Risk Factors Comparison 2024-03-15 to 2023-03-31 Form: 10-K

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Our operations and financial results are subject to various risks and uncertainties, including those described below, which could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our common and capital stock. You should carefully consider the risks and uncertainties described below in addition to the other information set forth in this Report, including in " Management' s Discussion and Analysis of Financial Condition and Results of Operations " and our consolidated financial statements and related notes, before making any investment in our common stock. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business. If any of these risk factors occur, you could lose substantial value or your entire investment in our shares. Summary Risk Factors An investment in our common stock involves a high degree of risk, and the following is a summary of key risk factors when considering an investment. You should read this summary together with the more detailed description of each risk factor contained in the subheadings further below **. • Long and unpredictable sales cycles. • We have limited technical resources and are at an early stage in commercialization of our products. • Intensely competitive market with established brand names** . • Our business has been, and may continue to be, negatively affected by shareholders intent upon alternate business strategies. • **Our** ~~We may not generate significant sales revenues from our new software~~ products ~~and services. • We~~ are **subject** ~~involved and will continue~~ to ~~be involved in litigation defending~~ **governmental export and import controls that could subject us to liability** ~~our~~ - **or impair our ability** ~~patent portfolio, which can be time- consuming and costly, and we cannot anticipate the results. • We may not be able~~ to ~~capitalize on~~ **compete in international** ~~market~~ **markets** ~~opportunities related to our product strategy, our licensing strategy or our patent portfolio~~ . ~~Index~~ • If we are not able to adequately protect our patent rights and trade secrets, our business would be negatively impacted. ~~• Because our~~ **Risks Related to Our** ~~business~~ **Business** ~~is conducted or expected to~~ **and Our Financial Reporting Our operating results may not** be **consistent** ~~conducted in an~~ **and** ~~environment that is subject to rapid change, we~~ may be ~~subject~~ **difficult** to **predict** ~~various developments in regulation, law,~~ and ~~consumer preferences to which~~ we may not be able to ~~adapt successfully~~ **achieve or sustain profitability in the future** . **;** ~~resources than we do;~~ • **The success of a licensee** ~~Prolonged economic uncertainties or downturns,globally or~~ in ~~certain regions or industries,could materially adversely affect our business;• Government export and import control regulations on~~ selling products ~~with encryption~~ **that use our patented** ~~technology~~ **technologies** ~~in certain international markets~~ ; **and • The amount and timing of expenses related to our patent filings and enforcement proceedings,including litigation,related to our intellectual property rights.** These fluctuations may make our business particularly difficult to manage,adversely affect our business and operating results,make our operating results difficult for investors to predict and,further,cause our results to fall below investor' s expectations and adversely affect the market price of our common stock. **Risks Related** ~~If we fail~~ to ~~increase~~ **Restatement of** our ~~revenue~~ **Consolidated Financial Statements** • Our ~~exposure~~ **customers' willingness** to ~~outside influences beyond our control, including new legislation, court rulings~~ **invest potentially substantial resources and modify their network infrastructures to take advantage of** ~~or~~ **our** ~~actions~~ **products ; • Our customers' budgetary constraints and timing of their budget cycles ; • Delays caused** by **customers' internal review processes ;** ~~the USPTO could adversely affect our licensing~~ and ~~enforcement activities and results of operations.~~ • **Long sales cycles** ~~New legislation, regulations or court rulings related to enforcing patents could harm our business and operating results. • Privacy and data security concerns, and data collection and transfer restrictions and related domestic or foreign regulations~~ may ~~limit~~ **increase** the **risk that** ~~use and adoption of~~ our **financial resources are exhausted before** ~~solutions and adversely affect our business. • If~~ we are ~~unable~~ -- **able** to ~~expand our~~ **generate significant** revenue ~~sources or establish~~ **. In addition** , **potential** ~~sustain, grow, or replace relationships with a diversified customer~~ **customers of** ~~base,~~ our ~~revenues~~ **products include local, state, federal and foreign government authorities. Sales to government authorities can be extensive and unpredictable. Government authorities generally have complex budgeting, purchasing, and regulatory processes that govern their capital spending, and their spending is likely to be adversely impacted by economic conditions. In addition, in many instances, sales to government authorities may require field trials and** may be ~~limited~~ **delayed by the time it takes for government officials to evaluate multiple competing bids, negotiate terms, and award contracts** . ~~•~~ **For these reasons, the sales cycle associated with our products is subject to a number of significant risks that are beyond our control. Consequently, if customer orders are not realized or delayed, our revenues and results of operations could be materially and adversely affected.** We have limited technical resources and are at an early stage in commercialization of our **VirnetX One ™ platform and** software products. ~~• Our~~ **Part of our business includes the** ~~international~~ ----- **internal** ~~expansion~~ **development of commercial products we seek to monetize. This aspect of our business may require significant capital, time and resources and we cannot guarantee that it** will **be successful** ~~subject us to additional costs and risks, and our~~ - **or** ~~plans~~ **meet our expectations. Based on the scale of our technical resources, our limited historical financial data upon which to base our projected revenue or planned operating expenses related to our software products and services, we** may not be ~~successful.~~ **able to effectively:** • **Implement an effective marketing strategy to promote awareness of our products ; • Attract and retain customers for our products ; • Generate revenues or profit from product sales ; • Provide appropriate levels of customer training and technical support for our products ; • Rapidly anticipate and adapt to changes in the market and evolving customer requirements ; • Protect our products from any system failures or other breaches. In addition, a high percentage of our expenses are and will continue to be fixed. Accordingly, if we do not generate revenue as and when anticipated, our losses may be greater than expected and our** operating results will suffer. Index The market in which we participate is intensely competitive, and if we do not compete effectively, our operating results could be harmed. The market for Zero Trust Network Access (" ZTNA ") security solutions is rapidly evolving and highly competitive as new entrants and traditional network solutions companies offer cloud- based cybersecurity solutions. Many of our competitors and potential competitors have established brand recognition, larger customer bases, and greater resources than we do. Our primary competitors in the zero- trust network access market include Appgate, Cloudflare, and Illumio. In the enterprise market, our primary competitors include Zscaler (ZPA), Palo Alto Networks (Prisma Access), Cisco (Umbrella), Citrix (Secure Private Access), Netskope (Private Access for ZTNA) and Cato Networks. As we expand our product offerings and use cases, we will begin to compete with companies that offer bundled security- as- a- service solutions that include Secure Access Service Edge (SASE) and Security Service Edge (SSE). With the introduction of new technologies and market entrants, we expect competition to intensify in the future. For example, disruptive technologies such as generative AI may fundamentally alter the market for our services in unpredictable ways and reduce customer demand. If we fail to compete effectively, our business will be harmed. Some of our competitors offer their products or services at lower prices or for free as part of a broader bundled product sale or enterprise license arrangement, which has placed pricing pressure on our business. If we are unable to achieve our target pricing levels, our operating results will be negatively impacted. For us to compete effectively, we need to introduce new products and services in a timely and cost- effective manner, meet customer expectations and needs at prices that customers are willing to pay, and continue to enhance the features and functionalities of our cloud content management platform. In addition, pricing pressures and increased competition could result in reduced sales, lower margins, losses or the failure of our services to achieve or maintain widespread market acceptance, any of which could harm our business. Many of our competitors are able to devote greater resources to the development, promotion and sale of their products or services. In addition, many of our competitors have established marketing relationships and major distribution agreements with channel partners, consultants, system integrators and resellers. Competitors may offer products or services at lower prices or with greater depth than our services. Our competitors may be able to respond more quickly and effectively to new or changing opportunities, technologies, standards or customer requirements. Furthermore, some potential customers, particularly large enterprises, may elect to develop their own internal solutions. For any of these reasons, we may not be able to compete successfully against our competitors. Our success depends in part on establishing and maintaining relationships with other companies to distribute our technology and products or to incorporate our products and services, into their technology or vice versa. Part of our business strategy is to enter into partnerships, strategic investments, and other cooperative arrangements with third parties. We have ~~had~~ invested in and we continue to ~~restate~~ seek to invest in or acquire businesses, technologies, or other assets that we believe could complement or expand our business. In addition, we are regularly involved in cooperative efforts with respect to the incorporation of our products into products of others and vice versa, research and development efforts, and marketing, distributor and reseller arrangements. These relationships are generally non- exclusive, and some of our partners also have cooperative relationships with certain of our competitors or offer some products and services that are competitive with ~~our~~ ours ~~previously issued ,a high percentage of our expenses are and will continue to be fixed~~ . ~~Accordingly~~ If we lose third- party relationships ,if these relationships are not commercially successful,or if we ~~do not generate revenue as and when anticipated~~ are unable to enter into third- party relationships on commercially reasonable terms in the future ,our ~~losses may~~ business could be negatively impacted ~~greater than expected and our operating results will suffer~~ . ~~IndexOur~~ --- Index Our products are highly technical and may contain undetected errors,which could cause harm to our reputation and adversely affect our business.Our products are highly technical and complex and,when deployed,may contain errors or defects.Despite testing,some errors in our products may only be discovered after a product has been installed and used by customers.Any errors or defects discovered in our products after commercial release could result in failure to achieve market acceptance,loss of revenue or delay in revenue recognition,loss of customers and increased service and warranty cost,any of which could adversely affect our business,operating results,and ~~financial condition.~~ financial ~~statements~~ condition. In addition, we could face claims for product liability, tort, or breach of warranty, including claims relating to changes to our products made by our channel partners. The performance of our products could have unforeseen or unknown adverse effects on the networks over which they are delivered as well as on third- party applications and services that utilize our services, which could result in legal claims against us, harming our business. Furthermore, we expect to provide implementation, consulting, and other technical services in connection with ~~such process identified~~ the implementation and ongoing maintenance of our products, which typically involves working with sophisticated software, computing, and communications systems. We expect that our contracts with customers will contain provisions relating to warranty disclaimers and liability limitations, which may not be upheld. Defending a ~~material weakness in~~ lawsuit, regardless of its merit, is costly and may divert management' s attention and adversely affect the market' s perception of us and our products. In addition, if our business liability insurance coverage proves inadequate ~~our~~ - or ~~internal~~ future coverage is unavailable on acceptable terms or at all, our business, operating results, and financial condition could be adversely impacted. Malfunctions of third- party communications infrastructure, hardware and software expose us to a variety of risks that we cannot control. Our business will depend upon, among other things, the capacity, reliability, security, and unimpeded access of the infrastructure owned by third parties that we will use to deploy our offerings. We have no control over ~~financial~~ the operation, quality, or maintenance of a significant ~~reporting~~ --- portion of that infrastructure or whether those third parties will upgrade or improve their equipment . ~~-~~We depend on these companies to maintain the operational integrity of our connections.If one or more of these companies is unable or unwilling to supply or expand its levels of service to us in the future,our operations could be severely interrupted.Also,to the extent that the number of users of networks utilizing our current or future products suddenly increases,the technology platform and secure hosting services which will be required to accommodate a higher volume of traffic may result in slower response times or service interruptions.System interruptions or increases in response time could result in a loss of potential or existing users and,if sustained or repeated,could reduce the appeal of the networks to users.In addition,users depend on real- time communications ~~,~~ **;** outages caused by increased traffic could result in delays and system failures.These types of occurrences could cause users to perceive that our solution does not function properly and could therefore adversely affect our ability to attract and retain licensees,strategic partners,and customers.System failure or interruption or our failure to meet increasing demands on our systems could harm our business.The success of our license and service offerings will depend on the uninterrupted operation of various systems,secure data centers and other computer and communication networks that we establish.To the extent,the number of users of networks utilizing our future products suddenly increases,the technology platform and hosting services which will be required to accommodate a higher volume of traffic may result in slower response times,service interruptions or delays or system failures.Our systems and operations will also be vulnerable to damage or interruption from,among other things: **Index** • ~~We may face litigation over~~ **Power loss, transmission cable cuts and** ~~the~~ **other** ~~restatement of~~ **telecommunications failures ; • Damage** ~~our~~ - **or** ~~previously issued financial statements~~ **interruption caused by fire, earthquake, and other natural disasters ; • Computer viruses, electronic break- ins, sabotage, vandalism or software defects ; and • Physical or electronic break- ins, sabotage, intentional acts of vandalism, terrorist attacks and other events beyond our control** . ~~Risks Related~~ **System interruptions or failures and increases or delays in response time could result in a loss of potential or existing users and, if sustained or repeated, could reduce the appeal of the networks** to **users. These types of occurrences could cause users to perceive that our solution does not function properly and could therefore adversely affect our ability to attract and retain licensees, strategic partners, and customers, and result in lost revenue, customer dissatisfaction, or lawsuits against us.** Our ~~Business and Our Financial ReportingOur~~ business has been, and may continue to be, negatively affected by shareholders intent upon alternate business strategies. Responding to actions by activist shareholders is costly and time- consuming, has diverted ~~some~~ the attention of management, our board of directors and our employees, and may be disruptive to our operations. Additionally, perceived uncertainties as to our future direction as a result of shareholder activism ~~or changes to the composition of our board of directors~~ may lead to the perception of a change in the direction of our business or other instability, which may be exploited by our competitors, cause concern to our current or potential customers, and make it more difficult to attract and retain qualified personnel. **Furthermore** ~~The change in composition of our board of directors could jeopardize our ability to execute our strategic plan and materially harm our business. Due to the current status of our ongoing litigation proceedings, it is critical for us to retain our current board members for proper and timely execution of our strategy in this matter for maximizing shareholder equity value. Additionally~~ , if customers choose to delay, defer or reduce transactions with us or do business with our competitors instead of us, then our business, financial condition and operating results would be adversely affected. In addition, our share price could experience periods of increased volatility as a result of shareholder activism. **If** ~~In March and April 2022, we launched War Room ™ and VirnetX Matrix ™ on our VirnetX One ™ platform in the U. S. We currently expect to launch these products in Asia Pacific and Europe in fiscal year 2023. We also intend to continue to introduce new products on our VirnetX One ™ platform in the future. The introduction and launch of new products is subject to significant costs, risks of slow market acceptance, and variable costs and timing of customer acquisition. While we believe our software products will be attractive to businesses, government agencies, cloud and on- premise application service providers, and OEMs, if~~ we are **not** ~~unable~~ -- **able** to **adequately protect our patent rights** ~~overcome these risks, we may never generate significant revenue from the sales of these products. We are involved~~ and ~~will continue to~~ **trade secrets, our business would** be **negatively impacted** ~~involved in litigation defending our patent portfolio, which can be time- consuming and costly, and we cannot anticipate the results. We spend a significant amount of our financial and management resources to pursue our current litigation. We believe that this litigation and others that we may pursue in the future could continue for years and consume significant financial and management resources. The counterparties to our litigation include large, well- financed companies with substantially greater resources than us. Patent litigation is risky, and the outcome is uncertain, and we cannot assure you that any of our current or future litigation matters will result in a favorable outcome for us. In addition, even if we obtain favorable interim rulings or verdicts, they may be inconsistent with the ultimate resolution of the dispute. Furthermore, any awards we receive may be subject to obligations to Leidos and fee arrangements with outside counsel. Also, we cannot assure you that we will not be exposed to claims or sanctions against us which may be costly or impossible for us to defend. Unfavorable or adverse outcomes may result in losses, exhaustion of financial resources or other adverse effects, which could reduce our ability to return cash to our shareholders by way of distributions or otherwise to develop and commercialize our products. IndexA large part of our business strategy includes licensing our patents and technology to other companies in order to reach a larger end- user base than we could reach through direct sales and marketing efforts; as such, our business strategy and revenues may depend on intellectual property licensing fees and royalties for the majority of our revenues. We currently derive minimal revenue from licensing activities, and royalties, and we cannot assure you that we will successfully capitalize on our market opportunities or that this portion of our business strategy will succeed. Although to date we have entered into a limited number of settlement and license agreements, we may not be successful in entering into further licensing relationships, or if we are successful in entering into such relationships, the acquisition of them may be expensive, and they, as well as our existing settlement and our existing and pending license agreements may not generate the financial results, we expect. Factors that may affect our ability to execute our current business strategy include, but are not limited to, the following: • Third parties may challenge the validity of our patents; • The pendency of our various litigations may cause potential licensees not to do business with us; • Our patents may expire before we can make our business strategy successful; • We face, and we expect to continue to face, intense competition from new and established competitors who may have superior products and services or better marketing, financial or other capacities than we do; and • It is possible that one or more of our potential customers or licensees develops or otherwise sources~~

~~products or technologies similar to, competitive with or superior to ours~~. We believe our patents are valid, enforceable, and valuable. Notwithstanding this belief, third parties may make claims of infringement **with respect to our products or services** or invalidity claims with respect to our patents or become aware of our trade secrets by way of leaks from bad actors within or outside of our employee base or otherwise, and such claims could give rise to material cost for defense or settlement or both, and such claims or leaks could jeopardize or substantially delay a successful outcome of litigation we are or may become involved in, divert resources away from our other activities, limit or cease our related revenues, or otherwise materially and adversely affect our business. Additionally, several of our patents are currently, and other patents may in the future be, subject to USPTO post- grant inter partes review proceedings (" IPR ") which may result in all, or part of these patents being invalidated, or the claims of our patents being limited. Unfavorable or adverse outcomes in our litigation or IPRs or material leaks of trade secrets may result in losses, exhaustion of financial resources, reduction in our ability to protect our intellectual property rights, or other adverse effects, which could encumber our ability to develop and commercialize our products. Even if we are successful in protecting our intellectual property rights, they may not ultimately provide us with any competitive advantages and may be less valuable than we currently expect. These risks may be heightened in countries other than the United States where laws regarding patent protection are less developed and may be negatively affected by the fact that legal standards in the United States and elsewhere for protection of intellectual property rights in Internet- related businesses are uncertain and still evolving. In addition, there are a significant number of United States and foreign patents and patent applications in our areas of interest, and we expect that significant litigation in these areas will continue and will add uncertainty to the value of certain patents and other intellectual property rights in our areas of interest. If we are unable to protect our intellectual property rights or otherwise realize value from them, our business would be negatively affected. ~~IndexWe~~ -- **Index** ~~can provide no assurances that the licensing of our essential security patents under FRAND will be successful. At the request of the European Telecommunications Standards Institute (" ETSI "), and the Alliance for Telecommunications Industry Solutions (" ATIS "), we agreed to update our licensing declaration to ETSI and ATIS under their respective Intellectual Property Rights policies. This was in response to our Statement of Patent Holder identifying a group of our patents and patent applications that we believe are or may become essential to certain developing specifications in the 3rd Generation Partnership Project Long Term Evolution (" LTE "), Systems Architecture Evolution project. We will make available a non- exclusive patent license under FRAND (fair, reasonable and non- discriminatory terms, and conditions, with compensation) for the patents identified by us that are or become essential to applicants desiring to implement the Technical Specifications identified by us, as set forth in the updated licensing declaration under the ATIS and ETSI Intellectual Property Rights policies. Our licensing declarations under the ATIS and ETSI Intellectual Property Rights policies may limit our flexibility in determining royalties and license terms for certain of our patents. Consequently, we cannot assure you that the licensing of the essential security patents will be successful or that third parties will be willing to enter into licenses with us on reasonable terms or at all, which could have an adverse effect on our business and harm our competitive position. Because our business is conducted or expected to be conducted in an environment that is subject to rapid change, we may be subject to various developments in regulation, law, and consumer preferences to which we may not be able to adapt successfully. The current regulatory environment for our products and services remains unclear. We can give no assurance that our planned product offerings will be in compliance with laws and regulations of local, state, United States federal or foreign authorities. Further, we can give no assurance that we will not unintentionally violate such laws or regulations or that such laws or regulations will not be modified, or that new laws or regulations will be enacted in the future which would cause us to be in violation of such laws or regulations. For example, Voice- Over- Internet Protocol (" VoIP ") services are not currently subject to all the same regulations that apply to traditional telephony, but it is possible that similar regulations may be applied to VoIP in the future and that these could result in substantial costs to us which could adversely affect the marketability of our products and planned products related to VoIP. For further example, the use of the Internet and private Internet Protocol (" IP ") networks for communication is largely unregulated within the United States, but may become regulated in the future; additionally, several foreign governments have enacted measures that could restrict or prohibit voice communications services over the Internet or private IP networks. Our business depends on the growth of instant messaging, VoIP, mobile services, streaming video, file transfer and remote desktop and other next- generation Internet- based applications. A decline in the use of these applications due to complexity or cost relative to alternate traditional or newly developed communications channels, or development of alternative technologies, could cause a material decline in the number of users in these areas. More aggressive domestic or international regulation of the Internet in general, and Internet telephony providers and services specifically may materially and adversely affect our business, financial condition, operating results, and future prospects. Our exposure to outside influences beyond our control, including new legislation, court rulings or actions by the USPTO, could adversely affect our licensing and enforcement activities and results of operations. Our licensing and enforcement activities are subject to numerous risks from outside influences, including the following: • New legislation, regulations or rules related to obtaining patents or enforcing patents could significantly increase our operating costs and decrease our revenue. For instance, the United States Supreme Court has modified some tests used by the USPTO in granting patents during the past 20 years which may decrease the likelihood that we will be able to obtain patents and increase the likelihood of challenge of any patents we obtain or license. In addition, in 2012, the United States enacted sweeping changes to the United States patent system under the Leahy- Smith America Invents Act, including changes that transition the United States from a " first- to- invent " system to a " first to file " system and alter the processes for challenging issued patents; • More patent applications are filed each year resulting in longer delays in getting patents issued by the USPTO; • Federal courts are becoming more crowded, and as a result, patent enforcement litigation is taking longer; and • As patent enforcement becomes more prevalent, it may become more difficult for us to voluntarily license our patents. IndexIntellectual property is the subject of intense scrutiny by the courts, legislatures, and executive branches of governments around the world. Various patent offices, governments or intergovernmental bodies may implement new legislation, regulations or rulings that impact the patent~~

~~enforcement process, or the rights of patent holders and such changes could negatively affect licensing efforts and / or litigations. For example, limitations on the ability to bring patent enforcement claims, limitations on potential liability for patent infringement, lower evidentiary standards for invalidating patents, increases in the cost to resolve patent disputes and other similar developments could negatively affect our ability to assert our patent or other intellectual property rights. It is impossible to determine the extent of the impact of any new laws, regulations or initiatives that may be proposed, or whether any of the proposals will become enacted as laws. Compliance with any new or existing laws or regulations could be difficult and expensive, affect the manner in which we conduct our business and negatively impact our business, prospects, financial condition, and results of operations.~~ If we experience security breaches or incidents, we could be exposed to liability and our reputation and business could suffer. We expect to retain certain confidential and proprietary customer information in our secure data centers and secure domain name registry, as well as personal data and other confidential and proprietary information relating to our business. It will be critical to our business strategy that our facilities and infrastructure remain secure and are perceived by the marketplace to be secure. Our secure domain name registry operations will also depend on our ability to maintain our computer and telecommunications equipment in effective working order and to reasonably protect our systems against interruption, and potentially depend on protection by other registrars in the shared registration system. The secure domain name servers that we will operate will be critical hardware to our registry services operations. Additionally, we maintain confidential and proprietary business information, including trade secrets. We expect to have to expend significant time and money to maintain or increase the security of our products, facilities, and infrastructure. Security technologies are constantly being tested by computer professionals, academics and " hackers. " Advances in computer capabilities and the techniques for attacking security solutions, new discoveries in the field of cryptography or other events or developments could result in compromises or breaches of our security measures and could make some or all our products obsolete or unmarketable. Likewise, we may need to dedicate engineering and other resources to eliminate security vulnerabilities and may find it necessary or appropriate to repair or replace products already sold or licensed to our customers. Despite the security measures that we and our service providers utilize, our infrastructure and that of our service providers may be vulnerable to physical break- ins, ransomware, computer viruses, other malicious code attacks by hackers, phishing attacks, social engineering, or similar disruptive problems. Any disruption or security breach or incident that we or our service providers suffer or are perceived to suffer, including any such disruption, breach or incident resulting in a loss of, or damage to, data or systems, or inappropriate disclosure, access, loss, or other processing of confidential, financial, proprietary or personal information, including data related to our personnel, could result in loss, disclosure or other unauthorized processing of such data, could delay our research and development or commercialization efforts, could compel us to comply with breach notification laws and regulations, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information. It is possible that we may have to expend additional financial and other resources to address such problems. The ~~COVID- 19 pandemic~~ **increase in remote work by our personnel and those of third parties in recent years** has resulted in ~~increasing~~ **increased** vulnerability to cyber- attacks ~~, as more individuals and companies work online, which increases these risks~~ . As a provider of Internet security software and technology, we may be the target of dedicated efforts by hackers and other third parties to overcome or defeat our security measures. Any physical or electronic break- in or other security breach or incident or compromise impacting our products **,** or any information stored at our secure data centers and domain name registration systems, including any compromise due to human error or employee or contractor malfeasance, may jeopardize the security of information stored on our premises or in the computer systems and networks of our customers. Additionally, any such data security incident, or the perception that one has occurred could also result in adverse publicity, harm to our reputation and competitive position, and therefore adversely affect the market' s perception of the security of electronic commerce and communications over IP networks as well as the security or reliability of our services **, which could have a material adverse impact on our business, financial condition, and results of operation** . **Index** A security breach or other security incident, or the perception any such event has occurred, could require a substantial level of financial resources to address and otherwise respond to, may be difficult to identify or address in a timely manner, and could result in claims, investigations, inquiries, and other proceedings or actions by private parties or governmental entities that may divert management' s attention and require the expenditure of significant time and resources, and which may cause us to incur substantial fines, penalties, or other liability and related legal and other costs. Any actual or perceived security breach or other security incident may also harm our reputation, result in a loss of customers, and make it more difficult or impossible for us to successfully market to others. Any of the foregoing matters could harm our **business,** operating results and financial condition. ~~IndexPrivacy~~ **Our products are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets. Because we incorporate encryption technology into our products, certain of our products are subject to U. S. export controls and may be exported outside the U. S. only with the required export license or through an export license exception. If we were to fail to comply with U. S. export licensing requirements, U. S. customs regulations, U. S. economic sanctions, or other laws, we could be subject to substantial civil and criminal penalties, including fines, incarceration for responsible employees and managers, and the possible loss of export or import privileges. Obtaining the necessary export license for a particular sale may be time- consuming and may result in the delay or loss of sales opportunities. Furthermore, U. S. export control laws and economic sanctions prohibit the shipment of certain products to U. S. embargoed or sanctioned countries, governments, and persons. Even though we take precautions to ensure that we comply with all relevant regulations, any failure by us or any partners to comply with such regulations could have negative consequences for us, including reputational harm, government investigations, and penalties. In addition, various countries regulate the import of certain encryption technology, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our end- customers' ability to implement our products in those countries. Changes**

in our products or changes in export and import regulations may create delays in the introduction of our products into international markets, prevent our end- customers with international operations from deploying our products globally or, in some cases, prevent or delay the export or import of our products to certain countries, governments, or persons altogether. Any change in export or import regulations, economic sanctions, or related legislation, shift in the enforcement, or scope of existing regulations, or change in the countries, governments, persons, or technologies targeted by such regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential end- customers with international operations. Any decreased use of our products or limitation on our ability to export to or sell our products in international markets would likely adversely affect our business, financial condition, and results of operations. Index Privacy and data security concerns, ~~and~~ data collection and transfer restrictions and related domestic or foreign regulations may limit the use and adoption of our solutions and adversely affect our business. Personal privacy, information security, and data protection are significant issues in the United States, Europe, and many other jurisdictions where we have operations or offer our products. The regulatory framework governing the collection, processing, storage and use of confidential and proprietary business information and personal data is rapidly evolving. The United States federal and various state and foreign governments have adopted or proposed requirements regarding the collection, distribution, use, security and storage of personally identifiable information and other data relating to individuals, and federal and state consumer protection laws are being applied to enforce regulations related to the online collection, use and dissemination of data. Further, many foreign countries and governmental bodies, including the European Union (" EU "), where we conduct business, have laws and regulations concerning the collection and use of personal data obtained from their residents or by businesses operating within their jurisdiction. These laws and regulations often are more restrictive than those in the United States. Laws and regulations in these jurisdictions apply broadly to the collection, use, storage, disclosure, and security of data that identifies or may be used to identify or locate an individual, such as names, email addresses and, in some jurisdictions, IP addresses. We also expect that there will continue to be new proposed laws, regulations and industry standards concerning privacy, data protection and information security in the United States, the EU, and other jurisdictions. For example, the European Commission adopted a General Data Protection Regulation (the " GDPR ") that became fully effective on May 25, 2018, superseding prior EU data protection legislation, imposing more stringent EU data protection requirements, and providing for greater penalties for noncompliance. The United Kingdom has enacted a Data Protection Act and legislation referred to as the UK GDPR that substantially implements the GDPR **and provides for a penalty regime similar to the GDPR** . We ~~are evaluating obligations imposed on us by the GDPR and we~~ may be required to incur substantial expense in order to make significant changes to our product and business operations in connection with obtaining and maintaining compliance with the GDPR and similar legislation, such as the UK GDPR and UK Data Protection Act, all of which may adversely affect our revenue and product sales. California has enacted legislation, the California Consumer Privacy Act (the " CCPA ") that, among other things, requires covered companies to provide disclosures to California consumers, and afford such consumers abilities to opt- out of certain sales of personal information. ~~Additionally,~~ **The CCPA was modified and expanded by** the California Privacy Rights Act (the " CPRA "), **which** was approved by California voters in the November 2020 election. ~~The CPRA significantly modifies the CCPA, creating obligations relating to consumer data which began on January 1, 2022, with enforcement beginning July 1, 2023.~~ Additionally, other U. S. states continue to propose, and in certain cases adopt, privacy-focused legislation. For example, **Connecticut,** Virginia, **and** Colorado ~~, Utah, and Connecticut~~ have ~~all~~ enacted legislation **similar to the CCPA and CPRA** that has **taken effect in 2023 ; Utah has enacted such legislation that is effective as of December 31, 2023 ; Florida, Montana, Oregon, and Texas have enacted similar legislation that** ~~become~~ **becomes effective in 2024 ; Delaware** , ~~or~~ **Tennessee, and Iowa have enacted similar legislation that will take effect in 2025 ; and Indiana has enacted similar legislation that** will become ~~,~~ effective in ~~2023~~ **2026** . We cannot yet fully determine the impact these or future laws, regulations and standards may have on our business, but they may require us to modify our data processing practices and policies and to incur substantial costs and expenses in ~~an effort~~ **efforts** to comply. Privacy, data protection and information security laws and regulations are often subject to differing interpretations, may be inconsistent among jurisdictions, and may be alleged to be inconsistent with our current or future practices. Additionally, we may be bound by contractual requirements applicable to our collection, use, processing, and disclosure of various types of data, including personal data, and may be bound by, or voluntarily comply with, self- regulatory or other industry standards relating to these matters. These and other requirements could reduce demand for our products, increase our costs, impair our ability to grow our business, or restrict our ability to store and process data or, in some cases, impact our ability to offer our service in some locations and may subject us to liability. Any failure or perceived failure to comply with applicable laws, regulations, industry standards, and contractual obligations may adversely affect our business. Further, in view of new or modified federal, state, or foreign laws and regulations, industry standards, contractual obligations and other legal obligations, or any changes in their interpretation, we may find it necessary or desirable to fundamentally change our business activities and practices or to expend significant resources to modify our product and otherwise adapt to these changes. We may be unable to make such changes and modifications in a commercially reasonable manner or at all, and our ability to develop new products and features could be limited. **Index** The costs of compliance with and other burdens imposed by laws, regulations and standards may limit the use and adoption of our service and reduce overall demand for it, or lead to significant fines, penalties, or liabilities for any noncompliance. Privacy, information security, and data protection concerns, whether valid or not valid, may inhibit market adoption of our platform, particularly in certain industries and foreign countries . We expect that we will experience...... technology spending and adversely affect our business . Risks Related to Ownership of Our Common Stock We do not regularly pay dividends on our common stock and thus stockholders must look to appreciation of our common stock to realize a gain on their investments. ~~IndexOur~~ **Our** dividend policy is within the discretion of our Board of Directors and will depend upon various factors, including our business, financial condition, results of operations, capital requirements, and investment opportunities. We therefore cannot make assurances that our Board of Directors will determine to pay regular or special dividends in the future. Accordingly, unless our Board of Directors determines to pay dividends, stockholders will be required to look to appreciation of our common stock to realize a gain on their investment, which may not occur. The exercise of our outstanding stock options, warrants, and RSUs ~~and issuance of new shares~~ would result in a dilution of our current stockholders’ voting power and an increase in the number of shares eligible for future resale in the public market which may negatively impact the market price of our stock. The exercise of our outstanding vested stock options, warrants, and RSUs would dilute the ownership interests of our existing stockholders. As of December 31, ~~2022~~ **2023** , we had outstanding options, warrants and RSUs to purchase an aggregate of ~~7~~ **348** , **717** ~~393, 130~~ shares of common stock representing approximately 10 % of our total shares outstanding of which ~~5~~ **287** , **503** ~~260, 355~~ were vested and therefore exercisable. To the extent outstanding stock options or warrants are exercised, additional shares of common stock will be issued, existing stockholders’ percentage voting interests will decline and the number of shares eligible for resale in the public market will increase. Such increase may have a negative effect on the value or market trading price of our common stock. ~~Because ownership of our common stock is concentrated, investors~~ **Investors** may have limited influence ~~on stockholder decisions~~ **because ownership of our common stock is limited** . As of December 31, ~~2022~~ **2023** , our executive officers and directors beneficially owned approximately 14 % of our outstanding common stock. Because of their beneficial ownership interest, our officers and directors could significantly influence stockholder actions of which you disapprove or that are contrary to your interests. This ability to exercise significant influence could prevent or significantly delay another company from acquiring or merging with us. **Index** Our protective provisions in our ~~amended~~ **Amended** and ~~restated~~ **Restated** ~~certificate~~ **Certificate** of ~~incorporation~~ **Incorporation** and bylaws could make it difficult for a third party to successfully acquire us even if you would like to sell your stock to them. We have ~~a number of~~ protective provisions in our ~~amended~~ **Amended** and ~~restated~~ **Restated** ~~certificate~~ **Certificate** of ~~incorporation~~ **Incorporation** and bylaws that could delay, discourage, or prevent a third party from acquiring control of us without the approval of our Board of Directors. These protective provisions include: • A staggered Board of Directors: ~~This means that only~~ **Only** one or two directors (**of our** ~~since we have a~~ five- person Board of Directors) will be up for election at any given annual meeting. This **delays** ~~has the effect of delaying~~ the ability of stockholders to affect a change in control of us because it would take two annual meetings to effectively replace a majority of the Board of Directors. • Blank check preferred stock: Our Board of Directors has the authority to establish the rights, preferences, and privileges of our 10, 000, 000 authorized, but unissued, shares of preferred stock. Therefore, this stock may be issued at the discretion of our Board of Directors with preferences over your shares of our common stock in a manner that is materially dilutive to you. In addition, blank check preferred stock can be used to create a “ poison pill ” which is designed to deter a hostile bidder from buying a controlling interest in our stock without the approval of our Board of Directors. We have not adopted such a “ poison pill ~~;~~ **;** ” but our Board of Directors **can** ~~has the ability to~~ do so in the future, very rapidly and without stockholder approval. • Advance notice requirements for director nominations and for business to be brought before stockholder meetings: Stockholders wishing to submit director nominations or raise matters to a vote of the stockholders must provide notice to us within very specific date windows and in very specific form ~~in order~~ to have the matter voted on at a stockholder meeting. This **gives** ~~has the effect of giving~~ our Board of Directors and management more time to react to stockholder proposals generally and could also ~~have the effect of permitting~~ ---- **permit** us to disregard a stockholder proposal to the extent such proposal is not submitted in accordance with the bylaws. • No stockholder actions by written consent: No stockholder or group of stockholders may take action by written consent. Along with the advance notice requirements described above, this provision also gives our Board of Directors and management more time to react to proposed stockholder actions. • Super majority requirement for stockholder amendments to the bylaws: Stockholder proposals to alter or amend our bylaws or to adopt new bylaws can only be approved by the affirmative vote of at least 66 2 / 3 % of the outstanding shares of our common stock. • No ability of stockholders to call a special meeting of the stockholders: A special meeting of the stockholders, other than as required by statute, may be called at any time by the Board of Directors, or by the chairman of the board, or by the president, ~~but a special meeting may not be called by any other person or persons~~ and any power of stockholders to call a special meeting of stockholders is specifically denied. **Accordingly,** ~~This could mean that~~ stockholders, even those who represent a significant percentage of our shares of common stock, may need to wait for the annual meeting before nominating directors or raising other business proposals to be voted on by the stockholders. ~~IndexIn~~ **In** addition, the provisions of Section 203 of the Delaware General Corporation Law govern us. These provisions may prohibit large stockholders, particularly those owning 15 % or more of our outstanding voting stock, from merging or combining with us for a certain period of time. **Index** These and other provisions in our ~~amended~~ **Amended** and ~~restated~~ **Restated** ~~certificate~~ **Certificate** of ~~incorporation~~ **Incorporation** , our bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions. Our amended and restated bylaws designate a state or federal court located within the State of Delaware as the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to choose the judicial forum for disputes with us or our directors, officers, or employees. Our amended and restated bylaws provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, stockholders, officers, or other employees to us or our stockholders, (3) any action arising pursuant to any provision of the Delaware General Corporation Law, or our amended and restated certificate of incorporation or amended and restated bylaws or (4) any other action asserting a claim that is governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, another State court in Delaware or the federal district court for the District of Delaware), in all cases subject to the court having jurisdiction over indispensable parties named as defendants. However, notwithstanding the exclusive forum provisions, our amended and restated bylaws explicitly state that they would not preclude the filing of claims brought to enforce any liability or duty created under federal securities laws, including the

Securities Act or the Exchange Act. Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to this provision. This exclusive- forum provision may limit a stockholder' s ability to bring a claim in a judicial forum of its choosing for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees. If a court were to find this exclusive-forum provision in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could harm our results of operations. ~~Our failure to meet the continued listing requirements of the NYSE could result in a delisting of our common stock. If we fail to satisfy the continued listing requirements of the NYSE, such as the corporate governance requirements or the minimum closing bid price requirement, the NYSE may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the NYSE minimum bid price requirement or prevent future non- compliance with NYSE' s listing requirements.~~ General Risk Factors We may need to raise additional capital to support our business growth, and this capital may be dilutive, may cause our stock price to drop or may not be available on acceptable terms, if at all. We may need to raise additional capital, which may not be available to us when needed or may not be available on terms acceptable to us, to support our business growth or to respond to business opportunities, challenges, or unforeseen circumstances, including sales under our past and any future shelf registration statements. Our ability to obtain additional capital, if and when required, will depend on our business plans, investor demand, our operating performance, the condition of the capital markets, the terms of our current contractual obligations and other factors. **Index** If we raise additional funds through the issuance of equity, equity- linked or debt securities, including those under our past and any future shelf registration statements, those securities may have rights, preferences, or privileges senior to the rights of our common stock, and our existing stockholders may experience dilution. Additionally, we are unable to predict the future success of any future offerings. Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales or other financings might occur, could depress the market price of our common stock, and could also impair our ability to raise capital through the sale of additional equity securities. If we issue debt securities or incur indebtedness, we could experience increased future payment obligations and a need to comply with restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we are unable to obtain additional capital or are unable to obtain additional capital on satisfactory terms, our ability to continue to support our business growth or to respond to business opportunities, challenges, or other circumstances could be adversely affected, and our business may be harmed. ~~IndexThe~~ **The** departure of Kendall Larsen, our Chief Executive Officer and President, and / or other key personnel could compromise our ability to execute our strategic plan and materially harm our business. Our success depends on the skills, experience, and performance of our key personnel. Due to the specialized nature of our business and limited staff, we are particularly dependent on Kendall Larsen, our Chief Executive Officer and President. We have no employment agreements with any of our key executives that prevent them from leaving us at any time. In addition, we do not maintain key person life insurance for any of our officers or key employees. The loss of Mr. Larsen, or our failure to retain other key personnel or plan for the succession of key personnel, would jeopardize our ability to execute our strategic plan and materially harm our business. We will need to recruit and retain additional qualified personnel to successfully grow our business. Our future success will depend, in part, on our ability to attract and retain qualified engineering, operations, marketing, sales and executive personnel. Inability to attract and retain such personnel could adversely affect our business. Competition for engineering, operations, marketing, sales, and executive personnel is intense, particularly in the technology and Internet sectors and in the regions where we conduct our business. We may need to invest significant amounts of cash and equity to attract and retain employees and expend significant time and resources to identify, recruit, train and integrate such employees, and we may never realize returns on these investments. Additionally, we can provide no assurance that we will attract or retain such personnel. **War** ~~We have incurred and will continue to incur significant costs as a result of operating as a public company~~ , ~~and~~ **terrorism, other acts of violence,** ~~our~~ **or natural or manmade disasters** ~~management will be required to continue to devote substantial time to various compliance initiatives. The Sarbanes- Oxley Act of 2002, the Dodd- Frank Wall Street Reform and Consumer Protection Act of 2010,~~ as well as **macroeconomic** ~~other rules implemented by the SEC and the New York Stock Exchange (" NYSE "), impose various requirements on public companies, including requiring changes in corporate governance practices. These and proposed corporate governance laws and regulations under consideration may further increase our compliance costs. If compliance with these various legal and regulatory requirements diverts our management' s attention from other business concerns, it could have a material adverse effect on our business, financial condition~~ **conditions** ~~, and operating results. The Sarbanes- Oxley Act requires, among other things, that we assess the effectiveness of our internal control over financial reporting annually and disclosure controls and procedures quarterly. If we are unable to assert in any future reporting periods that our internal control over financial reporting is effective (or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal controls), such as our restatement of our previously issued consolidated financial statements, we could lose investor confidence in the accuracy and completeness of our financial reports, which would have an adverse effect on our share price. Although we believe that we currently maintain effective control over our disclosures and procedures and internal control over financial reporting, we have identified in the past and may identify in the future deficiencies regarding the design and effectiveness of our system of internal control over financial reporting. If we experience any material weaknesses in our internal control over financial reporting in the future or are unable to provide unqualified management or attestation reports about our internal controls, we may be unable to meet financial and other reporting deadlines and may incur costs associated with remediation, and any of which could cause our share price to decline.~~

~~Moreover, if we identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses in future periods, the market price of our common stock could decline, and we could be subject to potential delisting by the NYSE and review by the NYSE, the SEC, or other regulatory authorities, which would require the expenditure by us of additional financial and management resources. As a result, our shareholders could lose confidence in our financial reporting, which would harm our business and the market price of our common stock. There are inherent uncertainties involved in estimates, judgments and assumptions used in the preparation of financial statements in accordance with U. S. GAAP. Any changes in estimates, judgments and assumptions could have a material adverse effect on our business, financial condition, and operating results. The preparation of financial statements in accordance with U. S. GAAP involves making estimates, judgments and assumptions that affect reported amounts of assets (including intangible assets), liabilities and related reserves, revenues, expenses, and income. Estimates, judgments, and assumptions are inherently subject to change in the future, and any such changes could result in corresponding changes to the amounts of assets, liabilities, revenues, expenses, and income. Any such changes could have a material adverse effect on our business, financial condition, and operating results. Our results of operations and financial condition could be materially affected by the enactment of legislation implementing changes in the U. S. or foreign taxation of international business activities or the adoption of other tax reform policies. IndexAs we expand the scale of our international business activities, any changes in the U. S. or foreign taxation of such activities may increase our worldwide effective tax rate and harm our business, results of operations, and financial condition. For example, the current administration has proposed to increase the U. S. corporate income tax rate, increase U. S. taxation of international business operations, and impose a global minimum tax which has agreement from, many countries and the Organization for Economic Cooperation and Development. Also, starting in fiscal year 2022, the Tax Cuts and Jobs Act requires taxpayers to capitalize research and development expenditures and to amortize domestic expenditures over five years and foreign expenditures over fifteen years. If Congress does not modify or repeal this provision, it may reduce our cash flows beginning in fiscal year 2022. Other countries have recently proposed or recommended changes to existing tax laws or have enacted new laws that could impact our tax obligations in countries where we do business or cause us to change the way we operate our business. The impact of future changes to U. S. and foreign tax law on our business is uncertain and could be adverse, and we will continue to monitor and assess the impact of any such changes on our future tax provisions. War, terrorism, other acts of violence, or natural or manmade disasters~~ may affect the markets in which we operate, our clients and our service delivery. Our business may be adversely affected by instability, disruption, or destruction in a geographic region in which we operate, regardless of cause, including war, terrorism, riot, civil insurrection, or social unrest, and natural or manmade disasters, including famine, flood, fire, earthquake, storm, or pandemic events and spread of disease, such as the COVID- 19 pandemic **. Our business may also be adversely affected by further downturn in macroeconomic conditions, including inflation** and **rising interest rates, global political and economic uncertainty and tensions, such as** the **ongoing** ~~Russian -~~ **Russia-** ~~invasion of~~ Ukraine **and Israel- Hamas conflicts as well as any related political or economic response, counter responses or otherwise, financial services sector instability, a reduction in business confidence and activity, financial market volatility, and other factors** . Such events **can adversely affect our operations or the economy as a whole and** may cause our customers to delay their decisions on spending for the services we provide and **perpetuate** ~~give rise to sudden~~ significant changes in regional and global economic conditions and cycles. These events may also pose risks to our personnel and to physical facilities and operations, which could adversely affect our financial results. **Index** Trading in our common stock is limited and the price of our common shares may be subject to ~~substantial~~ volatility. Our common stock is currently listed on the NYSE and was previously listed on the NYSE American LLC (formerly the NYSE MKT LLC). Over the past years, the market price of our common stock has experienced significant fluctuations. Between January 1, ~~2022~~ **2023** , and December 31, ~~2022~~ **2023** , the adjusted closing price on the NYSE for our common stock ranged between $ **3. 53 and $ 12. 60, adjusted for a** 1 ~~. 03 and $ 2. 69 per share~~ **- for- 20 reverse stock split effective October 26, 2023** . The price of our common stock may continue to be volatile as a result of several factors, some of which are beyond our control. These factors include, but not limited to, the following: • **Annual** ~~Developments or lack thereof in any then- outstanding litigation; • Quarterly~~ variations **, actual or anticipated,** in our operating results **; • Significant changes in our management** ; • Large purchases or sales of common stock or derivative transactions related to our stock ~~;~~ **;** • Actual or anticipated announcements of new products or services by us or competitors ~~;~~ **;** • General conditions in the markets in which we compete ~~;~~ **;** and • General social, political, economic, and financial conditions, including the significant volatility in the global financial markets. In addition, we believe there has been and may continue to be substantial trading in derivatives of our stock, including short selling activity or related similar activities, which are beyond our control, and which may be beyond the full control of the SEC and Financial Institutions Regulatory Authority or " FINRA. " While the SEC and FINRA rules prohibit some forms of short selling and other activities that may result in stock price manipulation, such activity may nonetheless occur without detection or enforcement. We have held conversations with regulators concerning trading activity in our stock ~~;~~ **;** however, there can be no assurance that should there be any illegal manipulation in the trading of our stock, it will be detected, prosecuted, or successfully eradicated. Significant short selling market manipulation could cause our stock trading price to decline, to become more volatile, or both. ~~The market price of~~ **For more information regarding trading in** our common stock ~~has been~~ and ~~may continue to be volatile, and you could lose all or part of your investment. The trading price of our common stock has been historically volatile and is likely to continue to be volatile. Factors that could cause fluctuations in the market price of our common stock include, but are not limited to the following: • Price and volume fluctuations in the overall stock market from time to time, including fluctuations due to general economic uncertainty or negative market sentiment; • Volatility in the market prices and trading volumes of companies in our industry or companies that investors consider comparable; • Changes in operating performance and stock market valuations of other companies generally, or those in our industry; Index • Sales of shares of our common stock by us or our stockholders; • Failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow us, or~~

~~our failure to meet these estimates or the expectations of investors; • The financial projections we may provide to the public, any changes in those projections or our failure to meet those projections; • Announcements by us or our competitors of new products or services; • The public' s reaction to court rulings, our press releases, other public announcements, and filings with the SEC; • Rumors and market speculation involving us or other companies in our industry; • Actual or anticipated changes in our results of operations; • Actual or anticipated developments in our business, 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; • Announced or completed acquisitions of businesses or technologies by us or our competitors; • New laws or regulations or new interpretations of existing~~ **listing on** ~~laws or regulations applicable to our business; • Changes in accounting standards, policies, guidelines, interpretations, or principles; • Any significant change in our management; • Other~~ - **the** events ~~or~~ **NYSE, see additional risk** factors **included elsewhere in this Annual Report on Form 10** ~~, including those resulting from war, incidents of terrorism, pandemics, including the COVID~~ - **K** ~~19 pandemic, or responses to these events; and • General economic conditions such as rising inflation or interest rates in the United States and slow or negative growth of our markets. Further, in recent years 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. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. In addition, the stock prices of many technology companies have experienced wide fluctuations that have often been unrelated to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, government shutdowns, global pandemics (such as the COVID- 19 pandemic), interest rate changes the stability of the EU including, but not limited to, effects from the exit of the United Kingdom, the Russia- Ukraine conflict or international currency fluctuations, may cause the market price of our common stock to decline. In the past, following periods of volatility in the overall market and the market price of a particular company' s securities, securities class action litigation has often been instituted against these companies~~. We have broad discretion in how we apply our funds, and we may not use these funds effectively, which could affect our results of operations and cause our stock price to decline. Our management has broad discretion in the application of our existing cash, cash equivalents and investments and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock. Pending their use, we may invest our available funds in a manner that does not produce income or that loses value. The failure by our management to apply our available funds effectively could result in financial losses that could cause the price of our common stock to decline and delay the development of our products. In addition, an entity that, among other things, is or holds itself out as being engaged primarily, or proposes to engage primarily, in the business of investing, reinvesting, owning, trading, or holding certain types of securities would be deemed an Investment Company under the Investment Company Act of 1940 (the " 1940 Act "). If we do not manage our investments and business in a manner that meets the requirements for an exemption under the 1940 Act, we may be deemed to be an investment company under the 1940 Act and subject to additional limitations on operating our business including limitations on the issuance of securities, which may make it difficult for us to raise capital. ~~The~~ **Index Item 1B. Unresolved Staff CommentsNone. Index Item 1C. CybersecurityCybercriminals, hackers, and threat- actors are becoming more sophisticated and effective every day. To mitigate threats to our business, we take a comprehensive approach to cybersecurity risk management and** ~~market~~ - **make** ~~price of~~ **securing the data that** our **customers** ~~common stock may decline because our operating results may not be consistent~~ and ~~may be difficult~~ **other stakeholders entrust to us a** ~~to~~ **top** ~~predict~~ **priority. We are committed to safeguarding the confidentiality, integrity, and availability of all physical and electronic information assets to ensure that regulatory, operational, and contractual requirements are fulfilled**. Our ~~operating results~~ **board of directors (the " Board ") and our management are actively involved in the oversight of our risk management program, of which cybersecurity represents an important component. As described in more detail below, we** have **established policies, processes and practices** ~~fluctuated in the past due to several factors. We expect that our future operating results may also fluctuate due to the same or similar factors. We had a net loss of $ 36. 3 million~~ for **assessing** ~~the year ended December 31~~ , **identifying** ~~2022. We had a net loss of $ 42. 9 million for the year ended December 31~~ , ~~2021 and net income of $ 280. 4 million for the year ended December 31, 2020. As of December 31, 2022, we had an~~ **and managing material risks** ~~accumulated deficit of $ 87. 2 million. The following include some of the factors that may cause our operating results to fluctuate: Index • The outcome of actions to enforce our intellectual property rights currently in progress or that we may undertake in the future, and the timing thereof ; • The impact of the COVID- 19 pandemic on our sales cycle and results ; • The amount and timing of receipt of license fees~~ from **cybersecurity threats** ~~potential infringers, licensees, or customers ; • The rate of adoption of our patented technologies ; • The number of new license arrangements we may execute, or that may expire, within a particular period and the scope of those licenses, including the number of our patents which are licensed, the extent of prior infringement of our patent rights, royalty rates, timing of payment obligations, expiration date etc~~. ; • The success of a licensee...... to Restatement of our Consolidated Financial Statements We have ~~had~~ **devoted significant resources** to **implement** ~~restate our previously issued consolidated financial statements~~ and **maintain security measures to meet regulatory requirements and customer expectations** ~~as part of that process identified a material weakness in our internal control over financial reporting as of December 31~~ , **and** ~~2021. If~~ we ~~are unable~~ **intend to continue to make significant investments** to maintain **the security of our data** ~~an~~ **and** ~~effective system of internal control over financial reporting~~ **cybersecurity infrastructure. Notwithstanding the extensive approach we take to cybersecurity**, we may not be **successful in preventing** ~~able to accurately report our~~ - **or mitigating** ~~financial results in~~ a **cybersecurity incident** ~~timely manner, which may adversely affect investor confidence in us and materially and adversely affect our business and results of operations. On May 9, 2022, the audit committee of our board of directors concluded, after discussion with our management and Farber Hass Hurley LLP, our auditors,~~ that ~~the previously issued financial statements during the year ended December 31, 2021 (1) should no longer be relied upon due to an overstatement of the Company' s deferred tax asset, as described in the Amendment, and (2) require restatement. As part of the restatement process, we identified~~

~~a material weakness in our internal control over financial reporting. We remediated our procedures to address the material weakness and believe the enhanced control is operating effectively. Any failure to maintain effective internal controls~~ could ~~adversely impact our ability to report our financial position and results of operations on a timely and accurate basis. If our financial statements are not accurate, investors may not~~ have ~~a complete understanding of our operations. Likewise, if our financial statements are not filed on a timely basis, we could be subject to sanctions or investigations by the stock exchange on which our ordinary shares and other securities are listed, the SEC or other regulatory authorities. In either case, there could result~~ a material adverse effect on us. While we have technology and processes in place to detect and respond to cybersecurity threats, we are continually at risk from the evolving cybersecurity threat landscape. We have not previously experienced a cybersecurity event that was determined to be material, and our business strategy, results of operations and financial condition have not been materially affected by risks from cybersecurity threats . For additional information regarding risks from cybersecurity threats, please refer to Item 1A, " Risk Factors, " in this Annual Report on Form 10- K. Risk Management and StrategyWe have developed detailed policies, processes and practices for assessing, identifying, and managing material risks from cybersecurity threats as a part of our overall risk management program and are based on frameworks established by the National Institute of Standards and Technology (" NIST "), and other applicable industry standards. This does not imply that we meet any particular technical standards, specifications or requirements, however, we do use these frameworks as a guide to help us identify, assess, and manage cybersecurity risks relevant to our business. Our cybersecurity program in particular focuses on the following key areas: CollaborationOur cybersecurity risks are identified and addressed through a comprehensive, cross- functional approach. Key security, risk, and compliance stakeholders meet regularly to develop strategies for preserving the confidentiality, integrity and availability of our own and our customer' s information, identifying, preventing and mitigating cybersecurity threats, and ~~Ineffective~~ -- effectively responding to cybersecurity incidents. We maintain controls and procedures that are designed to ensure prompt escalation of certain cybersecurity incidents so that decisions regarding such incidents can be made by management, the Board, and legal counsel in a timely manner. Risk AssessmentWe conduct cybersecurity risk assessments annually, quarterly and upon certain triggering events. Such risk assessments take into account information from internal stakeholders, known information security vulnerabilities, and information from external sources (e. g., reported security incidents that have impacted other companies, industry trends, and recommendations from our IT vendors). The results of the assessment are used to drive alignment on, and prioritization of, initiatives to enhance our security controls ~~could~~ , make recommendations to improve processes, and inform a broader enterprise- level risk assessment that is presented to our Board and members of senior management. Technical SafeguardsWe regularly assess and deploy technical safeguards designed to protect our information systems and infrastructure from cybersecurity threats. Such safeguards are regularly evaluated and improved based on vulnerability assessments, cybersecurity threat intelligence and incident response experience. Incident Response and Recovery PlanningWe have established comprehensive incident response and management plans and continue to regularly test and evaluate the effectiveness of those plans. Our incident response and management plans address — and guide our employees, management, and Board on — our response to a cybersecurity incident. In the event of an incident, we intend to follow our incident response playbook, which outlines the steps to be followed from incident detection to mitigation, recovery and notification, including notifying functional areas (e. g., legal), as well as the Board and senior management, as appropriate. Third- Party Risk ManagementWe have implemented controls designed to identify and mitigate cybersecurity threats associated with our use of third- party service providers. Such providers are subject to security risk assessments at the time of onboarding, contract renewal, and upon detection of an increase in risk profile. We use a variety of inputs in such risk assessments, including information supplied by providers and third parties. In addition, we encourage our providers to meet appropriate security procedures, controls and responsibilities and investigate security incidents that have impacted our third- party providers, as appropriate. Education and AwarenessOur policies require each of our employees to contribute to our cybersecurity efforts. We regularly remind employees of the importance of handling and protecting customer and employee data, including through privacy and security trainings to enhance employee awareness of how to detect and report cybersecurity threats and cybersecurity incidents. GovernanceBoard OversightThe Nominating and Corporate Governance Committee (the " Committee ") and senior management oversee our cybersecurity risk processes and policies. The Committee receives regular reports from senior management about the prevention, detection, mitigation, and remediation of cybersecurity incidents, including security risks and information security vulnerabilities. The Committee also ~~cause investors~~ ensures that procedures for safeguarding the Company' s information technology (" IT ") systems are documented and implemented, monitors the effectiveness of the Company' s cybersecurity program for protecting against internal and external threats as well as disaster recovery and disruption mitigation, and addresses deficiencies as the threat and business landscape continues to ~~lose confidence~~ evolve. The Board receives regular updates from the Committee based on such oversight and communications with senior management regarding cybersecurity risk resulting from risk and control maturity assessments, progress of risk reduction initiatives, external auditor feedback and relevant internal and industry cybersecurity incidents. Our Board has technical and industry expertise in risk management, computer security and information technology matters. Specifically, the chairperson of the Committee has 39 years of experience in the cybersecurity field, is a former sub- chairman of the NIST Board of Assessment for Programs / National Research Council and holds CISSP and CRISC certifications. Management' s RoleOur chief technology officer (" CTO "), Director of IT (Information Technology), Director of SecDevOps (Security, Development Operations) (collectively, the " Security Team ") have primary responsibility for assessing and managing cybersecurity risks. The Security Team reviews security performance metrics, identifies security risks, and assesses the status of approved security enhancements. The Security Team also considers

and makes recommendations on security policies and procedures, security service requirements, and risk mitigation strategies. Our CTO has served in various roles in information technology and information security for over 30 years, He holds a PhD in Information Technology and has been with VirnetX since 2007. Our Director of IT has served in various roles in information technology for 29 years. He holds degree in Computer Technology. Our SecDevOps Director has served in various roles in information technology and information security for over 33 years. Index Item 2. PropertiesOur principal executive offices are located at 308 Dorla ~~our~~ Court ~~reported~~ , Suite 206, Zephyr Cove, Nevada, 89448. We lease this property, which comprises approximately 2, 090 square feet of office space, from a third party for a term that ends in October 2025. Additionally, we lease a facility in Farmington, Utah. The space includes 28, 970 square feet to be used for technical integration and training. The lease continues through April 2029. We believe that our office and facility leases are suitable and appropriately support our current business needs. Item 3. Legal ProceedingsSee Note 12 in the notes to our consolidated financial **statements. Item 4. Mine Safety DisclosureNot applicable. Index PART IIItem 5. Market for the Registrant' s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity SecuritiesMarket InformationOur common stock currently trades under the symbol " VHC " on the NYSE. Holders of RecordAs of December 31, 2023, we had 41 stockholders of record. Because many of our shares of common stock are held of record by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial stockholders represented by such record holders. Dividend PolicySee Note 8 in the notes to our consolidated financial statements. Since our founding as a public company in 2007, each time we have been successful in generating cash relating to the successful outcome of litigation, we have made a special distribution to common shareholders. In 2010, a distribution of $ 10 per common share closely followed a litigation outcome that resulted in our receipt of $ 200 million. In 2020, a distribution of $ 20. 00 per share closely followed a litigation outcome that resulted in our receipt of $ 454 million. In 2023, we paid a one- time capital dividend of $ 20 share of common stock, to shareholders. Over the course of VirnetX' s history as a public company VirnetX has distributed over $ 165. 9 million in cash to shareholders. Securities Authorized for Issuance under Equity Compensation PlanSee Item 12, Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters for** information **regarding securities authorized for issuance. Stock Performance GraphThis performance graph shall not be deemed " filed " for purposes of Section 18 of the Exchange Act, or incorporated by reference into any filing of VirnetX Holding Corporation under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing. The stock price performance reflected on this graph is not necessarily indicative of future stock price performance. See the disclosure in part I, Item 1A. " Risk Factors " for more information regarding the risks in investing in our common stock. The graph below matches VirnetX Holding Corp' s cumulative 5- Year total shareholder return on common stock with the cumulative total returns of the S & P 500 index and the RDG Technology Composite index. The graph tracks the performance of a $ 100 investment in our common stock and in each index (with the reinvestment of all dividends) from 12 / 31 / 2018 to 12 / 31 / 2023. Index * $ 100 invested on 12 / 31 / 18 in stock or index, including reinvestment of dividends. Fiscal year ending December 31. Copyright © 2024 Standard & Poor' s, a division of S & P Global. All rights reserved. 12 / 18 12 / 19 12 / 20 12 / 21 12 / 22 12 / 23 VirnetX Holding Corp 100. 00 158. 33 246. 02 126. 92 63. 46 44. 33 S & P 500 100. 00 131. 49 155. 68 200. 37 164. 08 207. 21 RDG Technology Composite 100. 00 142. 93 222. 56 266. 61 181. 18 261. 37 Recent Sales of Unregistered SecuritiesNone. Item 6. [Reserved] Item 7. Management' s Discussion and Analysis of Financial Condition and Results of OperationsIndex The CompanyWe are an Internet security software and technology company with patented technology for Zero Trust Network Access (" ZTNA ") based secure network communications. VirnetX' s software and technology solutions, including its Secure Domain Name Registry and Technology, VirnetX One ™, War Room ™, VirnetX Matrix ™, and GABRIEL Connection Technology ™, are designed to be device and location- independent, and enable a secure real- time communication environment for all types of enterprise applications, services, and critical infrastructures. Our technology generates secure connections on a " single- click " basis, significantly simplifying the deployment of secure real- time communication solutions by eliminating the need for end- users to enter any encryption information. Our product portfolio includes sophisticated technologies, products and services that are available for sale worldwide. Our next- generation, VirnetX One ™ platform builds upon our patented Secure Domain Name Registry and Technology and GABRIEL Connection Technology ™ to further enhance the security and efficiency of our patented secure communication links. VirnetX One ™ is a security- as- a- service platform that protects enterprise applications, services, and infrastructure from cyber- attacks. Our platform allows businesses and other enterprises of all sizes to add a " security umbrella " as an added layer on top of their existing infrastructure to further reduce risk and bolster security against ever- growing cyberthreats to data, operating systems, other infrastructure products and gateway security controllers. Our War Room ™ software product provides safe and secure video conferencing meeting environment where sensitive communications and data is invisible to those not authorized to view it. War Room ™ validates permissions of all the users, and devices requesting access to any secure meeting room prior to granting access. We believe our War Room ™ will be an attractive solution for government and law enforcement agencies as well as all professional sectors such as legal, financial, and medical where limiting access to confidential data is a critical requirement. Our VirnetX Matrix ™ product provides superior security for internet- enabled enterprise applications and their connected devices, and for control systems currently deployed by those enterprises (e. g., file servers, data back- up systems, VPN / firewalls). VirnetX Matrix ™ provides a true " zero- trust " access protection, " single- click " ease of use, and is a highly- effective added layer of protection that is deployed simply, without the need for changes to an enterprise' s existing, in- place infrastructure. We believe VirnetX Matrix ™ is an attractive solution for all businesses, cloud and on- premise application service providers, and original equipment manufacturers (" OEMs "), looking to improve visibility and management of their networks to mitigate morphing**

attacks on their networks and for real time access and control of their users. Our GABRIEL Collaboration Suite ™ is a set of communication applications and tools that use our GABRIEL Secure Communication Platform ™. It enables seamless and secure cross platform communications between devices that are enrolled in our “ VIRNETX SECURED ” network and have our software installed. Effective May 31, 2023 we have ended the support for our GABRIEL Collaboration Suite ™. All the existing customers and partners have been notified of this announcement. We have undertaken activities to commercialize our products and intellectual property in and outside the United States including VirnetX One ™, War Room ™, VirnetX Matrix ™, GABRIEL Connection Technology ™ and our Secured Domain Name Registry and Technology. We believe our product portfolio to secure devices and systems are suitable in areas such as City, County and State Governments, Healthcare, Finance, Legal, Oil and Gas, Medical, Law Enforcement, National Defense and related support industries. We continue to actively pursue new sales opportunities in and outside of United States. During 2023, we actively engaged in discussions with certain third- parties to pitch the capabilities of VirnetX One ™. As a result of our efforts, we made a series of announcements with Solution Synergy, WeSecure, Samsung, Envoy Data Corporation, and Object Security. We also announced new deployments of our VirnetX Matrix ™ product at City of Bridgeport, International Association of Certified ISAOs (IACI) and SkinWalker Ranch. Although there can be no assurance in this regard, the Company believes that there are opportunities for Company products’ sales directly to, resale arrangements with and / or adoption as vendor standards by, one or more of these third parties. Index We invested in two companies in the artificial intelligence (“ AI ”) sector partnering with them to augment the Company’ s strategy to provide secure AI to the marketplace. The first investment was with L2 Holdings, LLC (“ OmniTeq ”), an AI, machine learning (“ ML ”) and predictive analytics- based solutions provider with a primary focus on selling into the space and defense sectors. Under the terms of our agreement, OmniTeq will deploy and integrate our VirnetX One ™ family of products at SkinWalker Ranch to secure their data and protect against cyber hackers. Our second investment was with OP Media, Inc, a dynamic software platform provider, addressing a critical market requirement for transforming static infrastructure processes and knowledgebases into digital processes that can be continuously optimized using AI, ML, and blockchain technologies for making informed decisions and creating streamlined workflows in real- time, without requiring coding or programming skills. Further, under the terms of our respective agreements, both OmniTeq and OP Media have agreed to integrate our VirnetX One ™ family of products and services into their solutions and to resell them to their current and future customers. Both companies have committed to using VirnetX as their exclusive global cybersecurity solution provider and go- to- market partner. We have an ongoing licensing program under which we offer licenses to our technology, software, and some of our patented inventions, including our secure domain name registry service, to domain infrastructure providers, communication service providers as well as to system integrators. Our GABRIEL Connection Technology ™ License is offered to OEM customers who want to adopt the GABRIEL Connection Technology ™ as their solution for establishing secure connections using secure domain names within their products. We have developed GABRIEL Connection Technology ™ Software Development Kit to assist with rapid integration of these techniques into existing software implementations. Our employees include the core development team behind our inventions, technology, and software. Some members of this team have worked together for over twenty years and were on the same team that invented and developed this technology while working at Leidos. The team has continued its research and development work to refine our unique network security technology and make it more secure and easy to deploy. Our portfolio of intellectual property is the foundation of our business model. We currently own approximately 205 total patents and pending applications, including 72 U. S. patents / patent applications and 133 foreign patents / validations / pending applications. Our patent portfolio is primarily focused on securing real- time communications over the Internet, and related services, and is used in all our technology and products, some of which were acquired by our principal operating subsidiary; VirnetX, Inc., from Leidos, Inc., or Leidos, (f / k / a Science Applications International Corporation, or SAIC) in 2006. We expect to continue to launch new and enhanced security platforms, software products, and services based on our GABRIEL Connection Technology ™. We will provide updates to new and existing customers as they are released to the public. Many small and medium businesses have installed our software products in their corporate networks. We intend to continue to expand our customer base with targeted promotions and direct sales initiatives to large enterprise and governmental organizations. LitigationWe are subject to various legal proceedings, the outcomes of which are inherently uncertain. We record any potential gains related to legal proceedings only after cash is collected. We record a liability when it is probable that a loss has been incurred and the amount is reasonably estimable, the determination of which requires significant judgment. Resolution of legal matters in a manner inconsistent with management’ s expectations could have a ~~negative~~ material impact on our financial condition and operating results. See Note 12 in the notes to our consolidated financial statements for more information. Commitments and Related Party TransactionsWe lease our offices in Nevada under an operating lease with a third party expiring in October 2025. We recognize rent expense on a straight- line basis over the term of the lease. We have a facility lease in Utah to be used for technical integration and as a training facility. This lease requires monthly payments and expires in April 2029. We have a 12- month non- exclusive service agreement, for the use of an aircraft from K2 Investment Fund LLC (“ LLC ”) for business travel for our employees. Our Chief Executive Officer and Chief Administrative Officer are the managing partners of the LLC and control the equity interests of the LLC. We pay for the Company’ s business usage of the aircraft at a rate of $ 8 per flight hour. In March 2024, we renewed our facility lease, used for corporate, promotional and marketing purposes. The renewal period begins in 2025, continues for 10 years through 2035, requires either a single payment of $ 6, 000, or annual payments each March, beginning in 2025 starting at $ 600 and increasing annually for a total commitment of approximately $ 7, 500. Index Critical Accounting Policies and EstimatesThe preparation of financial statements in conformity with U. S. GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. The critical accounting policies we employ in the preparation of our consolidated financial statements are those which involve income taxes, fair value of financial instruments and stock- based compensation. Use of EstimatesWe prepare our consolidated financial statements in accordance with U. S. GAAP. In doing so, we have to make estimates and assumptions that affect our reported amounts of assets, liabilities, revenues, and expenses, as well as related disclosure of contingent assets and liabilities. In some cases, we could reasonably have used different accounting policies and estimates. In some cases, changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ materially from our estimates. To the extent that there are material differences between these estimates and actual results, our financial condition or results of operations will be affected. We base our estimates on past experience and other assumptions that we believe are reasonable under the circumstances, and we evaluate these estimates on an ongoing basis. We refer to accounting estimates of this type as critical accounting policies and estimates, which we discuss further below. We have reviewed our critical accounting policies and estimates with the Audit Committee of our Board of Directors. Investments Investments classified as available- for- sale are recorded at fair market value. Unrealized gains and losses are reported as other comprehensive income. Realized gains and losses are recorded in income in the period they are realized using specific identification of each security' s cost basis. We invest our excess cash primarily in highly liquid debt instruments including corporate, government and federal agency securities, with contractual maturities less than two years. By policy, we limit the amount of credit exposure to any one issuer. We have elected the investment measurement alternative for other investments without readily determinable fair values. During 2023, we invested $ 2, 000 in L2 Holdings LLC and $ 500 in OP Media Inc. These investments are carried at our initial cost less any impairment, because we do not have the ability to exercise significant influence over operating and financial matters. For these investments, we adjust the carrying value for any purchases or sales of our ownership interests. Periodically, we evaluate these investments for impairment. If we identify an impairment, we reduce the carrying value for the impairment loss with a charge to earnings. We have not identified any impairment as of December 31, 2023. Income TaxesWe account for income taxes using the asset and liability method. The asset and liability method require the recognition of deferred tax assets and liabilities for expected future tax consequences of temporary differences that currently exist between the tax basis and financial reporting basis of our assets and liabilities. We calculate current and deferred tax provisions based on estimates and assumptions that could differ from actual results reflected on the income tax returns filed during the following years. Adjustments based on filed returns are recorded when identified in the subsequent years. The effect on deferred taxes for a change in tax rates is recognized in income in the period that the tax rate change is enacted. In assessing our deferred tax assets, we consider whether it is more likely than not that all or some portion of the deferred tax assets will not be realized. A valuation allowance is provided for deferred income tax assets when, in our judgment, based upon currently available information and ~~the~~ other factors, it is more likely than not that all or a portion of such deferred income tax assets will not be realized. The determination of the need for a valuation allowance is based on an on- going evaluation of current information including, among other things, historical operating results, estimates of future earnings in different ~~trading~~ taxing jurisdictions and the expected timing of the reversals of temporary differences. We believe the determination to record a valuation allowance to reduce a deferred income tax asset is a significant accounting estimate because it is based, among other things, on an estimate of future taxable income in the United States and certain other jurisdictions, which is susceptible to change and may or may not occur, and because the impact of adjusting a valuation allowance may be material. In determining when to release the valuation allowance established against our net deferred income tax assets, we consider all available evidence, both positive and negative. We continually assess our ability to generate sufficient taxable income during future periods in which our deferred tax assets may be realized. If and when we believe it is more likely than not that we will recover our deferred tax assets, we will reverse the valuation allowance if any, as an income tax benefit in our statements of operations. We account for our uncertain tax positions in accordance with U. S. GAAP. The U. S. GAAP method of accounting for uncertain tax positions utilizes a two- step approach to evaluate tax positions. Step one, recognition, requires evaluation of the tax position to determine if based solely on technical merits it is more likely than not to be sustained upon examination. Step two, measurement, is addressed only if a position is more likely than not to be sustained. In step two, the tax benefit is measured as the largest amount of benefit, determined on a cumulative probability basis, which is more likely than not to be realized upon ultimate settlement with tax authorities. If a position does not meet the more likely than not threshold for recognition in step one, no benefit is recorded until the first subsequent period in which the more likely than not standard is met, the issue is resolved with the taxing authority, or the statute of limitations expires. Positions previously recognized are derecognized when we subsequently determine the position no longer is more likely than not to be sustained. Evaluation of tax positions, their technical merits, and measurements using cumulative probability are highly subjective management estimates. Actual results could differ materially from these estimates. Index Fair ValueFair value is the price ~~of~~ that would result from an orderly transaction between market participants at the measurement date. A fair value hierarchy prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets ~~our~~ or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). Level 2 measurements utilize either directly or indirectly observable inputs in markets other than quoted prices in active markets. Our financial instruments are stated at amounts that equal, or approximate, fair value. When we estimate fair value, we utilize market data or assumptions that we believe market participants would use in pricing the financial instrument, including assumptions about risk and inputs to the valuation technique. We use valuation techniques, primarily the income and market approach, which maximizes the use of observable inputs and minimize the use of unobservable inputs for recurring fair value measurements. Stock- based CompensationWe account for stock - based compensation using the fair value recognition method in accordance with U . ~~There~~ S. GAAP. We recognize these compensation costs on a straight-line basis over the requisite service period of the award, which is ~~also~~ generally a vesting term of 4 years. We recognize forfeitures, if any, when ~~the~~ they ~~potential~~ occur. In addition, we record stock- based compensation expense for ~~litigation or~~ awards granted to non- employees at fair value of ~~other~~ -- the ~~disputes which may include~~ consideration received or the fair value of the equity instruments issued , as ~~among others, claims invoking the~~ they vest ~~federal and state securities laws~~ , ~~contractual claims or other claims arising from the restatement and the material weakness in our internal control~~ over ~~financial reporting and~~ the ~~preparation of~~ performance period. See Note 6 in the notes to our consolidated financial statements for more information . ~~IndexItem 1B~~ Results of Operations (all amounts in this section are expressed in thousands) Revenue 2023 Revenue $ $ Revenue generated in 2023 was $ 7, compared to $ 48 in 2022 . ~~Unresolved~~ The change in revenue from 2022 to 2023 was the expiration of contracts with NEC and Mitel. Licensing Costs 2023 Licensing costs $ — $ (4) Research and Development Expenses 2023 Research and Development $ 9, 713 $ 6, 406 Research and development costs include expenses paid to outside development consultants and compensation- related expenses for our engineering ~~Staff~~ staff ~~Comments~~ . Research and development costs are expensed as incurred. Our research and development expenses in 2023 were $ 9, 713 compared to $ 6, 406 in 2022. The fluctuation in 2023 compared to 2022 was primarily due to changes in engineering compensation costs, including bonuses. Selling, General and Administrative Expenses 2023 Selling, General and Administrative $ 21, 739 $ 15, 722 Selling, general and administrative expenses include compensation costs for management and administrative personnel, as well as expenses for outside legal, accounting, and consulting services. Our selling, general and administrative expenses in 2023 were $ 21, 739 compared to $ 15, 722 in 2022. The increase in selling, general and administrative expenses was primarily due to outside services and additional compensation costs, including bonuses. Index Interest and Other Income, net 2023 Interest and Other Income $ 3, 495 $ 1, 848 Interest and other income in 2023 was $ 3, 495 compared to $ 1, 848 in 2022, due to higher interest rates. Effective Income Tax RateA reconciliation of the United States federal statutory income tax rate to our effective income tax rate is as follows: Year Ended December 31, Year Ended December 31, United States federal statutory rate 21. 00 % 21. 00 % State taxes, net of federal benefit (0. 01) % (0. 55) % Valuation allowance (20. 31) % (91. 21) % Stock based compensation (0. 58) % (9. 44) % R & D Credit 2. 20 % 1. 22 % Other (2. 03) % (0. 29) % Effective income tax rate 0. 28 % (79. 27) % The Company' s effective tax rate for 2023 and 2022 was substantially lower than the statutory Federal income tax rate primarily due to our valuation allowance, additionally in 2022 our effective tax rate was further reduced by stock based compensation, including expiring options. Liquidity and Capital ResourcesAs of December 31, 2023, our cash and cash equivalents totaled $ 26, 289 and our short- term investments totaled $ 27, 258 compared to $ 86, 561 and $ 65, 462, respectively, as of December 31, 2022. We expect that our cash and cash equivalents and short- term investments as of December 31, 2023, will be sufficient to fund our current level of selling, general and administration costs and provide related working capital for the foreseeable future. Over the longer term, we expect to derive the majority of our future revenue from license fees and royalties associated with our patent portfolio, technology, software and secure domain name registry and product sales. Item 7A. Quantitative and Qualitative Disclosures about Market RiskConsistent with the rules applicable to " smaller reporting companies, " we have omitted the information required by Item 7A.