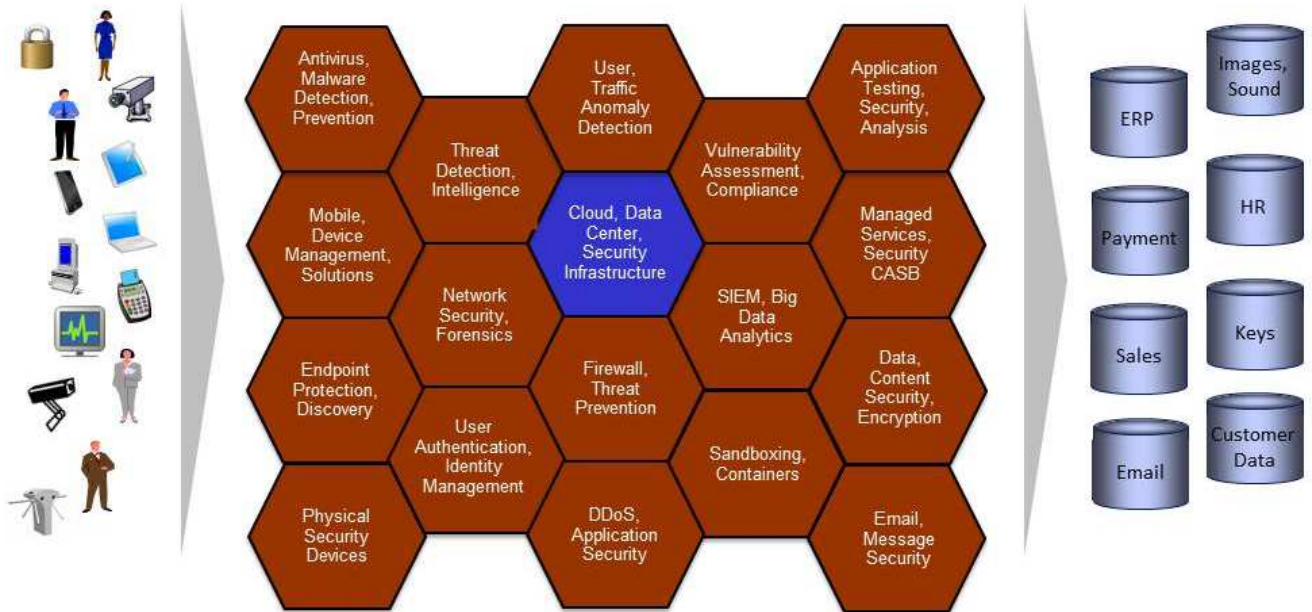


CyberTiles: Securing Information Pathways

December 2016



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Section I

Executive Summary



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Executive Summary

We are pleased to present our new Cybersecurity industry report, “*CyberTiles: Securing Information Pathways*”. Our inaugural edition focuses on our market thesis, the size of important market segments, key industry themes and market participants, and important valuation metrics.

CyberTiles is a graphical representation of our thesis for the Cybersecurity market. We believe that information will increasingly travel along dynamic and user driven paths. Historically, IT departments controlled information access. Specifically, this involves the devices used and the paths that users are allowed to travel. The considerable growth of the Internet and smart devices has ushered in the era of BYOD (Bring Your Own Device) and seemingly endless ways to access both productive and destructive content.

As shown in Figure 1 below, our CyberTiles graphic depicts how users and their devices travel across many tiles that in an “ideal” world would work together to provide a secure and safe environment. Unfortunately, no single solution exists today that can provide end-to-end security. End users must build their own solutions that best meet the needs of their users and the paths that their information travels.

Figure 1: Imperial Capital’s Cybersecurity Thesis – “CyberTiles”



Source: Imperial Capital, LLC.

We have highlighted select tiles that comprise key security market segments. We believe and anticipate that there will likely be new tiles added to address unforeseen threats. We also see great opportunity for the merging of select tiles into more user friendly and more tightly integrated and secure tiles / solutions. We intend to provide periodic updates as events occur.

Cybersecurity is a vitally important element of cloud infrastructure. Global spending on cloud infrastructure is estimated by Forbes and Statista to grow from \$50 billion in 2016 to more than \$228 billion by 2026. Cloud infrastructure is a broad term that includes IaaS (Infrastructure as a Service), PaaS (Platform as a Service), and SaaS (Software as a Service). Various solution providers can provide security, but securing content is the ultimate responsibility of end users.

Given the complexity of deploying cloud solutions and the challenges around doing so securely, it is not surprising that a number of end users are turning to third parties for support. By 2018, the demand for Managed Services will grow to more than \$256 billion, according to estimates by Forbes and Statista. We believe that Managed Security Services will be in high demand.

The need for greater security and advances in technology will likely drive the demand for more specialized “XaaS” type services. We expect to see stronger demand for existing and emerging XaaS services such as Video as a Service, Identity as a Service, Access Management as a Service, etc.

As Verizon pointed out in its Data Breach Investigations Report in April 2016, approximately 89% of breaches had a financial or espionage based motive. As businesses and end users transition to cloud based solutions, security challenges must be properly addressed and mitigated. If the security concerns remain unanswered, the cloud projections outlined above will likely be at risk.

However, we believe there are great profit opportunities for existing and emerging security solution providers. We expect that new and or improved security solutions will be developed to take advantage of these opportunities.



Section II

Market Opportunity

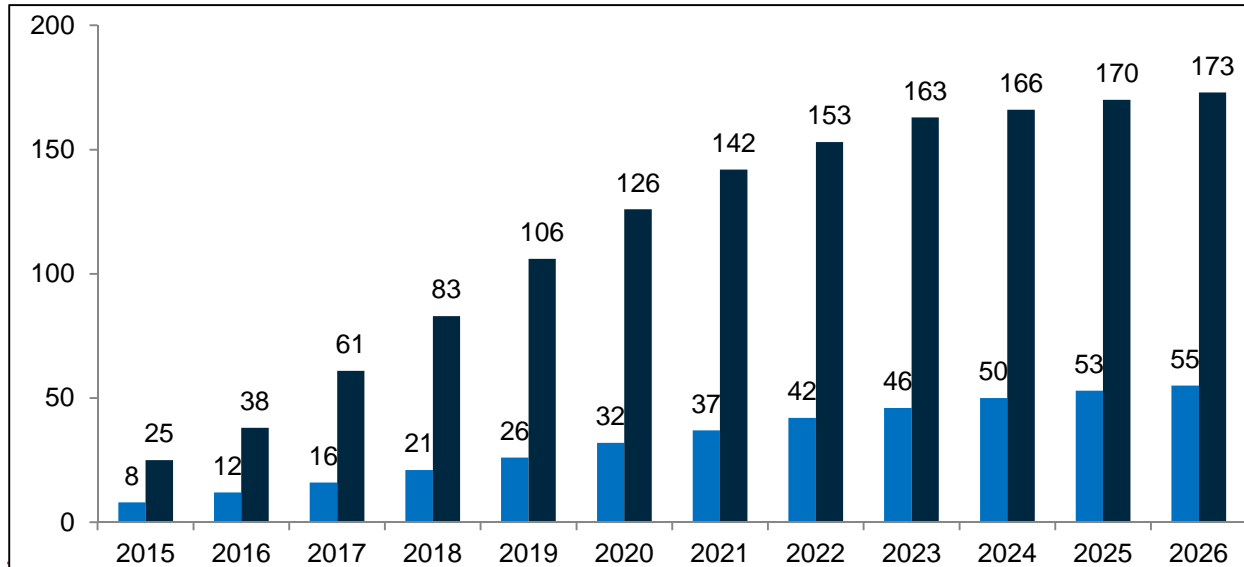
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Section II: Market Opportunity

The need for security is core to and enables the majority of all technology deployments. As shown in Figure 2 below, the market for Public Cloud IaaS and SaaS is estimated by Forbes and Statista to be approximately \$50 billion in 2016 and \$228 billion in 2026.

Figure 2: IaaS and SaaS Market Projections



Sources: Forbes and Statista.

We believe that security solutions and services will be introduced that will facilitate the implementation of IaaS and SaaS solutions. It is not surprising to see that Allied Market Research has estimated that cloud security solutions will grow at a CAGR of 23.5% from 2015 to 2020. In 2020, Allied estimates that the market for cloud security solutions will be more than \$8.9 billion.



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Section III

Market Catalysts – Breaches, Breaches, Breaches

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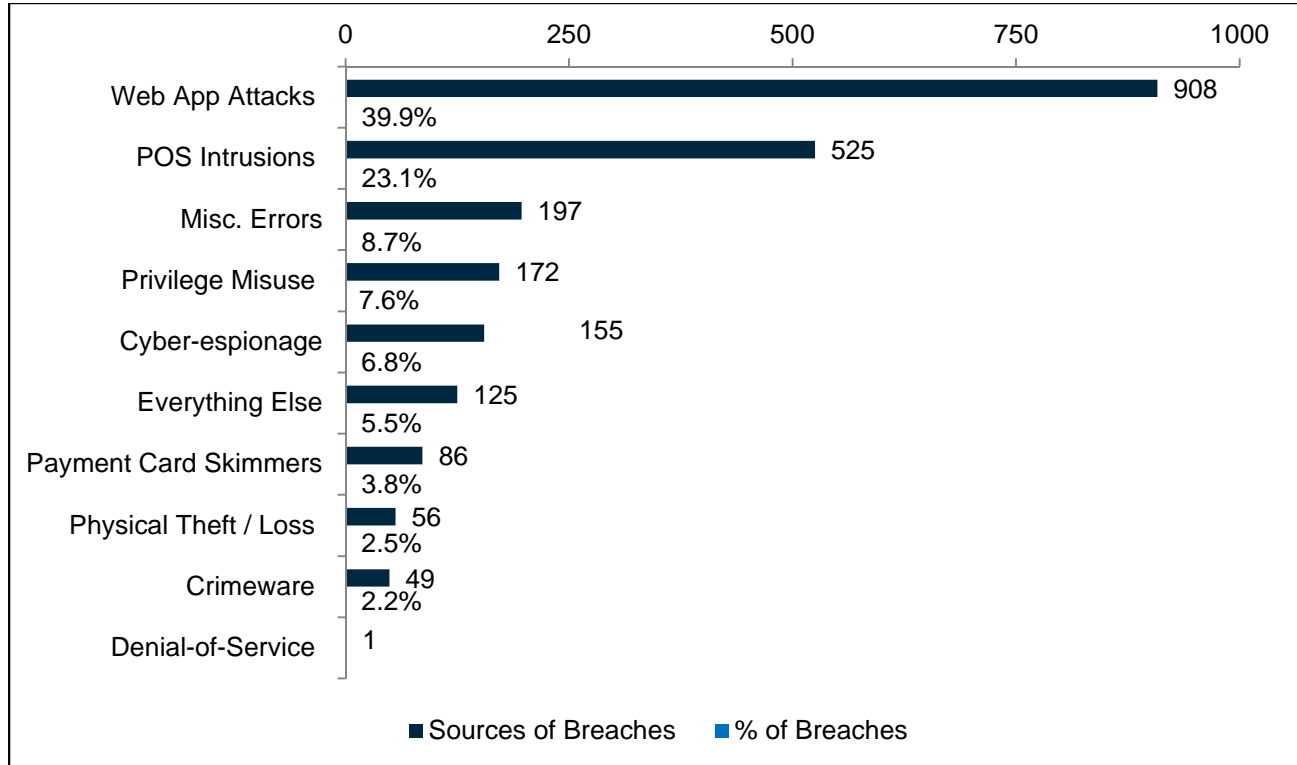


Section III: Market Catalysts – Breaches, Breaches, Breaches

The increased use of cloud-based solutions will ultimately drive the need for security solutions that can better protect users, transactions, messages, and content. Threats evolve over time and some old threats/exploits are re-introduced to prey on unprepared parties.

As shown in Figure 3 below, breaches come from many different vectors. The need to protect resources from the attack vectors outlined below represent great catalysts for potential growth in security markets.

Figure 3: Sources of Breaches



Sources: Verizon 2016 DBIR.

The resources needed to deploy and manage security solutions can be more of a challenge from a human resource perspective for some larger enterprises while smaller organizations can be further challenged by financial constraints. Security solution providers that deliver cost effective and easy to implement and manage solutions are more likely to capture market share.

Bad actors (or criminals) are also just breaching and leaving. As noted by Verizon, 89% of breaches had a financial or espionage motive.



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Section IV

Imperial Cybersecurity Industry Thesis

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Figure 5: Select CyberTile Participants and Competitors

Company Name	Imperial's CyberTile Designation	Business Description	Competitors
Absolute Software Corporation	Mobile, Device Management, Solutions	Absolute Software Corporation develops, markets, and supports endpoint security and data risk management, and endpoint management solutions for desktops, laptops, tablets and smartphones in Canada, the United States, and internationally.	CA, Inc., CGI Group Inc., CryptoMill Technologies Ltd., Entrust, Inc., Intel Security Inc., Kinaxis Inc., Microsoft Corporation, Symantec Corporation, Utimaco GmbH, & Wave Systems Corp.
AVG Technologies N.V. (Acquired by Avast)	Antivirus, Malware Detection, Prevention	AVG Technologies N.V. develops and sells online service solutions and Internet security software worldwide under the AVG branded name.	Blucora, Inc., FireEye, Inc., F-Secure Oyj, Imperva Inc. NQ Mobile Inc. & SecureWorks Corp.
Barracuda Networks, Inc.	Network Security, Forensics	Barracuda Networks, Inc. designs and delivers security and data protection solutions.	Commvault Systems, Inc., FireEye, Inc., Fortinet Inc. Imperva Inc., Palo Alto Networks, Inc., Proofpoint, Inc., Qualys, Inc., Rapid7, Inc. & SecureWorks Corp.
Centrify Corporation	User Authentication, Identity Management	Centrify Corporation designs and develops unified identity management solutions for cloud, mobile, and data center platforms worldwide.	Accelerize Inc., ChannelAdvisor Corporation, Demandware, Inc., Instructure, Inc., Onvia Inc., Rackspace Hosting, Inc., Salon Media Group Inc., Scientific Energy Inc., Synacor, Inc. & Xactly Corporation
CyberArk Software, Ltd.	User, Traffic Anomaly Detection	CyberArk Software Ltd. develops, markets, and sells software-based IT security solutions that protect organizations from cyber-attacks in the United States and internationally.	Barracuda Networks, Inc., Check Point Software Technologies Ltd., FireEye, Inc., F-Secure Oyj, Imperva Inc., Proofpoint, Inc., Qualys, Inc., Rapid7, Inc., TubeMogul, Inc. & VASCO Data Security International Inc.
Dataprise, Inc.	Managed Services, CASB	Dataprise, Inc. provides IT support and infrastructure management, strategic IT consulting services, 24x7 help desk services, and managed cloud services and tools to small and mid-sized organizations.	6D Global Technologies, Inc., Amdocs Limited, Ciber, Inc., Cognizant Technology Solutions Corporation, DHC Software Co., Ltd., Helios and Matheson Analytics Inc., Modulat Inc., SRA International, Inc., The Hackett Group, Inc. & Unisys Corporation
Digital Realty Trust Inc.	Cloud, Data Center, Security Infrastructure	Digital Realty Trust, Inc., a real estate investment trust (REIT), through its controlling interest in Digital Realty Trust, L.P., engages in the ownership, acquisition, development, redevelopment, and management of technology-related real estate.	American Tower Corporation, CoreSite Realty Corporation, Crown Castle International Corp., CyrusOne Inc., DuPont Fabros Technology, Inc., Equinix, Inc. & QTS Realty Trust, Inc.



Company Name	Imperial's CyberTile Designation	Business Description	Competitors
FireEye, Inc.	Sandboxing, Containers	FireEye, Inc. provides cybersecurity solutions for detecting, preventing, analyzing, and resolving cyber-attacks.	6D Global Technologies, Inc., Amdocs Limited, Ciber, Inc., Cognizant Technology Solutions Corporation, DHC Software Co., Ltd., Helios and Matheson Analytics Inc., Modulat Inc., SRA International, Inc., The Hackett Group, Inc. & Unisys Corporation
Guidance Software, Inc.	Endpoint Protection, Discovery	Guidance Software, Inc., a technology company, provides forensic security solutions in the United States, Europe, Asia, and internationally.	American Software, Inc., Cyber Com Co., Ltd., Epiq Systems, Inc., FRONTEO, Inc., Majesco, QAD Inc., Shanghai Golden Bridge Infotech Co., Ltd., Shenzhen Infogem Technologies Co., Ltd., SuperMap Software Co., Ltd. & Textura Corporation
Imperva Inc.	Firewall, Threat Prevention	Imperva, Inc. engages in the development, market, sale, and support of cyber security solutions that protect business critical data and applications in the cloud or on premises worldwide.	Barracuda Networks, Inc., CyberArk Software, Ltd., FireEye, Inc., Fortinet Inc., Infoblox Inc., Proofpoint, Inc., Qualys, Inc., Rapid7, Inc., SecureWorks Corp. & VASCO Data Security International Inc.
Palo Alto Networks, Inc.	Firewall, Threat Prevention	Palo Alto Networks, Inc. provides security platform solutions to enterprises, service providers, and government entities worldwide.	Arista Networks, Inc., Brocade Communications Systems, Inc., Check Point Software Technologies Ltd., F5 Networks, Inc., Finisar Corp. FireEye, Inc., Fortinet Inc., Netgear Inc., NetScout Systems, Inc. & Symantec Corporation
Proofpoint, Inc.	Data, Content Security	Proofpoint, Inc. provides threat protection, incident response, regulatory compliance, archiving, governance, eDiscovery, and secure communication solutions worldwide.	Barracuda Networks, Inc., FireEye, Inc., Fortinet Inc., Imperva Inc., Infoblox Inc., Palo Alto Networks, Inc., Progress Software Corporation, Qualys, Inc., Splunk, Inc. & Tableau Software, Inc.
Qualys, Inc.	Vulnerability Assessment, Compliance	Qualys, Inc. provides cloud-based security and compliance solutions in the United States and internationally.	Barracuda Networks, Inc., CyberArk Software, Ltd., FireEye, Inc., Imperva Inc., Infoblox Inc., Proofpoint, Inc., Rapid7, Inc., TubeMogul, Inc., Varonis Systems, Inc. & VASCO Data Security International Inc.
Radware Ltd.	DDoS, Application Security	Radware Ltd. develops, manufactures, and markets cyber security and application delivery solutions for applications in virtual, cloud, and software defined data centers worldwide.	Aerohive Networks, Inc., Digi International Inc., EDIMAX Technology Co., Ltd., F5 Networks, Inc., Imperva Inc., Infinera Corporation, Juniper Networks, Inc., Silicom Ltd., Solid, Inc. & Sonus Networks, Inc.

Company Name	Imperial's CyberTile Designation	Business Description	Competitors
Splunk, Inc.	SIEM, Big Data Analytics	Splunk Inc. provides software solutions that enable organizations to gain real-time operational intelligence in the United States and internationally.	Blackbaud Inc., FireEye, Inc., MicroStrategy Inc., Red Hat, Inc., salesforce.com, Inc., ServiceNow, Inc., Tableau Software, Inc., The Ultimate Software Group, Inc., Tyler Technologies, Inc. & Workday, Inc.
The KEYW Holding Corporation	Threat Detection, Intelligence	The KEYW Holding Corporation, through its subsidiaries, provides mission-critical cybersecurity, cyber superiority, and geospatial intelligence solutions in the United States.	CACI International Inc., Engility Holdings, Inc., General Dynamics Corporation, Kratos Defense & Security Solutions, Inc., L-3 Communications Holdings Inc., Lockheed Martin Corporation, Mercury Systems, Inc., Northrop Grumman Corporation, Orbital ATK, Inc. & Teledyne Technologies Inc.
Varonis Systems, Inc.	Data, Content Security	Varonis Systems, Inc. provides software platform for enterprises to analyze, secure, manage, and utilize their unstructured data.	Barracuda Networks, Inc. Beijing Orient National Communication Science & Technology Co., Ltd., Commvault Systems, Inc., Imperva Inc., Proofpoint, Inc., Qualys, Inc., SecureWorks Corp., Splunk, Inc., Symantec Corporation & Tableau Software, Inc.
Veracode, Inc.	Application Testing, Analysis	Veracode, Inc. provides a cloud-based application security platform.	Accelerize Inc., Benefitfocus, Inc., ChannelAdvisor Corporation, Demandware, Inc., Instructure, Inc., LivePerson Inc., Rackspace Hosting, Inc., RealNetworks Inc., Xactly Corporation & Yodlee, Inc.
Vivint Smart Home Arena	Physical Security Devices	Vivint Smart Home Arena is a private company based in Salt Lake City, Utah.	ADT
Zix Corporation	Email, Message Security	Zix Corporation provides email encryption, data loss prevention (DLP), and Bring-Your-Own-Device solutions to the healthcare, financial services, insurance, and government sectors in the United States.	Alphabet Inc., Axway Software S.A., Barracuda Networks, Inc., Citrix Systems, Inc., Everbridge, Inc., Fortinet Inc., Microsoft Corporation, MobileIron, Inc., Proofpoint, Inc. & Symantec Corporation

Sources: Cap IQ and Imperial Capital, LLC.



As mentioned previously, the rapid growth of the Internet and smart devices has ushered in the era of BYOD (Bring Your Own Device) and seemingly endless ways to access both productive and destructive content (i.e., malware). We may see sustained investment in security solutions given the inherent need to protect users and assets.

We also believe that the tiles outlined in Figure 4 will change over time and expect to see the merging of various tiles through M&A activity as well as homegrown expansion of existing solutions. We also expect to see new tiles emerge to address unforeseen exploits or security risks. Our CyberTile graphic should be a continuous work in process.



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Section V

Valuation Metrics

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Section V: Valuation Metrics

Security company valuations have historically enjoyed attractive valuations relative the technology industry in general. Figure 6 provides key valuation metrics; Figure 7 provides key operational metrics.

Figure 6: Key Valuation Metrics

Comparable Company Analysis (\$ in millions, except per share amounts)														
Company Name	Ticker	Price as of: 11/30/16	Shares Outstanding	Equity Mkt Value	Total Cash	Total Debt	Enterprise Value	Enterprise Value as a Multiple of:						
								LTM Sales	NTM Sales	LTM EBITDA	NTM EBITDA	LTM EBIT	NTM EPS	
Absolute Software Corporation	TSX:ABT	\$ 6.2	39.0	\$ 242.4	\$ 32.1	\$ -	\$ 210.3	2.4x	2.2x	18.7x	27.0x	NM	31.5x	NM
Barracuda Networks, Inc.	CUDA	22.04	52.3	1,152.7	179.6	4.3	977.4	2.9x	2.7x	39.6x	11.9x	NM	NM	34.8x
BlackBerry Limited	TSX:BB	10.34	526.7	5,446.1	2,100.0	1,329.0	4,675.1	2.7x	4.0x	16.7x	28.1x	NA	NM	NM
CyberArk Software, Ltd.	CYBR	51.01	33.6	1,712.4	252.5	-	1,459.9	7.2x	5.9x	37.2x	22.9x	42.5x	65.5x	40.9x
FireEye, Inc.	FEYE	12.84	171.1	2,196.9	926.2	732.9	2,003.6	2.8x	2.6x	NA	NM	NA	NM	NM
Guidance Software, Inc.	GUID	7.05	32.2	227.1	11.7	4.5	219.9	2.0x	1.9x	NA	20.0x	NA	NM	27.5x
Imperva, Inc.	IMPV	38.15	32.8	1,252.8	259.0	-	993.8	3.8x	3.4x	NA	NM	NA	NM	NM
MobileIron, Inc.	MOBL	4.15	87.9	364.8	79.7	-	285.1	1.8x	1.6x	NA	NA	NA	NM	NM
Palo Alto Networks, Inc.	PANW	134.37	91.7	12,320.4	1,390.0	506.2	11,436.6	7.7x	5.9x	NA	24.0x	NA	NM	44.7x
Proofpoint, Inc.	PFPT	77.01	42.5	3,272.2	412.3	361.3	3,221.2	9.4x	7.0x	NA	NM	NA	NM	NM
Qualys, Inc.	QLYS	33.20	35.7	1,184.9	210.0	-	974.9	5.1x	4.3x	21.2x	13.7x	32.8x	66.4x	39.3x
Radware Ltd.	RDWR	13.41	43.8	586.8	207.0	-	379.8	1.9x	1.9x	50.8x	33.9x	NA	NM	73.9x
Varonis Systems, Inc.	VRNS	29.20	26.7	779.1	112.0	-	667.0	4.3x	3.6x	NA	NA	NA	NM	NM
Zix Corporation	ZIXI	4.45	53.6	238.6	24.8	-	213.8	3.6x	3.3x	21.3x	13.1x	27.3x	51.6x	16.9x
			Mean	\$ 2,065.1	\$ 413.1	\$ 488.9	\$ 1,847.9	3.8x	3.6x	29.3x	21.6x	34.2x	43.0x	39.7x
			Median	1,152.7	207.0	433.8	974.9	2.9x	3.4x	21.3x	22.9x	32.8x	51.6x	39.3x
			High	12,320.4	2,100.0	1,329.0	11,436.6	9.4x	7.0x	50.8x	33.9x	42.5x	66.4x	73.9x
			Low	227.1	11.7	4.3	210.3	1.8x	1.6x	16.7x	11.9x	27.3x	31.5x	16.9x

Sources: Cap IQ and Imperial Capital, LLC.

Figure 7: Key Operational Metrics

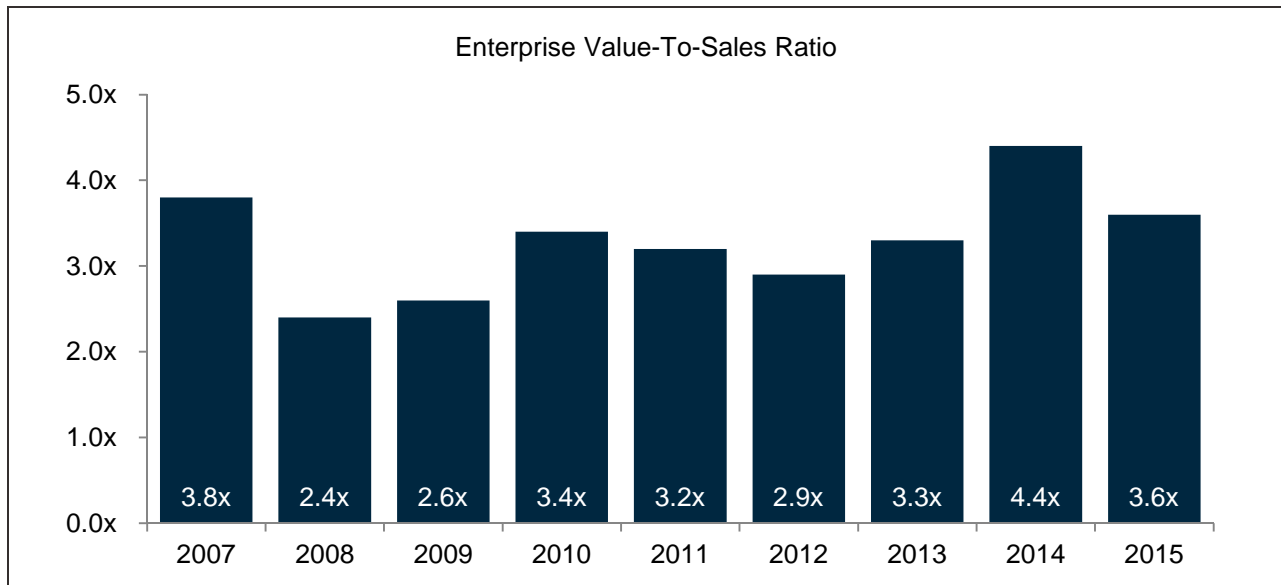
Comparable Company Analysis (\$ in millions, except per share amounts)												
Company Name	Ticker	LTM as of:	LTM Sales	LTM EBITDA	EBITDA Margin	LTM EBIT	EBIT Margin	NTM Sales	NTM EBITDA	LTM EPS	NTM EPS	
Absolute Software Corporation	TSX:ABT	9/30/2016	\$ 87.3	\$ 11.3	12.9%	\$ 1.0	1.2%	\$ 95.3	\$ 7.8	\$ 0.20	\$ (0.03)	
Barracuda Networks, Inc.	CUDA	8/31/2016	338.4	24.7	7.3%	8.6	2.5%	358.9	82.2	0.13	0.63	
BlackBerry Limited	TSX:BB	8/31/2016	1,746.0	280.0	16.0%	NM	NM	1,158.7	166.2	(2.63)	(0.02)	
CyberArk Software, Ltd.	CYBR	9/30/2016	203.7	39.2	19.3%	34.3	16.8%	248.7	63.8	0.78	1.25	
FireEye, Inc.	FEYE	9/30/2016	714.2	NM	NM	NM	NM	764.4	17.0	(3.46)	(0.63)	
Guidance Software, Inc.	GUID	9/30/2016	108.7	NM	NM	NM	NM	114.0	11.0	(0.79)	0.26	
Imperva, Inc.	IMPV	9/30/2016	258.8	NM	NM	NM	NM	290.4	8.1	(2.07)	0.02	
MobileIron, Inc.	MOBL	9/30/2016	161.5	NM	NM	NM	NM	179.1	NM	(0.85)	(0.21)	
Palo Alto Networks, Inc.	PANW	10/31/2016	1,479.4	NM	NM	NM	NM	1,925.5	476.3	(2.81)	3.00	
Proofpoint, Inc.	PFPT	9/30/2016	343.6	NM	NM	NM	NM	461.2	45.1	(2.99)	0.44	
Qualys, Inc.	QLYS	9/30/2016	190.1	46.0	24.2%	29.7	15.6%	224.5	71.0	0.50	0.84	
Radware Ltd.	RDWR	9/30/2016	200.1	7.5	3.7%	NM	NM	196.6	11.2	(0.05)	0.18	
Varonis Systems, Inc.	VRNS	9/30/2016	153.9	NM	NM	NM	NM	184.6	NM	(0.71)	(0.23)	
Zix Corporation	ZIXI	9/30/2016	58.9	10.0	17.0%	7.8	13.3%	64.0	16.3	0.09	0.26	
			Mean	\$ 431.8	\$ 59.8	14.3%	\$ 16.3	9.9%	\$ 447.6	\$ 81.3		
			Median	201.9	24.7	16.0%	8.6	13.3%	236.6	31.1		
			High	1,746.0	280.0	24.2%	34.3	16.8%	1,925.5	476.3		
			Low	58.9	7.5	3.7%	1.0	1.2%	64.0	7.8		

Sources: Cap IQ and Imperial Capital, LLC.



As illustrated in Figure 6 above, publicly traded security companies are trading at a Mean of 3.8x EV/LTM sales and a high of 9.4x EV/LTM sales. By comparison and as shown in Figure 8 below, the EV/sales multiple for the 50 largest transactions in any given year has ranged from a low of 2.4x in 2008 to a high of 4.4x in 2014.

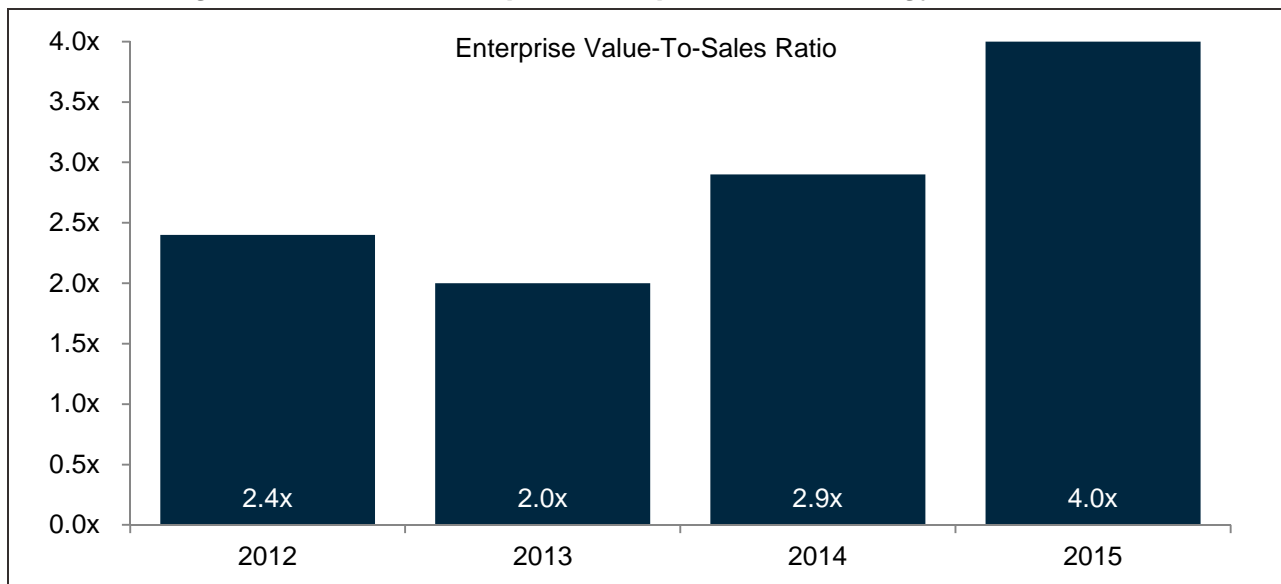
Figure 8: Valuation Multiples for Top 50 Technology Transactions



Source: 451 Research.

Historically, Private Equity firms have paid from a recent low of 2x EV/sales in 2013 to a high of 4x EV/LTM sales in 2015. The 2015 jump in valuation was largely due to the high 9x EV/LTM sales multiple paid by Sliver Lake and Thoma Bravo, which collectively paid \$4.5 billion to take SolarWinds private.

Figure 9: Valuation Multiples for Top 10 PE Technology Transactions



Source: 451 Research.

The pace of M&A activity continues to be strong in the cybersecurity sector. Figure 10 highlights recent cloud and software Cybersecurity transactions. The multiples that were paid for recent transactions indicate to us that investors see opportunities for upside from a combination of organic growth and acquisitions.



Figure 10: Valuation Multiples for Cybersecurity Cloud, Software M&A Transactions

(\$ in millions)

Announce Date	Acquiring Co.	Target Co.	EV Price (\$Mil)	LTM Rev (\$Mil)	EV / Revenue	NTM Rev (\$Mil)	EV / Revenue
Sep-16	TPG/INTC (Joint Venture)	McAfee	\$4,200	N/A	N/A	\$2,310	1.8x
Jul-16	Core Security	Damballa	\$10	N/A	N/A	\$15	0.7x
Jul-16	Avast Software	AVG Technologies	\$1,396	\$430	3.2x	\$465	3.0x
Jun-16	CSCO	CloudLock	\$293	N/A	N/A	\$30	9.8x
Jun-16	Francisco Partners, Elliott Mgmt.	Dell Software Group (incl. Sonicwall)	\$2,400	N/A	N/A	\$1,800	1.3x
Jun-16	Symantec (SYMC)	Blue Coat	\$4,650	\$653	7.1x	\$925	5.0x
Jun-16	Vista Equity Partners	Ping Identity	\$600	N/A	N/A	\$75	8.0x
Jun-16	WatchGuard Tech.	Hexis Cyber Solutions	N/A	N/A	N/A	N/A	N/A
Jun-16	ServiceNow	Brightpoint Security	N/A	N/A	N/A	N/A	N/A
Jun-16	WatchGuard Tech.	KEYW certain assets	N/A	N/A	N/A	N/A	N/A
Apr-16	Lookout	Bluebox Security	N/A	N/A	N/A	N/A	N/A
Feb-16	IBM	Resilient Systems	\$145	N/A	N/A	\$20	7.3x
Feb-16	Providence Equity Partners	Skybox Security	\$96	N/A	N/A	N/A	N/A
Jan-16	FEYE	Invotas	\$20	N/A	N/A	N/A	N/A
Jan-16	FEYE	iSIGHT Partners	\$200	N/A	N/A	\$60	3.3x
Dec-15	SOPH-LN	SurfRight B.V.	\$32	N/A	N/A	\$10	3.2x
Dec-15	Courion	Core Security	\$30	N/A	N/A	N/A	N/A
Nov-15	Blue Coat	Elastica	\$280	N/A	N/A	N/M	N/M
Nov-15	MSFT	Secure Islands	\$85	N/A	N/A	\$10	8.5x

(\$ in millions)

Announce Date	Acquiring Co.	Target Co.	EV Price (\$Mil)	LTM Rev (\$Mil)	EV / Revenue	NTM Rev (\$Mil)	EV / Revenue
Nov-15	AKAM	Bloxx	\$20	N/A	N/A	\$5	4.0x
Oct-15	Raytheon	INTC firewall assets (Stonesoft)	N/A	N/A	N/A	N/A	N/A
Oct-15	CSCO	Lancope	\$452	N/A	N/A	\$90	5.0x
Oct-15	Thales e-Security	Vormetric	\$400	N/A	N/A	\$75	5.3x
Oct-15	Trend Micro	TippingPoint (HP's IPS product line)	\$300	\$169	1.8x	\$184	1.6x
Oct-15	CSCO	Pawaa Software	N/A	N/A	N/A	N/A	N/A
Oct-15	RPD	RevelOps (LogEntries)	\$68	N/A	N/A	\$10	6.8x
Oct-15	LOGM	Marvasol Inc. [dba LastPass]	\$110	\$11	10.0x	\$12	9.2x
Oct-15	CYBR	Viewfinity Inc.	\$35	N/A	N/A	\$10	3.5x
Sep-15	Flexera Software	Secunia BV	\$60	N/A	N/A	\$30	2.0x
Sep-15	MSFT	Adallom	\$250	N/A	N/A	\$15	16.7x
Sep-15	BlackBerry	Good Technology	\$425	N/A	N/A	\$200	2.1x
Aug-15	CA Technologies	Xceedium Inc.	\$100	N/A	N/A	\$20	5.0x
Jul-15	Blue Coat	Perspecsys	\$45	N/A	N/A	\$8	5.6x
Jul-15	CounterTack	ManTech Cyber Solutions International	N/A	N/A	N/A	N/A	N/A
Jul-15	SailPoint Technologies	Whitebox Security Ltd.	\$15	N/A	N/A	\$5	3.0x
Jul-15	SPLK	Caspida	\$190	N/A	N/A	\$10	19.0x
Jun-15	Sophos Plc (Apax Partners)	Reflexion Networks Inc.	\$15	N/A	N/A	\$7	2.1x
Jun-15	CSCO	OpenDNS	\$635	N/A	N/A	\$85	7.5x
Jun-15	CA Technologies	IdMlogic	\$25	N/A	N/A	\$6	4.2x



(\$ in millions)

Announce Date	Acquiring Co.	Target Co.	EV Price (\$Mil)	LTM Rev (\$Mil)	EV / Revenue	NTM Rev (\$Mil)	EV / Revenue
May-15	PANW	CirroSecure	\$18	N/A	N/A	N/A	N/A
Apr-15	BlackBerry	Watchdox	\$125	N/A	N/A	\$17	7.4x
Apr-15	Raytheon	Websense	\$1,900	\$353	5.4x	\$388	4.9x
Apr-15	K1 Corp (financial sponsor)	Courion Corporation	\$70	N/A	N/A	\$35	2.0x
Apr-15	Marlin Equity Partners	Fidelis (General Dynamics)	\$259	N/A	N/A	N/A	N/A
Apr-15	SingTel	Trustwave	\$770	\$216	3.6x	\$153	5.0x
Apr-15	CHKP	Lacoon Mobile Security, Hyperwise	\$80	N/A	N/A	\$10	8.0x
Mar-15	Bain Capital	Blue Coat Systems	\$2,400	N/A	N/A	\$754	3.2x
Dec-14	Belden (BDC)	Tripwire	\$710	\$118	6.0x	\$193	3.7x

Sources: Cap IQ, Wall Street Estimates and Imperial Capital, LLC.

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Section VI

Select Leading Private Company Investors

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Section VI: Select Leading Private Company Investors

For the benefit of our readers, in this inaugural issue of CyberTiles, we are highlighting several leading private company investors. In future issues, we intend to feature the names of additional investors who are investing in leading security companies. We expect to expand our list of investors as we gain greater visibility into the various investment portfolios.

We believe that the investments made by the funds below include some of the leading companies in the cybersecurity sector.

Figure 11: Select Leading Private Company Investors

Investor	Security Related Investments
Accel Partners	Centrify, Code42, ForeScout Technologies, Inc., ForgeRock, Netskope, Sonatype, Inc., Sumo Logic, Tenable Network Security, Varonis Systems, Webroot
Adams Street Partners	Cybera, Damballa, LogRhythm, TeleSign Corporation, ThreatMetrix
Amplify Partners	Conjur Inc., LightCyber
Andreessen Horowitz LLC	Bluebox Security, Bromium, CipherCloud, Illumio, Okta Inc., Pindrop Security, Return Path, Tanium
Atlas Venture L.P. / Accomplice	Bit9, Recorded Future, Sqrrl, Veracode
August Capital	Fastly, Splunk, ThreatMetrix
Bain Capital Ventures	Blue Coat, ObserveIT, Rapid7, Wave Systems Corp.
Battery Ventures	Agari, Blue Coat, EdgeWave, Guardicore, Light Cyber, RiskIQ
Benchmark Capital	CloudPassage, Duo Security, Proofpoint, Skybox Security Inc.
Bessemer Venture Partners	Bastille, CloudLock, Endgame Inc., PhishMe, Inc., Return Path, ThreatTrack Security
The Blackstone Group	Accuvant, Cylance Inc., Optiv Security, Phantom Cyber Corporation, RedOwl Analytics
DAG Ventures	FireEye, OpenDNS, Proofpoint
Draper Fisher Jurvetson	Ping Identity, Qosmos, Zettaset
EPIC Ventures	HyTrust, Zettaset
Fairhaven Capital Partners	CounterTack, Cylance Inc., Digital Guardian, Prelert, Resilient Systems
Fidelity Management & Research Company	Imperva, Infoblox, Verint

Investor	Security Related Investments
Foundation Capital	Cyphort Inc., ForgeRock, Guardian Analytics, Ionic Security, Phantom Cyber Corporation, Venafi
Francisco Partners	Blue Coat, Barracuda, Prodera Networks, WatchGuard
General Catalyst Partners	Cylance Inc., Digital Guardian, Prekert, Resilient Systems
Glilot	CyberX, Dojo Labs, Intsights, LightCyber, Nkloom, Solebit
Glynn Capital Management	Intel Security, OpenDNS, PalantirTechnologies, Skybox Security Inc.
Gold Hill Capital Management	Digital Guardian, FireEye, Imperva, MetricStream, Skybox Security Inc.
Goldman Sachs Group	Bivio Networks, CounterTack, CyberArk Software Inc., FireEye, MetricStream
Google Ventures	Duo Security, Ionic Security, Recorded Future, Shape Security, ThreatStream
Greylock Partners	Agari, Imperva, Okta Inc., OpenDNS, RedHat Inc., Skyhigh Networks, Sumo Logic
Grotech Ventures	DB Networks, Invincea Inc., LogRhythm, ThreatConnect
HarbourVest Partners	Panda Security, SpectorSoft
Highland Capital Partners	Bit9, Bromium, Gigamon, Malwarebytes, vArmour
Icon Ventures	FireEye, Iconic Security, Proofpoint
Index Ventures	Adallom, Centrifry, CipherCloud, Mimecast
Industry Ventures	AlienVault, Fortinet, Trustware
Insight Venture Partners	Firemon, Mimecast, ThreatTrack Security, Veeam Software
Institutional Venture Partners	MobileIron, Pindrop Security, ThreatStream
Intel Capital	Absolute Software, Adaptive Mobile, Agilance, AlienVault, Bromium, ForeScout Technologies, Inc., FortScale, HyTrust, Infineon Technologies AG, Lancope, Lynx Software Technologies, Mocana, Netronome, PerspecSys Inc., Prekert, Vmware
Investcorp	Optiv Security
Jerusalem Venture Partners (JVP)	AppDome, CoroNet, CyberArk, GreenSQL, Morphiesec, SCADAFence, SecBI, ThetaRay
JK&B Capital	Splunk, Viewfinity, Vormetric Inc.
Khosla Ventures	Cylance Inc., DB Networks, Okta Inc.



Investor	Security Related Investments
Kleiner Perkins Caufield & Byers	Alert Enterprise, Alien Vault, Area 1 Security, Bit9, Endgame, Inc., Ionic Security, Shape Security
Lightspeed Venture Partners	Bromium, Click Security, MobileIron, Netskope, Skybox Security Inc., Zscaler
Mayfield Fund	Akamai Technologies, Centrifry, Elastica, WEBROOT
Menlo Ventures	vArmour
MeriTech Capital Partners	Bromium, ForgeRock, Fortinet, Imperva, Veracode
Northgate Capital Group	EdgeWave, MobileIron, OpenDNS
Norwest Venture Partners	Bitglass, Exabeam, MobileIron, Seculert, Shape Security
OurCrowd	AppDome, Applango, BioCatch, Convertix, Fireblade, Morphiesec
Paladin Capital Group	Damballa, Endgame, Inc., PerspecSys Inc., PhishMe Inc., ProtectWise, ThreatStream
Salesforce Ventures	Checkmarx, CloudLock, Skyhigh Networks
Sequoia Capital	Adallom, Barracuda Networks, Bit9, Click Security, Okta Inc., Skyhigh Networks, Sumo Logic
Sierra Ventures	Prekert, Shape Security, Zimperium
Silver Lake	Imperva, SolarWinds
Split Rock Partners	Code42, Guardian Analytics, Vormetric Inc.
SSgA Funds Management	Unisys, Verint, Zix Corporation
Summit Partners LLP	RiskIQ, TeleSign Corporation
Sverica Capital Management	Optiv Security
Technology Crossover Ventures	WEBROOT
TPG	McAfee
Thoma Bravo	Bomgar, Imperva, SailPoint, SolarWinds, Tripwire
Trident Capital	HyTrust, Mocana, Qualys
U.S. Venture Partners	AccelOps, Appthority, Imperva, ThreatMetrix
Vista Equity Partners	Ping Identity, Return Path

Sources: Cap IQ and Imperial Capital, LLC.

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Section VII

Select Leading Private U.S. Security Companies



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Section VII: Select Leading U.S. Private Security Companies

Figure 12 highlights the names of select and leading private security companies based in the U.S. Due to the hundreds of candidates, we found it difficult to narrow the list down to a select subset of names. There are additional names we are tracking.

The list below will likely change and evolve over time and so we look forward to providing periodic updates. We have provided the CyberTile designation that we believe best fits the core mission of each company. As we update our list, we will follow up with the companies to ensure we have captured the essence of their security solutions.

Figure 12: Select Leading Private Security Companies

Company Name	CyberTile Designation	Business Description
Accellion	Data, Content Security	Accellion provides a mobile content platform that enables secure access and sharing of enterprise content, as well as enables mobile workers to create, edit, and share enterprise content securely.
AccelOps, Inc.	Network Security, Forensics	AccelOps, Inc. provides integrated data center and cloud service monitoring software solutions to enterprises and service providers.
Accuvant, Inc.	Managed Security Services	Accuvant, Inc. provides information security strategy and information technology security consulting services.
Agari Data, Inc.	Email, Message Security	Agari Data, Inc. provides email security solutions.
Agilance, Inc.	SIEM, Big Data Analytics	Agilance, Inc., a big data risk company, provides integrated solutions for operational and security risk intelligence for businesses.
Alert Logic, Inc.	Managed Security Services	Alert Logic, Inc. provides Security-as-a-Service solutions for customers of hosting and cloud service providers.
AlertEnterprise Inc.	User Authentication, Identity Management	AlertEnterprise Inc. provides information technology and operational technology convergence software for corporate and critical infrastructure protection.
AlienVault, Inc.	Threat Detection, Intelligence	AlienVault, Inc. provides unified security management and crowd-sourced threat intelligence solutions.
Apperian, Inc.	Application Test, Security, Analysis	Apperian, Inc. operates as a mobile application management company.
Appthority	Mobile, Cloud Threat Detection	Appthority, Inc. provides a cloud-based enterprise mobile threat protection solution that assesses and manages the mobile risk to enterprises.
Area 1 Security, Inc.	Threat Detection, Intelligence	Area 1 Security, Inc. develops threat intelligence solution for eliminating targeted socially engineered cyber-attacks.

Company Name	CyberTile Designation	Business Description
Bastille Networks	Network Threat Detection	Bastille Networks, Inc., a security company, develops software and sensor technologies to detect and mitigate threats affecting the Internet of Things (IoT). Its software and sensor technology secures the IoT on corporate campuses by identifying airborne threats, and allowing for preemptive response.
BioCatch	User Authentication, Identity Management	BioCatch Ltd. develops and delivers technology solutions for cyber threats.
Carbon Black (Bit9)	Endpoint Protection, Discovery	Bit9, Inc. provides endpoint threat detection, response, and prevention solutions that monitor and record various activities on servers and endpoints to detect and stop cyber threats that evade traditional defenses.
BitDefender, LLC	Antivirus, Malware Detection, Prevention	BitDefender, LLC develops security software solutions.
Bitglass, Inc.	User, Traffic Anomaly Detection	Bitglass, Inc. provides security solutions that automatically segments, tracks, and secures businesses' sensitive data across cloud and mobile without invading the employees' privacy.
Bivio Networks, Inc.	Network Analytics, Deep Packet Inspection	Bivio Networks, Inc. provides cyber security and network control solutions to enterprise organizations, defense and intelligence agencies, military organizations, service providers, government/law enforcement agencies, and network operators worldwide.
Black Duck Software, Inc.	Managed Security Services	Black Duck Software, Inc. provides open-source logistics software solutions for open-source software (OSS) adoption, governance, and management.
BlackStratus	Threat Detection, Intelligence	BlackStratus, Inc., a software developer, provides products that manage and correlate cloud-based security information for companies and governments worldwide. Its products include data center centric logging and correlation software delivered through an appliance for the collection, storage, and retrieval of IT security logs.
Bluebox Security, Inc.	Mobile, Device Management Solutions	Bluebox Security, Inc. operates as a stealth startup tackling enterprise mobile security company.
Bromium, Inc.	Endpoint Protection, Discovery	Bromium, Inc. provides micro-virtualization technology solutions for addressing enterprise security problems and protecting end users against advanced malware.



Company Name	CyberTile Designation	Business Description
Centrify Corporation	User Authentication, Identity Management	Centrify Corporation provides unified identity management across data center, cloud, and mobile.
Centripetal Networks Inc.	Firewall, Threat Prevention	Centripetal Networks Inc. designs new algorithms, and hardware and software processes and systems for cyber-security.
CheckMarx.com LTD	Security Tools	CheckMarx.com LTD. develops software solutions used to identify security vulnerabilities in web and mobile applications.
CipherCloud, Inc.	Content Security, Storage	CipherCloud, Inc. provides cloud information protection solutions.
Cleo	Data, Content Security	Cleo is a leader in managed file transfer and information integration, enabling efficient business data movement and orchestration.
Click Security, Inc.	SIEM, Big Data Analytics	Click Security, Inc. provides real-time security analytics for enterprises, higher education systems, critical infrastructure, and government agencies to protect their networks by automating the process of finding and closing security breaches worldwide.
Cloudflare, Inc.	DDoS, Application Security	Cloudflare, Inc. develops solutions that protect and accelerate websites online.
CloudPassage Inc.	N/A	CloudPassage Inc. provides server security products for public and hybrid cloud hosting environments.
Code 42 Software, Inc.	Endpoint Protection, Discovery	Code 42 Software, Inc. provides endpoint data protection and management solutions that provide integrated file sharing and backup at work, at home, and everywhere else.
Comodo Group, Inc.	Firewall, Threat Prevention	Comodo is a certificate authority and Internet security organization that provides mobile security, firewall, and antivirus solutions, email security and messaging, hosted DNS, authentication, endpoint security, backup and online storage, and public key infrastructure management solutions.
CounterTack, Inc.	Endpoint Protection, Discovery	CounterTack, Inc. provides real-time endpoint threat detection and response solutions to enterprises and government organizations.
CrowdStrike Holdings, Inc.	Endpoint Protection, Discovery	CrowdStrike, Inc. develops malware protection, threat intelligence, and response solutions. The company prevents breaches and responds to malware and malware-free attacks.
Cybera, Inc.	Network Security, Forensics	Cybera, Inc. provides network security services.

Company Name	CyberTile Designation	Business Description
Cylance Inc.	Threat Detection, Intelligence	Cylance Inc. develops antivirus and endpoint protection solutions.
Cyphort Inc.	Network Security	Cyphort Inc. develops software and appliance based solutions to protect enterprises and governments against cybercrime attacks with payloads.
CYREN Ltd.	Email, Message Security	CYREN Ltd., together with its subsidiaries, provides Internet security solutions in the United States, Germany, Europe, Asia, Israel, and internationally.
DB Networks, Inc.	User, Traffic Anomaly Detection	DB Networks, Inc. provides behavioral analysis solutions for intrusion detection and database security.
Delta ID Inc.	Physical Security Devices	Delta ID Inc. offer biometric products and applications for identity enrollment and authentication.
DigiCert, Inc.	User Authentication, Identity Management	DigiCert, Inc., a certificate company, provides SSL certificates and SSL management tools for small and large companies in various industries.
Digital Defense, Inc.	Managed Security Services	Digital Defense, Inc. provides managed cloud-based information technology security governance, risk management, and compliance solutions.
Digital Guardian, Inc.	Content Security, Storage	Digital Guardian, Inc. provides data security solutions to protect data from insider and outsider threats.
Digital Shadows Ltd.	Threat Detection, Intelligence	Digital Shadows Ltd., a cyber threat intelligence company, provides protection from data loss and targeted cyber-attack for organizations.
Distil, Inc.	Antivirus, Malware Detection, Prevention	Distil, Inc. offers cloud-based software as a service that protects online content from malicious bots, Web scrapers, data mining, and other malicious/harmful traffic.
Duo Security, Inc.	User Authentication, Identity Management	Duo Security, Inc. provides two-factor authentication as a service to prevent account takeover and data theft.
Eagle Eye Networks, Inc.	Managed Security Services	Eagle Eye Networks, Inc. provides on-demand cloud based security and operations video management system (VMS) for cloud and on-premise recording.
Endgame, Inc.	Threat Detection, Intelligence	Endgame, Inc. provides security intelligence and analytics solutions for federal and commercial customers/enterprises to give them real-time visibility and actionable insight across their digital domains.
eSentire Inc.	Managed Security Services	eSentire Inc. provides managed security solutions to help guard the intellectual property and infrastructure of enterprises.
Exabeam, Inc.	User, Traffic Anomaly Detection	Exabeam, Inc. offers data security solutions.



Company Name	CyberTile Designation	Business Description
FireMon, LLC	Threat Detection, Intelligence	FireMon, LLC, an enterprise security management company, provides security intelligence solutions for infrastructure, policy, and information technology (IT) risk for large organizations.
ForeScout Technologies, Inc.	Network Security, Forensics	ForeScout Technologies, Inc. develops cloud based network solutions for enterprises worldwide.
ForgeRock AS	User Authentication, Identity Management	ForgeRock AS provides open-source identity and access management solutions for enterprises.
GFI Software LTD.	Email, Message Security	GFI Software LTD. provides Web and mail security, archiving, backup and fax, networking and security software, and hosted IT solutions for small and medium-sized businesses, homes, managed service providers (MSPs), OEMs and cloud providers, and education and healthcare industries worldwide.
GhostMail	Email, Message Security	GhostMail offers free military encrypted and self-destructing email accounts, keeping our users as safe and private as possible.
Gigya, Inc.	User Authentication, Identity Management	Gigya, Inc. develops customer identity management solutions to build relationships by turning visitors into known, loyal, and engaged customers.
GreenSQL LTD.	Application Testing, Security, Analysis	GreenSQL LTD. provides unified database security solutions for small and medium businesses, and enterprise markets worldwide.
Guardian Analytics, Inc.	User, Traffic Anomaly Detection	Guardian Analytics, Inc. develops and delivers behavior-based fraud prevention solutions that prevent information loss, banking fraud, and identity theft.
GuardiCore Ltd.	Cloud, Data Center Security Infrastructure	GuardiCore Ltd. develops security solutions for data centers.
HyTrust, Inc.	Cloud, Data Center Security Infrastructure	HyTrust, Inc., a cloud security automation company, provides administrative control, visibility, auditing, and data security for private, hybrid, and public clouds.
Illumio, Inc.	User, Traffic Anomaly Detection	Illumio, Inc. develops and distributes cloud-based security solutions.
Intellivision	Physical Security Devices	IntelliVision Corp. develops and sells intelligent video analytics, video content analysis, and automated surveillance solutions.
Ionic Security, Inc.	Endpoint Protection, Discovery	Ionic Security, Inc. offers a distributed data protection platform.
iSight Security, Inc.	Threat Detection, Intelligence	iSight Security, Inc., doing business as iSight Partners, Inc., provides cyber threat intelligence solutions to public sector and commercial entities in the United States and internationally.

Company Name	CyberTile Designation	Business Description
Kaspersky Lab, Inc.	Antivirus, Malware Detection, Prevention	Kaspersky Lab, Inc. develops and licenses anti-malware technology for Internet-threats.
Light Cyber Ltd.	Threat Detection, Intelligence	Light Cyber Ltd. develops solutions for identifying and preventing cyber-attacks and advanced persistent threats (APT).
LogRhythm, Inc.	SIEM, Big Data Analytics	LogRhythm, Inc. designs and develops security intelligence and analytics platform.
Lookout	Mobile Device, Management Solutions	Lookout, Inc., a cybersecurity company, provides cloud-based technology solutions for mobile security.
Malwarebytes Corporation	Antivirus, Malware Detection, Prevention	Malwarebytes Corporation develops anti-malware software solutions to consumers, small businesses, and enterprises in the United States and internationally.
Marble Security, Inc.	Mobile, Device Management, Solutions	Marble Security, Inc. provides mobile security management (MDM), a mobile security cloud service to assess the risk posture of mobile users' behavior, device, applications, location, and network connections to control access to corporate networks, applications, and cloud services by learning and adapting to emerging cyber-threats in real time.
MetricStream, Inc.	Vulnerability Assessment, Compliance	MetricStream, Inc. designs and provides governance, risk, and compliance software solutions.
Mobi Magic	Mobile Device, Management Solutions	MobiMagic LLC develops an Internet software platform that offers POS software companies an integration path for running and managing their operations through an Apple iPhone, Apple iPod Touch, and Google Android devices.
Mocana Corporation	Email, Message Security	Mocana Corporation operates an enterprise mobile application security platform that facilitates organizations to deliver business-critical mobile applications for internal and external users.
Mojo Networks (fka AirTight Networks, Inc.)	Managed Security Services	AirTight Networks, Inc. offers cloud-managed Wi-Fi access and wireless security solutions.
Netskope, Inc.	Content Security, Storage	Netskope, Inc., a cloud application analytics and policy company, provides a SaaS based platform that helps people to get and use their favorite cloud applications safely.
Okta, Inc.	User Authentication, Identity Management	Okta, Inc. provides on-demand identity and access management services in the United States.



Company Name	CyberTile Designation	Business Description
OpenPeak	Mobile Device, Management Solutions	OpenPeak Inc. provides mobile cybersecurity solutions for government, education, and enterprise customers worldwide.
Palantir Technologies Inc.	SIEM, Big Data Analytics	Palantir Technologies Inc. develops and builds data fusion platforms for integrating, managing, and securing any kind of data at massive scale.
Panda Security, S.L.	Antivirus, Malware Detection, Prevention	Panda Security, S.L. provides cloud-based security solutions and on-premise solutions for home users and enterprises worldwide.
PhishMe, Inc.	Threat Detection, Intelligence	PhishMe, Inc. provides phishing threat management solutions that empower employees to be a layer of human security sensors against phishing, malware, and drive-by attacks.
Pindrop Security, Inc.	Mobile, Device Management Solutions	Pindrop Security provides caller-ID products to detect, report, and mitigate phone fraud.
Ping Identity Corporation	User Authentication, Identity Management	Ping Identity Corporation provides cloud identity security and management solutions.
Prelert Inc.	Threat Detection, Intelligence	Prelert Inc. develops and delivers predictive analytics software for IT infrastructure and applications performance management.
Qosmos SA	Network Security	Qosmos SA provides network intelligence (NI)/deep packet inspection (DPI) technologies that identify and analyze data traveling over networks in real time.
Recorded Future, Inc.	Threat Detection, Intelligence	Recorded Future, Inc. provides real-time threat intelligence to information security analysts to defend their organization from cyber-attacks.
RedJacket	Network Security	RedJack provides actionable information and alerts to prevent breaches, defend against attacks, and overcome adversaries.
RedOwl Analytics, LLC	Vulnerability Assessment, Compliance	RedOwl Analytics, LLC provides software solutions for organizations to analyze their digital communications data.
Resilient Systems, Inc.	Threat Detection, Intelligence	Resilient Systems, Inc. provides an incident response platform that empowers organizations to thrive in the face of cyber-attacks and business crises.
Return Path, Inc.	Email, Message Security	Acquired by Proofpoint, Inc. Email Fraud Protection Division of Return Path, Inc. develops and offers a cloud-based email fraud protection solution.
RiskIQ	Email, Message Security	RiskIQ, Inc. develops cloud-based security solutions that eliminate email threats and fraud.

Company Name	CyberTile Designation	Business Description
SailPoint Technologies, Inc.	User Authentication, Identity Management	SailPoint Technologies, Inc. provides on-premises or cloud based identity and access management (IAM) solutions that allow organizations to deliver and manage user access from any device to data and applications residing in the datacenter, on mobile devices, and in the cloud.
Seculert Ltd.	Antivirus, Malware Detection, Prevention	Seculert Ltd. provides cloud-based cyber-threat management services to detect and prevent cyber threats from infiltrating in to networks of enterprises, governments, and service providers.
Shape Security, Inc.	Antivirus, Malware Detection, Prevention	Shape Security, Inc. develops web defense products.
Skybox Security, Inc.	Vulnerability Assessment, Compliance	Skybox Security, Inc. provides risk analytics for enterprise security management.
Skyhigh Networks, Inc.	User Authentication, Identity Management	Skyhigh Networks, Inc., a cloud access security company, enables companies to embrace cloud services with appropriate levels of security, compliance, and governance for financial services, professional services, healthcare, high technology, media and entertainment, manufacturing, and legal customers.
SpectorSoft Corporation	Network Security, Forensics	SpectorSoft Corporation develops, markets, and supports PC/Internet monitoring and surveillance software solutions for business, education, government, and general home users.
Sqrrl Data, Inc.	SIEM, Big Data Analytics	Sqrrl Data, Inc. develops Sqrrl Enterprise, a scalable Big Data platform for building real-time analytical applications.
Sumo Logic, Inc.	SIEM, Big Data Analytics	Sumo Logic, Inc., a machine data intelligence company, provides cloud-based log management and analytics services.
Tanium Inc.	Network Security, Forensics	Tanium Inc. provides security and management system solutions that allow enterprises and government organizations to query and modify their managed computer assets.
TeleSign Corporation	Mobile, Device Management Services	TeleSign Corporation, a mobile identity company, provides phone-based verification, authentication, and notification services through SMS and voice messaging for online companies.
Tenable Network Security, Inc.	Vulnerability Assessment, Compliance	Tenable Network Security, Inc. provides continuous network monitoring solutions to identify vulnerabilities, reduce risk, and ensure compliance.



Company Name	CyberTile Designation	Business Description
ThreatConnect, Inc.	Threat Detection, Intelligence	ThreatConnect, Inc. provides a threat intelligence solution.
ThreatMetrix Inc.	Threat Detection, Intelligence	ThreatMetrix Inc. provides context-based business security and fraud prevention solutions for businesses in various industries worldwide.
THREATSTREAM, Inc.	Threat Detection, Intelligence	THREATSTREAM, Inc. develops and delivers threat intelligence platform.
ThreatTrack Security	Antivirus, Malware Detection, Prevention	ThreatTrack Security, Inc. develops and delivers cyber security solutions that expose, analyze, and eliminate malicious threats.
TrustWave Holdings, Inc.	Managed Services	TrustWave Holdings, Inc. provides on-demand data security and payment card industry compliance management solutions to businesses and organizations worldwide.
vArmour Networks, Inc.	User, Traffic Anomaly Detection	vArmour Networks, Inc. provides software-defined security solutions for virtualized data centers for service provider, enterprise, and government cloud operators in the United States and internationally.
Varonis Systems, Inc.	Content Security, Storage	Varonis Systems, Inc. provides software platform for enterprises to map, analyze, manage, and migrate their unstructured data.
Vaultive, Inc.	Content Security, Storage	Vaultive, Inc. provides cloud data encryption solutions.
Vectra Networks, Inc.	Threat Detection, Intelligence	Vectra Networks, Inc., a cybersecurity company, develops an X-series platform that instantly identifies cyber-attacks in organizations.
Venafi, Inc.	User Authentication, Identity Management	Venafi, Inc., a cyber security company, provides enterprise key and certificate management security solutions.
Veracode, Inc.	Application Test, Security, Analysis	Veracode, Inc. provides a cloud-based application security platform.
Viewfinity, Inc.	Threat Detection, Intelligence	Viewfinity, Inc. provides generation application control and privilege management solutions for secure securing desktop, laptop, and server environments in enterprises.
Vormetric, Inc.	Content Security, Storage	Vormetric, Inc. provides data security solutions that protect data-at-rest in physical, virtual, big data, and cloud environments for businesses and governments in the United States and internationally.
WatchGuard Technologies, Inc.	Network Security, Forensics	WatchGuard Technologies, Inc. manufactures network security products.

Company Name	CyberTile Designation	Business Description
Webroot Inc.	Antivirus, Malware Detection, Prevention	Webroot Inc., an Internet security company, provides cloud-based Internet threat detection solutions for consumers, businesses, and enterprises.
White Ops, Inc.	SIEM, Big Data Analytics	White Ops, Inc. provides online fraud detection solutions.
Zettaset	SIEM, Big Data Analytics	Zettaset provides data collection, analytics, and visualization solutions.
Zscaler, Inc.	Managed Security Services	Zscaler, Inc. operates a cloud-based Internet security platform.

Sources: Cap IQ and Imperial Capital, LLC.



Section VIII

Select Leading Private Israeli Security Companies

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Section VIII: Select Leading Private Israeli Security Companies

Figure 13 highlights the names of select and leading private security companies based in Israel. As with the U.S. based competitors, it was very difficult to get the list of candidates down to the select subset of names outlined below. We are tracking additional names and will provide periodic updates.

As with our list of U.S. based security firms, we expect that the list of Israeli companies outlined below will change and evolve over time. We look forward to providing periodic updates and have provided the CyberTile designation that we believe best fits the core mission of each company. As we update our list, we will follow up with the companies to ensure we have captured the essence of their security solutions.

Figure 13: Select Leading Private Israeli Security Companies

Company Name	CyberTile Designation	Business Description
AppDome	Mobile Device, Management Solutions	AppDome Ltd. develops mobile application protection solutions that enable compliance, productivity, and security for global enterprises across industries in financial, healthcare, e-commerce, and other sectors.
BioCatch	User Authentication, Identity Management	BioCatch Ltd. develops and delivers technology solutions for cyber threats.
CheckMarx.com LTD	Application Testing, Analytic, Tools	CheckMarx.com LTD. develops software solutions used to identify security vulnerabilities in web and mobile applications.
Clear Cut Ltd.	Managed Security Services	Clear-Cut Ltd is an Israeli technology and global consulting company; the focus being command & control systems information technology and the aerospace industry.
Comsec Consulting Ltd.	Managed Security Services	Comsec Consulting Ltd. provides cyber and information security consulting services for enterprises globally.
CoroNet	Acquired by Compuware	As of November 9, 1995, Coronet Systems, Inc. was acquired by Compuware Corp. Coronet Systems, Inc. develops network management tools for managing both network communications and applications.
Cyber X, Inc.	Threat Detection, Intelligence	Cyber X, Inc. provides security solutions for critical networks.

Company Name	CyberTile Designation	Business Description
CyberSense Inc. (dba TrapX Security)	Threat Detection, Intelligence	CyberSense Inc. provides cloud-based and on-premises cyber-security solutions.
Dojo Labs	Physical Security Devices	Dojo-Labs, Inc. develops a security technology that connects to client's network and acts as the essential layer between their smart devices and threats to their security and privacy.
Dyadic Security Ltd	Content Security, Storage	Dyadic Security Ltd. provides distributed security module software solutions.
Enforcive, Inc.	Network Security, Forensics	Enforcive, Inc. develops and markets data security software and network security audit solutions for IBM i, AS/400, iSeries, and mainframe computers.
Fireblade	DDoS, Application Security	Fireblade Ltd. provides Website security and performance services.
FireLayers, Inc.	Threat Detection, Intelligence	FireLayers, Inc. creates solutions that empower organizations to control and protect their cloud applications.
GreenSQL	Application, Testing, Security, Analysis	HexaTier Ltd. provides database security solutions for organization in Israel and internationally.
HYBRID SECURITY	Threat Detection, Intelligence	HYBRID SECURITY, a cyber software vendor, engages in developing Web fraud detection solutions for telecommunication operators, Web-dependent businesses, and online businesses.
I Am Real LTD.	User Authentication, Identity Management	I Am Real LTD. verifies online identities by analyzing social networks big data.
Indegy Company	Content Security, Storage	Indegy Company develops and operates a platform that protects critical data servers from the threat of a cyber-attack.
Lacoon Security Ltd.	Mobile, Device Management Solutions	Lacoon Security Ltd. provides mobile cyber security solutions.
LightCyber	Threat Detection, Intelligence	LightCyber Ltd. develops solutions for identifying and preventing cyber-attacks and advanced persistent threats (APT).
Morphisec	Threat Detection, Intelligence	Morphisec Technologies Ltd. develops cyber security software.



Company Name	CyberTile Designation	Business Description
NextNine Ltd.	Cloud, Data Center Security Infrastructure	NextNine Ltd. develops operational technology security management software for industrial and critical infrastructure markets.
Nyotron Information Security Ltd.	Antivirus, Malware Detection, Prevention	Nyotron Information Security Ltd. develops antivirus software for clients in Israel, Europe, and internationally.
PineApp Ltd.	Email, Message Security	PineApp Ltd. provides email security and archiving, and Web filtering solution as an appliance or software for service providers to offer cloud-managed-services and a disaster recovery plan solution to their customers.
Re-Sec Technologies Ltd.	SIEM, Big Data Analytics	Re-Sec Technologies Ltd. develops MachineSafe platform, which adds a new layer of security for enterprises.
SCADAFence Ltd.	Network Security, Forensics	SCADAFence Ltd. develops cyber security solutions to protect the industrial Internet of Things in manufacturing industries and critical infrastructure.
SecBI	Endpoint Protection, Discovery	SecBi LTD. develops and delivers incident investigation and response platform.
Skycure	Mobile, Device Management Solutions	Skycure operates as a mobile firewall software developer.
Theta Ray Ltd.	SIEM, Big Data Analytics	Theta Ray Ltd. offers malware detection and prevention solutions for critical infrastructure, strategic installations, communication systems, and financial systems.

Source: Cap IQ, Imperial Capital, LLC.

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Section IX

Key Contacts



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Section IX: Key Contacts

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