided by (used in) operating activities	96,765	64,232	(10,744)
Purchases of property and equipment	(6,561)	(20,277)	(20,674)

Factors Affecting Our Performance

Product Leadership

Our enterprise platform offerings provide visibility into the broadest range of traditional and modern IT assets across cloud and on-premises environments. We are intensely focused on continued innovation and ongoing development of our enterprise platform offerings that empower organizations to understand and reduce their Cyber Exposure. Additionally, we continue to expand the capabilities of our Nessus products, specifically as they relate to the ability to scan for and detect the rapidly expanding volume of vulnerabilities.

We intend to continue to invest in our engineering capabilities and marketing activities to maintain our position in the highly-competitive market for cybersecurity solutions. Our results of operations may fluctuate as we make these investments to drive increased customer adoption and usage.

New Enterprise Platform Customer Acquisition

We believe that our customer base provides a significant opportunity to expand sales of our enterprise platform offerings and that our ability to continue to grow the number of enterprise platform customers will increase future opportunities for renewals and follow-on sales. We believe that we have significant room to increase our market share.

We expect to grow our enterprise platform customers by continuing to expand our sales organization and leveraging our channel partner network, which we believe will allow us to identify new enterprise customers, enter new markets, including internationally, as well as to convert more of our existing Nessus Professional customers to enterprise platform customers.

We will continue to invest in our partner network and sales and marketing capability in order to grow domestically and internationally.

Retaining and Expanding Revenue from Existing Customers

Our enterprise platform offerings utilize IT asset-based or IP address-based pricing models. Once enterprise customers have licensed our platform offerings, they typically seek broader coverage over their traditional IT assets, including networking infrastructure, desktops and on-premises servers. As customers launch new applications or migrate existing applications to the cloud and deploy web applications, containers, IoT and OT, they often increase the scope of their subscriptions and/or add additional perpetual licenses to our enterprise platforms.

We are also focused on upselling customers from Nessus Professional to our enterprise platform offerings. Nessus Professional customers are typically organizations or independent security consultants that use Nessus Professional for a single vulnerability assessment at a point in time. We seek to convert these customers to our enterprise platform offerings, which provide continuous visibility and insights into their attack surface, as their needs develop.

Further, we plan to expand existing platform capabilities and launch new products, which we believe will drive new product purchases and follow-on purchases over time, thereby contributing to customer renewals. We believe that there is a significant opportunity to drive additional sales to existing customers, and we expect to invest in sales and marketing and customer success personnel and activities to achieve additional revenue growth from existing customers. However, our ability to increase sales to existing customers will depend on a number of factors, including satisfaction or dissatisfaction with our products and services, competition, pricing, current economic conditions or overall changes in our and our clients' spending levels.

We evaluate our ability to expand sales with existing customers by assessing our dollar-based net expansion rate on a last twelve months, or LTM, basis. We have historically calculated our dollar-based net expansion rate as follows:

- Denominator: To calculate our dollar-based net expansion rate as of the end of a reporting period, we first determine the annual recurring revenue, or ARR, from all active subscriptions and maintenance from perpetual licenses as of the last day of the same reporting period in the prior year. This represents recurring payments that we expect to receive in the next 12-month period from the cohort of customers that existed on the last day of the same reporting period in the prior year.

- Numerator: We measure the ARR for that same cohort of customers representing all subscriptions and maintenance from perpetual licenses based on customer orders as of the end of the reporting period.

We calculate dollar-based net expansion rate by dividing the numerator by the denominator.

Our dollar-based net expansion rate for 2021 exceeded 110% on an LTM basis. Our dollar-based net expansion rate may fluctuate from quarter to quarter if our existing customers choose to reduce or delay technology spending in response to economic conditions resulting from the COVID-19 pandemic, or as a result of a number of other factors, including our existing customers' satisfaction with our solutions, the pricing of our solutions and the ability of competing solutions and the pricing thereof.

We also utilize an alternative dollar-based net expansion rate to assess our ability to expand sales with existing customers and evaluate the performance of our sales team. This alternative dollar-based net expansion rate is based on the methodology described above, but excludes the annual contract value of prior period multi-year sales from ARR in the numerator and the denominator of the calculation. We believe this methodology more closely aligns with the renewal and expansion goals established for our sales team because it measures net expansion by customers with contracts up for renewal during the period. Applying this methodology would have increased the dollar-based net expansion rate by two to five percentage points in 2020 and 2021.

Investing in Business Growth

Since our founding, we have invested significantly in growing our business. We intend to continue to invest in sales and marketing to grow our sales team, expand brand and Cyber Exposure awareness and optimize our channel partner network. We also intend to continue to invest in our research and development team to further our technological leadership position in Cyber Exposure and enhance the functionality of our solutions. Any investments we make in our sales and marketing and research and development teams will occur in advance of experiencing the benefits from such investments, so it may be difficult for us to determine if we are efficiently allocating resources in those areas. We expect to acquire businesses, technology and/or development personnel that will expand and enhance the functionality of our platform offerings. These investment activities could increase our net losses over the short term if our revenue growth does not increase at higher rates. However, we expect that these investments will ultimately benefit our results of operations.

Key Operating and Financial Metrics

To supplement our consolidated financial statements, which are prepared and presented in accordance with GAAP, we use certain operating metrics and non-GAAP financial measures, as described below, to understand and evaluate our core operating and financial performance. These non-GAAP financial measures, which may be different than similarly titled measures used by other companies, are presented to enhance the overall understanding of our financial performance and should not be considered a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP.

We believe that these operating metrics and non-GAAP financial measures provide useful information about our operating and financial performance, enhance the overall understanding of our past performance and future prospects and allow for greater transparency with respect to important metrics used by management for financial and operational decision-making. We include these operating metrics and non-GAAP financial measures to present our operating and financial performance using a management view and because we believe that these measures provide an additional comparison of our core operating and financial performance over multiple periods with other companies in our industry.

Calculated Current Billings

We use the non-GAAP measure of calculated current billings, which we believe is a key metric to measure our periodic performance. Given that most of our customers pay in advance, we typically recognize a majority of the related revenue ratably over time. We use calculated current billings to measure and monitor our ability to provide our business with the working capital generated by upfront payments from our customers.

Calculated current billings consists of revenue recognized in a period plus the change in current deferred revenue in the corresponding period. We believe that calculated current billings, which excludes deferred revenue for periods beyond twelve months in a customer's contractual term, more closely correlates with annual contract value. Variability in total billings, depending on the timing of large multi-year contracts and the preference for annual billing versus multi-year upfront billing, may distort growth in one period over another.

While we believe that calculated current billings provides valuable insight into the cash that will be generated from sales of our subscriptions, this metric may vary from period-to-period for a number of reasons, and therefore has a number of limitations as a quarter-to-quarter or year-over-year comparative measure. Calculated current billings in any one period may be impacted by the overall timing of sales, including early renewals, as well as the timing and amount of multi-year prepaid contracts, which could favorably or unfavorably impact year-over-year comparisons. For example, an increasing number of large sales transactions, for which the timing has and will continue to vary, may occur in quarters subsequent to or in advance of those that we anticipate. Our calculation of calculated current billings may be different from other companies that report similar financial measures. Because of these and other limitations, you should consider calculated current billings along with revenue and our other GAAP financial results.

The following table presents a reconciliation of revenue, the most directly comparable financial measure calculated in accordance with GAAP, to calculated current billings:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Revenue	$ 541,130	$ 440,221	$ 354,586
Deferred revenue (current), end of period	407,498	328,819	274,348
Deferred revenue (current), beginning of period[1]	(331,462)	(274,348)	(214,069)
Calculated current billings	$ 617,166	$ 494,692	$ 414,865

(1) Deferred revenue (current), beginning of period for 2021 and 2019 includes $2.6 million and $0.4 million, respectively, related to acquired deferred revenue.

Free Cash Flow and Unlevered Free Cash Flow

We use the non-GAAP measure of free cash flow, which we define as GAAP net cash flows from operating activities reduced by purchases of property and equipment. We believe free cash flow is an important liquidity measure of the cash (if any) that is available, after purchases of property and equipment, for investment in our business and to make acquisitions. We believe that free cash flow is useful as a liquidity measure because it measures our ability to generate or use cash.

We also use the non-GAAP measure of unlevered free cash flow, which we define as free cash flow plus cash paid for interest and other financing costs. We believe unlevered free cash flow is useful as a liquidity measure as it measures the cash that is available to invest in our business and meet our current and future financing needs.

Our use of free cash flow and unlevered free cash flow has limitations as an analytical tool and you should not consider them in isolation or as a substitute for an analysis of our results under GAAP. First, free cash flow and unlevered free cash flow are not substitutes for net cash flows from operating activities. Second, other companies may calculate free cash flow, unlevered free cash flow or similarly titled non-GAAP financial measures differently or may use other measures to evaluate their performance, all of which could reduce the usefulness of free cash flow and unlevered free cash flow as tools for comparison. Additionally, the utility of free cash flow and unlevered free cash flow is further limited as it does not reflect our future contractual commitments and does not represent the total increase or decrease in our cash balance for a given period. Because of these and other limitations, you should consider free cash flow and unlevered free cash flow along with net cash provided by (used in) operating activities and our other GAAP financial measures.

The following table presents a reconciliation of net cash provided by (used in) operating activities, the most directly comparable financial measure calculated in accordance with GAAP, to free cash flow and unlevered cash flow:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Net cash provided by (used in) operating activities	$ 96,765	$ 64,232	$ (10,744)
Purchases of property and equipment	(6,561)	(20,277)	(20,674)
Free cash flow[1]	90,204	43,955	(31,418)
Cash paid for interest and other financing costs	4,978	335	96
Unlevered free cash flow[1]	$ 95,182	$ 44,290	$ (31,322)

(1) Free cash flow and unlevered free cash flow for the periods presented were impacted by:

(in millions)	Year Ended December 31, 2021	2020	2019
Employee stock purchase plan activity	$ (0.3)	$ 0.9	$ (0.9)
Acquisition-related expenses	(6.5)	(0.7)	(13.1)
Tax payment on intra-entity asset transfer	2.8	—	—
Proceeds from lease incentives	—	14.2	—
Capital expenditures related to new headquarters	(0.9)	(17.2)	(11.4)

Free cash flow and unlevered free cash flow in 2021 were reduced by approximately $8 million due to prepayments of software subscription costs, insurance and rent, offset by a benefit of approximately $15 million from prepayments of similar items made in 2020. The 2020 prepayments reduced free cash flow and unlevered free cash flow by approximately $17 million in 2020.

Enterprise Platform Customers

We believe that our customer base provides a significant opportunity to expand sales of our enterprise platform offerings. The following tables summarize key components of our customer base:

	Year Ended December 31, 2021	2020	2019
Number of new enterprise platform customers added in period[(1)(2)]	1,882	1,455	1,511

(1) We define an enterprise platform customer as a customer that has licensed Tenable.ep, Tenable.io, Tenable.cs, Tenable.ad, Tenable.ot or Tenable.sc for an annual amount of $5,000 or greater. New enterprise platform customers represent new customer logos during the periods presented and do not include customer conversions from Nessus Professional to enterprise platforms.

(2) The number of new enterprise platform customers added in 2021 includes 95 legacy customers of our acquisitions.

	At December 31, 2021	2020	2019
Number of customers with $100,000 and greater in annual contract value at end of period	1,095	837	641

Non-GAAP Income (Loss) from Operations and Non-GAAP Operating Margin

We use non-GAAP income (loss) from operations along with non-GAAP operating margin as key indicators of our financial performance. We define these non-GAAP financial measures as their respective GAAP measures, excluding the effects of stock-based compensation, acquisition-related expenses and amortization of acquired intangible assets. Acquisition-related expenses include transaction expenses and costs related to the intercompany transfer of acquired intellectual property.

We believe that these non-GAAP financial measures provide useful information about our core operating results over multiple periods. There are a number of limitations related to the use of the non-GAAP financial measures as compared to GAAP loss from operations and operating margin, including that non-GAAP income (loss) from operations and non-GAAP operating margin exclude stock-based compensation expense, which has been, and will continue to be, a significant recurring expense in our business and an important part of our compensation strategy.

The following table presents a reconciliation of loss from operations, the most directly comparable financial measure calculated in accordance with GAAP, to non-GAAP income (loss) from operations, and operating margin, the most directly comparable financial measure calculated in accordance with GAAP, to non-GAAP operating margin:

	Year Ended December 31,		
(dollars in thousands)	**2021**	**2020**	**2019**
Loss from operations	$ (41,768)	$ (36,433)	$ (90,799)
Stock-based compensation	79,405	59,573	43,443
Acquisition-related expenses	6,901	339	3,970
Amortization of acquired intangible assets	6,447	2,314	620
Non-GAAP income (loss) from operations	$ 50,985	$ 25,793	$ (42,766)
Operating margin	(8)%	(8)%	(26)%
Non-GAAP operating margin	9 %	6 %	(12)%

Non-GAAP Net Income (Loss) and Non-GAAP Earnings (Loss) Per Share

We use non-GAAP net income (loss), which excludes stock-based compensation, acquisition-related expenses and amortization of acquired intangible assets, as well as the related tax impacts, and the tax impact of intra-entity asset transfers resulting from the internal restructuring of legal entities as well as deferred income tax benefits recognized in connection with acquisitions, to calculate non-GAAP earnings (loss) per share. We believe that these non-GAAP measures provide important information because they facilitate comparisons of our core operating results over multiple periods.

Table of Contents

The following table presents a reconciliation of net loss and net loss per share, the most comparable financial measures calculated in accordance with GAAP, to non-GAAP net income (loss) and non-GAAP earnings (loss) per share:

	Year Ended December 31,		
(in thousands, except for per share amounts)	**2021**	**2020**	**2019**
Net loss	$ (46,677)	$ (42,731)	$ (99,013)
Stock-based compensation	79,405	59,573	43,443
Tax impact of stock-based compensation(1)	617	1,299	(95)
Acquisition-related expenses(2)	6,901	339	3,970
Amortization of acquired intangible assets(3)	6,447	2,314	620
Tax impact of acquisitions(4)	(10,560)	—	10,582
Tax impact of intra-entity asset transfer(5)	2,808	—	—
Non-GAAP net income (loss)	$ 38,941	$ 20,794	$ (40,493)
Net loss per share, diluted	$ (0.44)	$ (0.42)	$ (1.03)
Stock-based compensation	0.75	0.59	0.45
Tax impact of stock-based compensation(1)	0.01	0.01	—
Acquisition-related expenses(2)	0.06	—	0.04
Amortization of acquired intangible assets(3)	0.06	0.02	0.01
Tax impact of acquisitions(4)	(0.10)	—	0.11
Tax impact of intra-entity asset transfer(5)	0.03	—	—
Adjustment to diluted earnings per share(6)	(0.03)	(0.01)	—
Non-GAAP earnings (loss) per share, diluted	$ 0.34	$ 0.19	$ (0.42)
Weighted-average shares used to compute GAAP net loss per share, diluted	106,387	101,009	96,014
Weighted-average shares used to compute non-GAAP earnings (loss) per share, diluted(7)	114,825	109,962	96,014

(1) The tax impact of stock-based compensation is based on the tax treatment for applicable tax jurisdictions.

(2) The tax impact of acquisition-related expenses is not material.

(3) The tax impact of the amortization of acquired intangible assets is included in the tax impact of acquisitions.

(4) The tax impact of acquisitions in 2021 includes a reversal of the $7.9 million income tax benefit recognized for GAAP purposes related to the partial release of our valuation allowance associated with the Accurics acquisition and a reversal of $2.6 million of deferred tax benefits related to the Alsid acquisition. The tax impact of the Indegy acquisition in 2019 includes $6.3 million of current tax expense and $4.2 million of deferred tax expense related to the transfer of acquired intellectual property.

(5) The tax impact of the intra-entity asset transfer is related to the internal restructuring of Indegy, resulting in a current tax payment based on the applicable Israeli tax rate.

(6) An adjustment to reconcile GAAP net loss per share, which excludes potentially dilutive shares, to non-GAAP earnings per share, which includes potentially dilutive shares.

(7) In periods in which there is a non-GAAP net loss, basic and diluted weighted average shares outstanding are the same, as potentially dilutive shares would be antidilutive.

Components of Our Results of Operations

Revenue

We generate revenue from subscription arrangements for our software and cloud-based solutions, perpetual licenses, maintenance associated with perpetual licenses and professional services.

Our subscription arrangements generally have annual or multi-year contractual terms to use our software or cloud-based solutions, including ongoing software updates during the contractual period. For software subscriptions that are dependent on ongoing software updates and the ability to identify the latest cybersecurity vulnerabilities, revenue is recognized ratably over the subscription term given the critical utility provided by the ongoing updates that are released through the contract period. When the critical utility of our software does not depend on ongoing updates, we recognize revenue attributable to the license at the time of delivery and the revenue attributable to the maintenance and support ratably over the contract period.

Our perpetual licenses are generally sold with one or more years of maintenance, which includes ongoing software updates. Given the critical utility provided by the ongoing software updates and updated ability to identify network vulnerabilities included in maintenance, we combine the perpetual license and the maintenance into a single performance obligation. Perpetual license arrangements generally contain a material right related to the customer's ability to renew maintenance at a price that is less than the initial license fee. We apply a practical alternative to allocating a portion of the transaction price to the material right performance obligation and estimate a hypothetical transaction price which includes fees for expected maintenance renewals based on the estimated economic life of perpetual license contracts. We allocate the transaction price between the cybersecurity subscription provided in the initial contract and the material right related to expected contract renewals based on the hypothetical transaction price. We recognize the amount allocated to the combined license and maintenance performance obligation over the initial contractual period, which is generally one year. We recognize the amount allocated to the material right over the expected maintenance renewal period, which begins at the end of the initial contractual term and is generally four years. We have estimated the five-year economic life of perpetual license contracts based on historical contract attrition, expected renewal periods, the lifecycle of our technology and other factors. This estimate may change over time.

Professional services and other revenue is primarily comprised of advisory services and training related to the deployment and optimization of our products. These services do not result in significant customization of our products. Professional services and other revenue is recognized as the services are performed.

We have historically experienced, and expect in the future to experience, seasonality in entering into agreements with customers. We typically enter into a significantly higher percentage of agreements with new customers, as well as renewal agreements with existing customers, in the third and fourth quarters of the year. The increase in customer agreements in the third quarter is primarily attributable to U.S. government and related agencies, and the increase in the fourth quarter is primarily attributable to large enterprise account buying patterns typical in the software industry. The ratable nature of our subscription revenue makes this seasonality less apparent in our overall financial results.

Cost of Revenue, Gross Profit and Gross Margin

Cost of revenue includes personnel costs related to our technical support group that provides assistance to customers, including salaries, benefits, bonuses, payroll taxes, stock-based compensation and any severance. Cost of revenue also includes cloud infrastructure costs, the costs related to professional services and training, depreciation, amortization of acquired and developed technology, hardware costs and allocated overhead costs, which consist of information technology and facilities.

We intend to continue to invest additional resources in our cloud-based platform and customer support team as we grow our business. The level and timing of investment in these areas could affect our cost of revenue in the future.

Gross profit, or revenue less cost of revenue, and gross margin, or gross profit as a percentage of revenue, have been and will continue to be affected by various factors, including the timing of our acquisition of new customers and our renewals of and follow-on sales to existing customers, the costs associated with operating our cloud-based platform, the extent to which we expand our customer support team and the extent to which we can increase the efficiency of our technology and infrastructure through technological improvements.

We expect our gross profit to increase in absolute dollars but our gross margin to decrease over time, as we expect revenue from our cloud-based subscriptions to increase as a percentage of revenue. However, our gross margin could fluctuate from period to period depending on the interplay of all of these factors, particularly as it relates to cloud infrastructure costs.

Operating Expenses

Our operating expenses consist of sales and marketing, research and development and general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, benefits, bonuses, payroll taxes, stock-based compensation and any severance. Operating expenses also include depreciation and amortization as well as allocated overhead costs, including IT and facilities costs.

Sales and Marketing

Sales and marketing expense consists of personnel costs, sales commissions, marketing programs, travel and entertainment, expenses for conferences, meetings and events and allocated overhead costs. We capitalize sales commissions, including related fringe benefit costs, and recognize the expense over an estimated period of benefit, which ranges between three and four years for subscription arrangements and five years for perpetual license arrangements. Sales commissions on contract renewals are capitalized and amortized ratably over the contract term, with the exception of contracts with renewal periods that are one year or less, in which case the incremental costs are expensed as incurred. Sales commissions on professional services arrangements are expensed as incurred as the contractual periods of these arrangements are generally less than one year.

We intend to continue to make investments in our sales and marketing teams to increase revenue, further penetrate the market and expand our global customer base. We expect our sales and marketing expense to increase in absolute dollars annually and to be our largest operating expense category for the foreseeable future. However, as our revenue increases, we expect our sales and marketing expense to decrease as a percentage of our revenue over the long term. Our sales and marketing expense may fluctuate from period to period due to the timing and extent of these expenses, including sales commissions, which may fluctuate depending on the mix of sales and related expense recognition.

Research and Development

Research and development expense consists of personnel costs, software used to develop our products, travel and entertainment, consulting and professional fees for third-party development resources as well as allocated overhead. Our research and development expense supports our efforts to continue to add capabilities to our existing products and enable the continued detection of new network vulnerabilities.

We expect our research and development expense to continue to increase annually in absolute dollars for the foreseeable future as we continue to invest in research and development efforts to enhance the functionality of our cloud-based platform. However, we expect our research and development expense to decrease as a percentage of our revenue over the long term, although our research and development expense may fluctuate from period to period due to the timing and extent of these expenses.

General and Administrative

General and administrative expense consists of personnel costs for our executive, finance, legal, human resources and administrative departments. Additional expenses include travel and entertainment, professional fees, insurance, allocated overhead, and acquisition-related costs.

We expect our general and administrative expense to continue to increase annually in absolute dollars for the foreseeable future due to additional costs associated with accounting, compliance, insurance and investor relations as a public company. However, we expect our general and administrative expense to decrease as a percentage of our revenue over the long term, although our general and administrative expense may fluctuate from period to period due to the timing and extent of these expenses.

Interest (Expense) Income, Net

Interest (expense) income, net consists primarily of interest expense in connection with our senior secured term loan facility, or Term Loan, unused commitment fees on our senior secured revolving credit facility, or Revolving Credit Facility, and letter of credit fees. Interest (expense) income, net also includes interest income earned on cash and cash equivalents and short-term investments.

Other Expense, Net

Other expense, net consists primarily of foreign currency remeasurement and transaction gains and losses.

(Benefit) Provision for Income Taxes

(Benefit) provision for income taxes has historically consisted of income taxes in certain foreign jurisdictions in which we conduct business and the related withholding taxes on sales to foreign customers. We typically maintain a valuation allowance on our deferred tax assets, including net operating loss carryforwards and tax credits, and expect this to continue for the foreseeable future as it is more likely than not that some or all of those deferred tax assets may not be realized based on our history of losses.

In 2021, the income tax benefit resulted from a partial release of our valuation allowance associated with the Accurics acquisition and a deferred tax benefit related to post-acquisition activities of Alsid, which were partially offset by tax expense from the restructuring of our research and development operations in Israel as well as income taxes in certain foreign jurisdictions in which we conduct business and the related withholding taxes on sales to foreign customers.

In 2019, the provision for income taxes also included the tax impact related to the intercompany transfer of acquired intellectual property.

Results of Operations

The following tables set forth our consolidated results of operations for the periods presented:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Revenue	$ 541,130	$ 440,221	$ 354,586
Cost of revenue(1)	106,396	77,554	60,818
Gross profit	434,734	362,667	293,768
Operating expenses:			
Sales and marketing(1)	270,158	224,277	228,035
Research and development(1)	116,432	101,687	87,064
General and administrative(1)	89,912	73,136	69,468
Total operating expenses	476,502	399,100	384,567
Loss from operations	(41,768)	(36,433)	(90,799)
Interest (expense) income, net	(6,896)	1,244	5,830
Other expense, net	(1,965)	(1,885)	(680)
Loss before income taxes	(50,629)	(37,074)	(85,649)
(Benefit) provision for income taxes	(3,952)	5,657	13,364
Net loss	$ (46,677)	$ (42,731)	$ (99,013)

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Cost of revenue	$ 4,446	$ 3,158	$ 2,817
Sales and marketing	29,410	19,842	16,032
Research and development	20,593	14,794	8,911
General and administrative	24,956	21,779	15,683
Total stock-based compensation expense	$ 79,405	$ 59,573	$ 43,443

Comparison of 2021 and 2020

Revenue

The following table presents the increase in revenue:

	Year Ended December 31,		Change	
(dollars in thousands)	2021	2020	($)	(%)
Subscription revenue	$ 476,023	$ 377,354	$ 98,669	26 %
Perpetual license and maintenance revenue	50,333	50,594	(261)	(1)%
Professional services and other revenue	14,774	12,273	2,501	20 %
Revenue	$ 541,130	$ 440,221	$ 100,909	23 %

U.S. revenue increased $46.3 million, or 17%. International revenue increased $54.6 million, or 32%.

Cost of Revenue, Gross Profit and Gross Margin

	Year Ended December 31,		Change	
(dollars in thousands)	**2021**	**2020**	**($)**	**(%)**
Cost of revenue	$ 106,396	$ 77,554	$ 28,842	37 %
Gross profit	434,734	362,667	72,067	20 %
Gross margin	80 %	82 %		

The increase in cost of revenue of $28.8 million was primarily due to:

- a $17.8 million increase in third-party cloud infrastructure costs;
- a $4.1 million increase in the amortization of acquired intangible assets;
- a $4.0 million increase in personnel costs, primarily due to support for cloud-based products and an increase in headcount, including a $1.3 million increase in stock-based compensation;
- a $1.2 million increase in professional fees; and
- a $1.1 million increase in hardware costs; partially offset by
- a $0.6 million decrease in allocated overhead expenses.

Operating Expenses

Sales and Marketing

	Year Ended December 31,		Change	
(dollars in thousands)	**2021**	**2020**	**($)**	**(%)**
Sales and marketing	$ 270,158	$ 224,277	$ 45,881	20 %

The increase in sales and marketing expense of $45.9 million was primarily due to:

- a $23.3 million increase in personnel costs, related to an increase in headcount, including a $9.6 million increase in stock-based compensation;
- a $10.5 million increase in expenses for demand generation programs, including advertising, sponsorships, and brand awareness efforts;
- a $10.0 million increase in sales commissions; and
- a $3.8 million increase in selling expenses, including software subscriptions and training programs; partially offset by
- a $1.9 million decrease in meeting and travel costs.

Research and Development

	Year Ended December 31,		Change	
(dollars in thousands)	**2021**	**2020**	**($)**	**(%)**
Research and development	$ 116,432	$ 101,687	$ 14,745	15 %

The increase in research and development expense of $14.7 million was primarily due to:

- a $13.5 million increase in personnel costs, largely associated with an increase in headcount, including a $5.8 million increase in stock-based compensation;
- a $2.1 million increase in third-party cloud infrastructure costs; and
- a $0.6 million increase in software subscriptions; partially offset by
- a $1.0 million decrease in travel and meeting costs;
- a $0.5 million decrease in allocated overhead; and
- a $0.5 million decrease in depreciation.

General and Administrative

	Year Ended December 31,		Change	
(dollars in thousands)	**2021**	**2020**	**($)**	**(%)**
General and administrative	$ 89,912	$ 73,136	$ 16,776	23 %

The increase in general and administrative expense of $16.8 million was primarily due to:

- a $7.5 million increase in personnel costs, largely associated with an increase in headcount, including a $3.2 million increase in stock-based compensation;
- a $6.3 million increase in acquisition-related expenses;
- a $2.0 million increase in professional fees; and
- a $1.0 million increase in depreciation and amortization.

Comparison of 2020 and 2019

Revenue

The following table presents the increase in revenue:

	Year Ended December 31,		Change	
(dollars in thousands)	**2020**	**2019**	**($)**	**(%)**
Subscription revenue	$ 377,354	$ 290,549	$ 86,805	30 %
Perpetual license and maintenance revenue	50,594	54,173	(3,579)	(7)%
Professional services and other revenue	12,273	9,864	2,409	24 %
Revenue	$ 440,221	$ 354,586	$ 85,635	24 %

U.S. revenue increased $43.0 million, or 19%. International revenue increased $42.6 million, or 33%.

Cost of Revenue, Gross Profit and Gross Margin

	Year Ended December 31,		Change	
(dollars in thousands)	**2020**	**2019**	**($)**	**(%)**
Cost of revenue	$ 77,554	$ 60,818	$ 16,736	28 %
Gross profit	362,667	293,768	68,899	23 %
Gross margin	82 %	83 %		

The increase in cost of revenue of $16.7 million was primarily due to:

- a $7.0 million increase in personnel costs, primarily due to support for cloud-based products, including a $0.3 million increase in stock-based compensation;
- a $6.7 million increase in third-party cloud infrastructure costs;
- a $1.7 million increase in the amortization of acquired intangible assets;
- a $1.0 million increase in the amortization of internal use software; and
- a $0.7 million increase in allocated overhead costs driven by both the increase in average headcount and the overall increase in such costs on a year-over-year basis; partially offset by
- a $1.1 million decrease in travel and meeting expenses.

Operating Expenses

Sales and Marketing

(dollars in thousands)	Year Ended December 31, 2020	Year Ended December 31, 2019	Change ($)	Change (%)
Sales and marketing	$ 224,277	$ 228,035	$ (3,758)	(2)%

The decrease in sales and marketing expense of $3.8 million was primarily due to:

- a $7.7 million decrease in selling expenses, including travel and meeting costs and software subscriptions; and
- a $6.4 million decrease in expenses for demand generation programs, including advertising, sponsorships, and brand awareness efforts; partially offset by
- a $8.9 million increase in personnel costs, primarily due to an increase in average headcount, including a $3.8 million increase in stock-based compensation;
- a $1.0 million increase in allocated overhead costs; and
- a $0.7 million increase in depreciation.

Research and Development

(dollars in thousands)	Year Ended December 31, 2020	Year Ended December 31, 2019	Change ($)	Change (%)
Research and development	$ 101,687	$ 87,064	$ 14,623	17 %

The increase in research and development expense of $14.6 million was primarily due to:

- a $14.8 million increase in personnel costs, largely associated with an increase in average headcount, including a $5.9 million increase in stock-based compensation and a decrease of $2.6 million of development costs and stock-based compensation capitalized related to internal use software;
- a $2.0 million increase in allocated overhead; and
- a $0.5 million increase in software subscriptions; partially offset by
- a $1.6 million decrease in travel and meeting costs; and
- a $0.9 million decrease in third-party cloud infrastructure costs.

General and Administrative

(dollars in thousands)	Year Ended December 31, 2020	Year Ended December 31, 2019	Change ($)	Change (%)
General and administrative	$ 73,136	$ 69,468	$ 3,668	5 %

The increase in general and administrative expense of $3.7 million was primarily due to:

- an $8.7 million increase in personnel costs, including a $6.1 million increase in stock-based compensation; and
- a $1.3 million increase in allocated overhead; partially offset by
- a $3.6 million decrease in acquisition-related expenses;
- a $2.3 million decrease in professional fees; and
- a $1.5 million decrease in travel and meeting costs.

Liquidity and Capital Resources

At December 31, 2021, we had $278.0 million of cash and cash equivalents, which consisted of bank deposits and money market funds, and $234.3 million short-term investments, which consisted of commercial paper, asset backed securities, certificates of deposit, U.S. Treasury and agency obligations, and corporate and supranational bonds.

Since our inception, we have primarily financed our operations through cash provided by operations, including payments received from customers using our software products and services. Prior to our IPO, we did not raise any primary institutional capital, and the proceeds of our Series A and Series B redeemable convertible preferred stock financings were used to repurchase shares of capital stock from former stockholders. We have generated significant operating losses, as reflected by our accumulated deficit of $654.5 million at December 31, 2021.

We typically invoice our customers annually in advance and, to a lesser extent, multi-year in advance. Therefore, a substantial source of our cash is from such prepayments, which are included in deferred revenue on our consolidated balance sheets. Deferred revenue consists primarily of the unearned portion of billed fees for our subscriptions and perpetual licenses, which is subsequently recognized as revenue in accordance with our revenue recognition policy. At December 31, 2021, we had deferred revenue of $530.9 million, of which $407.5 million was recorded as a current liability and is expected to be recognized as revenue in the next 12 months, provided all other revenue recognition criteria are met.

Our principal uses of cash in recent periods have been funding our operations, expansion of our sales and marketing and research and development activities, investments in infrastructure, including the build-out of our new headquarters, and acquiring complementary businesses and technology. In April 2021, we paid $98.5 million in cash to acquire Alsid, and in October 2021, we acquired Accurics for $160.0 million in cash. In February 2022, we acquired Cymptom for approximately $23 million in cash. We may in the future enter into arrangements to acquire or invest in other complementary businesses, services and technologies, including intellectual property rights.

We expect to continue incurring operating losses in the near term. Even though we generated positive cash flows from operations and unlevered free cash flow in 2021 and 2020, we may not be able to sustain these cash flows. We believe that our existing cash and cash equivalents and short-term investments will be sufficient to fund our operating and capital needs for at least the next 12 months. Our future capital requirements will depend on many factors, including our revenue growth rate, subscription renewal activity, the timing and extent of spending to support further infrastructure and research and development efforts, the timing and extent of additional capital expenditures to invest in new and existing office spaces, the expansion of sales and marketing and international operating activities, any acquisitions of complementary businesses and technologies, the timing of our introduction of new product capabilities and enhancements of our platform and the continuing market acceptance of our platform. It may be necessary to seek additional equity or debt financing to fund our operating and capital needs. In the event that 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, or if we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, operating results and financial condition would be adversely affected.

While we have not seen a significant adverse impact on our business from the pandemic as of December 31, 2021, the extent to which it will impact our business and operations will depend on future developments that are uncertain. Accordingly, the current results and financial conditions discussed herein may not be indicative of our future operating results and trends. See the section titled “Risk Factors” in Part I, Item 1A of this Form 10-K.

Term Loan and Revolving Credit Facility

In July 2021, we entered into a credit agreement, or the Credit Agreement, which is comprised of a $375.0 million Term Loan and a $50.0 million Revolving Credit Facility, with a $15.0 million letter of credit sublimit. The Term Loan bears interest at a rate of 2.75% per annum over LIBOR, subject to a 0.50% floor. The Term Loan will amortize at 1% per annum in equal quarterly installments, starting in March 2022 until the final maturity date on July 7, 2028. We may be subject to mandatory Term Loan prepayments related to the excess cash provisions in the Credit Agreement beginning in 2023. The Revolving Credit Facility bears interest at a rate, depending on first lien net leverage, ranging from 2.00% to 2.50% over LIBOR and matures on July 7, 2026. We will pay a commitment fee during the term ranging from 0.25% to 0.375% per annum of the average daily undrawn portion of the revolving commitments based on the first lien net leverage ratio. The Credit Agreement contains customary representations and warranties and affirmative and negative covenants. Additionally, if at least 35% of the Revolving Credit Facility is drawn on the last day of the quarter, the total net leverage ratio cannot be greater than 5.50 to 1.00.

At December 31, 2021, we were in compliance with the covenants and there have been no amounts outstanding under the Revolving Credit Facility.

In connection with the Credit Agreement, we terminated our $45.0 million senior secured credit facility, or the 2020 Credit Facility, with Silicon Valley Bank, including the release of all related guarantees and liens. Prior to its termination, there were no amounts outstanding under our 2020 Credit Facility.

Cash Flows

The following table summarizes our cash flows for the periods presented:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Net cash provided by (used in) operating activities	$ 96,765	$ 64,232	$ (10,744)
Net cash (used in) provided by investing activities	(391,590)	4,079	(113,050)
Net cash provided by financing activities	397,646	36,403	34,161
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(3,013)	(916)	(1,080)
Net increase (decrease) in cash and cash equivalents and restricted cash	$ 99,808	$ 103,798	$ (90,713)

Operating Activities

Our largest source of cash provided by operating activities is cash collections from sales of our products and services, as we typically invoice our customers in advance. Our primary uses of cash are employee compensation costs, third-party cloud infrastructure and other software subscription costs, demand generation expenditures and general corporate costs.

Investing Activities

From 2020 to 2021, net cash used in investing activities increased by $395.7 million, primarily due to an increase of cash paid for acquisitions of $258.2 million, a net increase in short-term investments of $146.2 million, and a $5.0 million simple agreement for future equity investment in 2021, partially offset by a decrease in purchases of property and equipment of $13.7 million.

From 2019 to 2020, cash flows from investing activities increased by $117.1 million, primarily due to a decrease in cash paid for acquisitions of $74.6 million and an increase in our sales, net of purchases, of investments of $42.1 million.

Financing Activities

From 2020 to 2021, net cash provided by financing activities increased by $361.2 million, primarily due to net proceeds from our Credit Facility of $365.7 million. This increase was partially offset by a decrease of $3.4 million in the proceeds from the exercise of stock options and $2.0 million of loan proceeds that we received from the state of Maryland in 2020.

From 2019 to 2020, net cash provided by financing activities increased by $2.2 million, primarily due to $2.0 million of proceeds from a loan agreement from the state of Maryland and an increase in proceeds from the exercise of stock options of $2.7 million, which was partially offset by a decrease in stock issued in connection with the employee stock purchase plan of $2.1 million.

Contractual Obligations

We have certain contractual obligations for future payments. Refer to Note 7 to our consolidated financial statements in this Annual Report on Form 10-K for our required operating lease payments and Note 9 for our required payments to Amazon Web Services, Inc. for cloud services.

At December 31, 2021, we had other non-cancellable purchase obligations of $8.1 million due in the next twelve months and $11.3 million due thereafter. Additionally, we had $7.6 million of unrecognized tax benefits and $1.2 million of asset retirement obligations, the timing of payments for which is uncertain.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, as well as related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

The critical accounting estimates, assumptions and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

We recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled to in exchange for those goods or services. In recognizing revenue, we apply the following steps:

- Identify the contract with a customer
- Identify the performance obligations in the contract
- Determine the transaction price
- Allocate the transaction price to the performance obligations in the contract
- Recognize revenue when or as performance obligations are satisfied

In situations where we enter into a contractual arrangement that includes non-standard terms and conditions, such as acceptance provisions and options to purchase additional products and services, as well as contract modifications, we apply judgment in identifying and assessing the impact on revenue recognition.

We generate revenue from subscription arrangements for our software and cloud-based solutions, perpetual licenses, maintenance associated with perpetual licenses and professional services and other revenue.

Subscription Revenue

Our subscription arrangements generally have annual or multi-year contractual terms and allow customers to use our software or cloud solutions. For our software subscriptions that are dependent on ongoing software updates and the ability to identify the latest cybersecurity vulnerabilities, revenue is recognized ratably over the subscription term given the critical utility provided by the ongoing updates that are released throughout the contract period. When the critical utility of our software does not depend on ongoing updates, we recognize revenue attributable to the license at the time of delivery and the revenue attributable to the maintenance and support ratably over the contract period.

Perpetual License and Maintenance Revenue

Our perpetual licenses are generally sold with one or more years of maintenance, which include ongoing software updates and the ongoing ability to identify the latest cybersecurity vulnerabilities. Given the critical utility provided by the ongoing software updates and updated ability to identify network vulnerabilities included in maintenance, we combine the perpetual license and the maintenance into a single performance obligation. Perpetual license arrangements generally contain a material right related to the customer's ability to renew maintenance at a price that is less than the initial license fee. We apply a practical alternative to allocating a portion of the transaction price to the material right performance obligation and estimate a hypothetical transaction price which includes fees for expected maintenance renewals based on the estimated economic life of the perpetual license contracts. We allocate the transaction price between the cybersecurity subscription provided in the initial contract and the material right related to expected contract renewals based on the hypothetical transaction price. We recognize the amount allocated to the combined license and maintenance performance obligation over the initial contractual period, which is generally one year. We recognize the amount allocated to the material right over the expected maintenance renewal period, which begins at the end of the initial contractual term and is generally four years. We have estimated the five-year economic life of perpetual license contracts based on historical contract attrition, expected renewal periods, the lifecycle of the our technology and other factors. While we believe that the estimates we have made are reasonable and appropriate, different assumptions and estimates could materially impact our reported financial results.

Professional Services and Other Revenue

Professional services and other revenue is primarily comprised of advisory services and training related to the deployment and optimization of our products. These services do not result in significant customization of our products. Professional services and other revenue is recognized as the services are performed.

Contracts with Multiple Performance Obligations

In cases where our contracts with customers contain multiple performance obligations, the contract transaction price is allocated on a relative standalone selling price basis. We typically determine standalone selling price based on observable selling prices of our products and services.

Variable Consideration

We record revenue from sales at the net sales price, which is the transaction price, including estimates of variable consideration when applicable. Certain of our customers may be entitled to receive credits and in certain circumstances, refunds, if service level commitments are not met. We have not historically experienced significant incidents affecting the ability to meet these service level commitments and any estimated refunds related to these agreements have not been material.

Sales through our channel partner network of distributors and resellers are generally discounted as compared to the price that we would sell to an end user. Revenue for sales through our channel network, which is fixed, is recorded net of any distributor or reseller margin.

Deferred Commissions

Sales commissions, including related incremental fringe benefit costs, are considered to be incremental costs of obtaining a contract, and therefore are deferred over an estimated period of benefit, which ranges between three and four years for subscription arrangements and five years for perpetual license arrangements. We have estimated the period of benefit based on the expected contract term including renewal periods, the lifecycle of our technology and other factors. Sales commissions on contract renewals are capitalized and amortized ratably over the contract term, with the exception of contracts with renewal periods that are one year or less, in which case the incremental costs are expensed as incurred. While we believe that the estimates we have made are reasonable and appropriate, different assumptions and estimates could materially impact our reported financial results.

Stock-Based Compensation

Stock-based compensation expense related to stock options, restricted stock, restricted stock units, or RSUs, and purchase rights issued under our 2018 Employee Stock Purchase Plan, or the 2018 ESPP, is calculated based on the fair value of the awards granted and is recognized on a straight-line basis over the requisite service period, which is generally two to four years. RSUs that include performance-based vesting conditions are expensed using the accelerated attribution method. We account for forfeitures as they occur.

Estimating the fair value of stock options and purchase rights under the 2018 ESPP using the Black-Scholes option-pricing model requires assumptions as to the fair value of our underlying common stock, the estimated term of the option, the risk free interest rates, the expected volatility of the price of our common stock and the expected dividend yield. The assumptions used to estimate the fair value of the option awards reflect our best estimates. If any of the assumptions change significantly, stock-based compensation for future awards may differ significantly compared with the awards granted previously.

The assumptions and estimates are as follows:

- *Fair Value of Common Stock.* See "Valuations" discussion below.
- *Expected Term.* This is the period of time that the options granted are expected to remain unexercised. We employ the simplified method to calculate the average expected term.
- *Volatility.* This is a measure of the amount by which a financial variable, such as a share price, has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. In 2021, we began using the volatility of our common stock to calculate expected volatility. Prior to 2021, we identified several public entities of similar size, complexity and stage of development and estimated our volatility based on the volatility of the common stock of these companies.
- *Risk-Free Interest Rate.* This is the U.S. Treasury rate, having a term that most closely resembles the expected life of the stock option.
- *Dividend Yield*. We have not and do not expect to pay dividends on our common stock.

Valuations

Following our IPO, we use the market price of our common stock at the date of grant as the fair value. Prior to our IPO, the lack of an active public market for our common stock required our board of directors to exercise reasonable judgment and consider a number of factors in order to make the best estimate of fair value of our common stock, in accordance with the technical practice-aid issued by the American Institute of Certified Public Accountants Practice Aid entitled *Valuation of Privately-Held Company Equity Securities Issued as Compensation*. Factors considered in connection with estimating the fair value of our common stock underlying our award of restricted stock and stock option awards when performing the fair value calculations with the Black Scholes option-pricing model included:

- The results of independent third-party valuations of our common stock
- Recent arm's length transactions involving the sale or transfer of our common stock
- The rights, preferences and privileges of our Series A and Series B redeemable convertible preferred stock relative to those of our common stock
- Our historical financial results and future financial projections
- The market value of equity interests in substantially similar businesses, which equity interests can be valued through nondiscretionary, objective means
- The lack of marketability of our common stock
- The likelihood of achieving a liquidity event, such as an IPO given prevailing market conditions
- Industry outlook
- General economic outlook including economic growth, inflation and unemployment, interest rate environment and global economic trends

As described above, the exercise price of our stock option awards was determined by our board of directors, with input from management, taking into account the factors described above, using a combination of valuation methodologies with varying weighting applied to each methodology as of the grant date.

Application of these approaches involved the use of estimates, judgment and assumptions that were highly complex and subjective, such as those regarding our expected future revenue, expenses and future cash flows, discount rates, market multiples, the selection of comparable companies and the probability of possible future events. Changes in any or all of these estimates and assumptions or the relationships between those assumptions would have impacted our valuations as of each valuation date and may have had a material impact on the valuation of our common stock.

The fair value of the 2018 ESPP purchase rights were estimated on the offering or modification dates based on the following assumptions:

	Year Ended December 31,		
	2021	2020	2019
Expected term (in years)	0.5 — 2.0	0.5 — 2.0	0.5 — 2.0
Expected volatility	37.2% — 59.4%	41.6% — 60.1%	34.4% — 44.6%
Risk-free interest rate	0.1% — 0.2%	0.1% — 0.9%	1.5% — 2.5%
Expected dividend yield	—	—	—

Business Combinations

We account for business combinations by recognizing the fair value of acquired assets and liabilities. The excess purchase consideration over the fair value of acquired assets and liabilities is recorded as goodwill. When determining the fair value of assets acquired and liabilities assumed, a non-recurring Level 3 fair value measurement, we make estimates and assumptions, especially with respect to intangible assets such as identified acquired technology and trade names. We determine the fair value of acquired technology using the multi-period excess earnings method, a form of the income approach. Estimates in valuing identifiable intangible assets include, but are not limited to, projected revenue growth rates, future expected operating expenses, obsolescence projections and an appropriate discount rate. Our estimate of fair value is based upon assumptions we believe to be reasonable, but which are inherently uncertain and, as a result, actual results may differ from estimates. During the measurement period, we may make adjustments to the fair value of assets acquired and liabilities assumed, with offsetting adjustments to goodwill. Any adjustments made after the measurement period will be reflected in the consolidated statements of operations. Acquisition-related transaction costs are expensed as incurred.

Goodwill

The excess purchase consideration over the fair value of acquired assets and liabilities is recorded as goodwill. We perform our annual impairment assessment on October 1, or more frequently, when events or circumstances indicate impairment may have occurred. We operate as one reporting unit and have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of the Company as a whole is less than its carrying amount, including goodwill. The qualitative assessment includes an evaluation of relevant events and circumstances, including macroeconomic, industry and market conditions, our overall financial performance, and trends in the value of our common stock. During the periods presented, there were no indications of impairment and it was not more likely than not that goodwill was impaired.

Income Taxes

We are subject to federal, state and local taxes in the United States as well as numerous international jurisdictions. These foreign jurisdictions have different statutory tax rates than the United States. Earnings generated by our international entities are related to transfer pricing requirements as applicable under local jurisdiction tax laws.

We record a provision for income taxes under the asset and liability method, which requires recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of existing assets and liabilities, net operating loss carryforwards and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. A valuation allowance is provided if it is more likely than not that some or all of the deferred tax assets will not be realized. We have valuation allowances in all jurisdictions against deferred tax assets net of deferred tax liabilities that will reverse and provide a source of taxable income. Our evaluation of valuation allowances could change in the future and the impact could have a material impact on our financial statements.

We recognize tax benefits from an uncertain tax position if it is more likely than not to be sustained upon audit by the relevant taxing authority. Interest and penalties associated with such uncertain tax positions are classified as a component of income tax expense.

In connection with the 2021 acquisition of Accurics, we elected to first offset our existing deferred tax assets with acquired deferred tax liabilities. This resulted in releasing $7.9 million of the federal and state valuation allowance, which was recorded as a component of our deferred tax benefit.

In December 2019, subsequent to our acquisition of Indegy, we transferred the acquired intellectual property from Israel to the U.S. and Ireland through an intercompany transaction. The sale of Indegy's intellectual property for tax purposes resulted in $6.3 million of current tax expense and $4.2 million of deferred tax expense in Israel. In January 2021, we transferred Indegy's R&D business to another wholly owned Israeli entity through an intercompany transaction. The sale of Indegy's R&D business resulted in $2.8 million of current tax expense in Israel. The valuation of the intellectual property and R&D business for tax purposes required significant judgment and assumptions with respect to forecasted operating results and discount rates.

Depending on the jurisdiction, distributions of earnings could be subject to withholding taxes at rates applicable to the distributing jurisdiction. As we intend to continue to reinvest the earnings of foreign subsidiaries indefinitely, we have not provided for a U.S. income tax liability and foreign withholding taxes on undistributed foreign earnings of foreign subsidiaries.

Recently Issued Accounting Pronouncements

Refer to Note 1 to our consolidated financial statements in this Annual Report on Form 10-K for more information regarding recently issued accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business, including interest rate, foreign currency exchange and inflation risks.

Interest Rate Risk

At December 31, 2021, we had $278.0 million of cash and cash equivalents, which consisted of cash deposits and money market funds. We also had $234.3 million of short-term investments, which consisted of commercial paper, asset backed securities, certificates of deposit, U.S. treasury and agency securities and corporate and supranational bonds. Our investments are carried at their fair market values with cumulative unrealized gains or losses recorded as a component of accumulated other comprehensive (loss) income within stockholders' equity. The primary objectives of our investment activities are the preservation of capital, the fulfillment of liquidity needs and the fiduciary control of cash and investments. We do not enter into investments for trading or speculative purposes. Interest-earning instruments carry a degree of interest rate risk; however, a hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

In July 2021, we entered into the Credit Agreement comprised of a $375.0 million Term Loan and a $50.0 million Revolving Credit Facility. Prior to January 31, 2022, the interest rate on the Term Loan was 3.25% (2.75% plus 0.50% LIBOR floor). Effective January 31, 2022 through July 29, 2022, the Term Loan has a variable interest rate of 3.27%. A one-half percentage point increase in the rate would increase 2022 interest expense by $0.8 million. No amounts are outstanding under the Revolving Credit Facility.

Because the United Kingdom Financial Conduct Authority, which regulates LIBOR, announced the desire to phase out the use of LIBOR by the middle of 2023, future borrowings under our Term Loan and Revolving Credit Facility could be subject to reference rates other than LIBOR.

Foreign Currency Exchange Risk

Substantially all of our sales contracts are denominated in U.S. dollars, with a limited number of contracts denominated in foreign currencies, including foreign denominated leases. A portion of our operating expenses are incurred outside the United States, denominated in foreign currencies and subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the Euro, British Pound, Australian dollar, Israeli New Shekel and Indian Rupee. Additionally, fluctuations in foreign currency exchange rates may cause us to recognize remeasurement and transaction gains (losses) in our consolidated statements of operations. As the impact of foreign currency exchange rates has not been material to our historical operating results, we have not entered into derivative or hedging transactions, but we may do so in the future if our exposure to foreign currency becomes more significant.

Inflation Risk

We do not believe that inflation has had a material effect on our business, results of operations, or financial condition. Nonetheless, if our costs, specifically employee-related and third-party cloud infrastructure costs, were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs. Our inability or failure to do so could harm our business, results of operations, or financial condition.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Pa
Reports of Independent Registered Public Accounting Firm	68
Financial Statements	
Consolidated Balance Sheets	72
Consolidated Statements of Operations	73
Consolidated Statements of Comprehensive Loss	74
Consolidated Statements of Stockholders' Equity	75
Consolidated Statements of Cash Flows	76
Notes to Consolidated Financial Statements	77
1. Business and Summary of Significant Accounting Policies	77
2. Revenue	83
3. Cash Equivalents and Short-Term Investments	84
4. Fair Value Measurements	85
5. Property and Equipment, Net	86
6. Acquisitions, Goodwill and Intangible Assets	86
7. Leases	88
8. Debt	89
9. Commitments and Contingencies	91
10. Stock-Based Compensation	91
11. Income Taxes	94
12. Net Loss Per Share	96
13. Geographic Information	97
14. Benefit Plans	97
15. Subsequent Events	97

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Tenable Holdings, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Tenable Holdings, Inc. (the Company) as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and the financial statement schedule listed in the Index at item 15(a)(2) (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 December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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 December 31, 2021, 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 February 25, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of a 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 matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

	Revenue Recognition – Identification and Evaluation of Contracts with Non-Standard Terms and Conditions.
Description of the Matter	As described in Note 1 to the consolidated financial statements, management enters into certain contracts with customers, including software subscription arrangements and perpetual licenses with related maintenance, with non-standard terms and conditions. Performing procedures relating to the identification and evaluation of non-standard terms and conditions in contracts is a critical audit matter because there is a significant amount of judgment required by management in identifying and evaluating non-standard terms and conditions and determining the impact of such terms and conditions on the amount and timing of revenue recognition. Accordingly, there is significant auditor judgment and significant audit effort in performing our audit procedures to evaluate whether non-standard terms and conditions in contracts were appropriately identified and evaluated by management.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process for identifying and evaluating contracts with non-standard terms and conditions. These procedures also included, among others, on a sample basis (i) testing the completeness and accuracy of management's identification of contracts with non-standard terms and conditions and (ii) testing management's determination of the impact of non-standard terms and conditions on the amount and timing of revenue recognition.
	Valuation of Acquired Developed Technology Intangible Assets
Description of the Matter	As described in Note 6 to the consolidated financial statements, during the year ended December 31, 2021, the Company completed the acquisitions of Alsid SAS ("Alsid") and Accurics, Inc. ("Accurics") for $98.5 million and $160.0 million in cash, respectively. The Company's accounting for the acquisitions included determining the fair value of the acquired intangible assets including developed technology of $31.3 million for Alsid and a preliminary value of $33.3 million for Accurics. Auditing the accounting for the acquired developed technology intangible assets involved complex auditor judgment due to the estimation required in management's determination of fair value. The estimation was significant primarily due to the sensitivity of the fair value of the developed technology to the underlying assumptions, including the discount rate, projected revenue growth rates, future expected operating expenses, and the obsolescence projections. These significant assumptions are forward-looking and could be affected by future economic and market conditions.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process for accounting for the acquired developed technology intangible assets. For example, we tested controls over management's review of the valuation model and significant assumptions used in the valuation as well as controls over the completeness and accuracy of the data used in the model and assumptions. To test the fair value of the acquired developed technology, our audit procedures included, among others, evaluating the Company's use of valuation methodologies, evaluating the significant assumptions, evaluating the prospective financial information and testing the completeness and accuracy of underlying data. We involved our valuation specialist to assist in testing certain significant assumptions used to value the acquired intangible assets. For example, we compared the significant assumptions to current industry and market trends, to assumptions used to value similar assets in other acquisitions and to other relevant factors. We also performed sensitivity analyses of the significant assumptions to evaluate the change in the fair value resulting from changes in the assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2014

Baltimore, Maryland

February 25, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Tenable Holdings, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Tenable Holdings, Inc.'s internal control over financial reporting as of December 31, 2021, 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, Tenable Holdings, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Accurics, Inc. acquired on October 1, 2021, which is included in the 2021 consolidated financial statements of Tenable Holdings, Inc. and constituted less than 3% of total assets as of December 31, 2021 and less than 1% of total revenue and operating expenses for the year then ended. Our audit of internal control over financial reporting of Tenable Holdings, Inc. also did not include an evaluation of the internal control over financial reporting of Accurics, Inc.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Tenable Holdings, Inc. as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and the financial statement schedule listed in the Index at item 15(a)(2) (collectively referred to as the "consolidated financial statements") and our report dated February 25, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Baltimore, Maryland

February 25, 2022

TENABLE HOLDINGS, INC.
CONSOLIDATED BALANCE SHEETS

	December 31,	
(in thousands, except per share data)	**2021**	**2020**
Assets		
Current assets:		
Cash and cash equivalents	$ 278,000	$ 178,223
Short-term investments	234,292	113,623
Accounts receivable (net of allowance for doubtful accounts of $524 and $261 at December 31, 2021 and 2020, respectively)	136,601	115,342
Deferred commissions	40,311	32,143
Prepaid expenses and other current assets	60,234	44,462
Total current assets	749,438	483,793
Property and equipment, net	36,833	38,920
Deferred commissions (net of current portion)	59,638	46,733
Operating lease right-of-use assets	38,530	39,426
Acquired intangible assets, net	71,536	13,193
Goodwill	261,614	54,414
Other assets	31,230	14,110
Total assets	$ 1,248,819	$ 690,589
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	$ 16,254	$ 5,731
Accrued compensation	54,051	35,509
Deferred revenue	407,498	328,819
Operating lease liabilities	2,320	3,815
Other current liabilities	3,759	1,028
Total current liabilities	483,882	374,902
Deferred revenue (net of current portion)	123,387	105,691
Term loan, net of issuance costs (net of current portion)	364,728	—
Operating lease liabilities (net of current portion)	55,046	54,529
Other liabilities	6,463	4,802
Total liabilities	1,033,506	539,924
Stockholders' equity:		
Common stock (par value: $0.01; 500,000 shares authorized, 108,929 and 103,715 shares issued and outstanding at December 31, 2021 and 2020, respectively)	1,089	1,037
Additional paid-in capital	869,059	757,470
Accumulated other comprehensive (loss) income	(306)	10
Accumulated deficit	(654,529)	(607,852)
Total stockholders' equity	215,313	150,665
Total liabilities and stockholders' equity	$ 1,248,819	$ 690,589

The accompanying notes are an integral part of these consolidated financial statements.

TENABLE HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
(in thousands, except per share data)	**2021**	**2020**	**2019**
Revenue	$ 541,130	$ 440,221	$ 354,586
Cost of revenue	106,396	77,554	60,818
Gross profit	434,734	362,667	293,768
Operating expenses:			
Sales and marketing	270,158	224,277	228,035
Research and development	116,432	101,687	87,064
General and administrative	89,912	73,136	69,468
Total operating expenses	476,502	399,100	384,567
Loss from operations	(41,768)	(36,433)	(90,799)
Interest (expense) income, net	(6,896)	1,244	5,830
Other expense, net	(1,965)	(1,885)	(680)
Loss before income taxes	(50,629)	(37,074)	(85,649)
(Benefit) provision for income taxes	(3,952)	5,657	13,364
Net loss	$ (46,677)	$ (42,731)	$ (99,013)
Net loss per share, basic and diluted	$ (0.44)	$ (0.42)	$ (1.03)
Weighted-average shares used to compute net loss per share, basic and diluted	106,387	101,009	96,014

The accompanying notes are an integral part of these consolidated financial statements.

TENABLE HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Net loss	$ (46,677)	$ (42,731)	$ (99,013)
Other comprehensive (loss) income, net of tax:			
Unrealized (loss) gain on available-for-sale securities	(316)	(40)	50
Other comprehensive (loss) income	(316)	(40)	50
Comprehensive loss	$ (46,993)	$ (42,771)	$ (98,963)

The accompanying notes are an integral part of these consolidated financial statements.

TENABLE HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2018	93,126	$ 931	$ 586,940	$ —	$ (466,108)	$ 121,763
Exercise of stock options	4,205	42	19,006	—	—	19,048
Vesting of restricted stock units	479	5	(5)	—	—	—
Issuance of common stock under employee stock purchase plan	777	8	15,121	—	—	15,129
Stock-based compensation	—	—	41,928	—	—	41,928
Other comprehensive income	—	—	—	50	—	50
Net loss	—	—	—	—	(99,013)	(99,013)
Balance at December 31, 2019	98,587	986	662,990	50	(565,121)	98,905
Exercise of stock options	2,956	29	21,680	—	—	21,709
Vesting of restricted stock units	1,504	15	(15)	—	—	—
Issuance of common stock under employee stock purchase plan	668	7	13,033	—	—	13,040
Stock-based compensation	—	—	59,782	—	—	59,782
Other comprehensive loss	—	—	—	(40)	—	(40)
Net loss	—	—	—	—	(42,731)	(42,731)
Balance at December 31, 2020	103,715	1,037	757,470	10	(607,852)	150,665
Exercise of stock options	2,671	26	18,242	—	—	18,268
Vesting of restricted stock units	1,872	19	(19)	—	—	—
Issuance of common stock under employee stock purchase plan	671	7	13,729	—	—	13,736
Stock-based compensation	—	—	79,637	—	—	79,637
Other comprehensive loss	—	—	—	(316)	—	(316)
Net loss	—	—	—	—	(46,677)	(46,677)
Balance at December 31, 2021	108,929	$ 1,089	$ 869,059	$ (306)	$ (654,529)	$ 215,313

The accompanying notes are an integral part of these consolidated financial statements.

TENABLE HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Cash flows from operating activities:			
Net loss	$ (46,677)	$ (42,731)	$ (99,013)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Deferred income taxes	(10,468)	161	4,243
Depreciation and amortization	16,170	10,633	6,880
Stock-based compensation	79,405	59,573	41,610
Other	3,915	1,071	(784)
Changes in operating assets and liabilities:			
Accounts receivable	(17,228)	(20,012)	(25,941)
Prepaid expenses and other assets	(46,207)	(19,372)	(16,954)
Accounts payable, accrued expenses and accrued compensation	24,330	(5,282)	10,513
Deferred revenue	92,486	71,383	72,799
Other current and noncurrent liabilities	1,039	8,808	(4,097)
Net cash provided by (used in) operating activities	96,765	64,232	(10,744)
Cash flows from investing activities:			
Purchases of property and equipment	(6,561)	(20,277)	(20,674)
Purchases of short-term investments	(282,438)	(184,516)	(242,059)
Sales and maturities of short-term investments	160,874	209,148	224,594
Purchase of other investments	(5,000)	—	—
Business combinations, net of cash acquired	(258,465)	(276)	(74,911)
Net cash (used in) provided by investing activities	(391,590)	4,079	(113,050)
Cash flows from financing activities:			
Proceeds from term loan	375,000	—	—
Credit facility issuance costs	(9,348)	(333)	—
Proceeds from loan agreement	—	2,000	—
Proceeds from stock issued in connection with the employee stock purchase plan	13,736	13,040	15,129
Proceeds from the exercise of stock options	18,268	21,709	19,048
Other financing activities	(10)	(13)	(16)
Net cash provided by financing activities	397,646	36,403	34,161
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(3,013)	(916)	(1,080)
Net increase (decrease) in cash and cash equivalents and restricted cash	99,808	103,798	(90,713)
Cash and cash equivalents and restricted cash at beginning of year	178,463	74,665	165,378
Cash and cash equivalents and restricted cash at end of year	$ 278,271	$ 178,463	$ 74,665
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 4,978	$ 335	$ 96
Cash paid for income taxes, net of refunds	6,481	5,729	8,530
Supplemental cash flow information related to leases:			
Cash payments for operating leases	$ 7,657	$ 8,807	$ 4,452

The accompanying notes are an integral part of these consolidated financial statements.

TENABLE HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Business and Summary of Significant Accounting Policies

Business Description

Tenable Holdings, Inc. (the "Company," "we," "us," or "our") is a provider of Cyber Exposure solutions, which is a discipline for managing, measuring and comparing cybersecurity risk in the digital era. Our platform offerings provide broad visibility into security issues such as vulnerabilities, misconfigurations, internal and regulatory compliance violations and other indicators of the state of an organization's security across IT infrastructure and applications, cloud environments, Active Directory and industrial internet of things and operational technology environments.

Basis of Presentation

The accompanying consolidated financial statements include the accounts of Tenable Holdings, Inc. and our wholly owned subsidiaries and have been prepared in conformity with United States generally accepted accounting principles ("GAAP"). All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. These estimates include, but are not limited to, the determination of the estimated economic life of perpetual licenses for revenue recognition, the estimated period of benefit for deferred commissions, the useful lives of long-lived assets, the fair value of acquired intangible assets and deferred revenue, the valuation of stock-based compensation, including the estimated underlying fair value of our common stock prior to our IPO, the incremental borrowing rate for operating leases, and the valuation of deferred tax assets. We base these estimates on historical experience and on various other assumptions that we believe to be reasonable. Actual results could differ significantly from these estimates.

Foreign Currency

The functional currency for all of our foreign subsidiaries is the U.S. dollar. Assets and liabilities denominated in other currencies are remeasured into U.S. dollars at current exchange rates for monetary assets and liabilities and at historical exchange rates for non-monetary assets and liabilities. We bill our customers in U.S. dollars. Expenses incurred in non U.S. dollar currencies are remeasured into U.S. dollars when incurred. Remeasurement losses in currencies other than the functional currency were $1.9 million, $1.7 million and $1.1 million in 2021, 2020 and 2019, respectively, and are included as a component of other expense, net in the consolidated statements of operations.

Revenue Recognition

We recognize revenue in order to depict the transfer of promised goods or services to customers in an amount that reflects the consideration we expect to be entitled in exchange for those goods or services. To achieve this, we apply the following steps:

- Identify the contract with a customer
- Identify the performance obligations in the contract
- Determine the transaction price
- Allocate the transaction price to the performance obligations in the contract
- Recognize revenue when or as performance obligations are satisfied

In situations where we enter into a contractual arrangement that includes non-standard terms and conditions, such as acceptance provisions or options to purchase additional products and services, as well as contract modifications, we apply judgment in identifying and assessing the impact on revenue recognition.

We generate revenue from subscription arrangements for software and cloud-based solutions, perpetual licenses, maintenance associated with perpetual licenses, and professional services and other revenue. We begin to recognize revenue when control of our software or services is transferred to the customer, which for sales made through distributors is concurrent with the transfer to the end user.

Subscription Revenue

Subscription arrangements generally have annual or multi-year contractual terms and allow customers to use our software or cloud solutions. For our software subscriptions that are dependent on ongoing software updates and the ability to identify the latest cybersecurity vulnerabilities, revenue is recognized ratably over the subscription term given the critical utility provided by the ongoing updates that are released throughout the contract period. When the critical utility of our software does not depend on ongoing updates, we recognize revenue attributable to the license at the time of delivery and the revenue attributable to the maintenance and support ratably over the contract period.

Perpetual License and Maintenance Revenue

Our perpetual licenses are generally sold with one or more years of maintenance, which include ongoing software updates and the ongoing ability to identify the latest cybersecurity vulnerabilities. Given the critical utility provided by the ongoing software updates and updated ability to identify network vulnerabilities included in maintenance, we combine the perpetual license and the maintenance into a single performance obligation. Perpetual license arrangements generally contain a material right related to the customer’s ability to renew maintenance at a price that is less than the initial license fee. We apply a practical alternative to allocating a portion of the transaction price to the material right performance obligation and estimate a hypothetical transaction price which includes fees for expected maintenance renewals based on the estimated economic life of the perpetual license contracts. We allocate the transaction price between the cybersecurity subscription provided in the initial contract and the material right related to expected contract renewals based on the hypothetical transaction price. We recognize the amount allocated to the combined license and maintenance performance obligation over the initial contractual period, which is generally one year. We recognize the amount allocated to the material right over the expected maintenance renewal period, which begins at the end of the initial contractual term and is generally four years. We have estimated the five-year economic life of perpetual license contracts based on historical contract attrition, expected renewal periods, the lifecycle of the our technology and other factors. While we believe that the estimates we have made are reasonable and appropriate, different assumptions and estimates could materially impact our reported financial results.

Professional Services and Other Revenue

Professional services and other revenue is primarily comprised of advisory services and training related to the deployment and optimization of our products. These services do not result in significant customization of our products. Professional services and other revenue is recognized as the services are performed.

Contracts with Multiple Performance Obligations

In cases where our contracts with customers contain multiple performance obligations, the contract transaction price is allocated on a relative standalone selling price basis. We typically determine standalone selling price based on observable selling prices of our products and services.

Variable Consideration

We record revenue from sales at the net sales price, which is the transaction price, including estimates of variable consideration when applicable. Certain of our customers may be entitled to receive credits and in limited circumstances, refunds, if service level commitments are not met. We have not historically experienced significant incidents affecting the ability to meet these service level commitments and any estimated refunds related to these agreements have not been material.

Sales through our channel network of distributors and resellers are generally discounted as compared to the price that we would sell to an end user. Revenue for sales through our channel network is recorded net of any distributor or reseller margin.

Cash and Cash Equivalents

We consider all highly liquid financial instruments with an original maturity of three months or less when purchased to be cash equivalents.

At December 31, 2021, cash and cash equivalents included $5.8 million of restricted cash primarily related to collateral for our outstanding letters of credit. At December 31, 2020, cash and cash equivalents included $0.4 million of restricted cash primarily related to collateral for a lease and credit card deposits. At December 31, 2021 and 2020, cash and cash equivalents excluded $0.3 million and $0.2 million, respectively, of restricted cash, which is related to an account established as collateral for a lease arrangement and is included in other assets on the consolidated balance sheets.

Fair Value of Financial Instruments

Fair value is defined 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. We apply fair value accounting for all financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis. We measure cash and cash equivalents and short-term investments at fair value using a fair value hierarchy of inputs. We approximate fair value by using the carrying amounts for accounts receivable, accounts payable and accrued expenses due to their short-term nature.

Investments

We currently invest in asset backed securities, certificates of deposit, commercial paper, corporate and supranational bonds, and U.S. treasury and agency obligations. Our investments are classified as available-for-sale and recorded at fair value, with unrealized gains and losses reported in accumulated other comprehensive (loss) income within stockholders' equity.

We classify investments with original maturities of less than 90 days as cash and cash equivalents. Investments with original maturities greater than 90 days, including those we do not currently intend on selling within the next twelve months, are classified as short-term investments as they are available for use in our operations.

We evaluate potential impairments of available-for-sale debt securities due to credit-related and non-credit-related factors, including market risk, and if it is more-likely-than-not that we would have to sell the security before the recovery of the amortized cost basis. Identified credit-related impairments would be recognized as a charge in the statement of operations.

In November 2021, we entered into a simple agreement for future equity ("SAFE") agreement for $5.0 million in exchange for a right to participate in a future equity financing. Alternatively, upon a change in control or an initial public offering, we have the option to redeem the SAFE for $5.0 million, or convert the SAFE into shares of common stock. The number of shares of common stock would be determined by dividing the SAFE purchase amount by the liquidity price in the SAFE agreement. The $5.0 million value of the SAFE is included in other assets on our consolidated balance sheet at December 31, 2021.

Accounts Receivable

Accounts receivable are recorded at the invoiced amount, less an allowance for doubtful accounts, and do not bear interest. We maintain an allowance for doubtful accounts at an amount estimated to be sufficient to cover the risk of collecting less than full payment of the receivables. At each balance sheet date, we evaluate our receivables and assess the allowance for doubtful accounts based on specific customer collection issues and historical write-off trends.

Our allowance for doubtful accounts reflects our best estimate of expected future credit losses. We consider various factors that may impact our ability to collect on accounts receivable, including our historical collection experience, age of accounts receivable balances, current conditions, reasonable and supportable forecasts of future economic conditions, as well as other factors, however, these estimates may change and future credit losses may differ from our estimates. Expected credit losses from accounts receivable are recognized as expense in our statement of operations.

Deferred Commissions

Sales commissions, including related fringe benefit costs, are considered to be incremental costs of obtaining a contract. Sales commissions on initial sales are not commensurate with sales commissions on contract renewals and therefore are recognized over an estimated period of benefit, which ranges between three and four years for subscription arrangements and five years for perpetual license arrangements. We estimated the period of benefit based on the expected contract term including renewal periods, the lifecycle of our technology, and other factors. Sales commissions on contract renewals are capitalized and amortized ratably over the contract term as part of sales and marketing expense, with the exception of contracts with renewal periods that are one year or less, in which case the incremental costs are expensed as incurred.

Property and Equipment, net

Property and equipment, net is stated at historical cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets: three years for computer software and equipment and five years for furniture and fixtures. Leasehold improvements are amortized using the straight-line method over the shorter of the estimated useful lives of the assets or the terms of the respective leases. Property and equipment, net includes right-of-use assets acquired under finance leases. Amortization of assets acquired under finance leases is included in depreciation expense. Repairs and maintenance costs are expensed as incurred.

Leases

We determine if an arrangement contains a lease and the classification of that lease, if applicable, at inception. We have elected to not recognize a lease liability or right-of-use ("ROU") asset for short-term leases (leases with a term of twelve months or less). For contracts with lease and non-lease components, we have elected to not allocate the contract consideration, and account for the lease and non-lease components as a single lease component. Additionally, we enter into arrangements to use shared office spaces and other facilities, and have determined that these arrangements do not contain leases as we do not have the right to use an identified asset. Operating leases are included in operating lease ROU assets, operating lease liabilities and operating lease liabilities (net of current portion) in our consolidated balance sheets. Finance leases are included in property and equipment, other current liabilities and other liabilities in our consolidated balance sheets.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments under the lease. Operating lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The implicit rate within our operating leases are generally not determinable and we use our incremental borrowing rate at the lease commencement date to determine the present value of lease payments. The determination of our incremental borrowing rate requires judgment. We determine our incremental borrowing rate for each lease using our current borrowing rate, adjusted for various factors including level of collateralization, term and currency to align with the terms of the lease. The operating lease ROU asset also includes any lease prepayments, offset by lease incentives. Certain of our leases include options to extend or terminate the lease. An option to extend the lease is considered in connection with determining the ROU asset and lease liability when it is reasonably certain we will exercise that option. An option to terminate is considered unless it is reasonably certain we will not exercise the option.

Lease expense for lease payments is recognized on a straight-line basis over the term of the lease.

Impairment of Long-Lived Assets

We evaluate our long-lived assets for impairment whenever events or changes in circumstance indicate that the carrying amount may not be fully recoverable. Recoverability of the long-lived assets is measured by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If such assets are considered to be impaired, the impairment to be recognized is measured as the excess of the carrying amount over the fair value. There was no impairment of long-lived assets in 2021, 2020 or 2019.

Business Combinations

We account for business combinations by recognizing the fair value of acquired assets and liabilities. The excess purchase consideration over the fair value of acquired assets and liabilities is recorded as goodwill. When determining the fair value of assets acquired and liabilities assumed, a non-recurring Level 3 fair value measurement, we make estimates and assumptions, especially with respect to intangible assets such as identified acquired technology and trade names. We determine the fair value of acquired technology using the multi-period excess earnings method, a form of the income approach. Estimates in valuing identifiable intangible assets include, but are not limited to, projected revenue growth rates, future expected operating expenses, obsolescence projections and an appropriate discount rate. Our estimate of fair value is based upon assumptions we believe to be reasonable, but which are inherently uncertain and, as a result, actual results may differ from estimates. During the measurement period, we may make adjustments to the fair value of assets acquired and liabilities assumed, with offsetting adjustments to goodwill. Any adjustments made after the measurement period will be reflected in the consolidated statements of operations. Acquisition-related transaction costs are expensed as incurred.

Goodwill

The excess of the purchase consideration over the fair value of acquired assets and liabilities is recorded as goodwill. We perform our annual impairment assessment on October 1, or more frequently, when events or circumstances indicate impairment may have occurred. We operate as one reporting unit and have elected to first assess qualitative factors to determine whether it is more likely than not that the fair value of the Company as a whole is less than its carrying amount, including goodwill. The qualitative assessment includes an evaluation of relevant events and circumstances, including macroeconomic, industry and market conditions, our overall financial performance, and trends in the value of our common stock. During the periods presented, there were no indications of impairment and it was not more likely than not that goodwill was impaired.

Common Stock

Our Amended and Restated Certificate of Incorporation authorized 500,000,000 shares of common stock and 10,000,000 shares of preferred stock. There were no shares of preferred stock issued or outstanding at December 31, 2021 or 2020. The voting, dividend, and liquidation rights of common stockholders are subject to, and qualified by, the rights of preferred stockholders. The common stockholders are entitled to receive dividends when, as and if, declared by the Board of Directors, subject to preferential dividend rights of preferred stockholders. Upon dissolution or liquidation, our common stockholders will be entitled to receive all assets available for distribution to stockholders, subject to any preferential rights of preferred stockholders.

Advertising

Advertising costs are expensed as they are incurred. We incurred advertising costs of $13.6 million, $8.2 million and $5.3 million in 2021, 2020 and 2019, respectively, which are included in sales and marketing expense in the consolidated statements of operations.

Software Development Costs

Research and development costs to develop software to be sold, leased or marketed are expensed as incurred up to the point of technological feasibility for the related software product. We have not capitalized development costs for software to be sold, leased or marketed to date, as the software development process is essentially completed concurrent with the establishment of technological feasibility. As such, these costs are expensed as incurred and recognized in research and development costs in the consolidated statements of operations.

Software developed for internal use, with no substantive plans to market such software at the time of development, are capitalized and included in property and equipment, net in the consolidated balance sheets. Costs incurred during the preliminary planning and evaluation and post implementation stages of the project are expensed as incurred. Costs incurred during the application development stage of the project are capitalized. In 2021, 2020 and 2019, we capitalized $2.9 million, $1.6 million and $4.2 million, respectively, of development costs related to internal use software.

Stock-Based Compensation

Stock-based compensation expense related to restricted stock units ("RSUs"), purchase rights issued under our 2018 Employee Stock Purchase Plan ("2018 ESPP"), stock options and restricted stock is calculated based on the fair value of the awards granted and is recognized on a straight-line basis over the requisite service period, which is generally two to four years. RSUs that include performance-based vesting conditions are expensed using the accelerated attribution method. We account for forfeitures as they occur.

The fair value of RSUs is based on the market price of our common stock on the date of grant. The fair value of stock options and 2018 ESPP purchase rights is estimated on the grant date using the Black-Scholes option pricing model, which requires us to make assumptions and judgments, including the expected term, expected volatility, and risk-free interest rates. Following our IPO, we use the market price of our common stock at the date of grant. Prior to our IPO, we estimated the fair value of our common stock at the date of grant.

Net Loss per Share

We calculate basic net loss per share by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period.

Diluted earnings per share is computed by giving effect to all potentially dilutive common stock equivalents in the period, including unvested RSUs, stock options, unvested restricted shares and shares to be issued under our 2018 ESPP. As we have reported losses for all periods presented, all potentially dilutive securities have been excluded from the calculation of diluted net loss per share as their effect would be antidilutive.

Segment Information

We operate as one operating segment as our chief executive officer, who is our chief operating decision maker, reviews financial information on a consolidated basis for purposes of making operating decisions, allocating resources, and evaluating financial performance.

Income Taxes

Income taxes are accounted for under the asset and liability method. This method requires recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of existing assets and liabilities, net operating loss carryforwards, and tax credit carryforwards. A valuation allowance is provided if it is more likely than not that some or all of the deferred tax assets will not be realized.

We recognize tax benefits from an uncertain tax position if it is more likely than not to be sustained upon audit by the relevant taxing authority. Interest and penalties associated with such uncertain tax positions are classified as a component of income tax expense.

Recently Adopted Accounting Pronouncements

We adopted Accounting Standards Update ("ASU") No. 2019-12 - *Income Taxes (Topic 740)*: *Simplifying the Accounting for Income Taxes,* effective January 1, 2021. The adoption of this guidance did not have a material impact on our condensed consolidated financial statements. This ASU eliminated previously allowed exceptions and clarified existing guidance in the accounting for income taxes, including in the areas of franchise taxes, the tax basis of goodwill and interim period effects of changes in tax laws.

Recently Issued Accounting Pronouncements

In March 2020, the Financial Accounting Standards Board ("FASB") issued ASU No. 2020-04 - *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*. This ASU provides optional expedients and exceptions to contract modification guidance to ease the financial reporting burden of the transition from the London Interbank Offered Rate ("LIBOR") to alternative reference rates. The ASU was effective beginning on March 12, 2020 and can be adopted prospectively through December 31, 2022. We are currently evaluating the impact of this accounting standard on our consolidated financial statements.

In October 2021, the FASB issued ASU No. 2021-08 - *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*. This ASU requires companies to measure contract assets and contract liabilities from contracts acquired in a business combination in accordance with Accounting Standards Codification Topic 606 on the acquisition date. We early adopted the ASU as of January 1, 2022 and will apply it prospectively to future acquisitions. The impact of this accounting standard will depend on the contract assets and liabilities acquired in future business combinations.

2. Revenue

Disaggregation of Revenue

The following table presents a summary of revenue:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Subscription revenue	$ 476,023	$ 377,354	$ 290,549
Perpetual license and maintenance revenue	50,333	50,594	54,173
Professional services and other revenue	14,774	12,273	9,864
Revenue	$ 541,130	$ 440,221	$ 354,586

Concentrations

We sell and market our products and services through our field sales force that works closely with our channel partners, which includes a network of distributors and resellers, in developing sales opportunities. We use a two-tiered channel model whereby we sell our products and services to our distributors, which in turn sell to resellers, which then sell to end users. We derived 92%, 91% and 90% of revenue through our channel network in 2021, 2020 and 2019, respectively. One of our distributors accounted for 39%, 43% and 43% of revenue in 2021, 2020 and 2019, respectively. That same distributor accounted for 32% and 41% of accounts receivable at December 31, 2021 and 2020, respectively.

Contract Balances

We generally bill our customers in advance and accounts receivable are recorded when we have the right to invoice the customer. Contract liabilities consist of deferred revenue and include customer billings and payments received in advance of performance under the contract. In 2021, 2020 and 2019, we recognized revenue of $329.0 million, $274.3 million and $214.0 million, respectively, that was included in the deferred revenue balance at the beginning of each of the respective periods.

Remaining Performance Obligations

At December 31, 2021, the future estimated revenue related to unsatisfied performance obligations was $559.0 million, of which approximately 76% is expected to be recognized as revenue over the succeeding twelve months, and the remainder expected to be recognized over the four years thereafter.

Deferred Commissions

The following summarizes the activity of deferred incremental costs of obtaining a contract:

	Year Ended December 31,	
(in thousands)	2021	2020
Beginning balance	$ 78,876	$ 72,265
Capitalization of contract acquisition costs	58,196	38,756
Amortization of deferred contract acquisition costs	(37,123)	(32,145)
Ending balance	$ 99,949	$ 78,876

3. Cash Equivalents and Short-Term Investments

The following tables summarize the amortized cost, unrealized gain and loss and estimated fair value of cash equivalents and short-term investments:

	December 31, 2021			
(in thousands)	Amortized Cost	Unrealized Gain	Unrealized Loss	Estimated Fair Value
Cash equivalents:				
Money market funds	$ 178,518	$ —	$ —	$ 178,518
Total cash equivalents	$ 178,518	$ —	$ —	$ 178,518
Short-term investments:				
Commercial paper	$ 134,165	$ —	$ (47)	$ 134,118
Corporate bonds	27,169	—	(41)	27,128
Asset backed securities	27,464	—	(53)	27,411
Certificates of deposit	10,000	—	(8)	9,992
Supranational bonds	8,632	—	(33)	8,599
U.S. Treasury and agency obligations	27,168	—	(124)	27,044
Total short-term investments	$ 234,598	$ —	$ (306)	$ 234,292

	December 31, 2020			
(in thousands)	Amortized Cost	Unrealized Gain	Unrealized Loss	Estimated Fair Value
Cash equivalents:				
Money market funds	$ 44,153	$ —	$ —	$ 44,153
Commercial paper	4,500	—	—	4,500
Total cash equivalents	$ 48,653	$ —	$ —	$ 48,653
Short-term investments:				
Commercial paper	$ 71,425	$ —	$ —	$ 71,425
Corporate bonds	4,502	3	—	4,505
U.S. Treasury and agency obligations	37,686	7	—	37,693
Total short-term investments	$ 113,613	$ 10	$ —	$ 113,623

Gross unrealized losses were not material at December 31, 2021. We considered the extent to which any unrealized losses on our short-term investments were driven by credit risk and other factors, including market risk, and if it is more-likely-than-not that we would have to sell the security before the recovery of the amortized cost basis. Based on our assessment, we do not believe any unrealized losses represent credit losses at December 31, 2021.

The contractual maturities of our short-term investments are as follows:

	December 31, 2021		December 31, 2020	
(in thousands)	**Amortized Cost**	**Estimated Fair Value**	**Amortized Cost**	**Estimated Fair Value**
Due within one year	$ 195,579	$ 195,453	$ 113,613	$ 113,623
Due between one and four years	39,019	38,839	—	—
Total short-term investments	$ 234,598	$ 234,292	$ 113,613	$ 113,623

4. Fair Value Measurements

We measure certain financial instruments at fair value using a fair value hierarchy. In the hierarchy, assets are classified based on the lowest level inputs used in valuation into the following categories:

- *Level 1* — Quoted prices in active markets for identical assets and liabilities;
- *Level 2* — Observable inputs including quoted market prices for similar assets and liabilities in active markets, quoted prices for identical assets and liabilities in inactive markets, or inputs that are corroborated by observable market data; and
- *Level 3* — Unobservable inputs.

The following tables summarize assets that are measured at fair value on a recurring basis:

	December 31, 2021			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash equivalents				
Money market funds	$ 178,518	$ —	$ —	$ 178,518
Total cash equivalents	$ 178,518	$ —	$ —	$ 178,518
Short-term investments				
Commercial paper	$ —	$ 134,118	$ —	$ 134,118
Corporate bonds	—	27,128	—	27,128
Asset backed securities	—	27,411	—	27,411
Certificates of deposit	—	9,992	—	9,992
Supranational bonds	—	8,599	—	8,599
U.S. Treasury and agency obligations	—	27,044	—	27,044
Total short-term investments	$ —	$ 234,292	$ —	$ 234,292

(in thousands)	December 31, 2020 Level 1	Level 2	Level 3	Total
Cash equivalents				
Money market funds	$ 44,153	$ —	$ —	$ 44,153
Commercial paper	—	4,500	—	4,500
Total cash equivalents	$ 44,153	$ 4,500	$ —	$ 48,653
Short-term investments				
Commercial paper	$ —	$ 71,425	$ —	$ 71,425
Corporate bonds	—	4,505	—	4,505
U.S. Treasury and agency obligations	—	37,693	—	37,693
Total short-term investments	$ —	$ 113,623	$ —	$ 113,623

We did not have any liabilities measured and recorded at fair value on a recurring basis at December 31, 2021 and 2020.

5. Property and Equipment, Net

Property and equipment, net consisted of the following:

(in thousands)	December 31, 2021	2020
Computer software and equipment	$ 29,203	$ 22,930
Furniture and fixtures	5,944	6,011
Leasehold improvements	26,713	26,210
Right-of-use assets under finance leases	1,343	1,571
Total	63,203	56,722
Less: accumulated depreciation and amortization	(26,370)	(17,802)
Property and equipment, net	$ 36,833	$ 38,920

Depreciation and amortization related to property and equipment was $9.5 million, $8.1 million and $6.3 million in 2021, 2020 and 2019, respectively.

6. Acquisitions, Goodwill and Intangible Assets

Business Combinations

In October 2021, we acquired Accurics. Accurics delivers cloud-native security for DevOps and security teams. This acquisition expanded our broader cloud strategy to include the holistic assessment and automated remediation of policy violations and breach paths before the infrastructure is provisioned and throughout its lifecycle. We acquired 100% of the equity in exchange for cash consideration of $160.0 million, net of cash acquired of $9.6 million.

In April 2021, we acquired Alsid, which expanded our product offerings to include active directory security. Active directory is the basis for managing user permissions across on-premises and hybrid cloud deployments and is foundational to the security of cloud workloads, security remote work, and adopting zero trust architectures. Through a share purchase agreement, we acquired 100% of Alsid's equity in exchange for cash consideration of $98.5 million, net of cash acquired of $3.3 million.

Cash consideration, net of cash acquired, was preliminarily allocated as follows:

(in thousands)	Accurics	Alsid
Accounts receivable	$ 180	$ 4,105
Prepaid expenses and other assets	341	2,304
Intangible assets	33,390	31,400
Goodwill	134,909	72,291
Accounts payable, accrued expenses and accrued compensation	(719)	(3,794)
Deferred revenue	(188)	(3,699)
Deferred tax liabilities, net	(7,937)	(4,118)
Total purchase price allocation	$ 159,976	$ 98,489

We are still finalizing the allocations of the purchase price, which may change as additional information becomes available related to acquired intangible assets, working capital and income taxes for Accurics and income taxes for Alsid.

Acquired intangible assets and their estimated useful lives at the date of acquisition are as follows:

	Accurics		Alsid	
(dollars in thousands)	Cost	Estimated Useful Life	Cost	Estimated Useful Life
Acquired technology	$ 33,300	10 years	$ 31,300	7 years
Trade name	90	2 years	100	1 year
Acquired intangible assets	$ 33,390		$ 31,400	

The results of operations of Accurics and Alsid are included in our consolidated statements of operations from the acquisition date and were not material. Pro forma results of operations are not presented as they are not material to the consolidated statements of operations.

In 2021 and 2020, we recognized acquisition-related transaction costs, primarily in general and administrative expense, of $6.9 million and $0.3 million, respectively. In 2019, we recognized acquisition-related transaction costs of $4.0 million, including $2.1 million of expense related to the intercompany transfer of intellectual property.

Goodwill and Acquired Intangible Assets

The changes in the carrying amount of goodwill are as follows:

(in thousands)	
Balance at December 31, 2020	$ 54,414
Acquired goodwill	207,200
Balance at December 31, 2021	$ 261,614

The excess purchase consideration over the fair value of acquired assets and liabilities is recorded as goodwill. The acquired goodwill reflects the synergies we expect from marketing and selling these new capabilities from Accurics and Alsid to our customers. The acquired goodwill is not tax deductible.

Acquired intangible assets subject to amortization are as follows:

	December 31, 2021			December 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Acquired technology	$ 81,924	$ (10,499)	$ 71,425	$ 17,325	$ (4,224)	$ 13,101
Trade name	390	(279)	111	200	(108)	92
	$ 82,314	$ (10,778)	$ 71,536	$ 17,525	$ (4,332)	$ 13,193

Amortization of acquired intangible assets was $6.4 million, $2.3 million, and $0.6 million in 2021, 2020 and 2019, respectively. At December 31, 2021, our acquired intangible assets are expected to be amortized over an estimated weighted average period of 7.7 years.

At December 31, 2021, estimated future amortization of intangible assets is as follows:

(in thousands)	
Year ending December 31,	
2022	$ 9,907
2023	10,049
2024	10,016
2025	10,016
2026	9,831
Thereafter	21,717
Total	$ 71,536

7. Leases

We have operating leases for office facilities and finance leases for office equipment. Our leases have remaining terms of less than one year to just over ten years, some of which include one or more options to renew, with renewal terms up to five years and some of which include options to terminate the leases within the next one to four years. The ROU assets and liabilities at December 31, 2021 assume we exercise the option to early terminate one of our leases in 2025.

The components of lease expense were as follows:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Operating lease cost	$ 7,634	$ 9,870	$ 6,045
Finance lease cost			
Amortization of ROU assets	$ 7	$ 242	$ 607
Interest on lease liabilities	5	6	7
Total finance lease cost	$ 12	$ 248	$ 614

Rent expense for short-term leases in 2021, 2020 and 2019 was not material.

Supplemental information related to leases was as follows:

	December 31, 2021	December 31, 2020
Operating leases		
Weighted average remaining lease term	9.2 years	10.0 years
Weighted average discount rate	5.5%	5.6%

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
ROU assets obtained in exchange for lease obligations			
Operating leases	$ 3,137	$ 3,188	$ 39,170
Finance leases	—	—	11

In 2020, we received proceeds from lease incentives of $14.2 million. The proceeds from lease incentives received are included with the change in the lease liabilities under the other current and noncurrent liabilities caption in the operating activities section of the statement of cash flows.

Maturities of operating lease liabilities at December 31, 2021 were as follows:

(in thousands)	
Year ending December 31,	
2022	$ 5,446
2023	8,260
2024	8,396
2025	8,221
2026	7,421
Thereafter	37,423
Total lease payments	75,167
Less: Imputed interest	(17,801)
Total	$ 57,366

8. Debt

Credit Agreement

In July 2021, we entered into a credit agreement ("Credit Agreement") which is comprised of:

- a $375.0 million senior secured term loan facility ("Term Loan"); and
- a $50.0 million senior secured revolving credit facility ("Revolving Credit Facility").

The table below summarizes the carrying value of the Term Loan:

(in thousands)	**December 31, 2021**
Term loan	$ 375,000
Less: Unamortized debt discount and issuance costs	(7,616)
Term loan, net of issuance costs	367,384
Less: Term loan, net, current (1)	(2,656)
Term loan, net of issuance costs (net of current portion)	$ 364,728

(1) Term loan, net, current is included in other current liabilities on our consolidated balance sheets.

The Term Loan bears interest at a rate of 2.75% per annum over LIBOR, subject to a 0.50% floor. The Term Loan will amortize at 1% per annum in equal quarterly installments, starting in March 2022 until the final maturity date on July 7, 2028.

Our Term Loan is recorded at its carrying value. At December 31, 2021, the carrying value of our Term Loan approximated the fair value of our Term Loan as the terms and interest rate approximate market rates. In the fair value hierarchy, our Term Loan is classified as Level 2 as it is traded in less active markets.

The maturities of the Term Loan at December 31, 2021 were as follows:

(in thousands)		
Year ending December 31,		
2022	$	3,750
2023		3,750
2024		3,750
2025		3,750
2026		3,750
Thereafter		356,250
Total	$	375,000

We may be subject to mandatory Term Loan prepayments related to the excess cash flow provisions beginning in 2023.

The Revolving Credit Facility bears interest at a rate, depending on first lien net leverage, ranging from 2.00% to 2.50% over LIBOR and matures on July 7, 2026. Additionally, we will pay a commitment fee during the term ranging from 0.25% to 0.375% per annum of the average daily undrawn portion of the revolving commitments based on the first lien net leverage ratio. The Revolving Credit Facility contains a $15.0 million letter of credit sublimit.

The Credit Agreement contains certain customary events of default, which include failure to make payments when due, the material inaccuracy of representations or warranties, failure to observe or perform certain covenants, cross-defaults, bankruptcy and insolvency-related events, certain judgments, certain ERISA-related events, failure of any lien created under the Security Documents (as defined in the Credit Agreement) to be valid and perfected (subject to certain exceptions), failure of any material guarantee of the Loan Document Obligations (as defined in the Credit Agreement) to be in full force and effect and a Change of Control (as defined in the Credit Agreement).

The Credit Agreement is guaranteed by the Company and Tenable Public Sector LLC, a subsidiary of the Company, as guarantors, and is supported by a security interest in substantially all of the assets of Tenable, Inc. and the guarantors.

The Credit Agreement contains certain customary representations and warranties and affirmative and negative covenants, including certain restrictions on incurring additional indebtedness or guaranteeing indebtedness of others, creating liens on properties or assets, making certain investments, loans, advances and guarantees, selling assets, making certain restricted payments and entering into certain sale and leaseback transactions, affiliate transactions, restrictive agreements and asset and stock-based transactions. Additionally, if at least 35% of the Revolving Credit Facility is drawn on the last day of the quarter, the total net leverage ratio cannot be greater than 5.50 to 1.00. At December 31, 2021, we were in compliance with the covenants and there have been no amounts outstanding under the Revolving Credit Facility.

2020 Credit Facility

In connection with the Credit Agreement, we terminated our $45.0 million senior secured credit facility ("2020 Credit Facility") with Silicon Valley Bank, including the release of all related guarantees and liens. Prior to its termination, there were no amounts outstanding under our 2020 Credit Facility.

9. Commitments and Contingencies

Commitments

In July 2021, we entered into a contract with Amazon Web Services, Inc. ("AWS") for cloud services from August 2021 through July 2024. Under the terms of the contract, we committed to spend $43.7 million, $46.8 million and $50.1 million in contract years one, two and three, respectively, for a total of $140.6 million. If we do not meet the minimum purchase obligation during any of those years, we will be required to pay the difference. At December 31, 2021, we have spent $37.8 million under our contract with AWS.

Letters of Credit

At December 31, 2021, we had $5.7 million of standby letters of credit related to our grant agreements with the State of Maryland and our operating leases. Collateral for our letters of credit was classified as restricted cash in cash and cash equivalents.

10. Stock-Based Compensation

In 2018, our Board of Directors adopted, and our stockholders approved, our 2018 Equity Incentive Plan ("2018 Plan"). Under the evergreen provision in the 2018 Plan, in January 2021 we reserved an additional 5,185,762 shares of our common stock. At December 31, 2021, there were 19,828,070 shares available for grant.

Stock-based compensation expense included in the consolidated statements of operations was as follows:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Cost of revenue	$ 4,446	$ 3,158	$ 2,817
Sales and marketing	29,410	19,842	16,032
Research and development	20,593	14,794	8,911
General and administrative	24,956	21,779	15,683
Total stock-based compensation expense	$ 79,405	$ 59,573	$ 43,443

At December 31, 2021, the unrecognized stock-based compensation expense related to unvested RSUs was $186.3 million, which is expected to be recognized over an estimated weighted average remaining period of 2.8 years.

At December 31, 2021, the unrecognized stock-based compensation expense related to outstanding stock options was $2.5 million, which is expected to be recognized over an estimated remaining weighted average period of 0.5 years.

At December 31, 2021, the unrecognized stock-based compensation expense related to our 2018 ESPP was $8.1 million, which is expected to be recognized over an estimated weighted average period of 0.9 years.

Restricted Stock and RSUs

A summary of our restricted stock and RSU activity is presented below:

	Restricted Stock		RSUs	
(in thousands, except for per share data)	Number of Shares	Weighted Average Grant Date Fair Value	Number of Shares	Weighted Average Grant Date Fair Value
Unvested balance at December 31, 2018	890	$ 4.25	1,129	$ 18.90
Granted	—	—	2,715	27.81
Vested	(395)	4.25	(479)	18.28
Forfeited	—	—	(471)	25.21
Unvested balance at December 31, 2019	495	4.25	2,894	26.34
Granted	—	—	3,570	28.23
Vested	(396)	4.25	(1,504)	25.37
Forfeited	—	—	(470)	26.68
Unvested balance at December 31, 2020	99	4.25	4,490	28.13
Granted	—	—	3,842	43.57
Vested	(99)	4.25	(1,872)	28.14
Forfeited	—	—	(679)	33.64
Unvested balance at December 31, 2021	—	—	5,781	37.74

RSUs granted under our stock incentive plans generally vest over a period of two to four years. Our outstanding RSUs vest upon the satisfaction of a service-based vesting condition.

Stock Options

A summary of our stock option activity is below:

(in thousands, except for per share data and years)	Number of Shares	Weighted Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2018	19,219	$ 7.78	8.0	$ 277,114
Granted	—	—		
Exercised	(4,205)	4.53		98,378
Forfeited/canceled	(2,075)	10.63		
Outstanding at December 31, 2019	12,939	8.38	7.1	201,608
Granted	—	—		
Exercised	(2,956)	7.34		73,277
Forfeited/canceled	(542)	10.80		
Outstanding at December 31, 2020	9,441	8.56	6.4	412,547
Granted	—	—		
Exercised	(2,671)	6.84		111,256
Forfeited/canceled	(39)	14.96		
Outstanding at December 31, 2021	6,731	9.21	5.5	308,677
Exercisable at December 31, 2021	5,851	8.30	5.4	273,642

At December 31, 2021, there were 6.7 million stock options outstanding that were vested and expected to vest.

Stock options granted under our stock incentive plans have a maximum term of ten years, generally vest over a period of three to four years, and the exercise price cannot be less than the fair market value on the date of grant.

Estimating the fair value of stock options and ESPP purchase rights using the Black-Scholes option-pricing model requires assumptions as to the fair value of common stock, expected term, expected volatility, the risk-free interest rate and the expected dividend yield.

Fair Value of Common Stock. Following our IPO, we use the market price of our common stock at the date of grant. Prior to our IPO, the lack of an active public market for our common stock required an estimate of the fair value of the common stock for granting stock options and restricted shares, and for determining stock-based compensation expense. Contemporaneous third-party valuations were obtained to assist in determining the fair value of our common stock. The contemporaneous valuations were performed in accordance with applicable methodologies, approaches and assumptions of the technical practice-aid issued by the American Institute of Certified Public Accountants Practice Aid entitled *Valuation of Privately-Held Company Equity Securities Issued as Compensation.*

Expected Term. This is the period of time that the options granted are expected to remain unexercised. We employ the simplified method to calculate the average expected term.

Expected Volatility. Volatility is a measure of the amount by which a financial variable, such as a share price, has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. In 2021, we began using the volatility of our common stock to calculate expected volatility. Prior to 2021, we identified several public entities of similar size, complexity, and stage of development and estimated our volatility based on the volatility of the common stock of these companies.

Risk-Free Interest Rate. This is the U.S. Treasury rate, having a term that most closely resembles the expected life of the stock option.

Expected Dividend Yield. We have never declared or paid dividends and have no plans to do so in the foreseeable future.

2018 Employee Stock Purchase Plan

In 2018, our board of directors adopted, and our stockholders approved, our 2018 ESPP. Under the evergreen provision, in January 2021 we reserved an additional 1,555,728 shares of our common stock for issuance. At December 31, 2021, there were 6,316,370 shares reserved for issuance under the 2018 ESPP.

Under our 2018 ESPP, employees may set aside up to 15% of their gross earnings, on an after-tax basis, to purchase our common stock at a discounted price, which is calculated at 85% of the lower of the fair market value of our common stock on the first day of an offering or on the date of purchase. The 2018 ESPP permits offerings up to 27 months in duration, with one or more purchase periods in each offering. Additionally, in cases where the fair market value of a share of our common stock on the first day of a new purchase period within an offering is less than or equal to the fair market value of a share of our common stock at the beginning of the offering, that offering will be terminated and participants will be automatically enrolled in a new offering with a new 24-month duration and purchase periods every six months.

In 2021, employees purchased 670,534 shares of our common stock at a weighted average price of $20.48 per share, resulting in $13.7 million of cash proceeds.

In 2020, employees purchased 667,719 shares of our common stock at a weighted average price of $19.53 per share resulting in $13.0 million of cash proceeds.

In 2019, employees purchased 776,809 shares of our common stock at a weighted average price of $19.48 per share resulting in $15.1 million of cash proceeds.

At December 31, 2021 and 2020 there was $6.0 million and $6.5 million, respectively, of employee contributions to the 2018 ESPP included in accrued compensation.

The fair value of the 2018 ESPP purchase rights was estimated on the offering or modification dates using a Black-Scholes option-pricing model and the following assumptions:

	Year Ended December 31,		
	2021	2020	2019
Expected term (in years)	0.5 — 2.0	0.5 — 2.0	0.5 — 2.0
Expected volatility	37.2% — 59.4%	41.6% — 60.1%	34.4% — 44.6%
Risk-free interest rate	0.1% — 0.2%	0.1% — 0.9%	1.5% — 2.5%
Expected dividend yield	—	—	—

11. Income Taxes

U.S. and foreign components of the loss before income taxes were as follows:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
U.S. loss	$ (3,319)	$ (6,719)	$ (21,644)
Foreign loss	(47,310)	(30,355)	(64,005)
Total loss before income taxes	$ (50,629)	$ (37,074)	$ (85,649)

The components of the provision for income taxes were as follows:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Current			
Federal	$ 3	$ 3	$ (224)
State	100	17	100
Foreign	6,413	5,476	9,245
Total current tax expense	6,516	5,496	9,121
Deferred			
Federal	(7,016)	102	—
State	(827)	59	—
Foreign	(2,625)	—	4,243
Total deferred tax (benefit) expense	(10,468)	161	4,243
Total (benefit) provision for income taxes	$ (3,952)	$ 5,657	$ 13,364

In connection with the 2021 acquisition of Accurics, we elected to first offset our existing deferred tax assets with acquired deferred tax liabilities. This resulted in releasing $7.9 million of the federal and state valuation allowance, which was recorded as a component of our deferred tax benefit.

In December 2019, we sold acquired intellectual property through an intercompany transaction, which resulted in $6.3 million of current tax expense and $4.2 million of deferred tax expense in Israel. In January 2021, we restructured the research and development operations in Israel through an intercompany transaction, which resulted in $2.8 million of current tax expense.

The items accounting for the difference between income taxes computed at the federal statutory rate and our effective tax rate were as follows:

	Year Ended December 31,		
	2021	2020	2019
U.S. federal statutory tax rate	21.0 %	21.0 %	21.0 %
State and local taxes	2.6	10.8	4.8
Research and development tax credit	4.5	11.1	3.1
Stock-based compensation	49.5	34.4	19.0
Uncertain tax positions	(0.1)	0.1	(0.5)
Foreign tax rate differential	(1.2)	(10.6)	(7.9)
Change in valuation allowance	(55.7)	(81.2)	(40.8)
Gain on intercompany sale	(5.1)	—	(12.3)
Foreign withholding tax	(2.0)	(3.3)	(1.4)
Transaction costs	(1.6)	—	—
Other	(4.1)	2.4	(0.6)
Effective tax rate	7.8 %	(15.3)%	(15.6)%

We maintain a valuation allowance on U.S. federal, state and foreign net deferred tax assets as the realization of our deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain.

The components of the deferred tax assets and liabilities were as follows:

	December 31,	
(in thousands)	**2021**	**2020**
Deferred tax assets:		
Net operating losses	$ 134,503	$ 89,053
Deferred revenue	13,598	13,454
Stock-based compensation	14,157	11,846
Tax credits	15,142	11,565
Leases	12,929	15,238
Accrued compensation	1,600	1,271
Interest expense	2,013	—
Other	231	379
Total deferred tax assets	194,173	142,806
Valuation allowance	(147,040)	(112,363)
Net deferred tax assets	47,133	30,443
Deferred tax liabilities:		
Deferred commissions	(19,423)	(15,987)
Property and equipment	(13,720)	(13,257)
Intangible assets	(15,253)	(962)
Other	(486)	(398)
Total deferred tax liabilities	(48,882)	(30,604)
Net deferred tax liabilities	$ (1,749)	$ (161)

At December 31, 2021, we had net operating loss (“NOL”) carryforwards for federal, state and foreign tax purposes of $398.5 million, $226.1 million, and $289.9 million, respectively, which will begin to expire in 2030, as well as $17.9 million of federal, state and foreign research and development tax credits, foreign tax credits, minimum tax credits and certain states' job creation tax credits. The federal research and development and foreign tax credits will begin to expire in 2032 and the state job creation tax credits will begin to expire in 2022.

We are currently subject to the annual limitation under Sections 382 and 383 of the Internal Revenue Code. We will not be precluded from realizing the NOL carryforward and tax credits but may be limited in the amount we could utilize in any given tax year in the event that the federal and state taxable income will exceed the limitation imposed by Section 382. The amount of the annual limitation is determined based on our value immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years.

At December 31, 2021 and 2020, the total amount of gross unrecognized tax benefits was $7.6 million and $7.1 million, respectively, which, if recognized, would impact our effective tax rate by less than $0.1 million in each year. Interest and penalties associated with uncertain tax positions recognized as a component of income tax expense were immaterial in 2021, 2020 and 2019.

The change in gross unrecognized tax benefits, excluding accrued interest, were as follows:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Unrecognized tax benefits at the beginning of the period	$ 7,123	$ 7,163	$ 4,814
Additions for tax positions in the current year	194	232	2,306
Increase in prior year positions	64	62	90
Decrease in prior year positions	(48)	(334)	(89)
Acquisitions	242	—	42
Unrecognized tax benefits at the end of the period	$ 7,575	$ 7,123	$ 7,163

We file income tax returns in the United States, including various state jurisdictions. Our subsidiaries file income tax returns in various foreign jurisdictions. Tax years after 2014 remain open to examination by the major taxing jurisdictions in which we are subject to tax. At December 31, 2021, we were not under examination for income tax audits by the Internal Revenue Service or any state or foreign tax jurisdiction.

Depending on the jurisdiction, distributions of earnings could be subject to withholding taxes at rates applicable to the distributing jurisdiction. As we intend to continue to reinvest the earnings of foreign subsidiaries indefinitely, we have not provided for a U.S. income tax liability and foreign withholding taxes on undistributed foreign earnings of foreign subsidiaries. It is not practicable for us to determine the amount of unrecognized tax expense on these reinvested foreign earnings.

12. Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share:

	Year Ended December 31,		
(in thousands, except per share data)	**2021**	**2020**	**2019**
Net loss	$ (46,677)	$ (42,731)	$ (99,013)
Weighted-average shares used to compute net loss per share, basic and diluted	106,387	101,009	96,014
Net loss per share, basic and diluted	$ (0.44)	$ (0.42)	$ (1.03)

The following potentially dilutive securities have been excluded from the diluted per share calculations because they would have been antidilutive:

(in thousands)	Year Ended December 31, 2021	2020	2019
Stock options	6,731	9,441	12,939
RSUs	5,781	4,490	2,894
Shares to be issued under the 2018 ESPP	181	321	278
Restricted stock	—	99	495
Total	12,693	14,351	16,606

13. Geographic Information

We operate as one operating segment. Our Chief Executive Officer, who is our chief operating decision maker, reviews financial information on a consolidated basis for purposes of making operating decisions, allocating resources, and evaluating financial performance.

Revenue by region, based on the address of the end user as specified in our subscription, license or service agreements, was as follows:

(in thousands)	Year Ended December 31, 2021	2020	2019
The Americas	$ 347,724	$ 293,734	$ 243,616
Europe, Middle East and Africa	135,176	102,155	77,676
Asia Pacific	58,230	44,332	33,294
Revenue	$ 541,130	$ 440,221	$ 354,586

Customers located in the United States accounted for 58%, 61% and 63% of revenue in 2021, 2020 and 2019, respectively. No other country accounted for 10% or more of revenue in the periods presented.

Our property and equipment, net by geographic area is summarized as follows:

(in thousands)	December 31, 2021	2020
United States	$ 33,579	$ 35,406
International	3,254	3,514
Property and equipment, net	$ 36,833	$ 38,920

14. Benefit Plans

We maintain a contributory defined contribution 401(k) plan for our U.S. employees, where company-matched contributions are fully vested. Additional contributory plans are in effect internationally, including in the U.K. and Ireland. Our contribution expense for such plans was $7.6 million, $6.5 million and $6.2 million in 2021, 2020 and 2019, respectively.

15. Subsequent Events

In February 2022, we acquired Cymptom, a platform that proactively measures, maps and prioritizes probable attack paths. When added to our products, this acquisition will enable security teams to preemptively focus response ahead of and during breaches. We acquired Cymptom for a total purchase price of approximately $23 million in cash.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain “disclosure controls and procedures,” as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act, that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Form 10-K. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2021, our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by us in this Form 10-K was (a) reported within the time periods specified by SEC rules and regulations and (b) communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding any required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the Exchange Act. Our management evaluated the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and concluded that our internal control over financial reporting was effective at December 31, 2021. We completed our acquisition of Accurics on October 1, 2021. Since we have not yet fully incorporated the internal controls and procedures of Accurics into our internal control over financial reporting, management excluded Accurics from its assessment of the effectiveness of our internal controls at December 31, 2021. Accurics represented approximately 3% of our total assets at December 31, 2021 and less than 1% of our revenue and operating expenses in 2021.

Our independent registered public accounting firm, Ernst & Young LLP (PCAOB ID: 42), has issued an audit report with respect to our internal control over financial reporting as of December 31, 2021, 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 management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the three months ended December 31, 2021 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Internal Controls

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, not absolute, 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 judgment in evaluating the benefits of possible controls and procedures relative to their costs. Our management, including our Chief Executive Officer and Chief Financial Officer, believes that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, our management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Executive Officers and Directors

The information required by this item will be contained in our definitive proxy statement to be filed with the SEC in connection with our 2022 annual meeting of stockholders, or the Proxy Statement, which is expected to be filed not later than 120 days after the end of our fiscal year ended December 31, 2021, under the captions "Information Regarding the Board of Directors and Corporate Governance," "Election of Directors" and "Executive Officers" and is incorporated in this report by reference.

Item 11. Executive Compensation

The information required by this item will be set forth in the Proxy Statement under the captions "Executive Compensation" and "Director Compensation" 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 under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance under Equity Compensation Plans" 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 under the captions "Transactions with Related Persons and Indemnification" and "Independence of the Board of Directors" 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 under the caption "Ratification of Selection of Independent Registered Public Accounting Firm" and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Financial Statements

See the Index to Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedules

SCHEDULE II
SUPPLEMENTARY CONSOLIDATED FINANCIAL STATEMENT SCHEDULE
VALUATION AND QUALIFYING ACCOUNTS

(in thousands)	Balance at Beginning of Year	Additions Charged to Costs and Expenses	Deductions[1]	Balance at End of Year
Allowance for Doubtful Accounts				
Year Ended December 31, 2021	$ 261	$ 349	$ (86)	$ 524
Year Ended December 31, 2020	764	336	(839)	261
Year Ended December 31, 2019	188	967	(391)	764

(1) Consists of write-offs of uncollectible accounts, net of recoveries.

All other schedules have been omitted because they are not required, not applicable, or the required information is included in the financial statements or the notes to the financial statements.

(a)(3) Exhibits

The following is a list of Exhibits filed as part of this Annual Report on Form 10-K:

Exhibit Number	Description	Location
2.1	Share Purchase Agreement, dated as of December 2, 2019, by and between Tenable, Inc., Indegy Ltd., the shareholders of Indegy set forth on Schedule I to the Purchase Agreement and Shareholder Representative Services LLC, as the representative of Indegy's shareholders and optionholders thereunder.	Previously filed as Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-38600) on December 2, 2019
3.1	Amended and Restated Certificate of Incorporation of Tenable Holdings, Inc.	Previously filed as Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-38600) on July 30, 2018
3.2	Amended and Restated Bylaws of Tenable Holdings, Inc.	Previously filed as Exhibit 3.4 to the Company's Registration Statement on Form S-1 (File No. 333-226002) on June 29, 2018
4.1	Common Stock Certificate of Tenable Holdings, Inc.	Previously filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-226002) on July 16, 2018
4.2	Investors' Rights Agreement by and among Tenable Holdings, Inc. and certain of its stockholders, dated December 18, 2015	Previously filed as Exhibit 4.2 to the Company's Registration Statement on Form S-1 (File No. 333-226002) on July 16, 2018
4.3	Description of Common Stock of Tenable Holdings, Inc.	Previously filed as Exhibit 4.3 to the Company's Annual Report on Form 10-K (File No. 001-38600) on February 28, 2020
10.1+	2016 Stock Incentive Plan and Irish Supplement and Forms of Option Grant Notice and Agreement and Exercise Notice and Form of Restricted Stock Grant Notice and Agreement thereunder, as amended to date	Previously filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 (File No. 333-226347) on July 26, 2018

10.2+	2012 Stock Incentive Plan and Form of Notice of Stock Option Grant and Form of Stock Option Agreement and Notice of Exercise and Common Stock Purchase Agreement thereunder, as amended to date	Previously filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 (File No. 333-226347) on July 26, 2018
10.3+	2002 Stock Incentive Plan and Form of Notice of Option Grant and Form of Stock Option Agreement and Form of Notice of Stock Option Exercise and Form of Stock Award Agreement thereunder, as amended to date	Previously filed as Exhibit 10.3 to the Company's Registration Statement on Form S-8 (File No. 333-226347) on July 26, 2018
10.4+	2018 Equity Incentive Plan and Forms of Stock Option Grant Notice and Agreement and Restricted Stock Unit Grant Notice and Agreement thereunder	Previously filed as Exhibit 10.4 to the Company's Registration Statement on Form S-8 (File No. 333-226347) on July 26, 2018
10.5+	2018 Employee Stock Purchase Plan	Previously filed as Exhibit 10.5 to the Company's Registration Statement on Form S-8 (File No. 333-226347) on July 26, 2018
10.6+	Form of Indemnification Agreement by and between Tenable Holdings, Inc. and each of its directors and executive officers	Previously filed as Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-226002) on July 16, 2018
10.7+	Amended and Restated Employment Agreement, dated as of February 20, 2019, by and between Tenable, Inc. and Amit Yoran	Previously filed as Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-38600) on February 22, 2019
10.8+	Amended and Restated Employment Agreement, dated as of February 20, 2019, by and between Tenable, Inc. and Stephen A. Vintz	Previously filed as Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-38600) on February 22, 2019
10.9+	Amended and Restated Employment Agreement, dated as of February 20, 2019, by and between Tenable, Inc. and Stephen A. Riddick	Previously filed as Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-38600) on February 22, 2019
10.10	Loan and Security Agreement, dated as of May 4, 2017, by and between Tenable Network Security, Inc. and Silicon Valley Bank	Previously filed as Exhibit 10.11 to the Company' Registration Statement on Form S-1 (File No. 333-226002) on July 16, 2018
10.11#	Distribution Agreement, dated as of September 10, 2012, by and between Tenable Network Security, Inc. and Ingram Micro, Inc.	Previously filed as Exhibit 10.12 to the Company' Registration Statement on Form S-1 (File No. 333-226002) on July 16, 2018
10.12	Credit Agreement, dated as of July 7, 2021, by and among Tenable, Inc., the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent and collateral agent.	Previously filed as Exhibit 10.2 to the Company's Form 10-Q (File No. 001-38600) on August 2, 2021
10.13	Share Purchase Agreement, dated as of September 13, 2021, by and among Tenable, Inc., Accurics, Inc., the shareholders of Accurics identified in the Purchase Agreement or joined to the Purchase Agreement pursuant to a joinder agreement, and Shareholder Representative Services LLC, as the representative of Accurics' shareholders thereunder.	Previously filed as Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-38600) on September 13, 2021
21.1	Subsidiaries of Tenable Holdings, Inc.	Filed herewith
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm	Filed herewith
24.1	Power of Attorney	Filed herewith
31.1	Certification of the Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
31.2	Certification of the Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.1*	Certification of the Principal Executive Officer and the Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished herewith
101.SCH	Inline XBRL Taxonomy Extension Schema Document	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	

101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101.SCH, 101.CAL, 101.DEF, 101.LAB and 101.PRE)

(*) This certification is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

(+) Indicates management contract or compensatory plan.

(#) Confidential treatment has been granted as to certain portions, indicated by asterisks, which portions have been omitted and filed separately with the Securities and Exchange Commission.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements 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.

TENABLE HOLDINGS, INC.

Date:	February 25, 2022	By:	/s/ Amit Yoran
			Amit Yoran
			Chairman and Chief Executive Officer
Date:	February 25, 2022	By:	/s/ Stephen A. Vintz
			Stephen A. Vintz
			Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Amit Yoran, Stephen A. Vintz and Stephen A. Riddick, jointly and severally, as his or her true and lawful attorneys-in-fact and agents, 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 this Annual Report on Form 10-K of Tenable Holdings, Inc., and any or all amendments thereto, 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 full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agents, or his, her or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.
Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Amit Yoran Amit Yoran	Chairman and Chief Executive Officer *(Principal Executive Officer)*	February 25, 2022
/s/ Stephen A. Vintz Stephen A. Vintz	Chief Financial Officer *(Principal Financial Officer and Principal Accounting Officer)*	February 25, 2022
/s/ Arthur W. Coviello, Jr. Arthur W. Coviello, Jr.	Director	February 25, 2022
/s/ Kimberly L. Hammonds Kimberly L. Hammonds	Director	February 25, 2022
/s/ Linda Zecher Higgins Linda Zecher Higgins	Director	February 25, 2022
/s/ Niloofar Razi Howe Niloofar Razi Howe	Director	February 25, 2022
/s/ John C. Huffard, Jr. John C. Huffard, Jr.	Director	February 25, 2022
/s/ Jerry M. Kennelly Jerry M. Kennelly	Director	February 25, 2022
/s/ A. Brooke Seawell A. Brooke Seawell	Director	February 25, 2022
/s/ Raymond Vicks, Jr. Raymond Vicks, Jr.	Director	February 25, 2022

Exhibit 21.1

SUBSIDIARIES OF TENABLE HOLDINGS, INC.

Name of Subsidiary	Jurisdiction of Incorporation
Tenable, Inc.	Delaware
Accurics, Inc.	Delaware
Tenable Network Security Ireland Limited	Ireland
Alsid, SAS	France
Tenable Israel Ltd.	Israel
Tenable Public Sector LLC	Delaware

Exhibit 23.1

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. 333-240164) of Tenable Holdings, Inc.,

(2) Registration Statement (Form S-8 No. 333-236759) pertaining to the Tenable Holdings, Inc. 2018 Equity Incentive Plan, and the Tenable Holdings, Inc. 2018 Employee Stock Purchase Plan,

(3) Registration Statement (Form S-8 No. 333-226347) pertaining to the Tenable Holdings, Inc. 2002 Stock Incentive Plan, as amended and restated; the Tenable Holdings, Inc. 2012 Stock Incentive Plan, as amended and restated; the Tenable Holdings, Inc. 2016 Stock Incentive Plan, as amended and restated; the Tenable Holdings, Inc. 2018 Equity Incentive Plan; and the Tenable Holdings, Inc. 2018 Employee Stock Purchase Plan, and

(4) Registration Statement (Form S-8 No. 333-230040) pertaining to the Tenable Holdings, Inc. 2018 Equity Incentive Plan and the Tenable Holdings, Inc. 2018 Employee Stock Purchase Plan;

of our reports dated February 25, 2022, with respect to the consolidated financial statements and schedule of Tenable Holdings, Inc. and the effectiveness of internal control over financial reporting of Tenable Holdings, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2021.

/s/ Ernst & Young LLP

Baltimore, Maryland

February 25, 2022

Exhibit 31.1

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Amit Yoran, certify that:

1. I have reviewed this Annual Report on Form 10-K of Tenable Holdings, 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(s) 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)) 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) 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
   (c) 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(s) 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.

Date:	February 25, 2022	By:	/s/ Amit Yoran
			Amit Yoran
			Chief Executive Officer and Chairman
			(Principal Executive Officer)

Exhibit 31.2

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Stephen A. Vintz, certify that:

1. I have reviewed this Annual Report on Form 10-K of Tenable Holdings, 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(s) 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)) 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) 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
   (c) 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(s) 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.

Date: February 25, 2022

By: /s/ Stephen A. Vintz
Stephen A. Vintz
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATIONS OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Each of the undersigned hereby certifies, 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 Tenable Holdings, Inc. for the fiscal year ended December 31, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 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 Tenable Holdings, Inc.

Date: February 25, 2022

By: /s/ Amit Yoran
Amit Yoran
Chief Executive Officer and Chairman
(Principal Executive Officer)

Date: February 25, 2022

By: /s/ Stephen A. Vintz
Stephen A. Vintz
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)