

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

AMENDMENT NO. 1 TO  
**Form S-3**  
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

**VirnetX Holding Corporation**  
*(Exact Name of Registrant as Specified in Its Charter)*

**Delaware**  
*(State or Other Jurisdiction of Incorporation or Organization)*

**5615 Scotts Valley Drive, Suite 110**  
**Scotts Valley, California 95066**  
**(831) 438-8200**

**77-0390628**  
*(I.R.S. Employer Identification Number)*

*(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)*

**Kendall Larsen**  
**Chief Executive Officer**  
**5615 Scotts Valley Drive, Suite 110**  
**Scotts Valley, California 95066**  
**(831) 438-8200**  
*(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)*

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

<b>Title of Each Class of Shares To Be Registered</b>	<b>Amount to be Registered (1)</b>	<b>Proposed Maximum Offering Price Per Unit</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount of Registration Fee</b>
Common Stock, par value \$0.0001 per share	10,427,888	\$1.969(2)	\$20,532,511.47(2)	\$1,550.70(3)

- (1) The shares of common stock being registered hereunder include (i) 2,380,942 shares of common stock being registered for resale by certain stockholders of the Registrant, and (ii) (x) 3,246,959 shares of common stock issuable upon exercise of the Series I Warrants, (y) up to 2,419,045 shares of common stock issuable upon exercise of the Series II Warrants, and (z) 2,380,942 shares of common stock issuable upon exercise of the Series III Warrants, being registered for resale by certain warrant holders of the Registrant. Pursuant to Rule 416(a) under the Securities Act, this registration statement also covers such number of additional shares of common stock, of a currently indeterminable amount, as may from time to time become issuable by reason of stock splits, stock dividends or similar transactions.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based upon the average of the high and low sales prices of the registrant's common stock, as reported on the NYSE Amex on November 5, 2009.
- (3) The registrant previously filed the Registration Statement on Form S-3 (333-162145) covering the offering of 10,427,850 shares of common stock. The previously paid registration fee of \$1,550.70 covers the 10,427,888 shares of common stock being offered pursuant to this Amendment No.1 to the Registration Statement on Form S-3 (333-162145).

**The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to Section 8(a), may determine.**

\_\_\_\_\_

---

**THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THESE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.**

**Subject to completion, dated November 6 , 2009.**

**PRELIMINARY PROSPECTUS**

# **VIRNETX HOLDING CORPORATION**

**2,380,942 Shares of Common Stock and 8,046,946 Shares of Common Stock Issuable Upon Exercise of Warrants**

---

This prospectus relates to the resale from time to time by the selling security holders identified in this prospectus of (i) up to 2,380,942 shares of our common stock, (ii) up to 3,246,959 shares of our common stock issuable pursuant to the Series I Warrants, (iii) up to 2,419,045 shares of our common stock issuable pursuant to the Series II Warrants, and (iv) up to 2,380,942 shares of our common stock issuable pursuant to the Series III Warrants.

The offered securities covered by this prospectus were originally issued in a private placement transaction that closed on September 11, 2009. The offered securities are being registered to permit the selling security holders to sell the offered securities from time to time. The selling security holders may offer and sell their common stock described above in public or private transactions, or both. See "Plan of Distribution" for a more complete description of the ways in which the securities may be sold. We will not receive any of the proceeds from the sale of the securities by the selling security holders. If the warrants are exercised by means of "cashless exercise", we will not receive any additional proceeds. We will receive proceeds from the exercise of the Series I and Series III Warrants, if the exercise price is paid in cash. The initial exercise price of the Series I Warrant is \$3.93 per share. The initial exercise price of the Series III Warrant is \$2.52 per share.

Our common stock is listed on the NYSE Amex under the symbol "VHC." On November 5, 2009, the last reported sales price of our common stock as reported on the NYSE Amex was \$2.05 per share.

---

**Investing in our common stock involves a high degree of risk. Please carefully consider the "Risk Factors" beginning on page 5 of this prospectus.**

---

**NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THE SHARES OF COMMON STOCK OR PASSED ON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

---

The date of this prospectus is \_\_\_\_\_, 2009

---

## TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	ii
SUMMARY	1
RISK FACTORS	6
USE OF PROCEEDS	21
DIVIDEND POLICY	21
THE TRANSACTION	21
SELLING SECURITY HOLDERS	21
PLAN OF DISTRIBUTION	25
DESCRIPTION OF SECURITIES	27
LEGAL MATTERS	29
EXPERTS	29
WHERE YOU CAN FIND MORE INFORMATION	30
CERTAIN DOCUMENTS INCORPORATED BY REFERENCE	30

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process.

This prospectus does not contain all of the information set forth in the registration statement of which this prospectus is a part, as permitted by the rules and regulations of the SEC. For additional information regarding us and the offered securities, please refer to the registration statement of which this prospectus is a part. Before purchasing any common stock, you should carefully read this prospectus, together with the additional information described under the section of this prospectus titled “Where You Can Find More Information.” In particular, you should carefully consider the risks and uncertainties described under the section titled “Risk Factors” or otherwise incorporated by reference in this prospectus before you decide whether to purchase any common stock. These risks and uncertainties, together with those not known to us or those that we may deem immaterial, could impair our business and ultimately affect the price of our common stock. Any statement contained in the prospectus concerning the provisions of any document filed as an exhibit to the registration statement or otherwise filed with the SEC is not necessarily complete, and in each instance, reference is made to the copy of the document filed.

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor any underwriter, dealer or agent will make an offer to sell the common stock in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus is accurate only as of the date on this cover. Our business, financial condition, results of operations and prospects may have changed since that date.

**VIRNETX HOLDING CORPORATION**

**SUMMARY**

The following summary provides an overview of certain information about our company and the private placement transaction and may not contain all the information that may be important to you. This summary is qualified in its entirety by and should be read together with the information contained in other parts of this prospectus, including the documents that are incorporated by reference into this prospectus. You should carefully read this entire prospectus before making a decision about whether to invest in our common stock.

This prospectus and the documents incorporated by reference into this prospectus, contain “forward-looking” statements within the meaning of the Private Securities Litigation Reform Act of 1995, which provides a “safe harbor” for statements about future events, products and future financial performance that are based on the beliefs of, estimates made by and information currently available to our management. Except for the historical information contained herein, the outcome of the events described in these forward-looking statements is subject to risks and uncertainties. See “Risk Factors” for a discussion of these risks and uncertainties. The following discussion should be read in conjunction with and is qualified in its entirety by reference to our consolidated financial statements included elsewhere in this prospectus. Actual results and the outcome or timing of certain events may differ significantly from those stated or implied by these forward-looking statements due to the factors listed under “Risk Factors,” and from time to time in our other filings with the Securities and Exchange Commission, or SEC. For this purpose, using the terms “believe,” “expect,” “expectation,” “anticipate,” “can,” “should,” “would,” “could,” “estimate,” “appear,” “based on,” “may,” “intended,” “potential,” “indicate,” “are emerging” and “possible” or similar statements are forward-looking statements that involve risks and uncertainties that could cause our actual results and the outcome and timing of certain events to differ materially from those stated or implied by these forward-looking statements. By making forward-looking statements, we have not assumed any obligation to, and you should not expect us to, update or revise those statements because of new information, future events or otherwise.

As used herein, “we,” “us,” “our,” or the “Company” means VirnetX Holding Corporation and its wholly-owned subsidiaries, collectively, on a consolidated basis.

**The Transaction**

Background	We have filed this registration statement on Form S-3 to register shares of our common stock and shares of our common stock underlying the Series I Warrants, the Series II Warrants and the Series III Warrants issued in a private placement transaction on September 11, 2009.
Securities Offered Pursuant to this Prospectus	2,380,942 shares of common stock and an aggregate of 8,046,946 shares of common stock underlying the warrants issued in the private placement transaction, comprised of:  - 3,246,959 shares of common stock underlying the Series I Warrants with an exercise price of \$3.93 per share, of which (i) up to 627,923 shares of common stock are issuable pursuant to certain anti-dilution adjustment provisions in the Series I Warrants, and (ii) 238,094 shares of common stock are issuable pursuant to a warrant issued to Dawson James Securities, Inc., the placement agent in connection with the private placement transaction;  - 2,419,045 shares of common stock underlying the Series II Warrants exercisable on a cashless basis with an exercise price of \$0.01 per share; and  - 2,380,942 shares of common stock underlying the Series III Warrants with an exercise price of \$2.52 per share.
Transaction Proceeds	Assuming the cash exercise of the Series I and Series III Warrants, and including the cash proceeds received by us from the sale of common stock issued to the investors at the closing, we will receive gross proceeds of approximately \$22,292,759 from this transaction. We anticipate that all net proceeds obtained by us from the transaction will be used for our working capital purposes.  Any proceeds from the sale of the securities offered by this prospectus will be received by the selling security holders for their own account, and we will not receive any proceeds from the sale of any securities offered by this prospectus.
NYSE Amex symbol for our common stock	Our common stock is listed on the NYSE Amex under the symbol “VHC”.

## The Company

We are developing and commercializing software and technology solutions for securing real-time communications over the Internet. Our patented GABRIEL Connection Technology™ combines industry standard encryption protocols with our patented techniques for automated domain name system, or DNS, lookup mechanisms, enabling users to create a secure communication link using secure domain names. We also intend to establish the exclusive secure domain name registry in the United States and other key markets around the world. Our software and technology solutions provide the security platform required by next-generation Internet-based applications such as instant messaging, or IM, voice over Internet protocol, or VoIP, mobile services, streaming video, file transfer and remote desktop. Our technology generates secure connections on a “zero-click” or “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.

We intend to license our patents and our GABRIEL Connection Technology™ to original equipment manufacturers, or OEMs, within the IP-telephony, mobility, fixed-mobile convergence and unified communications markets. The leaders in these markets include Alcatel-Lucent, Avaya Inc., Cisco Systems, Inc., Juniper Networks, Inc., LM Ericsson Telephone Company, Motorola, Inc., NEC Corporation, Nokia Corporation, Nortel Networks Corporation, Samsung Electronics Co. Ltd. and Sony Ericsson Mobile Communications AB, among others. We also intend to license our patent portfolio, technology, and software, including our secure domain name registry service, to communication service providers as well as to system integrators. We believe that the market opportunity for our software and technology solutions is large and expanding. As part of our licensing strategy, in March 2008, we hired ipCapital Group, a leading advisor on licensing technology and intellectual property, to initiate discussions with several major potential licensees. Since its founding in 1998, ipCapital Group has supported the licensing efforts of clients across a variety of technologies and markets, resulting in transactions representing several hundred million dollars of value. We are currently in discussions with prospective customers in our target markets.

Our portfolio of intellectual property is the foundation of our business model. We currently have 11 patents in the United States and eight international patents, as well as several pending U.S. and foreign patent applications. Our patent portfolio is primarily focused on securing real-time communications over the Internet, as well as related services such as the establishment and maintenance of a secure domain name registry. Our software and technology solutions also have additional applications in operating systems and network security. The core development team behind our patent portfolio, technology, and software has worked together for over ten years and is the same team that invented and developed this technology while working at Science Application International Corporation, or SAIC. SAIC is a FORTUNE 500® scientific, engineering, and technology applications company that uses its deep domain knowledge to solve problems of vital importance to the nation and the world, in national security, energy and the environment, critical infrastructure, and health. In 2006, we acquired this patent portfolio, which now serves as the foundation of our planned licensing and service offerings. We expect to derive the majority of our revenue from license fees and royalties associated with these patents. We also intend to continue our research and development efforts to further strengthen and expand our patent portfolio, and over time, we plan to leverage this portfolio to develop a product suite that can be sold to enterprise customers and developers.

## Industry Overview

The Internet is increasingly evolving into a rich medium used by individuals and businesses to conduct commerce, share information and engage in real-time communications including email, text messaging, IM, and voice and video calls. This communications experience is richer and more complex than ever before. Session initiation protocol, or SIP, was developed to enable the convergence of voice and data networks and today is the predominant industry standard for establishing multimedia communications over the Internet such as voice, video, instant messaging, presence information and file transfer. SIP as well as other real-time collaboration-protocols such as XMPP, use DNS lookup as their primary means of connecting Internet devices but is an open architecture that remains inherently unsecure. As the workforce becomes increasingly dispersed, mobile features enabled by Internet protocol-based communications such as presence, unified messaging, find me/follow me, white-boarding and document sharing have become more commonplace. However, the development of the security infrastructure for these applications has lagged behind the adoption of next-generation networks, leaving them vulnerable to a multitude of threats including man-in-middle, eavesdropping, domain hijacking, distributed denial of service, or DDoS, spam over Internet telephony, or SPIT, and spam over instant messaging, or SPIM. These threats continue to highlight the need for securing these next-generation networks. We believe that accessing a diversity of services from a single device, anytime and anywhere, and the ability to access these same services from a range of devices, are emerging as key market requirements. The portions of the IP-telephony, mobility, fixed-mobile convergence and unified communications markets that could benefit from our software and technology solutions are forecasted to grow from approximately \$59 billion in total revenues in 2006 to approximately \$162 billion in total revenues by 2011, representing a compound annual growth rate, or CAGR, of approximately 23%. This growing trend represents a significant opportunity for VirnetX to license its patent portfolio, technology and software, and establish its secure domain name registry.

## Our Solutions

Our software and technology solutions, including GABRIEL Connection Technology™, our secure domain name registry, and our patents are designed to secure all types of real-time communications over the Internet. Our patented GABRIEL Connection Technology™ combines industry standard encryption protocols with our patented techniques for automated DNS lookup mechanisms, enabling users to create a secure communication link using secure domain names. Our technology can be built into network infrastructure, operating systems or silicon chips developed for a communication or computing device to secure real-time communications over the Internet between any number of devices. Our technology automatically encrypts data allowing organizations and individuals to establish communities of secure, registered users and transmit information between multiple devices, networks and operating systems. These secure network communities, which we call secure private domains, or SPDs, are designed to be fully-customizable and support rich content applications such as IM, VoIP, mobile services, streaming video, file transfer and remote desktop in a secure environment. Our approach is a unique and patented solution that provides the robust security platform required by these rich content applications and real-time communications over the Internet. The key benefits and features of our technology include the following:

- **Automatic and seamless to the user.** After a one-time registration, users connect securely on a “zero-click” or “single-click” basis.
- **Secure data communications.** Users create secure networks with people they trust and communicate over a secure channel.
- **Control of data at all times.** Users can secure and customize their unified communication and collaboration applications such as file sharing and remote desktop with policy-based access and secure presence information.
- **Authenticated users.** Users know they are communicating with authenticated users with secure domain names.
- **Application-agnostic technology.** Our solution provides security at the IP layer of the network by using patented techniques for automated DNS lookup mechanisms to make connections between secure domain names, thereby obviating the need to provide application specific security.

## Competitive Strengths

We believe the following competitive strengths will enable our success in the marketplace:

- **Unique patented technology.** We are focused on developing innovative technology for securing real-time communications over the Internet, and establishing the exclusive secure domain name registry in the United States and other key markets around the world. Our unique solutions combine industry standard encryption methods and communication protocols with our patented techniques for automated DNS lookup mechanisms. Our technology and patented approach enables users to create a secure communication link by generating secure domain names. We have a strong portfolio comprised of 11 patents in the United States and eight international patents, as well as several pending U.S. and foreign patent applications. Our portfolio includes patents and pending patent applications in the United States and other key markets that support our secure domain name registry service for the Internet.
- **Scalable licensing business model.** Our intellectual property portfolio is the foundation of our business model. We are actively engaged in commercializing our intellectual property portfolio by pursuing licensing agreements with OEMs, service providers and system integrators within the IP-telephony, mobility, fixed-mobile convergence and unified communications end-markets. We have engaged ipCapital Group to accelerate our patent and technology licensing program with customers and to expand the depth of our intellectual property portfolio, and we are actively pursuing our first licensing agreements. We believe that our licensing business model is highly scalable and has the potential to generate strong margins once we achieve significant revenue growth.
- **Highly experienced research and development team.** Our research and development team is comprised of nationally recognized network security and encryption technology scientists and experts that have worked together as a team for over ten years and, collectively, have over 120 years of experience in the field. During their careers, this team has developed several cutting-edge technologies for U.S. national defense, intelligence and civilian agencies, many of which remain critical to our national security today. Prior to joining VirnetX, our team worked for SAIC during which time they invented the technology that is the foundation of our patent portfolio, technology, and software. Based on the collective knowledge and experience of our development team, we believe that we have one of the most experienced and sophisticated groups of security experts researching vulnerability and threats to real-time communication over the Internet and developing solutions to mitigate these problems.



## Our Strategy

Our strategy is to become the market leader in securing real-time communications over the Internet and to establish our GABRIEL Communications Technology<sup>tm</sup> as the industry standard security platform. Key elements of our strategy are to:

- Implement a patent and technology licensing program to commercialize our intellectual property, including our GABRIEL Connection Technology<sup>tm</sup>.
- Establish VirnetX as the exclusive universal registry of secure domain names and to enable our customers to act as registrars for their users and broker secure communication between users on different registries.
- Leverage our patent portfolio, technology and software to develop a suite of products that can be sold directly to end-user enterprises.

In furtherance of our strategy, in March 2008, we engaged ipCapital Group to help us support and grow our licensing business. The ipCapital Group is a leading advisor on licensing technology and intellectual property. Through our alliance with ipCapital Group, we are actively engaged in discussions with several potential customers in our target markets. ipCapital Group is led by John Cronin. Prior to founding ipCapital Group, Mr. Cronin was a distinguished inventor at IBM for 17 years where he patented 100 inventions, published over 150 technical papers, received IBM's "Most Distinguished Inventor Award," and was recognized as IBM's "Top Inventor." As a member of the senior technical staff and the prestigious IBM Academy, Mr. Cronin led an intellectual asset team that spearheaded efforts to produce and manage the development of intellectual property at IBM. Eventually known as "The IBM Patent Factory," this select group supported the division that increased IBM's annual licensing revenue from \$30 million in 1992 to more than \$1 billion in 1997 when Mr. Cronin left IBM. Since its founding in 1998, ipCapital Group has supported the licensing efforts of clients across a variety of technologies and markets, resulting in transactions representing several hundred million dollars of value.

## Microsoft Litigation

We believe Microsoft Corporation is infringing certain of our patents. Accordingly, we commenced a lawsuit against Microsoft on February 15, 2007 by filing a complaint in the United States District Court of the Eastern District of Texas, Tyler Division. Pursuant to the complaint, we allege that Microsoft infringes two of our U.S. patents: U.S. Patent No. 6,502,135 B1, entitled "Agile Network Protocol for Secure Communications with Assured System Availability," and U.S. Patent No. 6,839,759 B2, entitled "Method for Establishing Secure Communication Link Between Computers of Virtual Private Network Without User Entering Any Cryptographic Information." On April 5, 2007, we filed an amended complaint specifying certain accused products at issue and alleging infringement of a third, recently issued U.S. patent: U.S. Patent No. 7,188,180 B2, entitled "Method for Establishing Secure Communication Link Between Computers of Virtual Private Network." We are seeking both damages, in an amount subject to proof at trial, and injunctive relief. Microsoft answered the amended complaint and asserted counterclaims against us on May 4, 2007. Microsoft counterclaimed for declarations that the three patents are not infringed, are invalid and are unenforceable. Microsoft seeks an award of its attorneys' fees and costs. We filed a reply to Microsoft's counterclaims on May 24, 2007. We have served our infringement contentions directed to certain of Microsoft's operating system and unified messaging and collaboration applications. On March 31, 2008, Microsoft filed a motion to dismiss for lack of standing, which was denied by the court pursuant to an order dated June 3, 2008. Also pursuant to that court decision, on June 10, 2008, SAIC joined us in our lawsuit as a plaintiff. On November 19, 2008, the court granted our motion to amend our infringement contentions, permitting us to provide increased specificity and citations to Microsoft's proprietary documents and source code to support our infringement case against Microsoft's accused products, including, among other things, Windows XP, Vista, Server 2003, Server 2008, Live Communication Server, Office Communication Server and Office Communicator. Microsoft was ordered to provide further information regarding its non-infringement contentions and invalidity contentions in light of the amended infringement contentions. Microsoft was also ordered to provide additional e-mail discovery to us. A Markman hearing on claim construction was conducted on February 17, 2009.

On June 9, 2009, we entered into a fixed fee engagement with McKool Smith which confirmed McKool as our lead counsel in the litigation against Microsoft. McKool agreed to represent us in our litigation against Microsoft for a fixed fee of \$3 million and a contingency fee of 8% of the litigation proceeds. In the event of a judgment or settlement below an agreed upon amount (designed to approximate the total legal fees associated with the matter), McKool's fixed fee will be limited to the actual time spent by McKool, up to a maximum of \$3 million, plus the contingency fee of 8% of the litigation proceeds. On June 26, 2009, we filed an unopposed motion with the court for an order granting an approximate ninety day continuance of the trial and to enter a new docket control in order to, among other things, allow our new lead counsel to complete the transition from the previous trial counsel as well as adequately prepare for all the upcoming submissions of the expert reports and the subsequent jury trial. This order was granted on June 30, 2009 and the new trial date has been set for March 8, 2010. With our permission, McDermott Will & Emery filed a motion to withdraw as our counsel from this case, which was granted by the court on July 8, 2009.

On July 30, 2009, the United States District Court for the Eastern District of Texas, Tyler Division, issued its Markman Order in the Microsoft litigation and adopted certain interpretations that we believe are favorable to us on many of the claim terms that were in dispute in the litigation. The trial in connection with the Microsoft litigation is scheduled to start on March 8, 2010.

Because we have determined that Microsoft's alleged unauthorized use of our patents would cause us severe economic harm and the failure to cause Microsoft to discontinue its use of such patents could result in the termination of our business, we have dedicated a significant portion of our economic resources, to date, to the prosecution of the Microsoft litigation and expect to continue to do so for the foreseeable future.

Although we believe Microsoft infringes three of our patents and we intend to vigorously prosecute this case, at this stage of the litigation the outcome cannot be predicted with any degree of reasonable certainty. Additionally, the Microsoft litigation will be costly and time-consuming, and we can provide no assurance that we will obtain a judgment against Microsoft for damages and/or injunctive relief. Should the District Court issue a judgment in favor of Microsoft, such judgment could be adverse to us.

In the near term, we will dedicate significant time and resources to the Microsoft litigation. The risks associated with such dedication of time and resources are set forth in the "Risk Factors" section of this prospectus.

## **Corporate Information**

Our principal executive offices are located at 5615 Scotts Valley Drive, Suite 110, Scotts Valley, California 95066, and our phone number is (831) 438-8200. We maintain a website at [www.virnetx.com](http://www.virnetx.com). Information contained on our website does not comprise a part of this prospectus.

In November 2006, we acquired certain patents from SAIC. In July 2007, we effected a reverse merger between PASW, Inc., a publicly traded company with limited operations, and VirnetX, which became our principal operating subsidiary. As a result of this merger, the former security holders of VirnetX came to own a majority of our outstanding common stock. On October 29, 2007, we changed our name from PASW, Inc. to VirnetX Holding Corporation.

VirnetX<sup>™</sup> and GABRIEL Connection Technology<sup>™</sup> are our trademarks in the United States. This prospectus includes product names, trade names and trademarks of other companies. All other product names, trade names and trademarks appearing in this prospectus are the property of their respective holders.

## **RISK FACTORS**

*You should carefully consider the following material risks in addition to the other information set forth in this prospectus 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 occurs, you could lose substantial value or your entire investment in our stock.*

### **Risks Related To Existing and Future Litigation**

**We have commenced legal proceedings against Microsoft, and we expect such litigation to be time-consuming and costly, which may adversely affect our financial condition and our ability to operate our business.**

On February 15, 2007, we initiated a lawsuit by filing a complaint against Microsoft in the United States District Court for the Eastern District of Texas, Tyler Division, pursuant to which we allege that Microsoft infringes two of our patents regarding the creation of virtual private networks ("VPNs"). We seek damages and injunctive relief. On April 5, 2007, we filed an amended complaint, pursuant to which we allege that Microsoft infringes a third patent. On February 17, 2009, a Markman hearing on claim construction was conducted and on July 30, 2009, the court issued its Markman Order. Although we believe that the court adopted certain interpretations in the Markman Order that are favorable to us, we cannot assure you that the litigation will result in an outcome that is favorable to our company or our stockholders.

In addition to pursuing the commercialization of our GABRIEL Connection Technology<sup>™</sup> and our portfolio of intellectual property, given the scope and importance of the Microsoft litigation to us, we expect to allocate a majority of the proceeds we earn from the private placement transaction covered by this prospectus towards the fees and expenses associated with the Microsoft litigation. Although we have entered into a fixed fee engagement with McKool Smith on June 9, 2009 to act as our lead counsel in connection with the Microsoft lawsuit, we anticipate that the legal proceedings against Microsoft may continue for several years and may require significant expenditures for legal fees and other expenses. In addition, as the McKool Smith litigation team focuses on trial preparation immediately prior to the commencement of the trial in March 2010, we anticipate that our legal fees will increase with such active preparation. Although we view the McKool Smith fixed fee arrangement as a positive arrangement and one that will help us manage our expenses in connection with the litigation, we anticipate that our legal fees and other expenses associated with this litigation will be material and will negatively impact our financial condition and results of operations. Such impact may result in our inability to continue our business or to pursue other business initiatives not associated with the Microsoft litigation.

The time and effort required of our management to effectively pursue the Microsoft lawsuit may adversely affect our ability to operate our business, since time spent on matters related to the lawsuit will take away from the time spent on managing and operating our business. Microsoft has counterclaimed for declarations that the three patents are not infringed, are invalid and are unenforceable. If Microsoft's counterclaims are successful, they may preclude our ability to commercialize our initial products.

**While we believe Microsoft infringes our patents, we can provide no assurance that we will be successful in our lawsuit.**

We believe that Microsoft infringes on three of our patents, but obtaining and collecting a judgment against Microsoft may be difficult or impossible. Patent litigation is inherently risky and the outcome is uncertain. Microsoft is a large, well-financed company with substantially greater resources than us. We believe that Microsoft will devote a substantial amount of resources in an attempt to prove that either their products do not infringe our patents or that our patents are not valid and are unenforceable. At this time, we cannot predict the outcome of this litigation.

**We are devoting a substantial amount of our financial and management resources to the Microsoft litigation, and if we are unsuccessful in this lawsuit, our financial condition may be adversely affected and we may not survive.**

Currently, we are devoting substantial time, effort and financial resources to our lawsuit against Microsoft. We are a development stage company with no finished product, and, although our business strategy is focused primarily on bringing patented products to market, our business strategy also depends greatly on obtaining a judgment in our favor from the courts and collecting such judgment before our financial resources are depleted. In the event we are not awarded and do not subsequently obtain monetary and injunctive relief, we may not have enough financial resources to continue our operations.

**The burdens of being a public company may adversely affect our ability to pursue the Microsoft litigation.**

As a public company, our management must devote substantial time, attention and financial resources to comply with U.S. securities laws. This may have a material adverse affect on management's ability to effectively pursue the Microsoft litigation as well as our other business initiatives. In addition, our disclosure obligations under U.S. securities laws require us to disclose information publicly that will be available to Microsoft as well as any other future litigation opponents. We may, from time to time, be required to disclose information that will have a material adverse affect on our litigation strategies. This information may enable our litigation opponents to develop effective litigation strategies that are contrary to our interests.

**We may commence additional legal proceedings against third parties who we believe are infringing on our intellectual property rights, and if we are forced to litigate to defend our intellectual property rights, or to defend claims by third parties against us relating to intellectual property rights, legal fees and court injunctions could adversely affect our financial condition or end our business.**

Disputes regarding the ownership of technologies and intellectual property rights are common and we may have intellectual property infringement claims against other parties in addition to our claims against Microsoft. If we decide to commence actions against any additional parties, doing so may be expensive and time-consuming, which may adversely affect our financial condition and results of operations. Moreover, there can be no assurance that we would be successful in these additional legal proceedings and the existence and outcome of any such litigation could harm our business. In addition, commencing lawsuits may lead to potential counterclaims which may preclude our ability to develop and commercialize our initial products.

**Risks Related to Our Business and Our Industry**

**We are a development stage company with virtually no revenues.**

We are a development stage company with a very small amount of revenue and do not expect to generate additional revenues unless and until our patent portfolio, or part of it, is commercialized. We may need to raise additional capital to fund our operations and our litigation against Microsoft and there can be no assurance that we will be successful in doing so on acceptable terms or at all. Our inability to generate sufficient cash flow or raise other funds to meet our expenses, obligations and sustain our operations raises substantial doubt about our ability to continue as a going concern. See the "Liquidity and Capital Resources" section in our Quarterly Report on Form 10-Q filed with the SEC on August 10, 2009 for additional information.

**We anticipate incurring operating losses and negative cash flows for the foreseeable future resulting in uncertainty of future profitability and limitations on our operations.**

We anticipate that we will incur operating losses and negative cash flows in the foreseeable future, and we will accumulate increasing deficits as we increase our expenditures for:

- our lawsuit against Microsoft;
- infrastructure;
- sales and marketing;
- research and development;
- personnel; and
- general business enhancements.

We need to significantly increase our revenue if we are to attain profitability and there is no assurance that we will be able to do so. As discussed in the notes to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q filed with the SEC on August 10, 2009, in the event that we are unable to achieve profitability or raise sufficient funding to cover our losses in the near term, we will be unable to meet our expenses and obligations as they come due, and this raises substantial doubts as to our ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

**Our business plan for commercializing our patents and technology is new and unproven, and therefore we can provide no assurance that we will be successful in pursuing it.**

We intend to develop products to provide a security platform for real-time communications; however, this is not a defined market. We expect to depend on our intellectual property licensing fees for the majority of our revenues. Our ability to generate licensing fees is highly dependent on mainstream market adoption of real-time communications based on SIP or using DNS lookup protocols as well as customer adoption of our GABRIEL Communication Technology™ and our secure domain name registry. We cannot assure you that customers will adopt our products and services, or that we will succeed in building a profitable business based on our business plan.

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

Our business strategy calls for us to enter into licensing relationships with the leading companies in our target market in order to reach a larger end-user base than we could reach through direct sales and marketing efforts. We have engaged ipCapital Group to help develop our licensing strategy and to introduce us to five potential strategic licensees of our technology. In connection with this engagement, we agreed to pay ipCapital Group 10% of the royalties of each resulting licensing arrangement, up to an aggregate maximum of \$2 million per licensee, or \$10 million in the aggregate. There can be no assurance that we will be able to capitalize on the potential market opportunity. Our inability to generate licensing revenues associated with the potential market opportunity could result from a number of factors, including, but not limited to:

- our capital resources may be insufficient;
- our management team may not have sufficient bandwidth to successfully capitalize on all of the opportunities identified by ipCapital Group;
- we may not be successful in entering into licensing relationships with our targeted customers on commercially acceptable terms; and
- the validity of our patents underlying the licensing opportunity is currently being challenged in our litigation against Microsoft.

**Our business greatly depends on the growth of IM, VoIP, mobile services, streaming video, file transfer and remote desktop and other next-generation Internet-based applications.**

We cannot assure you that next-generation Internet-based applications such as instant messaging (“IM”), voice over Internet protocol (“VoIP”), mobile services, streaming video, file transfer and remote desktop will continue to gain widespread market acceptance. The Internet may ultimately prove not to be a viable commercial marketplace for such applications for a number of reasons, including:

- unwillingness of consumers to shift to VoIP and use other such next-generation Internet-based applications;
- refusal to purchase security products to secure information transmitted through such applications;
- perception by the licensees of unsecure communication and data transfer;
- lack of concern for privacy by licensees and users;
- limitations on access and ease of use;
- congestion leading to delayed or extended response times;
- inadequate development of Internet infrastructure to keep pace with increased levels of use; and
- increased government regulations.

**If the market for IM, VoIP, mobile services, streaming video, file transfer and remote desktop does not grow as anticipated, our business would be adversely affected.**

The success of our products that secure IM, VoIP, mobile services, streaming video, file transfer and remote desktop, among other real-time communications applications, depends on the growth in the number of users, which in turn depends on the Internet gaining more widespread acceptance as the basis for these real-time communications applications. These real-time communications applications are still in early stages of market acceptance and we cannot assure you that they will continue to develop a broader audience. For example, potential new users may view VoIP as unattractive relative to traditional telephone services for a number of reasons, including the need to purchase computer headsets or the perception that the price advantage for VoIP is insufficient to justify the perceived inconvenience.

**While the use of IM and other next-generation Internet-based applications has grown rapidly in personal and professional use, there can be no assurance that users will pay to secure their use of such applications.**

Many services such as Microsoft, Yahoo! and America Online offer IM free of charge. However, security solutions for these services are not free, and OEMs may not want to adopt such security solutions if users of IM do not see the value and do not want to pay for such security solutions. If personal and professional users of IM and other next-generation Internet-based solutions do not want to pay for the security solutions, we will have difficulty marketing and selling our products and technologies.

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

We expect that our sales cycles will be long and unpredictable due to a number of uncertainties such as:

- the need to educate potential customers about our patent rights and our product and service capabilities;
- customers’ willingness to invest potentially substantial resources and modify their network infrastructures to take advantage of our products;
- customers’ budgetary constraints;
- the timing of customers’ budget cycles; and
- delays caused by customers’ internal review processes.

**We expect that we will be substantially dependent on a concentrated number of customers. If we are unable to establish, maintain or replace our relationships with customers and develop a diversified customer base, our revenues may fluctuate and our growth may be limited.**

We expect that for the foreseeable future, a significant portion of our revenues will be generated from a limited number of customers. There can be no guarantee that we will be able to obtain such customers, or if we do so, to sustain our revenue levels from these customers. If we cannot establish, maintain or replace the limited group of customers that we anticipate will generate a substantial majority of revenues, or if they do not generate revenues at the levels or at the times that we anticipate, our ability to maintain or grow our revenues will be adversely affected.

**If we do not successfully develop our planned products and services in a cost-effective manner to customer demand in the rapidly evolving market for Internet and IP-based communications services, our business may fail.**

The market for communications services is characterized by rapidly changing technology, evolving industry standards, changes in customer needs and frequent new service and product introductions. We are currently focused on developing products to provide security solutions for real-time communications. Our future success will depend, in part, on our ability to use new technologies effectively, to continue to develop our technical expertise, to enhance our existing services and to develop new services that meet changing customer needs on a timely and cost-effective basis. We may not be able to adapt quickly enough to changing technology, customer requirements and industry standards. If we fail to use new technologies effectively, to develop our technical expertise and new services, or to enhance existing services on a timely basis, either internally or through arrangements with third parties, our product and service offerings may fail to meet customer needs, which would adversely affect our revenues and prospects for growth.

In addition, if we are unable, for technological, legal, financial or other reasons, to adapt in a timely manner to changing market conditions or customer requirements, we could lose customers, strategic alliances and market share. Sudden changes in user and customer requirements and preferences, the frequent introduction of new products and services embodying new technologies and the emergence of new industry standards and practices could render our existing products, services and systems obsolete. The emerging nature of products and services in the technology and communications industry and their rapid evolution will require that we continually improve the performance, features and reliability of our products and services. Our success will depend, in part, on our ability to:

- design, develop, launch and/or license our planned products, services and technologies that address the increasingly sophisticated and varied needs of our prospective customers; and
- respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis.

The development of our planned products and services and other patented technology involves significant technological and business risks and requires substantial expenditures and lead time. We may be unable to use new technologies effectively. Updating our technology internally and licensing new technology from third-parties may also require us to incur significant additional expenditures.

**If our products do not gain market acceptance, we may not be able to fund future operations.**

A number of factors may affect the market acceptance of our planned products or any other products we develop or acquire, including, among others:

- the price of our products relative to other products that seek to secure real-time communication;
- the perception by users of the effectiveness of our products;
- our ability to fund our sales and marketing efforts; and
- the effectiveness of our sales and marketing efforts.

If our products do not gain market acceptance, we may not be able to fund future operations, including the development of new products and/or our sales and marketing efforts for our current products, which inability would have a material adverse effect on our business, financial condition and operating results.

**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. In addition, we rely on third parties for software development and technology services, and there may be errors in the development processes used by our third party counterparts that may adversely affect our end products. 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 exposes us to a variety of risks we cannot control.**

In addition, our business will also depend upon the capacity, reliability and security 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 or not 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 the number of users of networks utilizing our 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:

- 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.

**If we experience security breaches, we could be exposed to liability and our reputation and business could suffer.**

We will retain certain confidential customer information in our secure data centers and secure domain name registry. 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. Therefore, we expect to have to expend significant time and money to maintain or increase the security of our facilities and infrastructure.

Security technologies are constantly being tested by computer professionals, academics and “hackers.” Advances in the techniques for attacking security solutions could make some or all of our products obsolete or unmarketable. Likewise, if any of our products are found to have significant security vulnerabilities, then we may need to dedicate engineering and other resources to eliminate the vulnerabilities and to repair or replace products already sold or licensed to our customers. Despite our security measures, our infrastructure may be vulnerable to physical break-ins, computer viruses, attacks by hackers or similar disruptive problems. It is possible that we may have to expend additional financial and other resources to address such problems. Any physical or electronic break-in or other security breach or compromise of the information stored at our secure data centers and domain name registration systems may jeopardize the security of information stored on our premises or in the computer systems and networks of our customers. In such an event, we could face significant liability and customers could be reluctant to use our services. Such an occurrence could also result in adverse publicity and therefore adversely affect the market’s perception of the security of electronic commerce and communications over IP networks as well as of the security or reliability of our services.

**We may incur significant expenses and damages because of liability claims.**

An actual or perceived breach of our security solutions could result in a product liability claim against us. A substantial product liability claim against us could harm our operating results and financial condition. In addition, any actual or perceived breach of our security solution, whether or not caused by the failure of one of our products, could hurt our reputation and cause potential customers to turn to our competitors’ products.

**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 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. As a result, our failure to deliver and maintain high-quality technical support services to our customers could result in customers choosing to use our competitors’ products instead of ours in the future.

**There has been increased competition for security solutions in the real-time communications industry, as more companies seek to provide products and services similar to our proposed products and services, and because larger and better-financed competitors may affect our ability to operate our business and achieve profitability, our business may fail.**

We expect competition for our products and services to be intense. We expect to compete directly against other companies offering similar security products and services that will compete directly with our proposed products and services. We also expect that we will compete against established vendors within the IP-telephony, mobility, fixed-mobile convergence and unified communications markets. These companies may incorporate other competitive technologies into their product offerings, whether developed internally or by third parties. For the foreseeable future, substantially all of our competitors are likely to be larger, better-financed companies that may develop products superior to our proposed products, which could create significant competitive advantages for those companies. Our future success depends on our ability to compete effectively with our competitors. As a result, we may have difficulty competing with larger, established competitor companies. Generally, these competitors have:

- substantially greater financial, technical and marketing resources;
- a larger customer base;
- better name recognition; and
- more expansive product offerings.

These competitors are likely to command a larger market share than us, which may enable them to establish a stronger competitive position, in part, through greater marketing opportunities. Further, our competitors may be able to respond more quickly to new or emerging technologies and changes in user preferences and to devote greater resources to developing and operating networks of affinity websites. These competitors may develop products or services that are comparable or superior. If we fail to address competitive developments quickly and effectively, we may not be able to remain a viable entity.

**If we are not able to adequately protect our patented rights, our operations would be negatively impacted.**



Our ability to compete largely depends on the superiority, uniqueness and value of our technology and intellectual property. To protect our intellectual property rights, we rely on a combination of patent, trademark, copyright and trade secret laws, confidentiality agreements with our employees and third parties, and protective contractual provisions. Further, we can give no assurances that infringement or invalidity claims (or claims for indemnification resulting from infringement claims) will not be asserted or prosecuted against us or that any such assertions or prosecutions will not materially adversely affect our business. Regardless of whether any such claims are valid or can be successfully asserted, defending against such claims could cause us to incur significant costs and could divert resources away from our other activities. In addition, assertion of infringement claims could result in injunctions that prevent us from distributing our products. Despite these efforts, any of the following may reduce the value of our intellectual property:

- our applications for patents, trademarks and copyrights relating to our business may not be granted and, if granted, may be challenged or invalidated;
- issued trademarks, copyrights, or patents may not provide us with any competitive advantages;
- our efforts to protect our intellectual property rights may not be effective in preventing misappropriation of our technology; or
- our efforts may not prevent the development and design by others of products or technologies similar to or competitive with, or superior to those we develop.

In addition, we may not be able to effectively protect our intellectual property rights in certain foreign countries where we may do business in the future or from which competitors may operate. While we have numerous pending international patents, obtaining such patents will not necessarily protect our technology or prevent our international competitors from developing similar products or technologies. Our inability to adequately protect our patented rights would have a negative impact on our operations and revenues.

In addition, legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights in Internet-related businesses are uncertain and still evolving. Because of the growth of the Internet and Internet related businesses, patent applications are continuously and simultaneously being filed in connection with Internet-related technology. There are a significant number of U.S. and foreign patents and patent applications in our areas of interest, and we believe that there has been, and will likely continue to be, significant litigation in the industry regarding patent and other intellectual property rights.

**If we fail to meet our obligations to SAIC, we may lose our rights to key technologies on which our business depends.**

Our business depends on our rights to and under the patents we obtained from SAIC. Our agreements with SAIC impose various obligations on us, including payment obligations and minimum royalties that we must pay to SAIC. If SAIC believes that we have failed to meet these obligations, SAIC could seek to limit or reacquire the assigned patent rights, which could lead to costly and time-consuming litigation and, potentially, a loss of our rights in these patents. During the period of any such litigation, our ability to carry out the development and commercialization of potential products could be significantly and negatively affected. The loss or restriction of our rights in our patents would result in our inability to continue our business.

**When we attempt to implement our secure domain name registry services business, we may be subject to government and industry regulation and oversight which may impede our ability to achieve our business strategy.**

The U.S. government has historically controlled the authoritative domain name system (“DNS”) root server since the inception of the Internet. On July 1, 1997, the President of the United States directed the U.S. Secretary of Commerce to privatize the management of the domain name system in a manner that increases competition and facilitates international participation in its management.

On September 29, 2006, the U.S. Department of Commerce extended its delegation of authority by entering into a new agreement with the Internet Corporation for Assigned Names and Numbers (“ICANN”) a California non-profit corporation headquartered in Marina Del Rey, California. ICANN is responsible for managing the accreditation of registry providers and registrars that manage the assignment of top level domain names associated with the authoritative DNS root directory. Although other DNS root directories are possible to create and manage privately without accreditation from ICANN, the possibility of conflicting name and number assignments makes it less likely that users would widely adopt a top level domain name associated with an alternative DNS root directory provided by a non-ICANN-accredited registry service.

On June 26, 2008, ICANN announced that it will be relaxing its prior position and will begin to issue generic top level domain names (“gTLDs”) more broadly than it had previously. ICANN expects to begin to take applications for gTLDs in April or May of 2009 with an application fee of \$100,000 or more per application. ICANN expects the first of these customized gTLDs to be issued in the fourth quarter of 2009.

We are currently evaluating whether we will apply to become an ICANN-accredited registry provider with respect to one or more customized gTLDs, or create our own alternative DNS root directory to manage the assignment of non-standard secure domain names. We have not yet begun discussions with ICANN and we cannot assure you that we will be successful in obtaining ICANN accreditation for our registry service on terms acceptable to us or at all. Whether or not we obtain accreditation from ICANN, we will be subject to the ongoing risks arising out of the delegation of the U.S. government's responsibilities for the domain name system to the U.S. Department of Commerce and ICANN and the evolving government regulatory environment with respect to domain name registry services.

**The laws governing online secure communications are largely unsettled, and if we become subject to various government regulations, costs associated with those regulations may materially adversely affect our business.**

The current regulatory environment for our services remains unclear. We can give no assurance that our planned product offerings will be in compliance with local, state and/or U.S. federal laws or other laws. Further, we can give no assurance that we will not unintentionally violate such laws or that such laws will not be modified, or that new laws will be enacted in the future which would cause us to be in violation of such laws.

VoIP services are not currently subject to all of the same regulations that apply to traditional telephony. The U.S. Federal Communications Commission has imposed some traditional telephony requirements on VoIP such as disability access requirements and other obligations. It is possible that federal and state legislatures may seek to impose increased fees and administrative burdens on VoIP, data and video providers. Such regulations could result in substantial costs depending on the technical changes required to accommodate the requirements, and any increased costs could erode the pricing advantage over competing forms of communication and adversely affect consumer adoption of VoIP products generally.

The use of the Internet and private IP networks to provide voice, video and other forms of real-time, two-way communications services is a relatively recent development. Although the provisioning of such services is currently permitted by U.S. law and is largely unregulated within the United States, several foreign governments have adopted laws and/or regulations that could restrict or prohibit the provisioning of voice communications services over the Internet or private IP networks. 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, particularly if increased numbers of governments impose regulations restricting the use and sale of IP telephony services.

In addition to regulations addressing Internet telephony and broadband services, other regulatory issues relating to the Internet in general could affect our ability to provide our planned security solutions. Congress has adopted legislation that regulates certain aspects of the Internet, including online content, user privacy, taxation, liability for third-party activities and jurisdiction. In addition, a number of initiatives pending in Congress and state legislatures would prohibit or restrict advertising or sale of certain products and services on the Internet, which may have the effect of raising the cost of doing business on the Internet generally.

**Telephone carriers have petitioned governmental agencies to enforce regulatory tariffs, which, if granted, would increase the cost of online communication, and such increase in cost may impede the growth of online communication and adversely affect our business.**

The growing popularity and use of the Internet has burdened the existing telecommunications infrastructures, and many high traffic areas have begun to experience interruptions in service. As a result, certain local telephone carriers have petitioned governmental agencies to enforce regulatory tariffs on IP telephony traffic that crosses over the traditional telephone networks. If any of these petitions or the relief that they seek is granted, the costs of communicating online could increase substantially, potentially adversely affecting the growth in the use of online secure communications. Any of these developments could have an adverse effect on our business.

**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 may result in additional severance costs to us.**

Our success largely depends on the skills, experience and efforts of our key personnel, including 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, 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 operations, marketing and sales personnel as well as engineers. Inability to attract and retain such personnel could adversely affect our business. Competition for engineering, sales, marketing and executive personnel is intense, particularly in the technology and Internet sectors and in the regions where our facilities are located. We can provide no assurance that we will attract or retain such personnel.

**Growth of internal operations and business may strain our financial resources.**

We intend to significantly expand the scope of our operating and financial systems in order to build our business. Our growth rate may place a significant strain on our financial resources for a number of reasons, including, but not limited to, the following:

- the need for continued development of the financial and information management systems;
- the need to manage relationships with future licensees, resellers, distributors and strategic partners;
- the need to hire and retain skilled management, technical and other personnel necessary to support and manage our business; and
- the need to train and manage our employee base.

The addition of new infrastructure services, networks, vertical categories and affinity websites and the attention they demand, on top of the attention demanded by our pending litigation with Microsoft, may also strain our management resources. We cannot give you any assurance that we will adequately address these risks and, if we do not, our ability to successfully expand our business could be adversely affected.

**If we expand into international markets, our inexperience outside the United States would increase the risk that our international expansion efforts will not be successful, which would in turn limit our prospects for growth.**

We may explore expanding our business to outside the United States. Expansion into international markets requires significant management attention and financial resources. In addition, we may face the following risks associated with any expansion outside the United States:

- challenges caused by distance, language and cultural differences;
- legal, legislative and regulatory restrictions;
- currency exchange rate fluctuations;
- economic instability;
- longer payment cycles in some countries;
- credit risk and higher levels of payment fraud;
- potentially adverse tax consequences; and
- other higher costs associated with doing business internationally.

These risks could harm our international expansion efforts, which would in turn harm our business prospects.

**We will continue to incur significant costs as a result of being a public company.**

As a public company, we will continue to incur significant legal, accounting and other expenses that VirnetX Inc. did not incur as a private company. We expect the laws, rules and regulations governing public companies to increase our legal and financial compliance costs and to make some activities more time-consuming and costly, and these costs could be material to us.

**Failing to maintain the effectiveness of our internal control over financial reporting could cause the cost related to remediation to increase and could cause our stock price to decline.**

In the future, our management may identify deficiencies regarding the design and effectiveness of our system of internal control over financial reporting that we engage in pursuant to Section 404 of the Sarbanes-Oxley Act ("Section 404") as part of our periodic reporting obligations. Such deficiencies could include those arising from turnover of qualified personnel or arising as a result of acquisitions, which we may not be able to remediate in time to meet the continuing reporting deadlines imposed by Section 404 and the costs of which may harm our results of operations. In addition, if we fail to maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that our management can conclude on an ongoing basis that we have effective internal controls. We also may not be able to retain an independent registered public accounting firm with sufficient resources to attest to and report on our internal controls in a timely manner. Moreover, our registered public accounting firm may not agree with our management's future assessments and may deem our controls ineffective if we are unable to remediate on a timely basis. If in the future we are unable to assert that we maintain effective internal controls, our investors could lose confidence in the accuracy and completeness of our financial reports which could cause our stock price to decline.

**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 to achieve the foregoing, our ability to sell our products would be adversely affected, and our reputation with 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. As a result, our failure to deliver and maintain high-quality technical support services to our customers could result in customers choosing to use our competitors' products instead of ours in the future.

#### **Risks Related to Our Stock**

**The exercise of our outstanding warrants may 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 some or all of our outstanding warrants could significantly dilute the ownership interests of our existing stockholders. As of September 30, 2009, we had outstanding warrants to purchase an aggregate of 12,271,946 shares of common stock, including (i) the warrant to purchase 300,000 shares of common stock issued to the underwriter of our December 2007 issuance, (ii) the warrants to purchase 1,235,000 shares of common stock at an exercise price of \$2.00 per share issued pursuant to our January 2009 offering, (iii) the warrants to purchase 1,235,000 shares of common stock at an exercise price of \$3.00 per share issued pursuant to our January 2009 offering, (iv) the warrants to purchase 1,235,000 shares of common stock at an exercise price of \$4.00 per share issued pursuant to our January 2009 offering, (v) the warrant to purchase 220,000 shares of common stock at an exercise price of \$1.80 per share issued to the underwriter of our January 2009 offering, (vi) the warrants to purchase 3,246,959 shares of common stock underlying the Series I Warrants issued pursuant to the private placement transaction covered by this Registration Statement, (vii) the warrants to purchase up to 2,419,045 shares of common stock underlying the Series II Warrants issued pursuant to the private placement transaction covered by this Registration Statement, and (viii) the warrants to purchase up to 2,380,942 shares of common stock underlying the Series III Warrants issued pursuant to the private placement transaction covered by this Registration Statement. To the extent warrants are exercised, additional shares of common stock will be issued, and such issuance will dilute existing stockholders and increase the number of shares eligible for resale in the public market. Please see the section in this prospectus entitled "Description of Warrants Issued in the Private Placement Transaction" for a tabular discussion of the theoretical impact of the warrants issued in this private placement transaction and the effects of the issuance of shares underlying such warrants on existing stockholders' economic and percentage ownership. Additionally, the issuance of up to 3,167,890 shares of common stock issuable upon exercise of vested stock options and other awards outstanding as of September 30, 2009 pursuant to our incentive plan will further dilute our existing stockholders' voting interest.

In addition to the dilutive effects described above, the exercise of those securities would lead to a potential increase in the number of shares eligible for resale in the public market. Sales of substantial numbers of such shares in the public market could adversely affect the market price of our shares.

**We may seek to raise additional funds, finance acquisitions or develop strategic relationships by issuing capital stock that would dilute your ownership.**

We have financed our operations, and we expect to continue to finance our operations, acquisitions and develop strategic relationships, by issuing equity or convertible debt securities, which could significantly reduce the percentage ownership of our existing stockholders. Furthermore, any newly issued securities could have rights, preferences and privileges senior to those of our existing stock. Moreover, any issuances by us of equity securities may be at or below the prevailing market price of our stock and in any event may have a dilutive impact on your ownership interest, which could cause the market price of stock to decline. We may also raise additional funds through the incurrence of debt or the issuance or sale of other securities or instruments senior to our common shares. The holders of any debt securities or instruments we may issue would have rights superior to the rights of our common stockholders.

**Trading in our common stock is limited and the price of our common stock may be subject to substantial volatility, particularly in light of the instability in the financial and capital markets, and we may be unable to maintain the standards for the continued listing of our common stock on the NYSE Amex.**

Our common stock is listed on NYSE Amex but its daily trading volume has been limited, sporadic and volatile. Over the past year, the market price of our common stock has experienced significant fluctuations. Between June 30, 2008 and September 30, 2009, the reported last sale price for our common stock has ranged from \$4.65 to \$1.06 per share. With such volatility, there can be no assurance that we will remain qualified to be listed on NYSE Amex.

In April 2009, we received a letter from the NYSE Amex stating that, based on the NYSE Amex's review of publicly available information, we were considered to be below the NYSE Amex's continued listing standards. After submitting a plan of compliance to the NYSE Amex and additional evaluation by the Exchange, we were informed in October 2009 that we had resolved the continued listing deficiencies. We cannot assure you that we will not receive additional deficiency letters in the future, or that we will continue to satisfy the continued listing standards in order to remain listed on the Exchange.

If our securities were delisted from trading on NYSE Amex and we are unable to list our securities on another securities exchange, our securities may be able to be listed on the OTC Bulletin Board or the "Pink Sheets," which may adversely affect the liquidity and price of our common stock. In addition, we expect the price of our common stock to continue to be volatile as a result of a number of factors, including, but not limited to, the following:

- developments in our litigation against Microsoft;
- large purchases or sales of common stock;
- actual or anticipated announcements of new products or services by us or our competitors;
- general conditions in the markets in which we compete; and
- general economic and financial conditions.

**Because ownership of our common shares is concentrated, you and other investors will have minimal influence on stockholder decisions.**

As of September 30, 2009, our executive officers and directors beneficially owned an aggregate of 10,777,792 shares, or approximately 27% of our then-outstanding common stock. In addition, a group of stockholders that, as of December 31, 2007, held 4,766,666 shares, or approximately 12% of our outstanding common stock, have entered into a voting agreement with us that requires them to vote all of their shares of our voting stock in favor of the director nominees approved by our Board of Directors at each director election going forward, and in a manner that is proportional to the votes cast by all other voting shares as to any other matters submitted to the stockholders for a vote. As a result, our existing 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 could make it difficult for a third party to successfully acquire us even if you would like to sell your shares to them.**

We have a number of protective provisions that could delay, discourage or prevent a third party from acquiring control of us without the approval of our Board of Directors. Our 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 effect a change in control of us since it would take two annual meetings to effectively replace at least three directors which represents 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 existing stockholders. 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 new business to be brought up at 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 disregarding a stockholder proposal or deferring it to a subsequent meeting to the extent such proposal is not raised properly.

- **No stockholder actions by written consent:** No stockholder or group of stockholders may take actions rapidly and without prior notice to our Board of Directors and management or to the minority stockholders. 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.
- **Elimination of the ability of stockholders to call a special meeting of the stockholders:** Only the Board of Directors or management can call special meetings of the stockholders. This could mean that stockholders, even those who represent a significant block of our shares, may need to wait for the annual meeting before nominating directors or raising other business proposals to be voted on by the stockholders.

**Securities analysts may not cover our common stock and this may have a negative impact on our common stock’s market price.**

The trading market for our common stock may depend on the research and reports that securities analysts publish about us or our business. We do not have any control over these analysts. There is no guarantee that securities analysts will cover our common stock. If securities analysts do not cover our common stock, the lack of research coverage may adversely affect our common stock’s market price. If we are covered by securities analysts, and our stock is downgraded, our stock price would likely decline. If one or more of these analysts ceases to cover us or fails to publish regularly reports on us, we could lose or fail to gain visibility in the financial markets, which could cause our stock price or trading volume to decline.

**Our business is subject to risks associated with the ongoing financial crisis and weakening global economy.**

The recent severe tightening of the credit markets, turmoil in the financial markets, and weakening global economy impacts our ability to raise needed capital and enter into customer agreements. These slowdowns are expected to worsen if these economic conditions are prolonged or deteriorate further. Further, these conditions and uncertainty about future economic conditions make it challenging for us to forecast our operating results, make business decisions, and identify the risks that may affect our business, financial condition and results of operations. If we are not able to timely and appropriately adapt to changes resulting from the difficult macroeconomic environment, our business, financial condition, and results of operations may be significantly negatively affected.

**We have no current intention of declaring or paying any cash dividends on our common stock.**

We do not plan to declare or pay any cash dividends on our common stock. Our current policy is to use all funds and any earnings in the operation and expansion of our business.

**USE OF PROCEEDS**

All shares of our common stock offered by this prospectus are being registered for the account of the selling security holders. We will not receive any of the proceeds from the sale of these shares. However, if a selling security holder exercises a Series I or a Series III warrant in order to obtain underlying shares of common stock to sell, we would receive cash proceeds if the exercise price is paid in cash. Assuming that all Series I and Series III warrants were exercised in cash, and including the proceeds received by us at the closing of the private placement transaction, the total proceeds we will receive from the transaction will be approximately \$22,292,759. We will not receive any proceeds from the cashless exercise of the Series II Warrants.

We anticipate that all net proceeds obtained from this private placement transaction will be used to fund our working capital purposes. Given our relatively low overhead structure and the importance of a successful result of the Microsoft litigation to us, we anticipate that the majority of the proceeds we raise in this private placement transaction will be allocated to fund the fees and expenses associated with our Microsoft litigation. See the section in this prospectus entitled “Risk Factors: We are devoting a substantial amount of our financial and management resources to the Microsoft litigation, and if we are unsuccessful in this lawsuit, our financial condition may be adversely affected and we may not survive.” and other related risk factors in this prospectus for our discussion of the importance and the cost-intensive nature of the Microsoft litigation. We also anticipate that, as we get closer to the start of the trial portion of the litigation in March 2010, our legal fees will accordingly increase.

We anticipate using a majority of the remaining portion of the proceeds towards the commercialization of our patented GABRIEL Connection Technology™ and our intellectual property portfolio, and towards the establishment of the exclusive secure domain name registry in the United States and other international key markets. Should we not raise the total anticipated proceeds in this transaction, and we are not therefore able to allocate such proceeds to the Microsoft litigation, our intellectual property offerings, and other general working capital purposes, we may need to raise additional funds through, but not limited to, public or private offerings, third-party debt facilities, or strategic partnerships. See the section in this Prospectus entitled “Risk Factors: We may seek to raise additional funds, finance acquisitions, or develop strategic relationships by issuing capital stock that would dilute your ownership.” for additional disclosure regarding the potential dilutive impact that such additional raises would have on our existing stockholders.

#### **DIVIDEND POLICY**

We have not in the past paid, and do not expect for the foreseeable future to pay, dividends on our common stock. Instead, we anticipate that all of our earnings, if any, in the foreseeable future will be used for working capital and other general corporate purposes. Any future determination to pay dividends on our common stock will be at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements and contractual restrictions.

#### **THE PRIVATE PLACEMENT TRANSACTION**

On September 11, 2009, we completed a private placement transaction in which we issued (i) 2,380,942 shares of our common stock, (ii) Series I Warrants to purchase 3,246,959 shares of common stock, of which up to 627,923 shares of common stock are issuable pursuant to certain anti-dilution adjustment provisions in the Series I Warrants, (iii) Series II Warrants to purchase up to 2,419,045 shares of common stock, and (iv) Series III Warrants to purchase 2,380,942 shares of common stock. The private placement transaction resulted in aggregate gross proceeds of approximately \$6,000,000 paid to us at closing. The terms of the transaction required that we agree to register for public resale the shares of common stock being offered pursuant to this prospectus.

Dawson James Securities, Inc. (“Dawson James”) acted as placement agent in connection with the private placement of the common stock and warrants. As compensation for providing such services, Dawson James received a cash fee of \$600,000 and a Series I Warrant to purchase 238,094 shares of the Company’s common stock. In the event the Series III Warrants are exercised in full, Dawson James will be entitled to another \$600,000 as a cash fee.

## SELLING SECURITY HOLDERS

The following table sets forth the names of the selling security holders, the number of securities beneficially owned by the selling security holders as of September 11, 2009, and the total number of securities that may be offered pursuant to this prospectus. The table also provides information regarding the beneficial ownership of our securities by the selling security holders as adjusted to reflect the assumed sale of all of the securities offered under this prospectus. Percentage of beneficial ownership is based on 39,750,927 shares of our common stock outstanding as of September 11, 2009. The selling security holders may offer the securities for sale from time to time in whole or in part. Except where otherwise noted, the selling security holders named in the following table have, to our knowledge, sole voting and investment power with respect to the securities which they beneficially own. None of the selling security holders is an officer, director or other affiliate of VirnetX Holding Corporation except as indicated below.

Name of selling security holder	Securities Beneficially Owned Prior to Offering				Beneficial Ownership After the Offering		
	Shares of Common Stock being registered	Shares of Common Stock Underlying Warrants being registered <sup>+</sup>	Other Shares and Shares Underlying other Warrants	Total Shares Beneficially Owned <sup>+</sup>	Number of Total Shares Being Registered	Total Shares Owned After Offering (1)	Percent (2)
Albert James Poliak (26)	-	37,906	-	30,575	37,906	-	*
Anthony Athanas	39,682	129,195	22,500(3)	181,862	168,877	22,500	*
Bret Marc Shapiro (27)	-	15,965	-	12,877	15,965	-	*
Capital Ventures International (4)	496,032	1,614,956	-	1,992,064	2,110,988	-	*
Chad K. Kirby	55,555	180,874	43,945(5)	267,053	236,429	43,945	*
Charles Curtis	39,682	129,195	5,500(6)	164,862	168,877	5,500	*
Dawson James Securities, Inc. (7)	-	57,997	-	46,781	57,997	-	*
Douglas F. Kaiser (28)	-	37,906	-	30,575	37,906	-	*
Drs. Robert F. & Qin C. Ryan	19,841	64,598	18,750(8)	98,431	84,439	18,750	*
Frank Salvatore (29)	-	37,906	-	30,575	37,906	-	*
Gregory A. Harrison	39,682	129,195	36,000(9)	195,362	168,877	36,000	*
Gregory J. Wood (10)	63,492	206,715	1,008,000(11)	1,262,983	270,207	1,008,000	*
Gus Blass II	59,523	193,793	359,900(12)	598,944	253,316	359,900	*
Hudson Bay Fund LP (13)	178,572	581,387	-	717,145	759,959	-	*
Hudson Bay Overseas Fund Ltd. (14)	317,459	1,033,568	-	1,274,915	1,351,027	-	*
Jay R. Angle	95,238	310,072	10,000 (24)	392,475	405,310	10,000	*
Jay R. Kuhne	79,365	258,393	-	318,729	337,758	-	*
John Baleno	11,904	38,757	-	47,806	50,661	-	*
John J. Blum Jr.	59,523	193,793	30,000 (25)	269,044	253,316	30,000	*
John R. Rogers	43,650	142,114	7,500(15)	182,798	185,764	7,500	*
Joseph Thomas Watters, III	39,682	129,195	11,900(16)	171,262	168,877	11,900	*
Kenneth J. Licht	39,682	129,195	100,000(17)	259,362	168,877	100,000	*
Nancy L. Schmid	59,523	193,793	516,574(18)	755,618	253,316	516,574	*
Peter Wardenburg, Trustee, Wardenburg 2009 Family Trust (19)	39,682	129,195	-	159,362	168,877	-	*
Ramius Advisors, LLC (20)	595,237	1,937,943	-	2,390,471	2,533,180	-	*
Ramius Enterprise Master Fund Ltd. (21)	178,571	581,383	-	717,141	759,954	-	*
RCG PB Ltd. (22)	416,666	1,356,560	-	1,673,330	1,773,226	-	*
Robert D. Keyser, Jr. (30)	-	37,906	-	30,575	37,906	-	*
Scott E. Schalk (31)	-	40,171	-	32,402	40,171	-	*
Thomas Russell Curtis	-	25,705	46,400(32)	67,134	25,705	46,400	*
Thomas W. Hands (33)	-	3,720	-	3,000	3,720	-	*
Vestal Venture Capital (23)	7,936	25,838	-	31,870	33,774	-	*

\* Less than one percent of outstanding shares of common stock.

<sup>+</sup> The shares issuable pursuant to the anti-dilution adjustment of the Series I Warrant have been included in the number of shares of common stock underlying the warrants to be registered pursuant to this prospectus but have not been included in the number of shares beneficially owned by each selling security holder as of September 11, 2009.



- (1) The identified selling security holders provided us with information with respect to their securities ownership. Because the selling security holders may sell all, part or none of their respective shares or other securities, we are unable to estimate the number of shares or other securities that will be held by the selling security holders upon resale of the securities being offered by this prospectus. We have, therefore, assumed for the purposes of the registration statement related to this prospectus that the selling security holders will sell all of their securities. See “Plan of Distribution.”
- (2) Calculated based on Rule 13(d)-3(d)(1)(i) of the Exchange Act using 39,750,927 shares of common stock outstanding as of September 11, 2009. In calculating each respective selling security holder’s percentage, we did not assume the issuance of any other shares issuable upon exercise of outstanding warrants except for those underlying the holder’s own derivative securities.
- (3) Warrants to purchase 22,500 shares of common stock previously acquired by Mr. Athanas.
- (4) Heights Capital Management, Inc., the authorized agent of Capital Ventures International (“CVI”), has discretionary authority to vote and dispose of the shares held by CVI and may be deemed to be the beneficial owner of these shares. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., may also be deemed to have investment discretion and voting power over the shares held by CVI. Mr. Kobinger disclaims any such beneficial ownership of the shares. CVI is not a registered broker-dealer. CVI is affiliated with one or more registered broker-dealers. CVI purchased the shares being registered hereunder in the ordinary course of business and at the time of purchase, had no agreements or understandings, directly or indirectly, with any other person to distribute such shares.
- (5) Shares of common stock previously acquired by Mr. Kirby.
- (6) Includes warrants to purchase 5,500 shares of common stock previously acquired by Mr. Curtis.
- (7) Dawson James is a registered broker-dealer that received a warrant to purchase 238,094 shares of common stock in connection with serving as placement agent for the private placement transaction. The warrant is initially exercisable for \$3.93 per share. Mr. Albert J. Poliak, President of Dawson James, has voting and investment power over these securities. 191,313 of the initial 238,094 warrants have been transferred to registered brokers affiliated with Dawson James who are listed in this table as Selling Security Holders.
- (8) Warrants to purchase 18,750 shares of common stock previously acquired by Drs. Robert F. & Qin C. Ryan.
- (9) Warrants to purchase 36,000 shares of common stock previously acquired by Mr. Harrison.
- (10) Mr. Wood is the Senior Director of Corporate Communications of VirmetX Holding Corporation.
- (11) Includes 908,000 shares of common stock previously acquired by Mr. Wood, 50,000 shares of common stock held in the name of The Dustan D. Sheehan Irrevocable Trust, and 50,000 shares of common stock held in the name of The Joshua D. Sheehan Irrevocable Trust (collectively, the “Trusts”). Mr. Wood serves as trustee of the Trusts and exercises voting and investment power over the shares of common stock held by the Trusts.
- (12) Includes 269,900 shares of common stock and warrants to purchase 90,000 shares of common stock previously acquired by Mr. Blass.
- (13) Sander Gerber has voting and investment power over these securities. Sander Gerber disclaims beneficial ownership over the securities held by Hudson Bay Fund LP. The selling stockholder acquired the securities offered for its own account in the ordinary course of business, and at the time it acquired the securities, it had no agreements, plans or understandings, directly or indirectly to distribute the securities.
- (14) Sander Gerber has voting and investment power over these securities. Sander Gerber disclaims beneficial ownership over the securities held by Hudson Bay Overseas Fund Ltd. The selling stockholder acquired the securities offered for its own account in the ordinary course of business, and at the time it acquired the securities, it had no agreements, plans or understandings, directly or indirectly to distribute the securities.
- (15) Warrants to purchase 7,500 shares of common stock previously acquired by Mr. Rogers.
- (16) Shares of common stock previously acquired by Mr. Watters.
- (17) Shares of common stock previously acquired by Mr. Licht.

- (18) Includes 466,574 shares of common stock previously acquired by Ms. Schmid and 50,000 shares of common stock held in the name of The Parker W. Larsen Irrevocable Trust (the “Trust”). Ms. Schmid serves as trustee of the Trust and exercises voting and investment power over the shares of common stock held by the Trust.
- (19) Peter Wardenburg, as Trustee of the Wardenburg 2009 Family Trust, has voting and investment control over the shares of common stock and warrants held by the Wardenburg 2009 Family Trust.
- (20) Ramius Advisors, LLC (“Ramius Advisors”) is the investment manager of Ramius Enterprise Master Fund Ltd (“Ramius Enterprise”) and RCG PB, Ltd. (“RCG PB”) and consequently has voting control and investment discretion over securities held by Ramius Enterprise and RCG PB. Ramius Advisors did not participate directly as an investor in the Company’s private placement transaction on September 11, 2009. The 2,533,180 shares of the Company’s common stock registered for Ramius Advisors’ account in the selling security holder table reflect the sum of the shares of common stock and shares of common stock underlying the Series I Warrants, Series II Warrants and Series III Warrants held directly by Ramius Enterprise and RCG PB, in the amounts of 759,954 and 1,773,226, respectively.

Ramius Advisors disclaims beneficial ownership of these securities. Ramius LLC (“Ramius”) is the managing member of Ramius Advisors and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius Advisors. Ramius disclaims beneficial ownership of these securities. Cowen Group, Inc. (“Cowen”) is the managing member of Ramius and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius. Cowen disclaims beneficial ownership of these securities. RCG Holdings LLC (“RCG Holdings”) is the majority shareholder of Cowen and may be considered the beneficial owner of any securities deemed to be beneficially owned by Cowen. RCG Holdings disclaims beneficial ownership of these securities. C4S & Co., L.L.C. (“C4S”) is the managing member of RCG Holdings and may be considered the beneficial owner of any securities deemed to be beneficially owned by RCG Holdings. C4S disclaims beneficial ownership of these securities. Peter A. Cohen, Morgan B. Stark, Thomas W. Strauss and Jeffrey M. Solomon are the sole managing members of C4S and may be considered beneficial owners of any securities deemed to be beneficially owned by C4S. Messrs. Cohen, Stark, Strauss and Solomon disclaim beneficial ownership of these securities.

Ramius Advisors is not a registered broker-dealer. An affiliate of Ramius Advisors is a registered broker-dealer. However, this affiliate will not sell any securities purchased in this offering by Ramius Enterprise and will receive no compensation whatsoever in connection with sales of securities purchased in this transaction.

- (21) Ramius Advisors is the investment manager of Ramius Enterprise and consequently has voting control and investment discretion over securities held by Ramius Enterprise. Ramius Advisors disclaims beneficial ownership of these securities. Ramius is the managing member of Ramius Advisors and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius Advisors. Ramius disclaims beneficial ownership of these securities. Cowen Group, Inc. (“Cowen”) is the managing member of Ramius and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius. Cowen disclaims beneficial ownership of these securities. RCG Holdings LLC (“RCG Holdings”) is the majority shareholder of Cowen and may be considered the beneficial owner of any securities deemed to be beneficially owned by Cowen. RCG Holdings disclaims beneficial ownership of these securities. C4S is the managing member of RCG Holdings and may be considered the beneficial owner of any securities deemed to be beneficially owned by RCG Holdings. C4S disclaims beneficial ownership of these securities. Peter A. Cohen, Morgan B. Stark, Thomas W. Strauss and Jeffrey M. Solomon are the sole managing members of C4S and may be considered beneficial owners of any securities deemed to be beneficially owned by C4S. Messrs. Cohen, Stark, Strauss and Solomon disclaim beneficial ownership of these securities.

Ramius Enterprise is not a registered broker-dealer. Ramius Enterprise is an affiliate of a registered broker-dealer. The investment adviser to Ramius Enterprise is Ramius Advisors. An affiliate of Ramius Advisors is a registered broker-dealer. However, this affiliate will not sell any shares to be offered by Ramius Enterprise through this prospectus and will receive no compensation whatsoever in connection with sales of shares by Ramius Enterprise through this prospectus.

- (22) Ramius Advisors is the investment manager of RCG PB, Ltd and consequently has voting control and investment discretion over securities held by RCG PB. Ramius Advisors disclaims beneficial ownership of these securities. Ramius is the managing member of Ramius Advisors and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius Advisors. Ramius disclaims beneficial ownership of these securities. Cowen Group, Inc. (“Cowen”) is the managing member of Ramius and may be considered the beneficial owner of any securities deemed to be beneficially owned by Ramius. Cowen disclaims beneficial ownership of these securities. RCG Holdings LLC (“RCG Holdings”) is the majority shareholder of Cowen and may be considered the beneficial owner of any securities deemed to be beneficially owned by Cowen. RCG Holdings disclaims beneficial ownership of these securities. C4S is the managing member of RCG Holdings and may be considered the beneficial owner of any securities deemed to be beneficially owned by RCG Holdings. C4S disclaims beneficial ownership of these securities. Peter A. Cohen, Morgan B. Stark, Thomas W. Strauss and Jeffrey M. Solomon are the sole managing members of C4S and may be considered beneficial owners of any securities deemed to be beneficially owned by C4S. Messrs. Cohen, Stark, Strauss and Solomon disclaim beneficial ownership of these securities.

RCG PB is not a registered broker-dealer. RCG PB is an affiliate of a registered broker-dealer. The investment adviser to RCG PB is Ramius Advisors. An affiliate of Ramius Advisors is a registered broker-dealer. However, this affiliate will not sell any shares to be offered by RCG PB through this prospectus and will receive no compensation whatsoever in connection with sales of shares by RCG PB through this prospectus.

- (23) Allan R. Lyons, as managing member of the managing general partner of Vestal Venture Capital, has voting and investing control over the shares held by Vestal Venture Capital. Vestal Venture Capital is not a registered broker-dealer. Vestal Venture Capital is an affiliate of a registered broker-dealer.
- (24) Shares of common stock previously acquired by Mr. Angle.
- (25) Includes warrants to purchase 15,000 shares of common stock and 15,000 shares of common stock previously acquired by Mr. Blum.
- (26) Mr. Poliak is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (27) Mr. Shapiro is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (28) Mr. Kaiser is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (29) Mr. Salvatore is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (30) Mr. Keyser is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (31) Mr. Schalk is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (32) Shares of common stock previously acquired by Mr. Curtis. Mr. Curtis is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.
- (33) Mr. Hands is a registered broker-dealer and is affiliated with Dawson James Securities, Inc.

## PLAN OF DISTRIBUTION

The selling security holders and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of common stock covered hereby on the principal trading market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or negotiated prices. The selling security holders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- in transactions through broker-dealers that agree with the selling security holders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The selling security holders may also sell shares under Rule 144 under the Securities Act of 1933, as amended, if available, rather than under this prospectus.

Broker-dealers engaged by the selling security holders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling security holders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction, a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the common stock or interests therein, the selling security holders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling security holders may also sell shares of the common stock short and deliver these securities to close out their short positions or to return borrowed shares in connection with such short sales, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling security holders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling security holders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling security holder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the shares. The Company has agreed to indemnify the selling security holders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The selling security holders will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder unless an exemption therefrom is available.

The selling security holders have advised us that there is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the selling security holders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the shares may be resold by the selling security holders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144 and without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the shares have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares of common stock covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling security holders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the common stock by the selling security holders or any other person. We will make copies of this prospectus available to the selling security holders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

There can be no assurance that any selling security holder will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

Once sold under the registration statement, of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

## DESCRIPTION OF SECURITIES

We are authorized to issue an aggregate of 110,000,000 shares of capital stock, 100,000,000 of which are shares of common stock, par value \$0.0001 per share, and 10,000,000 of which are shares of preferred stock, par value \$0.0001 per share. As of September 11, 2009, 39,750,927 shares of our common stock were issued and outstanding and no shares of our preferred stock were issued and outstanding.

### Common Stock

All outstanding shares of our common stock are of the same class and have equal rights and attributes.

*Voting.* The holders of our common stock are entitled to one vote per share on all matters submitted to a vote of stockholders. Our common stock does not have cumulative voting rights. Persons who hold a majority of the outstanding shares of our common stock entitled to vote on the election of directors can elect all of the directors who are eligible for election.

*Dividends.* Subject to the preferential dividend rights and consent rights of any series of preferred stock that we may from time to time designate, holders of our common stock are entitled to share equally in dividends, if any, as may be declared from time to time by our Board of Directors out of funds legally available.

*Liquidation and Dissolution.* In the event of our liquidation, dissolution or winding up, subject to the preferential liquidation rights of any series of preferred stock that we may from time to time designate, the holders of our common stock are entitled to share ratably in all of our assets remaining after payment of all liabilities and preferential liquidation rights.

### Preferred Stock

Our Certificate of Incorporation authorizes the issuance of shares of preferred stock with designations, rights and preferences determined from time to time by our Board of Directors. Accordingly, our Board of Directors is empowered, without stockholder approval, to issue preferred stock with dividend, liquidation, conversion, voting, or other rights which could adversely affect the voting power or other rights of the holders of the common stock. In the event of issuance, the preferred stock could be utilized, under certain circumstances, as a method of discouraging, delaying or preventing a change in control of the Company.

The descriptions of our common stock and preferred stock above are only summaries and are qualified in their entirety by the provisions of the Company's Certificate of Incorporation and By-Laws, copies of which are attached hereto.

### Warrants Issued in Previous Securities Offerings

Warrants for the issuance of 266,667 shares of our common stock were issued in July 2007 and exercisable at \$0.75 per share. All of these warrants were net exercised by the warrant holders on January 21, 2008 and March 26, 2008. The net aggregate shares issued in the amount of 232,771 are issued and outstanding.

In addition, we issued warrants to purchase 300,000 shares of our common stock at \$4.80 per share to the underwriter of our December 2007 stock issuance. Those warrants are first exercisable in 2008 and expire in 2012. These warrants provide for anti-dilution protection in the event of stock splits and dividends.

In January 2009, we issued the following warrants to purchase shares of our common stock: warrants to purchase 1,235,000 shares of our common stock at an exercise price of \$2.00 per share, including 135,000 of which were issued pursuant to the underwriter's over-allotment option; warrants to purchase 1,235,000 shares of our common stock at an exercise price of \$3.00 per share, including 135,000 of which were issued pursuant to the underwriter's over-allotment option; and warrants to purchase 1,235,000 shares of our common stock at an exercise price of \$4.00 per share, including 135,000 of which were issued pursuant to the underwriter's over-allotment option. These warrants were issued in registered form under a warrant agency agreement between Corporate Stock Transfer, Inc., as warrant agent, and us, a copy of which was filed as an exhibit to the registration statement on Form S-1 (File No. 333-153645). We also issued the underwriter of the January 2009 offering a warrant to purchase 220,000 shares of common stock at \$1.80 per share.

### Description of Warrants Issued in The Private Placement Transaction

*The material terms and provisions of the three forms of warrants issued in the transaction are summarized below. This summary below is subject to, and qualified in its entirety by, the three forms of warrant filed as exhibits to our current report on Form 8-K that we filed with the SEC on September 3, 2009.*

There were three forms of warrants exercisable for shares of our common stock issued in the private placement transaction to the investors: the Series I Warrant, the Series II Warrant and the Series III Warrant.

*Series I Warrant*

- The Series I Warrants give the investors in the transaction rights to purchase the same number of shares purchased in the transaction over a 5-year term at an exercise price equal to 125% of the price per share paid in the transaction, subject to anti-dilution protection that could reduce the exercise price; provided however, that in no event shall such exercise price be reduced to less than \$3.17 (the closing price per share of our common stock) subject to adjustments for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions affecting the Company's common stock. The Series I Warrants are not exercisable until March 11, 2010 and expire on March 11, 2015. Aside from the anti-dilution adjustment associated with the exercise price premium, the Series I Warrants are not subject to any further adjustments with respect to the exercise price or number of shares covered. The aggregate number of shares of common stock registered by this prospectus includes 627,907 shares of our common stock issuable pursuant to the anti-dilution protection provisions described above. We will not receive proceeds from any shares issued pursuant to the anti-dilution protection provisions.

*Series II Warrant*

- The Series II Warrants give the investors in the transaction pricing protection for the transaction with a floor price of \$1.25 per share. In the event the market price of our common stock declines between the closing of the transaction and the earlier of (i) 15 business days after the date this Registration Statement is declared effective and (ii) the date Rule 144 becomes available for resale of the common stock registered pursuant to this prospectus (such date that is the earlier of clause (i) and (ii) is referred to in this registration statement as the "Warrant Exercise Date"), the Series II Warrants will be automatically exercised on a cashless exercise basis and a number of additional shares will be issued to the investors in order to effectively reduce the per share purchase price paid in the private placement transaction to the greater of (i) 80% of the 15-day volume weighted average trading price per share of our common stock immediately prior to the Warrant Exercise Date and (ii) \$1.25 per share. At the Warrant Exercise Date, the Series II Warrants will either be automatically exercised on a cashless exercise basis if our stock price is lower at the Warrant Exercise Date as described above, or they will terminate unexercised. The adjustment associated with the Series II Warrants does not affect either the exercise price or number of shares covered by either the Series I Warrants or the Series III Warrants.

*Series III Warrant*

- At the Warrant Exercise Date, the Series III Warrants give the investors in the transaction a 60-day right to purchase an additional \$6.0 million of our common stock at \$2.52 per share. The Series III Warrants are not subject to any adjustments with respect to the exercise price or number of shares covered.

The following table shows the number of shares of common stock that might be issued upon the exercise of each series of warrants, the time frame during which each series of warrants can be exercised, and the effects of the issuance of shares of common stock on existing stockholders' economic and percentage ownership, calculated on a theoretical basis.

	<b>Series I Warrants</b>	<b>Series II Warrants</b>	<b>Series III Warrants</b>
Number of shares issuable upon exercise of warrants	3,246,959	2,419,045	2,380,942
Time frame during which the warrants can be exercised <sup>(1)</sup>	The Series I Warrants are exercisable commencing on March 11, 2010 and ending on March 11, 2015.	At the Warrant Exercise Date (as defined above), the Series II Warrants will either be automatically exercised on a cashless exercise basis if our stock price is lower at the Warrant Exercise Date as described above, or they will terminate unexercised.	At the Warrant Exercise Date, the Series III Warrants give the investors in the transaction a 60-day right to purchase an additional \$6.0 million of our common stock at \$2.52 per share.
Percentage of shares currently outstanding represented by the shares underlying each series of warrant <sup>(1)</sup>	8.2%	6.1%	6.0%
Economic effect of exercise of warrants on existing stockholders <sup>(2)</sup>	n/a <sup>(3)</sup>	\$1.93 <sup>(4)</sup>	n/a <sup>(3)</sup>

(1) Based on 39,750,927 shares outstanding as of September 11, 2009.

(2) Assumes a stock price of \$2.05 per share, the closing stock price for VirnetX's common stock on November 2, 2009.

(3) Assuming a stock price of \$2.05, the Series I and Series III Warrants each have an exercise price in excess of the publicly traded stock price.

(4) Assuming a stock price of \$2.05 per share and that 39,750,927 shares are outstanding, the total market capitalization would equal approximately \$81,489,400. If the Series II Warrants were fully exercised, the number of shares outstanding would increase by 2,419,045 shares of common stock to bring the total aggregate number shares outstanding to 42,169,972. Such an increase would theoretically reduce the market capitalization on a per share basis to \$1.93.

### **Warrant Accounting**

Currently, our outstanding warrants derive from three transactions: (1) the warrants issued to the underwriter of the December 2007 stock offering, (2) the warrants issued to the public and the warrants issued to the underwriter in the January 2009 offering, and (3) the warrants issued to the investors and the placement agent in the private placement transaction covered by this prospectus.

The warrants issued in the September 2009 offering that are covered by this prospectus are accounted for in accordance with the Emerging Issues Task Force 07-05, and are accounted for as equity transactions where the warrants are indexed to the Company's own stock.

The disclosures for the warrants follow the guidance of Accounting Standards Council 505 accounting standards council under the new FASB codification.



## Protective Provisions

We have a number of protective provisions that could delay, discourage or prevent a third party from acquiring the company without the approval of our Board of Directors. Our 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 effect a change in control of the Board of Directors since it will take two annual meetings to effectively replace at least three directors which represents 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 common stock in a manner that is materially dilutive to exiting stockholders. 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 will have the ability to do so in the future very rapidly and without stockholder approval.
- *Advance notice requirements for director nominations and for new business to be brought up at 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 in order to have the matter voted on at the 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 delaying a stockholder proposal to a subsequent meeting to the extent such proposal is not raised in a timely manner for an upcoming meeting.
- *Elimination of stockholder actions by written consent:* this has the effect of eliminating the ability of a stockholder or a group of stockholders representing a majority of the outstanding shares to take actions rapidly and without prior notice to our Board of Directors and management or to the minority stockholders. 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 By-laws:* our By-laws may be altered or amended or new By-laws adopted by the affirmative vote of at least 66-2/3% of the outstanding shares. This has the effect of requiring a substantially greater vote of the stockholders to approve any changes to our By-laws.
- *Elimination of the ability of stockholders to call a special meeting of the stockholders:* only the Board of Directors or management can call special meetings of the stockholders. This could mean that stockholders, even those who represent a significant block of shares, may need to wait for the annual meeting before nominating directors or raising other business proposals to be voted on by the stockholders.

## Transfer agent and registrar

The transfer agent and registrar for our common stock is Corporate Stock Transfer, Inc. of Denver, Colorado.

## LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon for us by Orrick, Herrington & Sutcliffe LLP, Menlo Park, California. Lowell D. Ness, a partner of Orrick, Herrington & Sutcliffe LLP, is our Secretary. Orrick, Herrington & Sutcliffe LLP and partners in that firm beneficially own an aggregate of 41,516 shares of our common stock.

## EXPERTS

Farber Hass Hurley LLP, an independent registered public accounting firm, has audited our consolidated financial statements and consolidated financial statement schedule at December 31, 2008, included in our Annual Report on Form 10-K for the year ended December 31, 2008, as set forth in its report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Such consolidated financial statements and consolidated financial statement schedule are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Exchange Act. In accordance with the Exchange Act, we file reports, proxy statements and other information with the SEC. Such reports, proxy statements and other information filed by us are available free of charge on our website, <http://www.virnetx.com>, and may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference facilities by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC.

## CERTAIN DOCUMENTS INCORPORATED BY REFERENCE

We have “incorporated by reference” into this prospectus certain information that we file with the SEC. This means that we can disclose important business, financial and other information in this prospectus by referring you to the documents containing this information.

We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 (other than information furnished and not filed, pursuant to Items 2.02 or 7.01 in any Form 8-K filing or any other item that permits us to furnish, rather than file, information) prior to the sale of all securities registered hereunder or termination of the offering under this registration statement:

- our Annual Report on Form 10-K for the year ended December 31, 2008;
- our Quarterly Reports on Form 10-Q for the period ended March 31, 2009 and June 30, 2009;
- our definitive Proxy Statement on Schedule 14A, dated and filed with the SEC on April 28, 2009 for our 2009 Annual Meeting of Stockholders;
- our Current Reports on Form 8-K filed with the SEC on April 8, 2009, May 5, 2009, June 11, 2009, June 29, 2009, and September 3, 2009; and
- the description of our capital stock contained in the Registration Statement on Form SB-2 filed with the SEC on March 26, 1999, including any amendment or reports filed for the purpose of updating that description.

All information incorporated by reference is deemed to be part of this prospectus except to the extent that the information is updated or superseded by information filed with the SEC after the date the incorporated information was filed (including later-dated reports listed above) or by the information contained in this prospectus. Any information that we subsequently file with the SEC that is incorporated by reference, as described above, will automatically update and supersede as of the date of such filing any previous information that had been part of this prospectus, or that had been incorporated herein by reference.

We will provide without charge to each person, including any beneficial owner of our indicated securities, to whom this prospectus is delivered, upon written or oral request, a copy of any and all of the documents that have been incorporated by reference in the prospectus but not delivered with this prospectus (without exhibits, unless the exhibits are specifically incorporated by reference but not delivered with this prospectus). Requests should be directed to:

**VirnetX Holding Corporation**  
**5615 Scotts Valley Drive, Suite 110**  
**Scotts Valley, California 95066**  
**(831) 438-8200**  
**Attention: Kendall Larsen**

## PART II

### INFORMATION NOT REQUIRED IN PROSPECTUS

#### Item 14. *Other Expenses of Issuance and Distribution.*

The following table sets forth all expenses to be paid by us in connection with the offering of our securities being registered hereby. All amounts shown are estimates other than the registration fee.

	<u>Amount to be Paid</u>
SEC registration fee	\$ 1,550.70 **
Legal fees and expenses	\$ 20,000
Accounting fees and expenses	\$ 12,000
Miscellaneous	\$ 10,000
Total	<u>\$ 43,550.70</u>

\*\*Previously paid.

#### Item 15. *Indemnification of Directors and Officers.*

##### **Delaware General Corporation Law**

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent to the company. The Delaware General Corporation Law provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for any breach of the director's duty of loyalty to the corporation or its stockholders, for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions or for any transaction from which the director derived an improper personal benefit.

##### **Certificate of Incorporation**

Our Certificate of Incorporation provides that the personal liability of the directors of the company shall be eliminated to the fullest extent permitted by the provisions of Section 102(b)(7) of the Delaware General Corporation Law, as the same may be amended and supplemented.

Our Certificate of Incorporation provides that the company shall, to the fullest extent permitted by the provisions of Section 145 of the Delaware General Corporation Law, as the same may be amended and supplemented, indemnify any and all persons whom it shall have power to indemnify under said section from and against any and all of the expenses, liabilities or other matters referred to in or covered by said section, and the indemnification provided for therein shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

## Indemnification Agreements

We have also entered into indemnification agreements with our directors and officers. The indemnification agreements provide indemnification to our directors and officers under certain circumstances for acts or omissions which may not be covered by directors' and officers' liability insurance.

## Liability Insurance

We have also obtained directors' and officers' liability insurance, which insures against liabilities that our directors or officers may incur in such capacities.

### Item 16. Exhibits.

A list of exhibits included as part of this registration statement is set forth in the Exhibit Index.

### Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
  - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*Provided, however,* that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the Registration Statement is on Form S-3 and if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Scotts Valley, State of California, on November 6, 2009.

### VIRNETX HOLDING CORPORATION

By: /s/ Kendall Larsen

Name: Kendall Larsen

Title: President and Chief Executive Officer

In accordance with the requirements of the Securities Act, this registration statement was signed by the following persons in the capacities and on the dates stated:

<b><u>Signature and Name</u></b>	<b><u>Capacity</u></b>	<b><u>Date</u></b>
<u>/s/ Kendall Larsen</u> Kendall Larsen	President, Chief Executive Officer (Principal Executive Officer), Director, and Attorney-in-Fact	November 6, 2009
<u>/s/ William E. Sliney*</u> William E. Sliney	Chief Financial Officer (Principal Accounting and Financial Officer)	November 6, 2009
<u>/s/ Edmund C. Munger*</u> Edmund C. Munger	Director	November 6, 2009
<u>/s/ Scott C. Taylor*</u> Scott C. Taylor	Director	November 6, 2009
<u>/s/ Michael F. Angelo*</u> Michael F. Angelo	Director	November 6, 2009
<u>/s/ Thomas M. O'Brien*</u> Thomas M. O'Brien	Director	November 6, 2009

\*Pursuant to Attorney-In-Fact

## EXHIBIT INDEX

- 3.1 Amended and Restated Certificate of Incorporation of the Company (1)
  - 3.2 Amended and Restated Bylaws of the Company (2)
  - 4.1 Form of Series I Warrant attached as Exhibit C-I to the Securities Purchase Agreement dated September 2, 2009 (3)
  - 4.2 Form of Series II Warrant attached as Exhibit C-II to the Securities Purchase Agreement dated September 2, 2009 (4)
  - 4.3 Form of Series III Warrant attached as Exhibit C-III to the Securities Purchase Agreement dated September 2, 2009 (5)
  - 4.4 Registration Rights Agreement dated as of September 2, 2009 by and between VirnetX Holding Corporation and each of the several purchasers signatory thereto (6)
  - 4.5 Securities Purchase Agreement, dated September 2, 2009, by and between VirnetX Holding Corporation and each purchaser identified on the signature pages thereto (7)
  - 5.1 Opinion of Orrick, Herrington & Sutcliffe LLP
  - 23.2 Consent of Farber Hass Hurley & McEwen, LLP, Independent Auditors
  - 23.2 Consent of Orrick, Herrington & Sutcliffe LLP (contained in Exhibit 5.1)
  - 24.1 Power of Attorney (contained in the signature pages hereto)
- (1) Incorporated by reference to Exhibit 3.1 the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on November 1, 2007.
  - (2) Incorporated by reference to Exhibit 3.2 the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on November 1, 2007.
  - (3) Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on September 3, 2009.
  - (4) Incorporated by reference to Exhibit 4.2 to the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on September 3, 2009.
  - (5) Incorporated by reference to Exhibit 4.3 to the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on September 3, 2009.
  - (6) Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on September 3, 2009.
  - (7) Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K (Commission File No. 001-33852) filed with the Securities and Exchange Commission on September 3, 2009.



**ORRICK, HERRINGTON & SUTCLIFFE LLP**  
THE ORRICK BUILDING  
405 HOWARD STREET  
SAN FRANCISCO, CALIFORNIA 94105-2669

*tel* +1-415-773-5700  
*fax* +1-415-773-5759  
**www.orrick.com**

November 6, 2009

VirnetX Holding Corporation  
5615 Scotts Valley Drive, Suite 110  
Scotts Valley, California 95066

**Re: Registration Statement on Form S-3**

Ladies and Gentlemen:

We have acted as counsel for VirnetX Holding Corporation, a Delaware corporation (the "Company"), in connection with the Company's filing of a Registration Statement on Form S-3 (the "Registration Statement") relating to the registration under the Securities Act of 1933, as amended (the "Act"), of the resale by the selling stockholders named therein (the "Selling Stockholders") of an aggregate of 10,427,850 shares of common stock, par value \$0.0001 per share (the "Common Stock"), consisting of 2,380,942 issued and outstanding shares of Common Stock (the "Shares") and 8,046,908 shares of Common Stock (the "Warrant Shares") that are issuable upon the exercise of outstanding warrants held by certain of the Selling Stockholders (the "Warrants"), consisting of (i) up to 3,246,943 shares of common stock issuable upon exercise of the Series I Warrants, (ii) up to 2,419,023 shares of common stock issuable upon exercise of the Series II Warrants, and (iii) up to 2,380,942 shares of common stock issuable upon exercise of the Series III Warrants.

We have reviewed, among other things, (i) the Securities Purchase Agreement, dated as of September 2, 2009, between the Company and the purchasers identified on the signature pages thereto, (ii) the Registration Rights Agreement, dated as of September 11, 2009, between the Company and the signatories thereto, (iii) the Warrants, (iv) the Amended and Restated Certificate of Incorporation of the Company, as in effect as of the date hereof (the "Restated Certificate"), (v) the Amended and Restated Bylaws of the Company, as in effect as of the date hereof, and (vi) certain resolutions of the Company's Board of Directors pertaining to the issuance by the Company of the Shares, the Warrants and the Warrant Shares.

For purposes of this opinion, we have assumed the authenticity of all documents submitted to us as originals, the conformity to the originals of all documents submitted to us as copies and the authenticity of the originals of all documents submitted to us as copies. We have also assumed the legal capacity of all natural persons, the genuineness of the signatures of persons signing all documents in connection with which this opinion is rendered, the authority of such persons signing on behalf of the parties thereto other than the Company and the due authorization, execution and delivery of all documents by the parties thereto other than the Company.

---



Based upon the foregoing and our examination of such questions of law as we have deemed necessary or appropriate for the purpose of our opinion, and subject to the limitations and qualifications expressed herein, it is our opinion that:

1. The Shares have been duly authorized and are validly issued, fully paid and non-assessable.
2. The Warrant Shares have been duly authorized and, when issued upon exercise of the Warrants in accordance with their terms, will be validly issued, fully paid and non-assessable.

This opinion is limited to the federal laws of the United States of America and the General Corporation Law of the State of Delaware and the reported decisions of the Delaware courts interpreting that Law and the Delaware constitution, and we disclaim any opinion as to the laws of any other jurisdiction.

We hereby consent to the filing of this opinion with the Commission as Exhibit 5.1 to the Registration Statement. We also consent to the reference to our firm under the heading "Legal Matters" in the Registration Statement. By giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act of 1933 and the rules and regulations promulgated thereunder.

We disclaim any obligation to update this opinion letter for events occurring or coming to our attention after the date hereof.

Very truly yours,

/s/ Orrick, Herrington & Sutcliffe LLP

Orrick, Herrington & Sutcliffe LLP

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the use in this to Registration Statement on Form S-3 of our report (which contains an explanatory paragraph relating to the ability of VirnetX Holding Corporation to continue as a going concern as described in Note 1 to the financial statements) dated March 31, 2009, relating to the financial statements of VirnetX Holding Corporation as of December 31, 2008 and 2007, for the years then ended and the period from August 2, 2005, (date of inception) to December 31, 2008, which appears in such Registration Statement. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/Farber Hass Hurley LLP

Granada Hills, CA

November 6, 2009