

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2023 .

or

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

Commission File Number: 001-33852



VirnetX Holding Corporation

(Exact name of registrant as specified in its charter)

Delaware

77-0390628

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

308 Dorla Court , Suite 206 Zephyr Cove , Nevada

89448

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code: (775) 548-1785
Former name, former address and former fiscal year, if changed since last report: N/A

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	VHC	NYSE

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

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

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

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

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

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

71,639,905 shares of the registrant's Common Stock were outstanding as of August 10, 2023.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

We have included or incorporated by reference in this Quarterly Report on Form 10-Q (this "Report"), and from time to time we may make statements that may constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements are based upon our current expectations, estimates, assumptions, and beliefs concerning future events and conditions and may discuss, among other things, anticipated future performance (including sales and earnings), products, expected growth, future business plans and costs, the impact of potential and ongoing litigation, the expectation of future stockholder distributions, statements regarding the Company's efforts and ability to regain compliance with the New York Stock Exchange ("NYSE") continued listing standard, our beliefs and statements regarding general industry and market conditions and growth rates, as well as general domestic and international economic conditions. Any statement that is not historical in nature is a forward-looking statement and may be identified by the use of words and phrases such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "projects," "will be," "will continue," "will likely result in," and similar expressions. Readers are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements are necessarily subject to risks, uncertainties, and other factors, many of which are outside our control, which could cause actual results to differ materially from such statements and from our historical results and experience. These risks, uncertainties and other factors include, but are not limited to those described in Item 1A - Risk Factors of this Report and elsewhere in this Report and those described from time to time in our reports filed with the Securities and Exchange Commission (the "SEC"). Readers are cautioned that it is not possible to predict or identify all the risks, uncertainties and other factors that may affect future results and that the risks described herein should not be considered a complete list. Any forward-looking statement speaks only as of the date on which such statement is made, and we undertake no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

Among others, the forward-looking statements appearing in this Quarterly Report that may not occur include statements that:

- In the *VirnetX Inc. v. Apple, Inc.* (Case Nos. 6:11-cv-00563-RWS, 6:12-cv-00855-RWS) ("Apple II") litigation, the United States Court of Appeals for the Federal Circuit (the "Federal Circuit") in November 2019, affirmed-in-part, and reversed-in-part the judgment issued by the United States District Court for the Eastern District of Texas (the "district court") in the case awarding VirnetX damages of \$595.9 million. On October 30, 2020, after a trial in the district court, a jury returned a verdict in favor of VirnetX, awarding VirnetX over \$502 million in damages. On January 15, 2021, the district court denied Apple's motion for judgment as a matter of law and affirmed the jury findings. Apple appealed to the Federal Circuit with regards to the judgement from the district court. On March 31, 2023, the Federal Circuit issued its decision vacating the district court's judgement in this matter and remanding it back to the district court with instructions to dismiss the case as moot. We make statements in this quarterly report that we are evaluating all of our available options in this matter, including potentially seeking rehearing or certiorari review and this may imply that the March 31, 2023 circuit decision may be reversed; however, we might not pursue options that could lead to reversal, or if we do, we may not be successful. In addition, the patents in this case are being challenged in the United States Patent and Trademark Office. If those challenges are successful, the award in the case may be reduced, eliminated and/or delayed for a lengthy period. The continuation of this litigation is distracting to our management, expensive, and these distractions and expenses may continue.
- We have undertaken activities to commercialize our products and patent portfolio in and outside the United States including VirnetX One™, War Room™, VirnetX Matrix™, GABRIEL Connection Technology™ and our Secured Domain Name Registry and Technology. These statements may imply that the worldwide market for our commercialized products is large and will result in significant future licensing or software revenue for us. However, commercialization of products such as ours is subject to significant obstacles and risks and may prevent significant future revenues for us.

EXCEPT AS REQUIRED BY LAW, WE UNDERTAKE NO OBLIGATION TO UPDATE OR REVISE ANY FORWARD-LOOKING STATEMENT AS A RESULT OF NEW INFORMATION, FUTURE EVENTS OR OTHERWISE.

VIRNETX HOLDING CORPORATION
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PART I — FINANCIAL INFORMATION

ITEM 1-FINANCIAL STATEMENTS.

VIRNETX HOLDING CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share amounts)

	As of June 30, 2023 (unaudited)	As of December 31, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 25,970	\$ 86,561
Investments available for sale	40,259	65,462
Accounts receivables	4	14
Prepaid expenses and other current assets	480	224
Total current assets	66,713	152,261
Prepaid expenses and other assets	526	703
Property and equipment, net	8	11
Total assets	\$ 67,247	\$ 152,975
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 397	\$ 373
Accrued payroll and related expenses	392	311
Accrued dividends	—	—
Other liabilities, current	24	47
Total current liabilities	813	731
Other liabilities	—	—
Total liabilities	813	731
Commitments and contingencies (Note 4)		
Stockholders' equity:		
Preferred stock, par value \$ 0.0001 per share Authorized: 10,000,000 shares at June 30, 2023 and December 31, 2022; Issued and outstanding: 0 shares at June 30, 2023 and December 31, 2022	—	—
Common stock, par value \$ 0.0001 per share Authorized: 100,000,000 shares at June 30, 2023 and December 31, 2022; Issued and outstanding: 71,639,905 shares at June 30, 2023 and 71,424,650 at December 31, 2022	7	7
Additional paid-in capital	241,105	239,746
Accumulated deficit	(174,470)	(87,195)
Accumulated other comprehensive loss	(208)	(314)
Total stockholders' equity	66,434	152,244
Total liabilities and stockholders' equity	\$ 67,247	\$ 152,975

See accompanying notes to condensed consolidated financial statements.

VIRNETX HOLDING CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)
(in thousands, except per share amounts)

	Three Months Ended		Six Months Ended	
	June 30, 2023	June 30, 2022	June 30, 2023	June 30, 2022
Revenue	\$ 2	\$ 34	\$ 4	\$ 39
Operating expense:				
Licensing costs	—	—	—	(4)
Research and development	4,755	1,255	6,123	2,482
Selling, general and administrative	7,366	3,046	11,913	6,231
Total operating expense	12,121	4,301	18,036	8,709
(Loss) from operations	(12,119)	(4,267)	(18,032)	(8,670)
Interest and other income, net	740	203	2,108	229
(Loss) before taxes	(11,379)	(4,064)	(15,924)	(8,441)
Income tax (expense) benefit	—	(373)	78	684
Net (loss)	\$ (11,379)	\$ (4,437)	\$ (15,846)	\$ (7,757)
Basic (loss) per share	\$ (0.16)	\$ (0.06)	\$ (0.22)	\$ (0.11)
Diluted (loss) per share	\$ (0.16)	\$ (0.06)	\$ (0.22)	\$ (0.11)
Weighted average shares outstanding - basic	71,466	71,255	71,445	71,244
Weighted average shares outstanding - diluted	71,466	71,255	71,445	71,244

See accompanying notes to condensed consolidated financial statements.

VIRNETX HOLDING CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (Unaudited)
(in thousands)

	Three Months Ended		Six Months Ended	
	June 30,	June 30,	June 30,	June 30,
	2023	2022	2023	2022
Net (loss)	\$ (11,379)	\$ (4,437)	\$ (15,846)	\$ (7,757)
Other comprehensive income (loss):				
Change in unrealized gain (loss) on investments, net of tax	3	(110)	110	(281)
Change in foreign currency translation, net of tax	(3)	(3)	(4)	(6)
Total other comprehensive income (loss)	—	(113)	106	(287)
Comprehensive (loss)	<u>\$ (11,379)</u>	<u>\$ (4,550)</u>	<u>\$ (15,740)</u>	<u>\$ (8,044)</u>

See accompanying notes to condensed consolidated financial statements.

VIRNETX HOLDING CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (Unaudited)
(in thousands, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Total shareholders' equity, beginning balances	\$ 77,136	\$ 182,733	\$ 152,244	\$ 185,449
Common stock and additional paid-in capital:				
Beginning balances	240,435	237,230	239,753	236,452
Common stock issued for options/RSUs, net	(5)	(29)	(5)	(29)
Stock-based compensation	682	812	1,364	1,590
Ending balances	241,112	238,013	241,112	238,013
Accumulated deficit:				
Beginning balances	(163,091)	(54,255)	(87,195)	(50,935)
Net (loss)	(11,379)	(4,437)	(15,846)	(7,757)
Dividends	—	—	(71,429)	—
Ending balances	(174,470)	(58,692)	(174,470)	(58,692)
Accumulated other comprehensive loss:				
Beginning balances	(208)	(242)	(314)	(68)
Change in unrealized investment gain/loss, net	3	(110)	110	(281)
Change in foreign currency translation, net	(3)	(3)	(4)	(6)
Ending balances	(208)	(355)	(208)	(355)
Total shareholders' equity, ending balances	\$ 66,434	\$ 178,966	\$ 66,434	\$ 178,966
Dividends per share	\$ —	\$ —	\$ 1.00	\$ —

See accompanying notes to condensed consolidated financial statements.

VIRNETX HOLDING CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)
(in thousands)

	Six Months Ended June 30,	
	2023	2022
Cash flows from operating activities:		
Net (loss)	\$ (15,846)	\$ (7,757)
Adjustments to reconcile net loss to cash flows from operating activities:		
Depreciation	3	3
Deferred tax assets	—	(685)
Bad debt	11	—
Stock-based compensation	1,364	1,590
Changes in assets and liabilities:		
Accounts receivables	(1)	(2)
Prepaid expenses and other assets	(79)	(134)
Accounts payable	24	12
Accrued payroll and related expenses	81	63
Accrued licensing costs	—	(355)
Other liabilities	(23)	(31)
Net cash used in operating activities	<u>(14,466)</u>	<u>(7,296)</u>
Cash flows from investing activities:		
Purchase of investments	(25,753)	(13,203)
Proceeds from sale or maturity of investments	51,062	5,688
Net cash provided by (used in) investing activities	<u>25,309</u>	<u>(7,515)</u>
Cash flows from financing activities:		
Payment of dividends	(71,429)	—
Payment of payroll taxes on vested restricted stock units	(5)	(29)
Net cash used in financing activities	<u>(71,434)</u>	<u>(29)</u>
Net change in cash and cash equivalents	(60,591)	(14,840)
Cash and cash equivalents, beginning of period	86,561	142,018
Cash and cash equivalents, end of period	<u>\$ 25,970</u>	<u>\$ 127,178</u>
Cash paid for income taxes	<u>\$ —</u>	<u>\$ 2</u>

See accompanying notes to condensed consolidated financial statements.

VIRNETX HOLDING CORPORATION
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(in thousands, except per share amounts)
(Unaudited)

Note 1 — Business Description and Basis of Presentation

VirnetX Holding Corporation (the “Company,” “we,” “us,” or “our”) is 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 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.

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.

Note 2 — Summary of Significant Accounting Policies

Unaudited Interim Financial Information

The accompanying Condensed Consolidated Balance Sheet as of June 30, 2023, the Condensed Consolidated Statements of Operations for the three and six months ended June 30, 2023 and 2022, the Condensed Consolidated Statements of Comprehensive Income (Loss) for the three and six months ended June 30, 2023 and 2022, the Condensed Consolidated Statements of Shareholders’ Equity for the three and six months ended June 30, 2023 and 2022, and the Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2023 and 2022 are unaudited. These unaudited interim consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States (“U.S. GAAP”). In our opinion, the unaudited interim consolidated financial statements include all adjustments of a normal recurring nature necessary for the fair presentation of our financial position as of June 30, 2023, our results of operations for the three and six months ended June 30, 2023 and 2022, and our cash flows for the six months ended June 30, 2023 and 2022. The results of operations for interim periods are not necessarily indicative of the results to be expected for a full year.

These unaudited interim consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on March 31, 2023.

Use of Estimates

We 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.

Basis of Consolidation

The consolidated financial statements include the accounts of VirnetX Holding Corporation and our wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated.

Leases

The Company determines if an arrangement is a lease at inception in accordance with Accounting Standards Codification ("ASC") Topic 842. Operating lease right-of-use ("ROU") assets are included in Prepaid expenses, and other assets on the Condensed Consolidated Balance Sheets. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term (see Note 8 – Leases).

Revenue Recognition

The Company derives revenue from licensing and royalty fees from contracts with customers which can span several years. We account for this revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Our revenue arrangements may consist of multiple-element arrangements, with revenue for each unit of accounting recognized as the product or service is delivered to the customer.

With the licensing of our patents, performance obligations are generally satisfied at a point in time as work is complete when our patent rights are transferred to our customers. We generally have no further obligation to our customers regarding our technology.

Certain contracts may require our customers to enter into a hosting arrangement with us and for these arrangements, revenue is recognized over time, generally over the life of the servicing contract.

The Company actively monitors and enforces its intellectual property rights, including seeking appropriate compensation from third parties that utilize the Company's intellectual property without a license. As a result, the Company may, from time to time, receive payments as part of a settlement or compensation for a patent infringement dispute. Proceeds received are allocated to each element identified in the settlement or compensation, based on the fair value of each element. Generally, settlements and compensation may include the following elements: the value of a license or royalty agreement, cost reimbursement, damages, and interest. Elements identified related to licensing and royalty are recognized as revenue. Elements identified as reimbursed costs are generally recorded as a reduction to the reported expenses. Elements identified as damages or interest are generally recorded in other income in the condensed consolidated statement of operations.

Licensing Costs

Included in operating expenses in 2022 is a refund of licensing costs we incurred in conjunction with a favorable court decision relating to a patent infringement case.

Contingent Gains

ASC Topic 450-30-25, Contingent Gains, prohibits recognition of contingent gains until realized. Accordingly, we do not record contingent gains ahead of such realization. Management generally considers any such gains as realized only upon the collection of cash.

Cash and Cash Equivalents

We consider all highly liquid investments purchased with maturities of three months or less at the date of purchase to be cash equivalents. Our cash and cash equivalents are not subject to significant interest rate risk due to the short maturities of these investments.

Investments

Investments are classified as available-for-sale and 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.

Property and Equipment

Property and equipment are stated at historical cost, less accumulated depreciation and amortization. Depreciation and amortization are computed using the accelerated and straight-line methods over the estimated useful lives of the assets, which range from five to seven years. Repair and maintenance costs are charged to expense as incurred.

Concentration of Credit Risk and Other Risks and Uncertainties

Our cash and cash equivalents are primarily maintained at two major financial institutions in the United States. Deposits held with these financial institutions may exceed the amount of insurance provided on such deposits. A portion of those balances are insured by the Federal Deposit Insurance Corporation, or FDIC. During the six months ended June 30, 2023, we had, at times, funds that were uninsured. We do not believe that we are subject to any unusual financial risk beyond the normal risk associated with commercial banking relationships. We have not experienced any losses on our deposits of cash and cash equivalents.

Fair Value

The carrying amounts of our financial instruments, including cash equivalents, accounts payable, and accrued liabilities, approximate fair value because of their generally short maturities.

Intangible Assets

We record intangible assets at cost, less accumulated amortization. Amortization of intangible assets is provided over their estimated useful lives, which can range from three to 15 years, on either a straight-line basis or as revenue is generated by the assets.

Impairment of Long-Lived Assets

We identify and record impairment losses on long-lived assets used in operations when events and changes in circumstances indicate that the carrying amount of an asset might not be recoverable, but not less than annually. Recoverability is measured by comparison of the anticipated future net undiscounted cash flows to the related assets' carrying value. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the projected discounted future net cash flows arising from the asset.

Research and Development

Research and development costs include expenses paid to outside development consultants and compensation related expenses for our engineering staff. Research and development costs are expensed as incurred.

Income Taxes

We account for income taxes using the asset and liability method. The asset and liability method requires 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.

The 2017 U.S. Tax Cuts and Jobs Act changes IRC Section 174, regarding capitalization of book research and development ("R&D") expenses for income tax purposes. Effective for tax years beginning in 2022, IRC Section 174 requires the capitalization of book R&D expenses which are capitalized and amortized over 5 years for domestic R&D expenses and over 15 years for foreign R&D expenses. To date there has been limited guidance from the IRS on how to quantify the amount of book R&D expenses subject to capitalization, including the indirect expenses supporting the R&D function. Due to the limited guidance, some assumptions were made in our estimates.

A valuation allowance is provided for deferred income tax assets when, in our judgment, based upon currently available information and 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 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 as an income tax benefit in our statements of operations.

We account for our uncertain tax positions in accordance with U.S. GAAP, which 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 reversed if and 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.

Stock-Based Compensation

We account for stock-based compensation using the fair value recognition method in accordance with U.S. GAAP. We recognize these compensation costs on a straight-line basis over the requisite service period of the award, which is generally a vesting term of four years. We recognize forfeitures, if any, when they occur. In addition, we record stock-based compensation expense for awards granted to non-employees at fair value of the consideration received or the fair value of the equity instruments issued, as they vest, over the performance period (See Note 5 - Stock-Based Compensation).

Earnings per Share

Basic earnings per share are computed by dividing earnings available to common stockholders by the weighted average number of outstanding common shares during the period. Diluted earnings per share is computed by dividing net income by the weighted average number of shares outstanding during the period increased to include the number of additional shares of common stock that would have been outstanding if the potentially dilutive securities had been issued.

Fair Value of Financial Instruments

Fair value is the price 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 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.

Mutual funds: Valued at the quoted net asset value of shares held.

U.S. agency and treasury securities: Fair value measured at the closing price reported on the active market on which the individual securities are traded.

The following tables show the adjusted cost, gross unrealized gains, gross unrealized losses, and fair value of our securities by significant investment category as of June 30, 2023 and December 31, 2022.

June 30, 2023						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Investments Available for Sale
Cash	\$ 1,693	\$ —	\$ —	\$ 1,693	\$ 1,693	\$ —
Level 1:						
Mutual funds	20,077	—	—	20,077	20,077	—
U.S. agency and treasury securities	44,645	3	(189)	44,459	4,200	40,259
	64,722	3	(189)	64,536	24,277	40,259
Total	\$ 66,415	\$ 3	\$ (189)	\$ 66,229	\$ 25,970	\$ 40,259
December 31, 2022						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Investments Available for Sale
Cash	\$ 16,949	\$ —	\$ —	\$ 16,949	\$ 16,949	\$ —
Level 1:						
Mutual funds	66,493	—	—	66,493	66,493	—
U.S. agency and treasury securities	68,958	9	(386)	68,581	3,119	65,462
	135,451	9	(386)	135,074	69,612	65,462
Total	\$ 152,400	\$ 9	\$ (386)	\$ 152,023	\$ 86,561	\$ 65,462

Note 3 — Income Taxes

For the three months ended June 30, 2023, we recognized no income tax on loss before taxes of \$ 11,379 , which is an effective tax rate of 0.0 %. For the six months ended June 30, 2023, we recognized an income tax benefit of \$ 78 on loss of \$ 15,924 , which is an effective tax rate of 0.49 %. The effective rate is lower than the statutory federal rate primarily due to the change in valuation allowance. For the three months ended June 30, 2022, we recognized an income tax expense of \$ 373 on loss before taxes of \$ 4,064 , an effective tax rate of 9.18 %. For the six months ended June 30, 2022, we recognized an income tax benefit of \$ 684 on loss before taxes of \$ 8,441 , which is an effective tax rate of 8.10 %. The effective rate is lower than the statutory federal rate primarily due to the effect of stock-based compensation and expiring options, requiring us to reduce our deferred tax asset. Management provided a full valuation allowance against net deferred income tax assets at June 30, 2023.

Our tax years for 2005 and forward are subject to examination by the U.S. tax authority and various state tax authorities because we utilized the NOLs and tax credits generated in those years in 2020. The statute of limitation for those years shall expire three years after the date of filing 2020 income tax returns.

We are required to recognize the financial statement effects of a tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. At December 31, 2022 and June 30, 2023, we have no uncertain tax positions. Our policy is to recognize interest and penalties accrued on uncertain tax positions as a component of income tax expense. We had no accrued interest or penalties related to uncertain tax positions at June 30, 2023.

Note 4 — Commitments and Related Party Transactions

We lease our office under an operating lease with a third party which expires on October 31, 2023 (see Note 8 - Leases).

We entered into a service agreement for the use of an aircraft from K2 Investment Fund LLC ("LLC") for business travel for employees of the Company. We incurred approximately \$ 112 and \$ 399 compared to \$ 249 and \$ 514 in fees and reimbursements to the LLC during the three and six months ended June 30, 2023 and 2022, respectively. We pay for the Company's usage of the aircraft and have no rights to purchase. Our Chief Executive Officer and Chief Administrative Officer are the managing partners of the LLC and control the equity interests of the LLC. We entered into a 12 -month non-exclusive agreement with the LLC for use of the plane at a rate of \$ 8 per flight hour, with no minimum usage requirement. The agreement contains other terms and conditions and can be cancelled by either us or the LLC with 30 days' notice. The agreement renews on an annual basis unless terminated by either party. Neither party has exercised their termination rights.

Note 5 — Stock Based Compensation

Our stockholders approved the Amended and Restated Equity Incentive Plan (the "A&R Plan") at our annual shareholders' meeting in June 2023, which added 3,500,000 shares to the plan. Our prior plan expired March 29, 2023; no further awards will be made under the prior plan, but the A&R Plan will govern awards granted under the prior plan. At June 30, 2023, there were 5,253,971 shares available for grant under the A&R Plan.

Stock-based compensation expense included in general and administrative expense was \$ 393 and \$ 487 , and in research and development expense was \$ 289 and \$ 325 , for the three months ended June 30, 2023 and 2022, respectively. Stock-based compensation expense included in general and administrative expense was \$ 764 and \$ 953 , and in research and development expense was \$ 600 and \$ 637 , for the six months ended June 30, 2023 and 2022, respectively.

During the three months ended June 30, 2023, we granted options for a total of 37,500 shares with a weighted average grant date fair value of \$ 0.35 per option. During the three months ended June 30, 2022, we granted options for a total of 801,004 shares with a weighted average grant date fair value of \$ 1.09 per option.

During the six months ended June 30, 2023, we granted options for a total of 37,500 shares with a weighted average grant date fair value of \$ 0.35 per option. We estimated the fair value of the options on the date of grant utilizing the Black-Scholes valuation model with the following assumptions: (i) 0 percent dividend yield, (ii) 81 percent volatility, (iii) 4 % risk free rate and (iv) 6 years expected term. During the six months ended June 30, 2022, we granted options for a total of 801,004 shares with a weighted average grant date fair value of \$ 1.09 per option. We estimated the fair value of the options on the date of grant utilizing the Black-Scholes valuation model with the following assumptions: (i) 0 percent dividend yield, (ii) 86 percent volatility, (iii) 3 percent risk free rate and (iv) 6 years expected term.

During the three months ended June 30, 2023 and 2022, we granted 24,999 and 258,363 RSUs respectively, with weighted average fair values at the date of grant of \$ 0.50 and \$ 1.46 , respectively. RSUs, which are subject to forfeiture if service terminates prior to the shares vesting, are expensed ratably over the vesting period. During the three months ended June 30, 2023 and 2022, we paid \$ 5 and \$ 29 in withholding taxes on shares issued upon conversion of RSUs, respectively. The underlying shares were cancelled. The amounts are reflected as financing costs in the accompanying statement of cash flows. No RSUs were granted during the first three months of 2023 or 2022.

As of June 30, 2023, the unrecognized stock-based compensation expense related to non-vested stock options and RSUs was \$ 3,009 and \$ 1,074 , respectively, which will be amortized over an estimated weighted average period of approximately 2.25 and 2.24 years, respectively.

During the three and six months ended June 30, 2023 and 2022 no options were exercised.

During the three months ended June 30, 2023 and 2022, we issued 215,255 and 191,795 shares as a result of vesting RSUs, respectively. No shares were issued during the first three months of 2023 or 2022 as a result of vesting RSUs.

During the three ended June 30, 2023 and 2022, there were 213,125 and 255,000 options returned to the plan due to the 10 -year expiration for unexercised options respectively. During six months ended June 30, 2023 and 2022, there were 253,125 and 255,000 options returned to the plan due to the 10 -year expiration for unexercised options respectively.

Note 6 — Equity

Common Stock

We issued no shares for options exercised during the three and six months ended June 30, 2023 or 2022, respectively. We issued 215,255 and 191,795 shares as a result of vesting RSUs during the three months ended June 30, 2023 and 2022, respectively. No shares were issued during the first three months of 2023 or 2022 as a result of vesting RSUs.

Warrants

In 2020, we issued warrants for the purchase of 25,000 shares of common stock at an exercise price of \$ 5.75 per share, exercisable on the date of grant, expiring in April 2025. The weighted average fair value at the grant date was \$ 4.16 per warrant. The fair value at the grant date was estimated utilizing the Black-Scholes valuation model with the following weighted average assumptions (i) dividend yield on our common stock of 0 percent (ii) expected stock price volatility of 97 percent (iii) a risk-free interest rate of 0.27 percent and (iv) and expected option term of 5 years.

Warrants Issued	Exercise Price	Outstanding and Exercisable December 31, 2022	Issued	Exercised	Terminated / Cancelled	Outstanding and Exercisable June 30, 2023	Expiration Date
25,000	\$ 5.75	25,000	—	—	—	25,000	April 30, 2025

Note 7 — Litigation (all dollar amounts in this section are expressed in thousands except for rates per device)

We have several intellectual property infringement lawsuits pending in the United States Court of Appeals for the Federal Circuit (“USCAFC”).

VirnetX Inc. v. Apple, Inc. (Case 6:12-CV-00855-LED) (“Apple II”)

This case began on November 6, 2012, when we filed a complaint against Apple Inc. (“Apple”) in United States District Court (“USDC”) in which we alleged that Apple infringed on certain of our patents, (U.S. Patent Nos. 6,502,135, 7,418,504, 7,921,211 and 7,490,151). We sought damages and injunctive relief. The accused products include the iPhone 5, iPod Touch 5th Generation, iPad 4th Generation, iPad mini, and the latest Macintosh computers. The USDC entered a Final Judgment and issued its Memorandum Opinion and Order regarding post-trial motions, affirming the jury’s verdict of \$ 502,600 and granting VirnetX motions for supplemental damages, a sunset royalty, and the royalty rate of \$ 1.20 per infringing iPhone, iPad and Mac products, pre-judgment and post-judgment interest and costs. Apple filed a notice of appeal with the United States Court of Appeals for the Federal Circuit (“USCAFC”) in the Apple II case.

On October 9, 2018, USCAFC docketed the appeal as Case No. 19-1050 - VirnetX Inc. v. Apple Inc. On November 22, 2019, the USCAFC issued an opinion affirming the district court’s findings that Apple is precluded from making certain invalidity arguments and that Apple infringed the ‘135 and ‘151 patents; reversing the USDC’s finding that Apple infringed the ‘504 and ‘211 patents; and remanding the case for proceedings on damages. Apple sought panel and en banc rehearing, which the USCAFC denied on February 10, 2020.

On February 22, 2020, the USDC issued a scheduling order for the parties to brief the court about the need for a new trial for recalculating the damages. We filed our motion for entry of judgment on February 28, 2020. The arguments on this matter were heard on April 14, 2020. In its order, unsealed on May 1, 2020, the USDC denied VirnetX’s motion for entry of a new judgment based on the prior jury verdict and ordered a new jury trial on damages. On August 10, 2020, the USDC granted Apple’s motion for continuance and reset the date to October 26, 2020. On October 30, 2020, a jury returned a \$ 502,800 verdict in favor of VirnetX based on Apple’s infringement of two network security patents: VirnetX US Patents No. 6,502,135 and No. 7,490,151. The jury verdict called for damages of \$ 0.84 per accused device since the 2013 launch of Apple’s iOS 7 operating system and represents 598,629,580 infringing units from US sales only. On January 15, 2021, the USDC denied Apple’s motion for judgment as a matter of law, and on February 4, 2021, Apple filed a notice of appeal to the USCAFC.

On February 22, 2021, the USCAFC docketed the appeal as Case No. 19-1672. Apple's opening brief was filed on June 2, 2021. VirnetX filed its responsive brief on July 26, 2021. Apple filed its reply brief on September 13, 2021. Oral arguments were held on September 8, 2022. On March 31, 2023, the USCAFC issued its decision vacating the USDC's judgement in this matter and remanding it back to the USDC with instructions to dismiss the case as moot. On July 14, 2023 the District Court vacated its prior Final Judgment against Apple dated January 6, 2021 and dismissed the case as moot. On May 1, 2023, VirnetX filed a petition for panel rehearing. On June 27, 2023, the petition for panel rehearing was denied, and the mandate issued on June 30, 2023. The current deadline to file any petition for a writ of certiorari from the USCAFC's decision is September 25, 2023.

VirnetX Inc. v. Mangrove Partners Master Fund, Ltd., Apple Inc. (USCAFC Case 20-2271) and VirnetX Inc. v. Mangrove Partners Master Fund, Ltd., Apple Inc., and Black Swamp, LLC (USCAFC Case 20-2272)

On September 15, 2020, we filed with the USCAFC an appeal of the invalidity findings by the Patent Trial and Appeal Board ("PTAB") in inter-partes review proceedings IPR2015-01046 and IPR2016-00062 involving our U.S. Patent No. 6,502,135, and an appeal of the invalidity findings by the PTAB in inter-partes review proceedings IPR2015-1047, IPR2016-00063, and IPR2016-00167 involving our U.S. Patent No. 7,490,151. On September 25, 2020, the USCAFC issued an order consolidating the two appeals. On December 15, 2020, we filed a motion to vacate the PTAB decisions below and to remand these appeals to the PTAB. On March 16, 2021, the USCAFC denied the motion without prejudice to us raising the challenges made in the motion in our opening brief. Our opening brief was filed on June 7, 2021.

On June 23, 2021, the USCAFC entered an order directing us (and parties in other appeals that raised Appointments Clause challenges) to file a brief explaining how they believe their cases should proceed in light of the Supreme Court's decision in *United States v. Arthrex, Inc.*, 141 S. Ct. 1970 (2021). On July 7, 2021, we filed a brief in response to the court's order. Other parties, including the U.S. Patent and Trademark Office ("USPTO") filed their responses on July 21, 2021. On August 19, 2021, USCAFC issued an order remanding these appeals for the limited purpose of allowing VirnetX the opportunity to request rehearing of the PTAB's final written decisions by the Director of the USPTO. The USCAFC retained jurisdiction over the appeals in the meantime. On September 20, 2021, we filed our requests for Director rehearing with the USPTO. On October 29, 2021, our requests for Director rehearing were denied. We subsequently filed an amended opening brief to the USCAFC on December 10, 2021, the other parties filed response briefs on February 2, 2022, and we filed a reply brief on February 22, 2022. All the briefings have been completed. The oral arguments in this matter were held on September 8, 2022. On March 30, 2023, the USCAFC issued its decision affirming PTAB's decisions finding certain claims of the '135 patent and the '151 patent to be unpatentable. On June 5, 2023, VirnetX filed a petition for panel rehearing. On June 22, 2023, the petition for panel rehearing was denied, and the mandate issued on June 29, 2023. The current deadline to file any petition for a writ of certiorari from the USCAFC's decision is September 20, 2023.

VirnetX Inc. v. Hirshfeld (USCAFC Case 17-2593, -2594)

On September 22, 2017, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes review proceeding IPR2016-00693 involving our U.S. Patent No. 7,418,504, and an appeal of the invalidity findings by the PTAB in inter-partes review proceeding IPR2016-00957 involving our U.S. Patent No. 7,921,211. On September 16, 2021, USCAFC issued an order remanding these appeals for the limited purpose of allowing VirnetX the opportunity to request rehearing of the PTAB's final written decisions by the Director of the USPTO. The USCAFC retained jurisdiction over the appeals in the meantime. On October 18, 2021, we filed our requests for Director rehearing with the USPTO. On January 7, 2022, our requests for Director rehearing were denied. On January 21, 2022, we informed the USCAFC about the denial of Director rehearing and requested that the court dismiss the appeal involving IPR2016-00957 as moot and vacate the PTAB's underlying decision. On April 4, 2022, the USCAFC vacated the PTAB's decision in IPR2016-00957 and remanded Appeal No. 17-2594 with instructions to dismiss. In the April 4, 2022 order, the USCAFC further set a briefing schedule, in Appeal No. 17-2593. VirnetX filed its opening brief on September 12, 2022. The USPTO filed its response brief on December 20, 2022. VirnetX filed its reply brief on February 14, 2023. On April 18, 2023, VirnetX filed a motion to hold this appeal in abeyance pending the disposition of any petition for rehearing in the No. 20-2271, -2272 appeal, and pending the Supreme Court's disposition of a pending petition for a writ of certiorari in *Arthrex, Inc. v. Smith & Nephew, Inc.*, No. 22-639. That motion was denied on June 1, 2023, and we currently await scheduling of oral arguments.

VirnetX Inc. v. Cisco Systems, Inc. (USCAFC Case 19-1671)

On March 18, 2019, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes re-examination proceeding 95/001,679 involving our U.S. Patent No. 6,502,135. On October 5, 2021, USCAFC issued an order remanding these appeals for the limited purpose of allowing VirnetX the opportunity to request rehearing of the PTAB's final written decisions by the Director of the PTO. The USCAFC retained jurisdiction over the appeals in the meantime. Our request for Director rehearing with the PTO was filed on November 5, 2021. On January 10, 2022, our request for Director rehearing was denied. We informed the USCAFC about the denial of Director rehearing. VirnetX's opening brief was filed on June 23, 2022. The USPTO's response brief was filed on August 2, 2022, and Cisco's response brief was filed on September 2, 2022. VirnetX filed its reply brief on October 7, 2022. On April 18, 2023, VirnetX filed a motion to hold this appeal in abeyance pending the disposition of any petition for rehearing in the No. 20-2271, -2272 appeal, and pending the Supreme Court's disposition of a pending petition for a writ of certiorari in *Arthrex, Inc. v. Smith & Nephew, Inc.*, No. 22-639. That motion was denied on June 1, 2023, and we currently await scheduling of oral arguments.

VirnetX Inc. v. Apple Inc. (USCAFC Case 22-1523) (“Apple Reexam I”)

On March 10, 2022, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes re-examination proceeding 95/001,682 involving our U.S. Patent No. 6,502,135. Our opening brief was filed on August 22, 2022. Apple and USPTO each filed a response brief on December 28, 2022. VirnetX filed its reply brief on February 8, 2023. On April 18, 2023, VirnetX filed a motion to hold this appeal in abeyance pending the disposition of any petition for rehearing in the No. 20-2271, -2272 appeal, and pending the Supreme Court's disposition of a pending petition for a writ of certiorari in *Arthrex, Inc. v. Smith & Nephew, Inc.*, No. 22-639. That motion was denied on June 1, 2023, and we currently await scheduling of oral arguments.

VirnetX Inc. v. Apple Inc. (USCAFC Case 22-1997) (“Apple Reexam II”)

On July 6, 2022, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes re-examination proceeding 95/001,697 involving our U.S. Patent No. 7,490,151. On October 17, 2022, we filed a motion to remand the appeal in light of the PTAB's refusal to permit Director rehearing. On January 23, 2023, the USCAFC denied that motion without prejudice to the parties raising their arguments in the merits briefs. VirnetX opening brief was filed on May 8, 2023, and Apple and the USPTO each filed a response brief on July 24, 2023. VirnetX reply brief is currently due on August 14, 2023.

VirnetX Inc. v. Cisco Systems, Inc. (USCAFC Case 22-2234)

On September 16, 2022, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes re-examination proceeding 95/001,851 involving our U.S. Patent No. 7,418,504. We filed our opening brief on February 28, 2023. Cisco's response brief was filed on May 10, 2023, and VirnetX reply brief was filed on June 21, 2023. We currently await scheduling of oral arguments.

VirnetX Inc. v. Cisco Systems, Inc. (USCAFC Case 23-1765)

On April 7, 2023, we filed with the USCAFC an appeal of the invalidity findings by the PTAB in inter-partes re-examination proceeding 95/001,714 involving our U.S. Patent No. 7,490,151. The certified list is due to be filed by the USPTO by May 30, 2023, and our opening brief will be due 60 days thereafter. In addition, on April 21, 2023, Cisco filed a cross-appeal. Cisco's response brief was filed on May 10, 2023. VirnetX opening brief is currently due on September 29, 2023.

Other Legal Matters

One or more potential intellectual property infringement claims may also be available to us against certain other companies who have the resources to defend against any such claims. Although we believe these potential claims are likely valid, commencing a lawsuit can be expensive and time-consuming, and there is no assurance that we could prevail on such potential claims if we made them. In addition, bringing a lawsuit may lead to potential counterclaims which may distract our management and our other resources, including capital resources, from efforts to successfully commercialize our products.

Currently, we are not a party to any other pending legal proceedings and are not aware of any proceeding threatened or contemplated against us.

Note 8 — Leases

We lease office space under an operating lease which expires on October 31, 2023. On June 30, 2023, the underlying ROU asset and lease liability totaled \$ 18 . On December 31, 2022, the underlying ROU asset and lease liability totaled \$ 45 . Lease expense totaled \$ 13 , for each of the three months ended June 30, 2023 and 2022. Lease expense totaled \$ 27 , for each of the six months ended June 30, 2023 and 2022.

We also lease a facility for corporate promotional and marketing purposes which was prepaid at inception and expires in 2025, as amended. On June 30, 2023 and December 31, 2022, the ROU asset totaled \$ 499 and \$ 648 , respectively. For the three and six months ended June 30, 2023, lease expense totaled \$ 75 and \$ 150 , respectively. For the three and six months ended June 30, 2022, lease expense totaled \$ 75 and \$ 150 , respectively.

Note 9 — Earnings Per Share

Basic earnings per share are based on the weighted average number of common shares outstanding for the period. Diluted earnings per share are based on the weighted average number of common shares and potentially dilutive common shares outstanding. Potential common shares outstanding principally include stock options, RSUs and warrants, excluding any potentially dilutive shares convertible at a price higher than the closing price of our stock at the end of each reporting period. The following table shows the computation of basic and diluted earnings per share for the three and six months ended June 30, 2023 and 2022 (in thousands, except per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Numerator:				
Net (loss)	\$ (11,379)	\$ (4,437)	\$ (15,846)	\$ (7,757)
Denominator:				
Weighted-average basic shares outstanding	71,466	71,255	71,445	71,244
Effect of dilutive securities	—	—	—	—
Weighted-average diluted shares	71,466	71,255	71,445	71,244
Basic (loss) per share	\$ (0.16)	\$ (0.06)	\$ (0.22)	\$ (0.11)
Diluted (loss) per share	\$ (0.16)	\$ (0.06)	\$ (0.22)	\$ (0.11)

We incurred a net loss for the three and six months ended June 30, 2023 and 2022; therefore, all potentially dilutive securities representing shares of common stock (6,974,580 in 2023 and 7,520,546 in 2022) were excluded from the computation of diluted earnings per share, because their effect would have been antidilutive.

Note 10 — Subsequent Events

On July 5, 2023 we issued 578,830 shares of restricted stock, with weighted average fair values at the date of grant of \$ 0.48 . Restricted stock is subject to forfeiture if service terminates prior to the shares vesting and is expensed ratably over the vesting period.

ITEM 2 — MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Company Overview

We 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 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.

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.

During the first and second quarters of 2023, we actively engaged in discussions with certain third-parties to pitch the capabilities of VirnetX One™. As a result of our efforts, during the second quarter we made a series of announcements with Solution Synergy, WeSecure, Samsung, Envoy Data Corporation, and ObjectSecurity. We also announced a number of new deployments of our VirnetX Matrix™ product at City of Bridgeport, International Association of Certified ISAOs (IACI) and SkinWalker Ranch as a part of our new sales initiatives. We continue to actively pursue new opportunities as a part of these initiatives. We believe that these parties have an interest to secure devices and systems in areas such as City, County and State Governments, Healthcare, Finance, Legal, Oil and Gas, Medical, Law Enforcement, National Defense and related support industries. 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.

We have an ongoing licensing program under which we offer licenses to a portion of our patent portfolio, technology, and software, 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. Customers who want to develop their own implementation of the VirnetX patented techniques for supporting secure domain names, or other techniques that are covered by our patent portfolio for establishing secure communication links, can purchase a patent license. The number of patents licensed, and therefore the cost of the patent license to the customer, will depend upon which of the patents are used in a particular product or service. These licenses will typically include an initial license fee, as well as an ongoing royalty.

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.

Our employees include the core development team behind our patent portfolio, 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 and expanded the set of patents we acquired in 2006 from Leidos, into a larger patent portfolio. This portfolio now serves as the foundation of our products, services, and our licensing business. It is expected to generate most of our future revenue in license fees and royalties. We intend to continue our efforts to develop new products and technologies and further strengthen and expand our patent portfolio. We intend to continue using an outsourced and leveraged model to maintain efficiency and manage costs as we grow our licensing business by, for example, offering incentives to early licensing targets or asserting our rights for use of our patents.

NYSE Deficiency

On May 12, 2023, we received a written notification from the NYSE that as of May 11, 2023, we are not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE Listed Company Manual because the average closing price of our common stock was less than \$1.00 per share over a consecutive 30 trading-day period. Pursuant to Section 802.01C, We have a period of six months following the receipt of the notification to regain compliance with the minimum price criteria, we can regain compliance with the minimum share price requirement if, on the last trading-day of any calendar month, our common stock has a closing share price, and a 30 trading-day average closing share price, of at least \$1.00. If both a \$1.00 closing share price on the last trading day of the cure period and a \$1.00 average closing share price over the 30 trading-day period ending on the last trading day of the cure period are not attained and we do not regain compliance by November 12, 2023, NYSE may commence suspension and delisting procedures with respect to our common stock. If shares of our common stock are delisted from the NYSE, there may be no public market for our common shares. Any over-the-counter or other public market that does develop would likely be characterized by decreased liquidity and greater volatility, which may materially and adversely affect the value of our common shares. We have notified the NYSE that we intend to cure the continued listing standard deficiency and to return to compliance with Section 802.01C. However, our common stock share price may not meet the applicable requirements during the cure period and there can be no assurances that further options to cure the deficiency that we may consider can or will be effectuated as an alternative to proceeding to delisting.

There can be no assurance that we will regain compliance with the NYSE continued listing standard. Any potential delisting of our common stock from the NYSE would likely result in decreased liquidity and increased volatility for our common stock and would adversely affect our ability to raise additional capital or enter into strategic transactions. As of the date of this Quarterly Report on Form 10-Q, we have not yet regained compliance with the above-mentioned NYSE continued listing standard.

Results of Operation

**Three and Six Months Ended June 30, 2023
Compared with the Three and Six Months Ended June 30, 2022
(in thousands, except per share amounts)**

Revenue

We recognized revenue of \$2 and \$34 and \$4 and \$39 in the three and six months ended June 30, 2023 and June 30, 2022, respectively.

Licensing Costs

Licensing costs of \$4 for the six months ended June 30, 2022 is a refund of licensing costs we incurred in conjunction with a favorable court decision relating to a patent infringement case.

Research and Development Expenses

Our research and development expenses increased by \$3,500 to \$4,755 for the three months ended June 30, 2023, and by \$3,641 to \$6,123 for the six months ended June 30, 2023. The increase was primarily due to higher engineering employee costs, which included a bonus paid in the second quarter of 2023.

Selling, General and Administrative Expenses

Our selling, general and administrative expenses increased by \$4,320 to \$7,366 for the three months ended June 30, 2023, and by \$5,682 to \$11,913 for the six months ended June 30, 2023. The increase is primarily due to increased legal fees, outside services, and compensation costs, which included a bonus paid in the second quarter of 2023.

Liquidity and Capital Resources

As of June 30, 2023, our cash and cash equivalents totaled approximately \$25,970 and our short-term investments totaled approximately \$40,529, compared to cash and cash equivalents of approximately \$86,561 and short-term investments of approximately \$65,462 at December 31, 2022, respectively. Working capital was \$65,900 at June 30, 2023, and \$151,530 at December 31, 2022.

We expect that our cash and cash equivalents and short-term investments as of June 30, 2023, will be sufficient to fund our current level of operating expense, including legal expenses 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 in the United States and other markets around the world.

Dividends

On March 30, 2023, we declared a one-time cash dividend of \$1 per share of common stock, paid to shareholders of record as of the close of business on April 10, 2023. The timing and amount of future dividends, if any, will depend on market conditions, corporate business and financial considerations and regulatory requirements.

Income Taxes

For the three months ended June 30, 2023, we recognized no income tax on loss before taxes of \$11,379, which is an effective tax rate of 0.0%. For the six months ended June 30, 2023, we recognized an income tax benefit of \$78 on loss of \$15,924, which is an effective tax rate of 0.49%. The effective rate is lower than the statutory federal rate primarily due to the change in valuation allowance. For the three months ended June 30, 2022, we recognized an income tax expense of \$373 on loss before taxes of \$4,064, an effective tax rate of 9.18%. For the six months ended June 30, 2022, we recognized an income tax benefit of \$684 on loss before taxes of \$8,441, which is an effective tax rate of 8.10%. The effective rate is lower than the statutory federal rate primarily due to the effect of stock-based compensation and expiring options, requiring us to reduce our deferred tax asset. Management provided a full valuation allowance against net deferred income tax assets at June 30, 2023.

Contractual Obligations

There have been no material changes to the contractual obligations disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Off-Balance Sheet Arrangements

None.

ITEM 3 — QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**Interest Rate Risk**

We invest our excess cash primarily in highly liquid instruments including time deposits, money market funds, and U.S. agency and treasury securities. We seek to limit the amount of our credit exposure to any one issuer.

Investments in fixed rate instruments carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to a rise in interest rates. Due in part to these factors, our income from investments may decrease in the future.

We considered the historical volatility of short-term interest rates and determined that it was reasonably possible that an adverse change of 100 basis points could be experienced in the near term but would have an immaterial impact in the fair value of our marketable securities, which generally mature within eighteen months of June 30, 2023.

Other Market Risks

We considered the historical volatility of our stock prices and determined that it was reasonably possible that the fair market value of our stock price could increase or decrease substantially in the near term and could have a material impact to our consolidated balance sheets and statement of operations with respect to future stock-based compensation costs and other equity transactions.

ITEM 4 — CONTROLS AND PROCEDURES.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, as of June 30, 2023.

The purpose of this evaluation was to determine whether as of June 30, 2023 our disclosure controls and procedures were effective to provide reasonable assurance that the information we are required to disclose in our filings with the SEC, (i) is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Based on their evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of June 30, 2023, our disclosure controls and procedures were effective.

Changes in Internal Control Over Financial Reporting.

There were no changes in our internal control over financial reporting during the quarter ended June 30, 2023, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1 — LEGAL PROCEEDINGS – (See Note 7 — Litigation in the “Notes to Condensed Consolidated Financial Statements”)

ITEM 1A — RISK FACTORS

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.

- We are not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE Listed Company Manual, and, as a result, shares of our common stock may be delisted from the NYSE.
- Our business has been, and may continue to be, negatively affected by shareholders intent upon alternate business strategies.
- We may not generate significant sales revenues from our new software products and services.
- We are involved and will continue to be involved in litigation defending our patent portfolio, which can be time-consuming and costly, and we cannot anticipate the results.
- We may not be able to capitalize on market opportunities related to our product strategy, our licensing strategy or our patent portfolio.
- If we are not able to adequately protect our patent rights and trade secrets, our business would be negatively impacted.
- 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.
- 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.
- 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 the use and adoption of our solutions and adversely affect our business.

- If we are unable to expand our revenue sources or establish, sustain, grow, or replace relationships with a diversified customer base, our revenues may be limited.
- We have limited technical resources and are at an early stage in commercialization of our software products.
- Our international expansion will subject us to additional costs and risks, and our plans may not be successful.

Risks Related to Our Business and Our Financial Reporting

Our 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 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. 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.

We may not generate significant sales revenues from our new software products and services.

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 are 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 unable to overcome these risks, we may never generate significant revenue from the sales of these products.

We are involved and will continue to be 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, 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. For example, the USCAFC issued its decision affirming PTAB's decisions finding certain claims of certain patents to be unpatentable and in Apple II the federal circuit issued its decision vacating the district court's judgment in the matter and remanding back to the district court with instruction to dismiss the case as moot, which has resulted in volatility in our stock price. 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, volatility in our stock price 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.

We may not be able to capitalize on market opportunities related to our product strategy, our licensing strategy or our patent portfolio.

A 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.

If we are not able to adequately protect our patent rights and trade secrets, our business would be negatively impacted.

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 defence 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.

We 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.

New legislation, regulations or court rulings related to enforcing patents could harm our business and operating results.

Intellectual 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 increase in remote work by our personnel and those of third parties in recent years has resulted in increased vulnerability to cyber-attacks. 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.

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 operating results and financial condition.

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 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. 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. Additionally, other U.S. states continue to propose, and in certain cases adopt, privacy-focused legislation. For example, Virginia, Colorado, Utah, and Connecticut have all enacted legislation that has become, or will become, effective in 2023. Iowa and Indiana have enacted similar legislation that becomes effective in 2025 and 2026, respectively. 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 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.

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.

Our success depends in part on establishing and maintaining relationships with other companies to distribute our technology and products or to incorporate their technology into our products and services, or vice versa.

Part of our business strategy is to enter into partnerships and other cooperative arrangements with third parties. 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 ours. If we lose third-party relationships, if these relationships are not commercially successful, or if we are unable to enter into third-party relationships on commercially reasonable terms in the future, our business could be negatively impacted.

We expect that we will experience long and unpredictable sales cycles, which may impact our operating results.

The sales cycle between initial customer contact and execution of a contract or license agreement with a customer or purchaser of our products can vary widely. We expect that our sales cycles will be long and unpredictable due to several factors, including but not limited to:

- The need to educate potential customers about our patent rights and our product and service capabilities;
- Our customers' willingness to invest potentially substantial resources and modify their network infrastructures to take advantage of our products;
- Our customers' budgetary constraints and timing of their budget cycles;
- Delays caused by customers' internal review processes; and
- Long sales cycles that may increase the risk that our financial resources are exhausted before we are able to generate significant revenue.

In addition, potential customers of our 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 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.

If we are unable to expand our revenue sources or establish, sustain, grow, or replace relationships with a diversified customer base, our revenues may be limited.

We currently generate revenue from a limited number of customers that have entered into settlement and license agreements. Our software products and services currently generate limited revenue, and it will take time for us to grow our installed user base and generate new customers. Additionally, there is no guarantee that we will be able to derive revenue from new customers, sustain or increase revenue from existing customers or replace customers from whom we currently generate revenue. As a result, our revenue may be limited or static, or it may cease entirely.

We have limited technical resources and are at an early stage in commercialization of our VirnetX One™ platform and software products.

Part of our business includes the internal 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 or meet our expectations. As such, we have a small technical team, which may limit our ability to rapidly adapt our product to customer requirements or add new product features to maintain our competitive edge and drive adoption.

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 able to effectively:

- Generate revenues or profit from product sales;
- Drive adoption of our products;
- Attract and retain customers for our products;
- Provide appropriate levels of customer training and support for our products;

- Implement an effective marketing strategy to promote awareness of our products;
- Focus our research and development efforts in areas that generate returns on our efforts;
- Anticipate and adapt to changes in our market; or
- 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.

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. 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 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 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 or 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 the operation, quality, or maintenance of a significant 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:

- Power loss, transmission cable cuts and other telecommunications failures;
- Damage or interruption caused by fire, earthquake, and other natural disasters;
- Computer viruses or software defects; and
- Physical or electronic break-ins, sabotage, intentional acts of vandalism, terrorist attacks and other events beyond our control.

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.

Any significant problem with our systems or operations could result in lost revenue, customer dissatisfaction or lawsuits against us. A failure in the operation of our secure domain name registration system could result in the inability of one or more registrars to register and maintain secure domain names for a period of time. A failure in the operation or update of the master directory that we plan to maintain could result in deletion or discontinuation of assigned secure domain names for a period of time. The inability of the registrar systems we establish, including our back-office billing and collections infrastructure, and telecommunications systems to meet the demands of an increasing number of secure domain name requests could result in substantial degradation in our customer support service and our ability to process registration requests in a timely manner.

Our ability to sell our solutions will be dependent on the quality of our technical support, and our failure to deliver high-quality technical support services could have a material adverse effect on our sales and results of operations.

If we do not effectively assist our customers in deploying our products, succeed in helping our customers quickly resolve post deployment issues and provide effective ongoing support, or if potential customers perceive that we may not be able achieve to the foregoing, our ability to sell our products would be adversely affected, and our reputation with current and potential customers could be harmed. In addition, as we expand our operations internationally, our technical support team will face additional challenges, including those associated with delivering support, training, and documentation in languages other than English. Our failure to deliver and maintain high-quality technical support services to our customers could result in customers choosing to use our competitors' products and support services instead of ours in the future.

Our international expansion will subject us to additional costs and risks, and our plans may not be successful.

We expect to expand our presence internationally in Japan and elsewhere through third party arrangements such as international partnerships, joint ventures and potentially establishing international subsidiaries and offices. Our international expansion may present challenges and risks, including those inherent in international operations, to us and may require significant attention from management. For example, the COVID-19 pandemic has and could continue to disrupt and slow our international expansion and partnership efforts, as our international partners' businesses could continue to be disrupted. We may not be successful in our international partnerships, expansion efforts, and we may incur significant operating expenses in our efforts to expand internationally.

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.

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 June 30, 2023, we had outstanding options, warrants and RSUs to purchase an aggregate of 6,974,580 shares of common stock representing approximately 10% of our total shares outstanding of which 5,357,085 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 may have limited influence on stockholder decisions.

As of June 30, 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.

Our protective provisions in our amended and restated certificate of 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 and restated certificate of 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 one or two directors (since we have a five-person Board of Directors) will be up for election at any given annual meeting. This 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 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 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 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. 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.

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.

These and other provisions in our amended and restated certificate of 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.

We are not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE Listed Company Manual, and, as a result, shares of our common stock may be delisted from the NYSE.

On May 12, 2023, we received a written notification from the NYSE that as of May 11, 2023, we are not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE Listed Company Manual because the average closing price of our common stock was less than \$1.00 per share over a consecutive 30 trading-day period. Pursuant Section 802.01C, we have a period of six months following the receipt of the notification to regain compliance with the minimum price criteria. We can regain compliance with the minimum share price requirement if, on the last trading-day of any calendar month, our common stock has a closing share price, and a 30 trading-day average closing share price, of at least \$1.00. If both a \$1.00 closing share price on the last trading day of the cure period and a \$1.00 average closing share price over the 30 trading day period ending on the last trading day of the cure period are not attained and we do not regain compliance by November 12, 2023, NYSE may commence suspension and delisting procedures with respect to our common stock. If shares of our common stock are delisted from the NYSE, there may be no public market for our common shares. Any over-the-counter or other public market that does develop would likely be characterized by decreased liquidity and greater volatility, which may materially and adversely affect the value of our common shares. We notified the NYSE on May 24, 2023, that we intend to cure the continued listing standard deficiency and to return to compliance with section 802.01C, including by seeking to effect a reverse stock split. While we plan to review all available options, our common stock share price may not meet the applicable requirements during the cure period and there can be no assurances that further options to cure the deficiency that we may consider can or will be effectuated as an alternative to proceeding to delisting.

A delisting of our common stock could negatively impact our company and holders of our common stock, including by reducing the willingness of investors to hold our common stock because of the resulting decreased price, liquidity and trading of our common stock, limited availability of price quotations, and reduced news and analyst coverage. These developments may also require brokers trading in our common stock to adhere to more stringent rules and may limit our ability to raise capital by issuing additional shares of common stock in the future. Delisting may adversely impact the perception of our financial condition, cause reputational harm with investors, our employees and parties conducting business with us, and limit our access to debt and equity financing. The perceived decrease in value of employee equity incentive awards may reduce their effectiveness in encouraging performance and retention.

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.

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.

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.

We have incurred and will continue to incur significant costs as a result of operating as a public company, and our 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 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, 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, we could lose investor confidence in the accuracy and completeness of our financial reports, which would have an adverse effect on our share price.

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.

As 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 of 2017 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. Further, the Inflation Reduction Act of 2022 (the "IRA") became effective beginning on January 1, 2023, which imposes, among others, a 15% alternative minimum income tax on certain corporations and a 1% excise tax on certain stock buybacks. We do not currently expect that the IRA will have a material impact on our income tax liability. 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 as well as macroeconomic conditions 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 rising inflation and interest rates, global political and economic uncertainty and tensions, such as the ongoing Russia-Ukraine conflict 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 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.

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 July 1, 2022, and June 30, 2023, the adjusted closing price on the NYSE for our common stock ranged between \$0.35 and \$2.17 per share. 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:

- Developments or lack thereof in any then-outstanding litigation;
- Quarterly variations in our operating results;
- 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. For more information regarding trading in our common stock and listing on the NYSE, see additional risk factors included elsewhere in this Quarterly Report on Form 10-Q.

The market price of 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;
- 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 laws or regulations applicable to our business;
- Changes in accounting standards, policies, guidelines, interpretations, or principles;
- Any significant change in our management;
- Other events or factors, including those resulting from war, incidents of terrorism, pandemics, 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 market price of our common stock may fluctuate because our operating results may not be consistent and may be difficult to predict.

Our operating results have 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 \$15.8 million for the six months ended June 30, 2023. We had a net loss of \$36.3 million for the year ended December 31, 2022. We had a net loss of \$42.9 million for the year ended December 31, 2021. As of June 30, 2023, we had an accumulated deficit of \$174.5 million. The following include some of the factors that may cause our operating results to fluctuate:

- 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 such as Apple II;
- The amount and timing of receipt of license fees from 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 in selling products that use our patented technologies; 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.

ITEM 5 — OTHER INFORMATION

None.

ITEM 6 — EXHIBITS

Exhibit Number	Description	Incorporated by reference herein				Filed Herewith
		Form	Exhibit No.	Filing Date	File No.	
10.1*	Amended and Restricted 2013 Equity Incentive Plan.	S-8	10.1	June 15, 2023	333-272677	
10.2*	Form of Restricted Stock Award Agreement – Amended and Restated 2013 Equity Incentive Plan.					x
31.1	Certification of the President and Chief Executive Officer, pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					x
31.2	Certification of the Chief Financial Officer, pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					x
32.1**	Certification of the President and Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					x
32.2**	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					x
101.INS	Inline XBRL Instance Document.					x
101.SCH	Inline XBRL Taxonomy Extension Schema Document.					x
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.					x
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.					x
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.					x
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.					x
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).					x

* Indicates management contract or compensatory plan.

** This exhibit is furnished herewith, but not deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to liability under that section. Such certifications will not be deemed to be incorporated by reference in any filing under the Securities Act or the Exchange Act, except to the extent that we explicitly incorporate them by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

VIRNETX HOLDING CORPORATION

By: /s/ Kendall Larsen

Name Kendall Larsen

Chief Executive Officer (Principal Executive Officer)

By: /s/ Katherine Allanson

Name Katherine Allanson

Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

Date: August 11, 2023

VIRNETX HOLDING CORPORATION
AMENDED AND RESTATED 2013 EQUITY INCENTIVE PLAN
RESTRICTED STOCK AGREEMENT

Unless otherwise defined herein, the terms defined in the VirnetX Holding Corporation Amended and Restated 2013 Equity Incentive Plan (the "Plan") will have the same defined meanings in this Restricted Stock Agreement, including the Notice of Restricted Stock Grant (the "Notice of Grant") and the Terms and Conditions of Restricted Stock Grant, attached hereto as Exhibit A (all together, the "Award Agreement").

NOTICE OF RESTRICTED STOCK GRANT

Participant Name:

Address:

Participant has been granted the right to receive an Award of Shares of Restricted Stock, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number	_____
Date of Grant	_____
Vesting Commencement Date	_____
Number of Shares of Restricted Stock	_____

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or set forth below, the Shares of Restricted Stock will vest and the Company's right to reacquire the Restricted Stock will lapse in accordance with the following schedule:

[Twenty-five percent (25%) of the Shares of Restricted Stock will vest on the one (1) year anniversary of the Vesting Commencement Date, and twenty-five percent (25%) of the Shares of Restricted Stock will vest each year thereafter on the same day as the Vesting Commencement Date], subject to Participant continuing to be a Service Provider (as defined in the Plan) through each such date. [If a Change in Control (as defined in the Plan) occurs, all of the Shares of Restricted Stock then unvested as of the date of the Change in Control will vest and the Company's right to reacquire the Restricted Stock will lapse immediately prior to the consummation of the Change in Control transaction.]

Notwithstanding the foregoing, the vesting of the Shares of Restricted Stock shall be subject to any vesting acceleration provisions contained in the Plan and/or any employment or service agreement, offer letter, change in control severance agreement, or any other agreement that has been or is, after the date of this Award Agreement, entered into between Participant and the Company or any Parent, Subsidiary, or Affiliate (such agreement a "Separate Agreement").

Initials: _____
Date: _____

In the event Participant ceases to be a Service Provider for any or no reason before Participant vests in the Shares of Restricted Stock, the Restricted Stock will be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date of such termination and Participant will have no further rights thereunder.

By Participant's signature and the signature of the representative of VirnetX Holding Corporation (the "Company") below, Participant and the Company agree that this Award of Shares of Restricted Stock is granted under and governed by the terms and conditions of the Plan and this Award Agreement, which are made a part of this document. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Award Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT:

VIRNETX HOLDING CORPORATION

Signature

By

Print Name

Title

Residence Address:

Initials: _____
Date: _____

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK GRANT

1. Grant. The Company hereby grants to the individual named in the Notice of Grant (the "Participant") under the Plan an Award of Shares of Restricted Stock, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 19(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

2. Escrow of Shares.

(a) All Shares of Restricted Stock will, upon execution of this Award Agreement, be delivered and deposited with an escrow holder designated by the Company (the "Escrow Holder"). The Shares of Restricted Stock will be held by the Escrow Holder until such time as the Shares of Restricted Stock vest or the date Participant ceases to be a Service Provider.

(b) The Escrow Holder will not be liable for any act it may do or omit to do with respect to holding the Shares of Restricted Stock in escrow while acting in good faith and in the exercise of its judgment.

(c) Upon Participant's termination as a Service Provider for any reason, the Escrow Holder, upon receipt of written notice of such termination, will take all steps necessary to accomplish the transfer of the unvested Shares of Restricted Stock to the Company. Participant hereby appoints the Escrow Holder with full power of substitution, as Participant's true and lawful attorney-in-fact with irrevocable power and authority in the name and on behalf of Participant to take any action and execute all documents and instruments, including, without limitation, stock powers which may be necessary to transfer the certificate or certificates evidencing such unvested Shares of Restricted Stock to the Company upon such termination.

(d) The Escrow Holder will take all steps necessary to accomplish the transfer of Shares of Restricted Stock to Participant after they vest following Participant's request that the Escrow Holder do so.

(e) Subject to the terms hereof, Participant will have all the rights of a stockholder with respect to the Shares while they are held in escrow, including without limitation, the right to vote the Shares and to receive any cash dividends declared thereon.

(f) In the event of any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares, the Shares of Restricted Stock will be increased, reduced or otherwise changed, and by virtue of any such change Participant will in his or her capacity as owner of unvested Shares of Restricted Stock be entitled to new or additional or different shares of stock, cash or securities (other than rights or warrants to purchase securities); such new or additional or different shares, cash or securities will thereupon be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement. If Participant receives rights or warrants with respect to any unvested Shares of Restricted Stock, such rights or warrants may be held or exercised by Participant, provided that until such exercise any such rights or warrants and after such exercise any shares or other securities acquired by the exercise of such rights or warrants will be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement. The Administrator in its absolute discretion at any time may accelerate the vesting of all or any portion of such new or additional shares of stock, cash or securities, rights or warrants to purchase securities or shares or other securities acquired by the exercise of such rights or warrants.

Initials: _____
Date: _____

(g) The Company may instruct the transfer agent for its Common Stock to place a legend on the certificates representing the Restricted Stock or otherwise note its records as to the restrictions on transfer set forth in this Award Agreement.

3. Vesting Schedule. Except as provided in Section 4, and subject to Section 5, the Shares of Restricted Stock awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Shares of Restricted Stock scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in Participant in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

4. Administrator Discretion. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Shares of Restricted Stock at any time, subject to the terms of the Plan. If so accelerated, such Restricted Stock will be considered as having vested as of the date specified by the Administrator.

5. Forfeiture upon Termination of Status as a Service Provider. Notwithstanding any contrary provision of this Award Agreement, if Participant ceases to be a Service Provider for any or no reason, the balance of the Shares of Restricted Stock that have not vested as of the time of Participant's termination as a Service Provider for any or no reason will thereupon be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date of such termination and Participant will have no further rights thereunder. Participant will not be entitled to a refund of the price paid for the Shares of Restricted Stock, if any, returned to the Company pursuant to this Section 5. Participant hereby appoints the Escrow Agent with full power of substitution, as Participant's true and lawful attorney-in-fact with irrevocable power and authority in the name and on behalf of Participant to take any action and execute all documents and instruments, including, without limitation, stock powers which may be necessary to transfer the certificate or certificates evidencing such unvested Shares to the Company upon such termination of service. The date of Participant's termination as a Service Provider is detailed in Section 10(h).

6. Death of Participant. Any distribution or delivery to be made to Participant under this Award Agreement will, if Participant is then deceased, be made to Participant's designated beneficiary, or if no beneficiary survives Participant, the administrator or executor of Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

Initials: _____
Date: _____

7. Withholding of Taxes.

(a) Notwithstanding any contrary provision of this Award Agreement, no certificate representing the Shares of Restricted Stock may be released from the escrow established pursuant to Section 2, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by Participant with respect to the payment of income, employment, social insurance, payroll tax, fringe benefit tax, payment on account or other tax-related items related to Participant's participation in the Plan and legally applicable to Participant ("Tax-Related Items") which the Company determines must be withheld with respect to such Shares. Prior to vesting and/or release from escrow of the Shares of Restricted Stock, Participant will pay or make adequate arrangements satisfactory to the Company and/or Participant's employer (the "Employer") to satisfy all withholding and payment obligations of Tax-Related Items of the Company and/or the Employer. In this regard, Participant authorizes the Company and/or the Employer to withhold any Tax-Related Items legally payable by Participant from his or her wages or other cash compensation paid to Participant by the Company and/or the Employer or from proceeds of the sale of Shares. Alternatively, or in addition, if permissible under applicable local law, the Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit or require Participant to satisfy such tax withholding obligation, in whole or in part (without limitation) by (a) paying cash, (b) electing to have the Company withhold otherwise deliverable Shares having a Fair Market Value equal to the minimum amount required to be withheld, (c) selling a sufficient number of such Shares otherwise deliverable to Participant through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the amount required to be withheld, or (d) if Participant is a U.S. employee, delivering to the Company already vested and owned Shares having a Fair Market Value equal to the amount required to be withheld. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any obligations for Tax-Related Items by reducing the number of Shares otherwise deliverable to Participant. Further, if Participant is subject to tax in more than one jurisdiction between the Date of Grant and a date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges and agrees that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for tax in more than one jurisdiction. If Participant fails to make satisfactory arrangements for the payment of any Tax-Related Items hereunder at the time any applicable Shares of Restricted Stock otherwise are scheduled to vest pursuant to Sections 3 or 4, at the time Participant files a timely 83(b) Election with the IRS, or the Tax-Related Items related to the Shares of Restricted Stock otherwise are due, Participant will permanently forfeit such Shares of Restricted Stock to which Participant's Tax-Related Items relate and any right to receive Shares thereunder and such Shares of Restricted Stock will be returned to the Company at no cost to the Company.

(b) Participant understands that Section 83 of the Code taxes as ordinary income the difference between the purchase price, if any, for the Shares and the Fair Market Value of the Shares as of each vesting date. If Participant is a U.S. taxpayer, Participant understands that Participant may elect, for purposes of U.S. tax law, to be taxed at the time the Shares are granted rather than when such Shares vest by filing an election under Section 83(b) of the Code (the "83(b) Election") with the IRS within thirty (30) days from the Date of Grant of the Award of Shares of Restricted Stock.

Initials: _____
Date: _____

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant or the Escrow Agent. Except as provided in Section 2(f), after such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE SHARES OF RESTRICTED STOCK PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE COMPANY (OR THE PARENT, SUBSIDIARY, OR AFFILIATE EMPLOYING OR RETAINING PARTICIPANT) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS AWARD OF RESTRICTED STOCK OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY (OR THE PARENT, SUBSIDIARY, OR AFFILIATE EMPLOYING OR RETAINING PARTICIPANT) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

10. Nature of Grant. In accepting the grant, Participant acknowledges, understands and agrees that:

(a) the Plan is established voluntarily by the Company, it is discretionary in nature and it may be modified, amended, suspended or terminated by the Company at any time, to the extent permitted by the Plan;

(b) the grant of the Shares of Restricted Stock is voluntary and occasional and does not create any contractual or other right to receive future grants of Shares of Restricted Stock, or benefits in lieu of Restricted Stock, even if Shares of Restricted Stock have been granted in the past;

(c) all decisions with respect to future grants of Restricted Stock or other grants, if any, will be at the sole discretion of the Company;

(d) Participant is voluntarily participating in the Plan;

Initials: _____
Date: _____

(e) the Shares of Restricted Stock are not intended to replace any pension rights or compensation;

(f) the Shares of Restricted Stock, and the income and value of same, are not part of normal or expected compensation for purposes of calculating any severance, resignation, termination, redundancy, dismissal, end-of-service payments, bonuses, long-service awards, pension or retirement or welfare benefits or similar payments;

(g) the future value of the underlying Shares is unknown, indeterminable and cannot be predicted with certainty;

(h) for purposes of the Shares of Restricted Stock, Participant's status as a Service Provider will be considered terminated as of the date Participant is no longer actively providing services to the Company or any Parent, Subsidiary, or Affiliate (regardless of the reason for such termination and whether or not later to be found invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's service agreement, if any), and unless otherwise expressly provided in this Award Agreement or determined by the Administrator, Participant's right to vest in the Shares of Restricted Stock under the Plan, if any, will terminate as of such date and will not be extended by any notice period (e.g., Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's service agreement, if any, unless Participant is providing bona fide services during such time); the Administrator shall have the exclusive discretion to determine when Participant is no longer actively providing services for purposes of the Restricted Stock grant (including whether Participant may still be considered to be providing services while on a leave of absence);

(i) unless otherwise provided in the Plan or by the Company in its discretion, the Shares of Restricted Stock and the benefits evidenced by this Award Agreement do not create any entitlement to have the Restricted Stock or any such benefits transferred to, or assumed by, another company nor be exchanged, cashed out or substituted for, in connection with any corporate transaction affecting the Shares; and

(j) the following provisions apply only if Participant is providing services outside the United States:

i. the Shares of Restricted Stock are not part of normal or expected compensation or salary for any purpose;

ii. Participant acknowledges and agrees that none of the Company, the Employer, or any Parent, Subsidiary, or Affiliate shall be liable for any foreign exchange rate fluctuation between Participant's local currency and the United States Dollar that may affect the value of the Shares of Restricted Stock or the subsequent sale of any Shares; and

iii. no claim or entitlement to compensation or damages shall arise from forfeiture of the Shares of Restricted Stock resulting from the termination of Participant's status as a Service Provider (for any reason whatsoever whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's service agreement, if any), and in consideration of the grant of the Shares of Restricted Stock to which Participant is otherwise not entitled, Participant irrevocably agrees never to institute any claim against the Company, any Parent, any Subsidiary, any Affiliate, or the Employer, waives his or her ability, if any, to bring any such claim, and releases the Company, any Parent, any Subsidiary, any Affiliate, and the Employer from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, Participant shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim.

Initials: _____
Date: _____

11. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's participation in the Plan, or Participant's acquisition or sale of the underlying Shares. Participant is hereby advised to consult with his or her own personal tax, legal and financial advisors regarding his or her participation in the Plan before taking any action related to the Plan.

12. Data Privacy. Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's personal data as described in this Award Agreement and any other Restricted Stock grant materials by and among, as applicable, the Employer, the Company and any Parent, Subsidiary, or Affiliate for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan.

Participant understands that the Company and the Employer may hold certain personal information about Participant, including, but not limited to, Participant's name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all Shares of Restricted Stock or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Data"), for the exclusive purpose of implementing, administering and managing the Plan.

Participant understands that Data will be transferred to a stock plan service provider as may be selected by the Company in the future, which is assisting the Company with the implementation, administration and management of the Plan. Participant understands that the recipients of the Data may be located in the United States or elsewhere, and that the recipients' country (e.g., the United States) may have different data privacy laws and protections than Participant's country. Participant understands that if he or she resides outside the United States, he or she may request a list with the names and addresses of any potential recipients of the Data by contacting his or her local human resources representative. Participant authorizes the Company, any stock plan service provider selected by the Company and any other possible recipients which may assist the Company (presently or in the future) with implementing, administering and managing the Plan to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing his or her participation in the Plan. Participant understands that Data will be held only as long as is necessary to implement, administer and manage Participant's participation in the Plan. Participant understands if he or she resides outside the United States, he or she may, at any time, view Data, request additional information about the storage and processing of Data, require any necessary amendments to Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing his or her local human resources representative. Further, Participant understands that he or she is providing the consents herein on a purely voluntary basis. If Participant does not consent, or if Participant later seeks to revoke his or her consent, his or her status as a Service Provider and career with the Employer will not be adversely affected; the only adverse consequence of refusing or withdrawing Participant's consent is that the Company would not be able to grant Participant Shares of Restricted Stock or other equity awards or administer or maintain such awards. Therefore, Participant understands that refusing or withdrawing his or her consent may affect Participant's ability to participate in the Plan. For more information on the consequences of Participant's refusal to consent or withdrawal of consent, Participant understands that he or she may contact his or her local human resources representative.

Initials: _____
Date: _____

13. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to (a) the Company at VirnetX Holding Corporation, 308 Dorla Court, Suite 206, Zephyr Cove, NV 89448 and (b) the Company's Stock Transfer Agent, Carylyn K. Bell, at Corporate Stock Transfer, 3200 Cherry Creek Drive South, Suite 430, Denver, CO 80209, or at such other address as the Company may hereafter designate in writing.

14. Grant is Not Transferable. Except for the escrow described in Section 2 or transfer of the Shares to the Company or its assignees contemplated by this Award Agreement, and except to the limited extent provided in Section 6, the unvested Shares subject to this Award Agreement and the rights and privileges conferred hereby will not be sold, transferred, assigned, pledged or otherwise alienated or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to sell, transfer, assign, pledge, alienate, hypothecate or otherwise dispose of any unvested Shares of Restricted Stock subject to this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

15. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

16. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or foreign law, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate) or the Escrow Holder hereunder, such issuance will not occur unless and until such listing, registration, qualification, rule compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Where the Company determines that the delivery of the payment of any Shares will violate federal securities laws or other applicable laws, the Company will defer delivery until the earliest date at which the Company reasonably anticipates that the delivery of Shares will no longer cause such violation. The Company will make all reasonable efforts to meet the requirements of any such state, federal or foreign law or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange.

Initials: _____
Date: _____

17. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

18. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Shares of Restricted Stock have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

19. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the Shares of Restricted Stock awarded under the Plan or future Shares of Restricted Stock that may be awarded under the Plan by electronic means or request Participant's consent to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

20. Language. If Participant has received this Award Agreement or any other document related to the Plan translated into a language other than English and if the meaning of the translated version is different than the English version, the English version will control.

21. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

22. Agreement Severable. In the event that any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

23. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received Shares of Restricted Stock under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

Initials: _____
Date: _____

24. Governing Law and Venue. This Award Agreement will be governed by the laws of Nevada without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under the Shares of Restricted Stock or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of Nevada, and agree that such litigation will be conducted in the courts of Douglas County, Nevada, or the federal courts for the United States for the District of Nevada, and no other courts, where this Award of Restricted Stock is made and/or to be performed.

25. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise the Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection to this Award of Shares of Restricted Stock. For purposes of this Award Agreement, "Section 409A" means Section 409A of the Code, and any final Treasury Regulations and Internal Revenue Service guidance thereunder, as each may be amended from time to time.

26. Waiver. Participant acknowledges that a waiver by the Company of breach of any provision of this Award Agreement shall not operate or be construed as a waiver of any other provision of this Award Agreement, or of any subsequent breach by Participant or any other Participant.

Initials: _____
Date: _____

EXHIBIT 31.1

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO
SECURITIES EXCHANGE ACT OF 1934 RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kendall Larsen, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of VirnetX Holding Corporation for the quarter ended June 30, 2023.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report.
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 (e) and 15d-15 (e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15 (f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared.
 - (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Kendall Larsen
Kendall Larsen
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 11, 2023

EXHIBIT 31.2

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO
SECURITIES EXCHANGE ACT OF 1934 RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Katherine Allanson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of VirnetX Holding Corporation for the quarter ended June 30, 2023.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report.
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 (e) and 15d-15 (e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15 (f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared.
 - (b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Katherine Allanson
Katherine Allanson
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Date: August 11, 2023

EXHIBIT 32.1

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

In connection with the Quarterly Report of VirnetX Holding Corporation (the "Company") on Form 10-Q for the quarter ended June 30, 2023 as filed with the Securities and Exchange Commission on August 11, 2023 (the "Report"), I, Kendall Larsen, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Kendall Larsen
Kendall Larsen
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 11, 2023

EXHIBIT 32.2

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

In connection with the Quarterly Report of VirnetX Holding Corporation (the "Company") on Form 10-Q for the quarter ended June 30, 2023 as filed with the Securities and Exchange Commission on August 11, 2023 (the "Report"), I, Katherine Allanson, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Katherine Allanson
Katherine Allanson
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Date: August 11, 2023
