



TECHNOLOGY, MEDIA, & TELECOM

QUARTERLY SOFTWARE SECTOR REVIEW | 1Q 2019

HW Harris Williams

HARRIS WILLIAMS OVERVIEW

HARRIS WILLIAMS (“HW”) GLOBAL ADVISORY PLATFORM

KEY FACTS

- Founded in 1991
- 330+ professionals across eight offices globally
- 21st record year in 2018
- 10 industry groups



HW TECHNOLOGY, MEDIA & TELECOM (“TMT”) GROUP FOCUS AREAS

VERTICAL FOCUS AREAS

- Compliance Software
- CRM and Member Management Software
- Data and Analytics
- Enterprise Software
- Human Capital Management
- Infrastructure and Security Software
- IT and Tech Enabled Services
- Managed Services, Hosting, Data Center Solutions
- Online Marketing, Data, and Research

HORIZONTAL FOCUS AREAS

- Architecture, Engineering, and Construction
- eCommerce and Retail Software
- Education Technology
- Energy Technology
- Facilities and Real Estate Technology
- Financial Technology
- Government Technology
- Healthcare IT
- Industrial and Supply Chain Software

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SELECT RECENT HW TMT TRANSACTIONS

 has acquired 	 has received a strategic investment from 	 has been acquired by 	 has acquired 	 has been acquired by 	 has acquired 	 has been acquired by 	 has acquired 	 has been acquired by 	 has been acquired by 	 has been acquired by LIGHTYEAR CAPITAL & 	 has merged with
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CASE STUDY: PAYIT

HW's TMT Group advised PayIt on its strategic investment from Insight Partners.



has received a strategic
investment from



COMPANY OVERVIEW

PayIt is a leading provider of next generation, integrated digital government software and payment solutions, designed to improve government operations, revenue collection, and citizen engagement.

Through its highly configurable and extensible rules-based SaaS platform, PayIt improves the way citizens interact with government by simplifying the maze of government agencies to provide users with an intuitive, contextual experience.

The Company's solution seamlessly integrates across existing technology infrastructure to connect disparate systems and data, making government smarter, modern, and more convenient for all constituents.

RELEVANT SUB-SECTORS

FINANCIAL
TECHNOLOGY

GOVERNMENT
TECHNOLOGY

SAAS

MOBILE

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SELECT SOFTWARE M&A TRANSACTIONS – 1Q 2019

Closed March 6, 2019



Enterprise Value: NA EV / Revenue: NA
Revenue: NA EV / EBITDA: NA

Boeing's acquisition of ForeFlight

- ForeFlight provides digital flight planning and navigation software for general aviation, business aviation, military, and commercial airline pilots worldwide.
- The Company's digital flight planning application simplifies complex flight planning by gathering destination information, mapping flight routes, managing inflight electronic charts, and logging flight characteristics.
- Following the acquisition, Boeing will leverage ForeFlight's experience in business and general aviation to provide integrated digital lifecycle solutions to Boeing's commercial and government aviation customers.

Closed February 28, 2019



Enterprise Value: \$195M EV / Revenue: 2.8x
Revenue: \$70M EV / EBITDA: NA

Tyler Technologies' acquisition of MicroPact

- MicroPact provides cloud-based, vertically-oriented case management and business process management applications to more than 350 U.S. Government agencies and Fortune 500 corporations.
- The Company's web-based, low-code application development platform enables clients to generate efficiencies in enterprise workflows and quickly solve complex challenges by providing organizations with the tools to develop applications quickly.
- The acquisition of MicroPact significantly expands Tyler Technologies' addressable market by adding a presence in federal government services, while expanding their product portfolio into new verticals, specifically health and human services.

Closed February 4, 2019



Enterprise Value: HW Conf. EV / Revenue: HW Conf.
Revenue: HW Conf. EV / EBITDA: HW Conf.

DiscoverOrg's acquisition of ZoomInfo

- ZoomInfo provides cloud-based sales and go-to-market intelligence and data for use by sales and marketing professionals.
- The Company's comprehensive business database combines user behaviors, organizational data, and artificial intelligence, to enable clients to streamline their sales workflows and optimize sales and marketing effectiveness.
- The combined company will provide customers with a fully comprehensive B2B sales and marketing intelligence platform.

Closed January 29, 2019



Enterprise Value: NA EV / Revenue: NA
Revenue: NA EV / EBITDA: NA

HgCapital's acquisition of Transporeon Group

- Transporeon provides a SaaS-based intelligent transport logistics platform, serving a global network of more than 1,000 shippers and 90,000 carriers across 100 countries.
- The Company's logistics platform enables clients to simplify the transportation process and reduce transportation costs through sourcing, communicating, collaborating, and transacting more efficiently across the supply chain.
- Post acquisition, Transporeon will leverage Hg's extensive SaaS expertise and capital to further organic growth in a large, highly inefficient, and fragmented global logistics market.

Announced January 13, 2019



Enterprise Value: \$1,000M EV / Revenue: 8.0x
Revenue: \$125M EV / EBITDA: NA

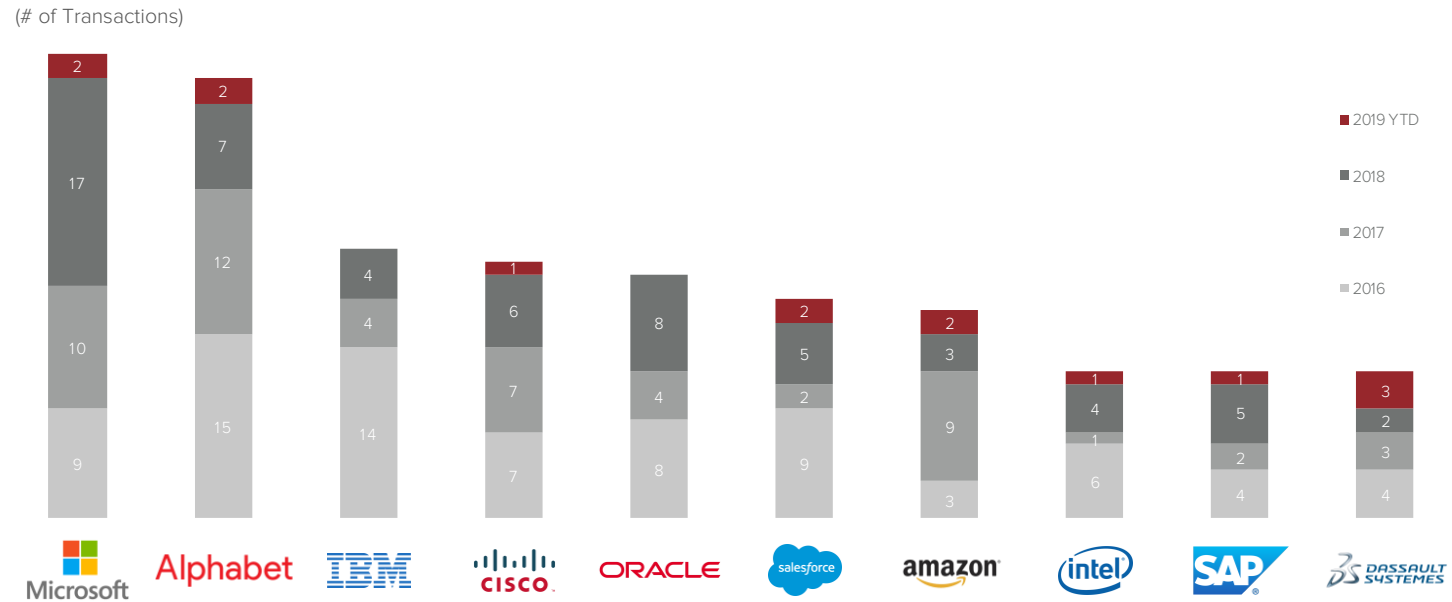
Vista Equity Partners' pending acquisition of QuickBase

- QuickBase provides a low-code business application development platform to more than 5,400 customers across verticals.
- The Company's SaaS platform enables users to develop customized solutions that streamline processes, track and analyze real-time data, and create efficiencies to improve operations.
- Following the acquisition, Vista will provide capital and operating expertise to grow QuickBase's product offerings, enhance workflow automation, and invest in artificial intelligence and machine learning tools.

SOFTWARE ACQUISITION ACTIVITY – STRATEGIC ACQUIRERS

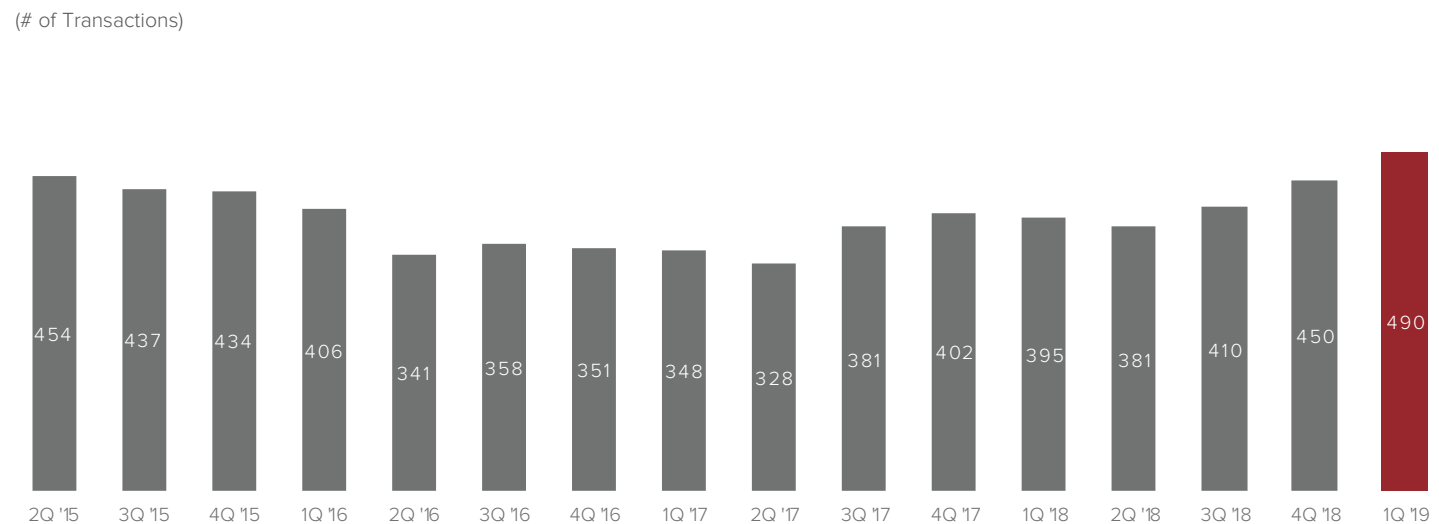
MOST ACTIVE STRATEGIC ACQUIRERS OF SOFTWARE ASSETS BY VOLUME¹

- The 10 most active strategic software acquirers registered 14 acquisitions in 1Q 2019. Activity among large strategic software acquirers continues to be on pace with 2018 levels.
- Dassault Systemes was among the most active strategic acquirers in 1Q 2019, completing three acquisitions. The company continues to bolster its manufacturing and engineering software solutions through its acquisitions of IQMS, Argosim, and Elecworks.



GLOBAL STRATEGIC ACQUIRER SOFTWARE M&A ACTIVITY BY VOLUME¹

- Globally, strategic software M&A registered 490 acquisitions in 1Q 2019, a 9% increase from 4Q 2018.
- Large strategic acquirers remain flush with cash and continue to pursue high growth software acquisitions to fuel innovation, fill technological gaps, and expand into new end-markets.



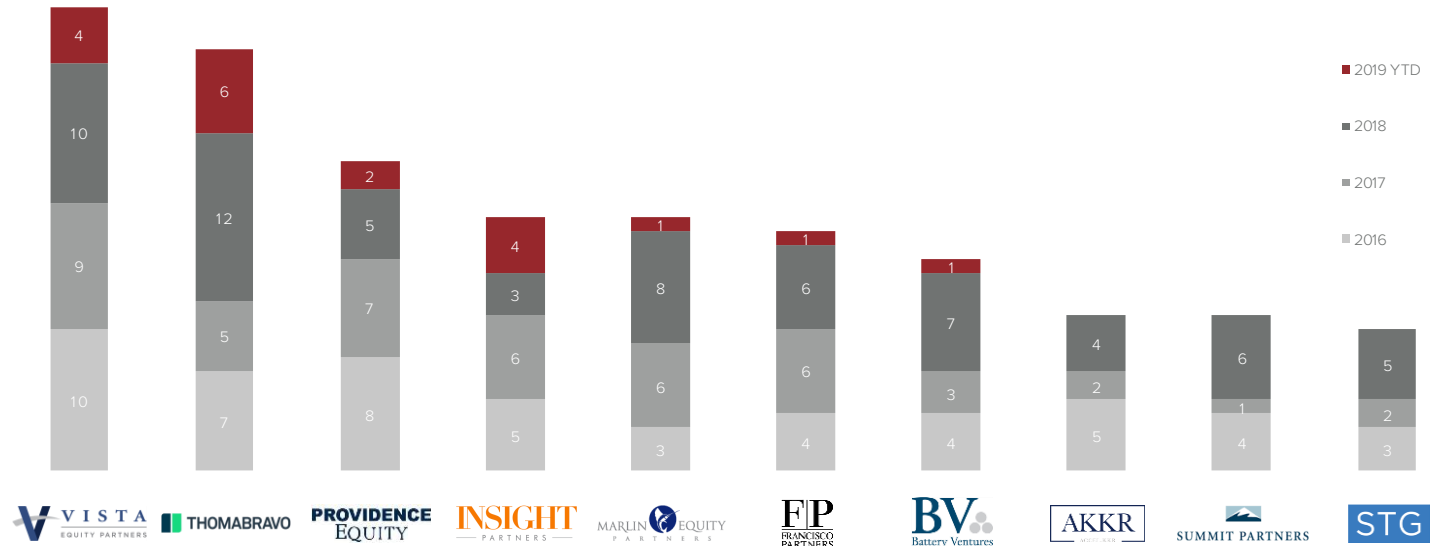
Note: Includes control investments only.

SOFTWARE ACQUISITION ACTIVITY – PRIVATE EQUITY

MOST ACTIVE PRIVATE EQUITY BUYERS OF NEW SOFTWARE PLATFORMS BY VOLUME¹

- The 10 most active software investors completed 19 new platform investments in 1Q 2019. Portfolio company M&A activity remained high as well, as evidenced by 38 add-on acquisitions in 1Q 2019 among this group.
- Thoma Bravo was the most active software private equity firm in 1Q 2019, completing six platform acquisitions and ten add-on acquisitions. Notable platform acquisitions in 1Q include Ellie Mae, Connectwise, Apttus, and Mailgun.

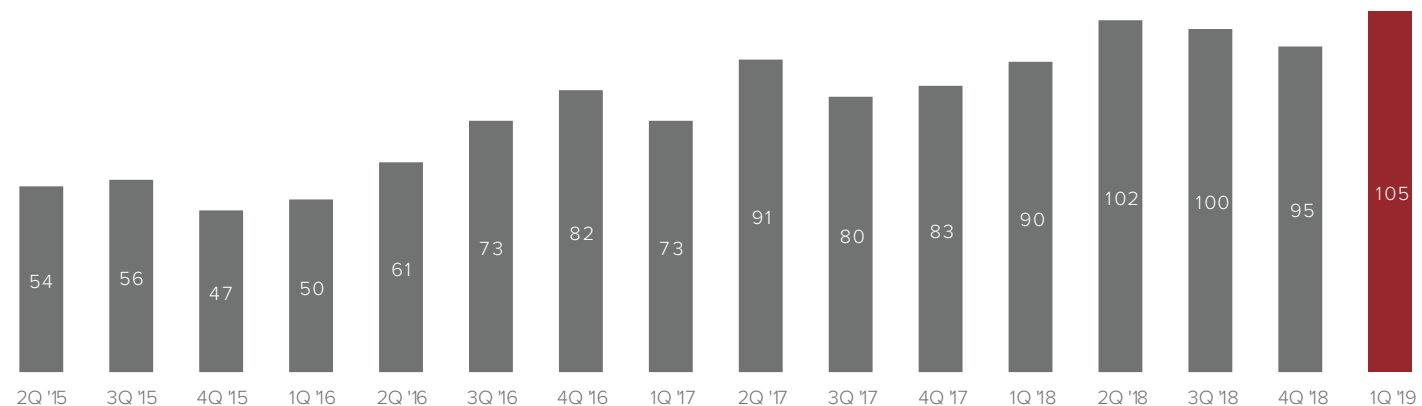
(# of Platform Transactions)



GLOBAL PRIVATE EQUITY NEW SOFTWARE PLATFORMS M&A ACTIVITY BY VOLUME¹

(# of Platform Transactions)

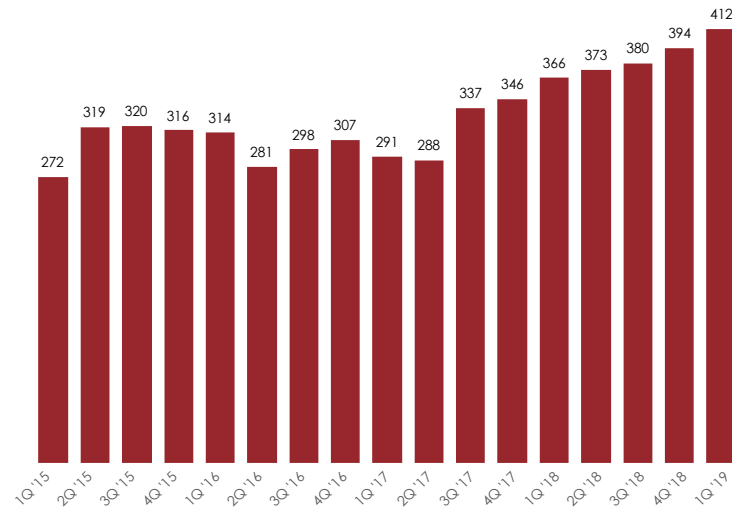
- Globally, private equity buyers registered 105 new software platform investments in 1Q 2019, the highest quarter ever.
- Private equity investment across the software sector continues to exhibit strong momentum as dry powder remains at all-time highs and fundraising activity continues its strong momentum, especially for technology focused funds.



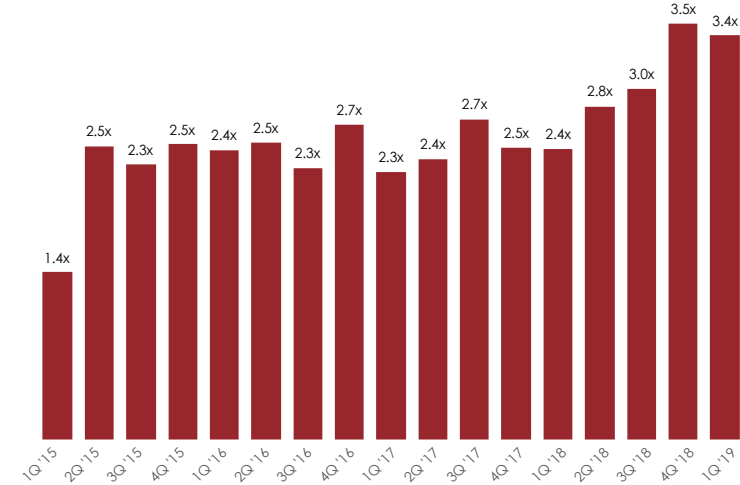
Note: Includes control new platform investments only. Excludes add-on acquisitions.

APPLICATION SOFTWARE – M&A MARKET SUMMARY

APPLICATION SOFTWARE M&A VOLUME¹ (GLOBAL)



MEDIAN M&A REVENUE MULTIPLES¹ (REPORTED)



- Application Software M&A registered 412 transactions in 1Q 2019, representing a 13% year-over-year increase and the most active quarter in the last four years.
- Median reported Application Software M&A transaction multiples decreased slightly to 3.4x revenue in 1Q 2019.

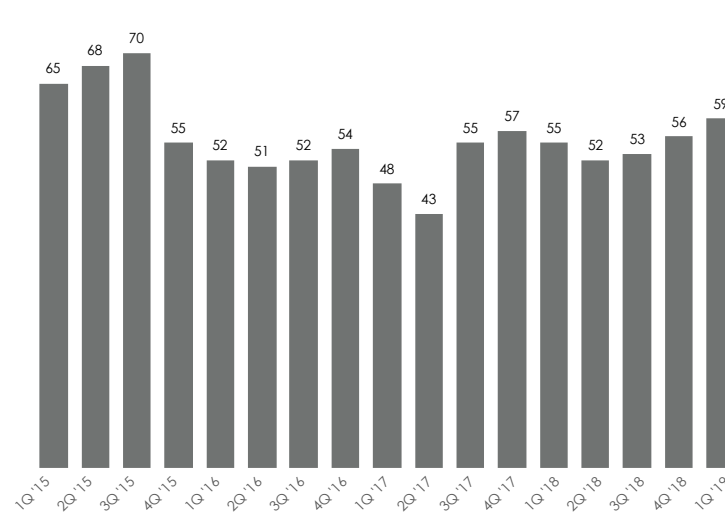
NOTABLE APPLICATION SOFTWARE M&A TRANSACTIONS^{1,2}

- In 1Q 2019, vertical-specific software companies continue to be highly sought after by private equity and strategic buyers alike.
- Notable vertical-specific software transactions include Insight Partners' acquisition of PDI (Retail), Dassault's acquisition of IQMS (Manufacturing), and Deltek's acquisition of Avitru (Construction).

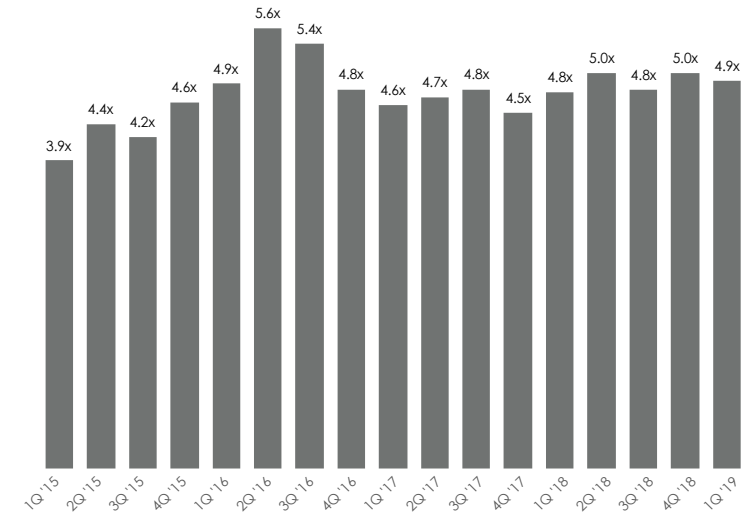
DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Application Software					
Pending	Thoma Bravo LLC	ConnectWise, Inc.	Provider of remote monitoring and management platform.	\$1,500	NA
Pending	Astorg Partners SAS	Anaqua, Inc.	Provider of intellectual asset lifecycle management and IP business intelligence solutions.	NA	NA
Pending	Wisetech Global Ltd.	Containerchain Pty Ltd.	Provider of container optimization software solutions to the container shipping and landside container logistics industries.	\$66	4.6x
Pending	Dropbox	HelloSign	Provider of an eSignature platform to allow for simple online document signing and customizable eSignature API.	\$230	NA
Pending	Vista Equity Partners; TA Associates	Aptean	Provider of industry-specific enterprise resource planning software.	NA	NA
3/20/2019	Insight Partners	PDI	Provider of enterprise-class retail automation software systems.	NA	NA
2/28/2019	Tyler Technologies, Inc.	MicroPact, Inc.	Provider of performance management and business intelligence application software.	\$195	2.8x
2/22/2019	Fullsteam Holdings LLC	Euclid Technology LLC	Provider of association management software, including membership, chapter, event, financial, and certification management.	NA	NA
2/19/2019	Quad Partners LLC	SchoolAdmin LLC	Provider of an admissions and enrollment management software.	NA	NA
2/11/2019	Trend Forward Capital	Turbonomic	Provider of workload automation software that ensures application performance, reduces costs, and maintains compliance.	NA	NA
2/04/2019	Vector Capital Management LP	Aspect Software, Inc.	Provider of fully integrated customer engagement, workforce optimization, and self-service omni-channel solutions.	NA	NA
1/28/2019	Arlington Capital Partners LLC	Intellectual Technology, Inc.	Provider of DMV software that tracks vehicle registration, manages the inventory of licenses, and administers tests to constituents.	NA	NA
1/08/2019	Dassault Systèmes SA	IQMS	Provider of an integrated manufacturing execution systems (MES) and enterprise resource planning (ERP) software platform.	\$425	HW CONFIDENTIAL
1/07/2019	Gladson (The Jordan Company)	Edgenet	Provider of product content network and home improvement configuration software.	NA	NA
1/03/2019	Deltek (Roper)	Avitru	Provider of construction software to enable the collaborative exchange of expert knowledge.	NA	NA
MEDIAN				\$230	4.6x

SAAS – M&A MARKET SUMMARY

SAAS M&A VOLUME¹ (GLOBAL)



MEDIAN M&A REVENUE MULTIPLES¹ (REPORTED)



- SaaS M&A continued its upward momentum, registering 59 transactions in 1Q 2019.
- Median reported SaaS transaction revenue multiples decreased slightly to 4.9x in 1Q 2019, but remain in line with last year.

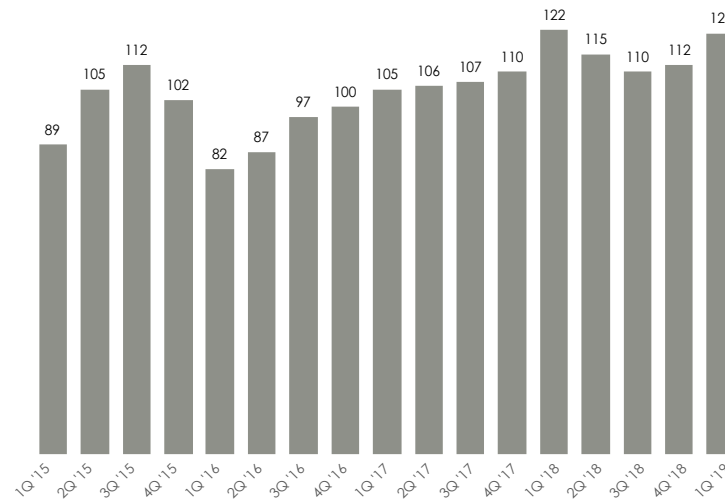
NOTABLE SAAS M&A TRANSACTIONS¹

- As cloud continues to become the delivery model of choice, sector activity remains robust, with strong interest from both private equity investors and strategic buyers.
- In particular, supply chain technology companies are increasingly being sought after as evidenced by Corcentric's pending acquisition of Determine, HgCapital's acquisition of Transporeon, GTY's acquisitions of Bonfire and CityBase, Avetta's acquisition of Browz, and Spectrum Equity's acquisition of Agilis.

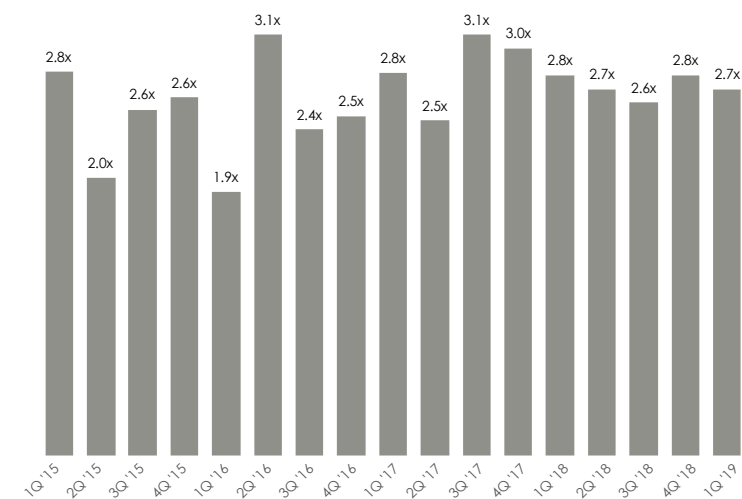
DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
SaaS					
Pending	Advance Publications, Inc.	Turnitin LLC	Provider of cloud-based formative feedback and originality checking software for the education industry.	\$1,750	NA
Pending	Vista Equity Partners	Plansource Benefits Administration, Inc.	Provider of a SaaS-based benefits administration platform to automate benefit transactions and connect with insurance carriers.	NA	NA
Pending	Hellman & Friedman	The Ultimate Software Group, Inc.	Provider of cloud-based human capital management software.	\$10,352	9.1x
Pending	Corcentric LLC	Determine, Inc.	Provider of SaaS source-to-pay and enterprise contract lifecycle management solutions.	\$48	2.0x
Pending	TA Associates	ARI Network Services	Provider of a SaaS-based e-commerce and e-catalog platform.	NA	NA
Pending	Thoma Bravo LLC	Ellie Mae, Inc.	Provider of on-demand software solutions and services for the residential mortgage industry.	\$3,151	6.6x
3/06/2019	The Boeing Co.	ForeFlight LLC	Provider of digital flight navigation software that enables pilots and flight crews to gather weather and destination information.	NA	NA
3/05/2019	Certify, Inc. (K1 Investment Management LLC)	Chrome River Technologies, Inc.	Provider of a cloud-based expense reporting and supplier invoice automation platform.	NA	NA
2/27/2019	Spectrum Equity	Agilis Systems	Provider of a fleet management software designed to reduce costs, improve safety, and boost productivity.	NA	NA
2/26/2019	ServiceMax, Inc.	Zinc, Inc.	Provider of a mobile communication platform created to facilitate real-time sharing of information.	NA	NA
2/25/2019	Urban Compass, Inc.	Contactually, Inc.	Provider of a web-based intelligent customer relationship management platform intended for service-oriented professionals.	NA	NA
2/19/2019	GTY Technology Holdings, Inc.	CityBase, Inc.	Provider of a SaaS platform designed to make government and utilities more personal and responsive.	\$135	NA
2/19/2019	GTY Technology Holdings, Inc.	Bonfire Interactive Ltd.	Provider of a cloud-based sourcing enablement platform designed to simplify and automate procurement decisions.	\$108	NA
2/14/2019	Avetta LLC	Browz LLC	Provider of SaaS-based supply chain risk management software.	NA	NA
2/05/2019	VERTU Capital; BDC Capital	Firmex, Inc.	Provider of a global virtual data room marketplace designed to share large volumes of confidential documents.	NA	NA
2/04/2019	Silver Lake Management Co. LLC	ServiceMax, Inc.	Provider of a field-service management platform that manages contracts and scheduling to increase productivity and efficiency.	NA	NA
1/29/2019	HgCapital LLP	Transporeon GmbH	Provider of a cloud-based logistics platform for intelligent transport logistics.	NA	NA
1/29/2019	Propertybase (Providence Strategic Growth)	BoldLeads.com, Inc.	Provider of real estate software intended to offer leads for real estate buyers and sellers.	NA	NA
1/02/2019	Vector Capital Management LP	Host Analytics, Inc.	Provider of enterprise performance management software for businesses in the life sciences and manufacturing industries.	NA	NA
MEDIAN				\$943	6.6x

DATA AND ANALYTICS – M&A MARKET SUMMARY

DATA AND ANALYTICS M&A VOLUME¹ (GLOBAL)



MEDIAN M&A REVENUE MULTIPLES¹ (REPORTED)



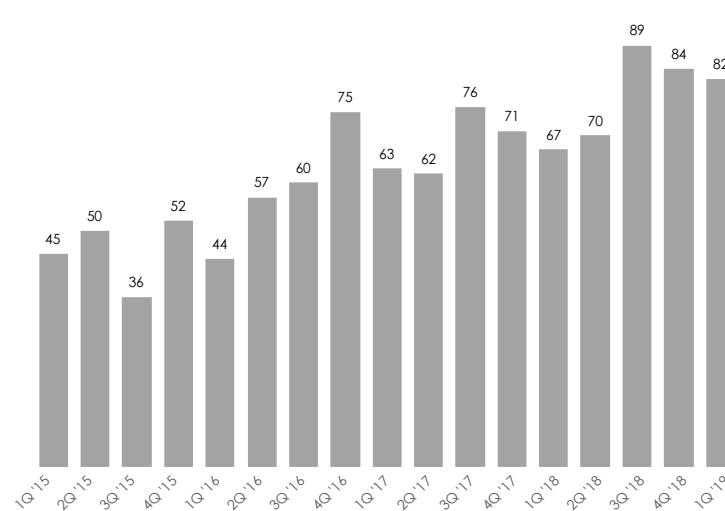
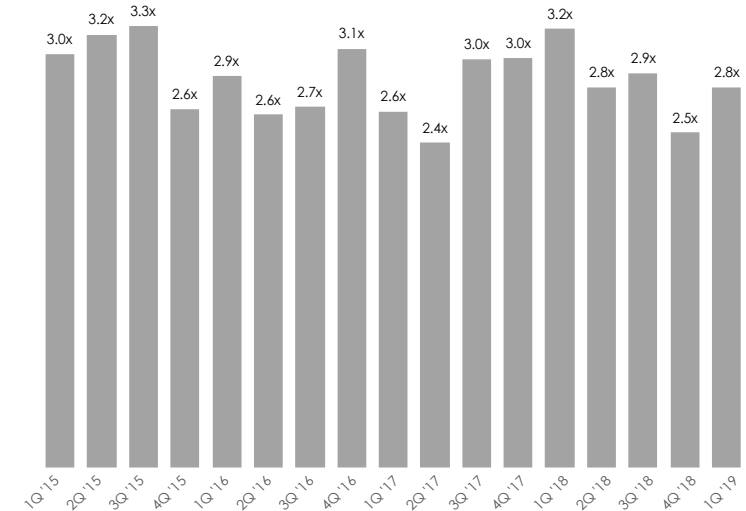
- Data and Analytics M&A registered 121 transactions in 1Q 2019, activity levels consistent with the prior four quarters.
- Median reported Data and Analytics transaction multiples decreased slightly to 2.7x in 1Q 2019.

NOTABLE DATA AND ANALYTICS M&A TRANSACTIONS^{1,2}

- Data and Analytics continues to represent a key focus area for strategic acquirers, as optimal decision making continues to be driven by complex and real-time data.
- Recent examples include Atlassian's pending acquisition of AgileCraft, Microsoft's acquisition of DataSense, SAP's acquisition of Qualtrics, and Cloudera's acquisition of Hortonworks.

DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Data and Analytics					
Pending	KKR	OneStream Software	Provider of corporate performance management solutions for mid-sized to large enterprises.	\$500	NA
Pending	Atlassian Corp. Plc	AgileCraft LLC	Provider of an all-in-one agile management solution suite for scaled agile software services.	\$166	NA
3/19/2019	3i Group	Magnitude Software, Inc.	Provider of enterprise information management software.	\$179	2.9x
3/07/2019	TIBCO Software, Inc.	SnappyData, Inc.	Provider of a hybrid transactional analytics database designed to develop in-memory data grid products.	NA	NA
2/27/2019	Formstack (Providence Strategic Growth)	Bedrock Data, Inc.	Provider of a data management and integration platform.	NA	NA
2/26/2019	Walmart, Inc.	Aspectiva Ltd.	Provider of a content analysis platform designed to turn consumer opinions into comprehensive and valuable insights.	NA	NA
2/26/2019	DataRobot, Inc.	Cursor Data, Inc.	Provider of a data collaboration platform intended to simplify data search and analytics.	NA	NA
2/19/2019	Dynata	Reimagine Holdings Group, Inc.	Provider of data creation software solutions for business intelligence.	NA	NA
2/12/2019	mTAB LLC	Slideworx GmbH	Provider of customer market research software intended to provide customer insights.	NA	NA
2/08/2019	CC Capital; TH Lee; Cannae Holdings	Dun & Bradstreet Corp.	Provider of commercial data analytics solutions used for risk management, sales prospects research, and mailing list creation.	\$6,521	3.6x
2/05/2019	Active Capital	Explore SAS	Provider of document management and database solutions.	\$46	3.3x
2/04/2019	DiscoverOrg	Zoominfo	Provider of analytics software that combines user behaviors and business data to streamline the sales workflow.	HW CONFIDENTIAL	
2/04/2019	Microsoft Corp.	DataSense	Provider of a data integration platform for the education industry.	NA	NA
1/31/2019	Open Text Corp.	Catalyst Repository Systems, Inc.	Provider of fast and powerful document repositories intended for large-scale discovery and regulatory compliance.	\$75	NA
1/23/2019	SAP SE	Qualtrics International, Inc.	Provider of an enterprise data collection and analysis software intended to survey employees, markets, and customers.	\$7,992	21.5x
1/17/2019	Lightview Capital	Educational Measures	Provider of live event software focused on audience engagement and associated data and analytics.	NA	NA
1/16/2019	Insight Partners; Canada Pension Plan	Veeam Software	Provider of intelligent data management and workload software intended to automatically anticipate needs and meet demand.	\$500	NA
1/08/2019	Plaid, Inc.	Quovo, Inc.	Provider of a wealth management data analytics platform designed to offer connectivity to consumer financial accounts.	\$200	NA
1/07/2019	Lovell Minnick Partners	ATTOM Data Solutions	Provider of property data solutions, intended to increase real estate transparency.	NA	NA
1/07/2019	Alibaba Group Holding Ltd.	Data Artisans GmbH	Provider of an open source data stream processing platform.	\$103	NA
1/03/2019	Cloudera, Inc.	Hortonworks, Inc.	Provider of an enterprise-ready open and connected data platform designed for storing, managing, and analyzing data.	\$1,757	5.4x
MEDIAN				\$200	3.6x

INFRASTRUCTURE SOFTWARE – M&A MARKET SUMMARY

INFRASTRUCTURE SOFTWARE M&A VOLUME¹ (GLOBAL)

MEDIAN M&A REVENUE MULTIPLES¹ (REPORTED)


- Infrastructure Software M&A registered 82 transactions in 1Q 2019, representing a slight decrease from the prior quarter.
- In 1Q 2019, median reported Infrastructure Software transaction multiples increased slightly to 2.8x revenue.

NOTABLE INFRASTRUCTURE SOFTWARE M&A TRANSACTIONS¹

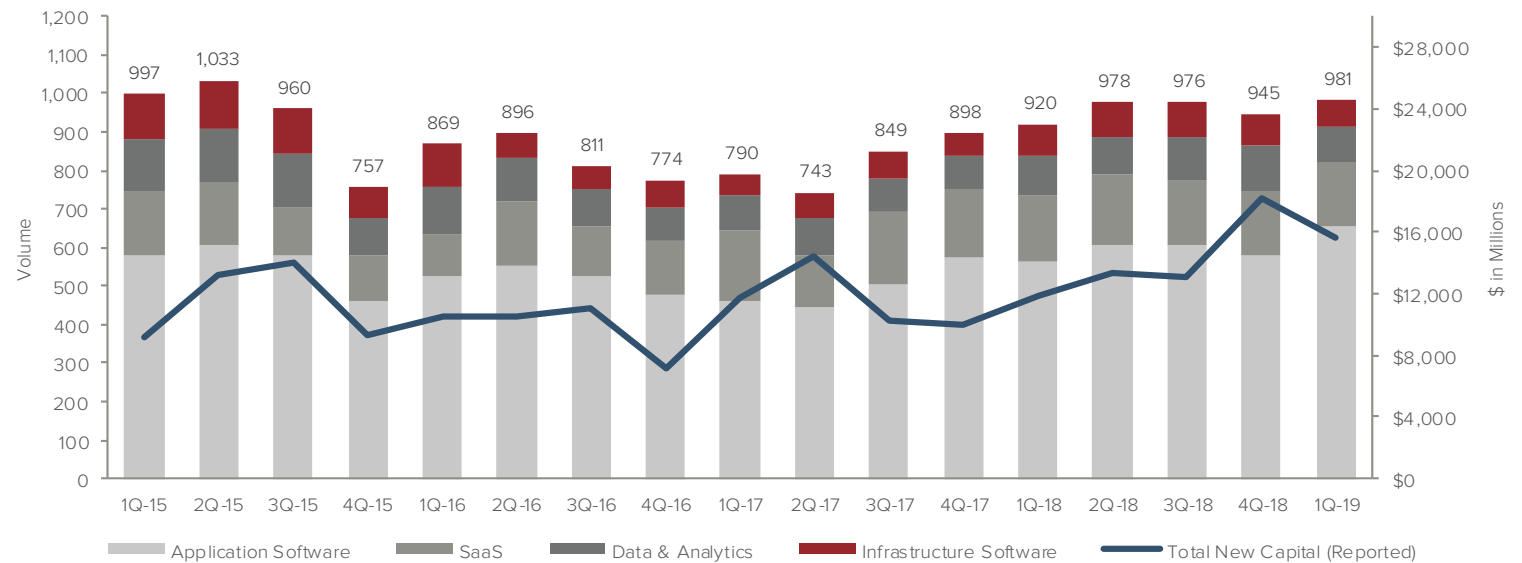
- Private equity investors remain highly active buyers of infrastructure and DevOps assets as they look to compete with established strategic acquirers in a large, but fragmented market.
- Noteworthy private equity transactions in 1Q 2019 include Vista Equity Partners' pending acquisition of QuickBase, CVC's acquisition of ConvergeOne, and Thoma Bravo's acquisition of Veracode.

DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Infrastructure Software					
Pending	Vista Equity Partners	QuickBase, Inc.	Provider of a low-code application development platform.	\$1,000	8.0x
Pending	Carbonite, Inc.	Webroot, Inc.	Provider of internet threat detection and endpoint security solutions.	\$619	2.9x
Pending	Palo Alto Networks, Inc.	Demisto, Inc.	Provider of an automated incident response and security orchestration platform designed to offer integrated threat intelligence.	\$560	NA
Pending	F5 Networks, Inc.	NGINX Software, Inc.	Provider of an open sourced enterprise application platform designed to help in developing and delivering modern applications.	\$670	NA
Pending	NTT Security	WhiteHat Security, Inc.	Provider of a risk management platform intended to offer website security services.	NA	NA
3/06/2019	Veritas Technologies	APTARE, Inc.	Provider of data protection and data center optimization solutions.	NA	NA
2/25/2019	Marlin Equity Partners	Worksoft, Inc.	Provider of automation software created for high-velocity business process discovery and testing.	NA	NA
2/21/2019	JFrog Ltd.	Shippable, Inc.	Provider of a continuous integration and DevOps automation platform.	NA	NA
2/21/2019	BlackBerry Ltd.	Cylance, Inc.	Provider of a cybersecurity platform designed to predict and prevent execution of advanced threats and malware.	\$1,500	13.8x
2/20/2019	Zix Corp.	AppRiver LLC	Provider of channel-first cybersecurity and productivity solutions.	\$275	3.8x
2/20/2019	Perforce Software (Clearlake Capital)	Rogue Wave Software, Inc.	Provider of cross-platform software developer tools and embedded components.	NA	NA
2/12/2019	Symantec Corp.	Luminate Security Ltd.	Provider of a cloud-based security platform designed for access to corporate applications in hybrid clouds.	\$200	NA
1/24/2019	Microsoft Corp.	Citus Data, Inc.	Provider of a database-as-a-service platform designed to make PostgreSQL databases faster and more scalable.	NA	NA
1/10/2019	Amazon.com, Inc.	CloudEndure, Inc.	Provider of cloud migration, disaster recovery, and continuous backup solutions.	\$250	NA
1/04/2019	CVC Capital	ConvergeOne Holdings, Inc.	Provider of collaboration, enterprise networking, data center, and security software solutions.	\$1,671	1.5x
1/01/2019	Thoma Bravo LLC	Veracode, Inc.	Provider of an application security platform designed to find and fix security-related defects in the software development lifecycle.	\$950	NA
MEDIAN				\$644	3.8x

PRIVATE PLACEMENT ACTIVITY BY SOFTWARE SUB-SECTOR

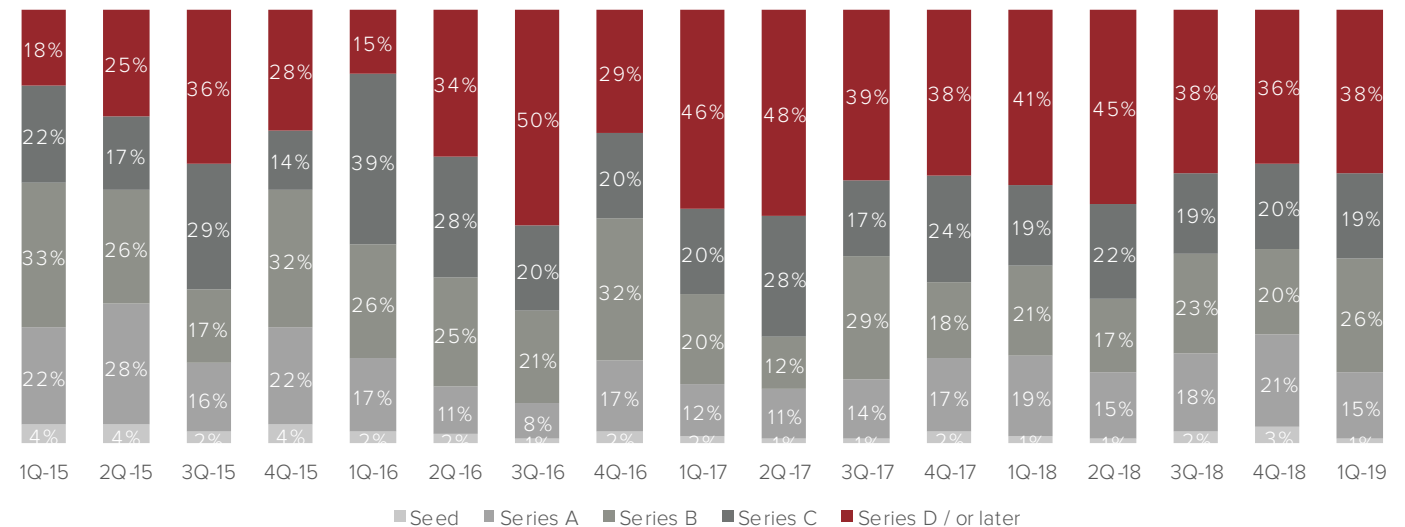
PRIVATE PLACEMENTS BY SOFTWARE SUB-SECTOR AND NEW CAPITAL RAISED^{1,3}

- There were 981 private placement financings in 1Q 2019, which represents a 7% increase over 1Q 2018.
- Total reported capital investment in the software sector decreased slightly following a strong 4Q 2018, but remains slightly above historical averages.



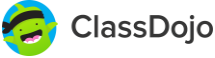












PRIVATE PLACEMENT CAPITAL RAISED BY ROUND^{1,3} (AS PERCENTAGE OF TOTAL REPORTED PRIVATE PLACEMENT CAPITAL)

- In 1Q 2019, the majority of private capital invested was in late stage (C – later) rounds, comprising 57% of total capital invested.
- Notable late stage rounds included Contrast Security's \$65 million Series D investment led by Warburg Pincus, TalentSoft's \$50 million late stage investment led by Francisco Partners, and Onit's \$200 million late stage investment led by K1 Investment Management.



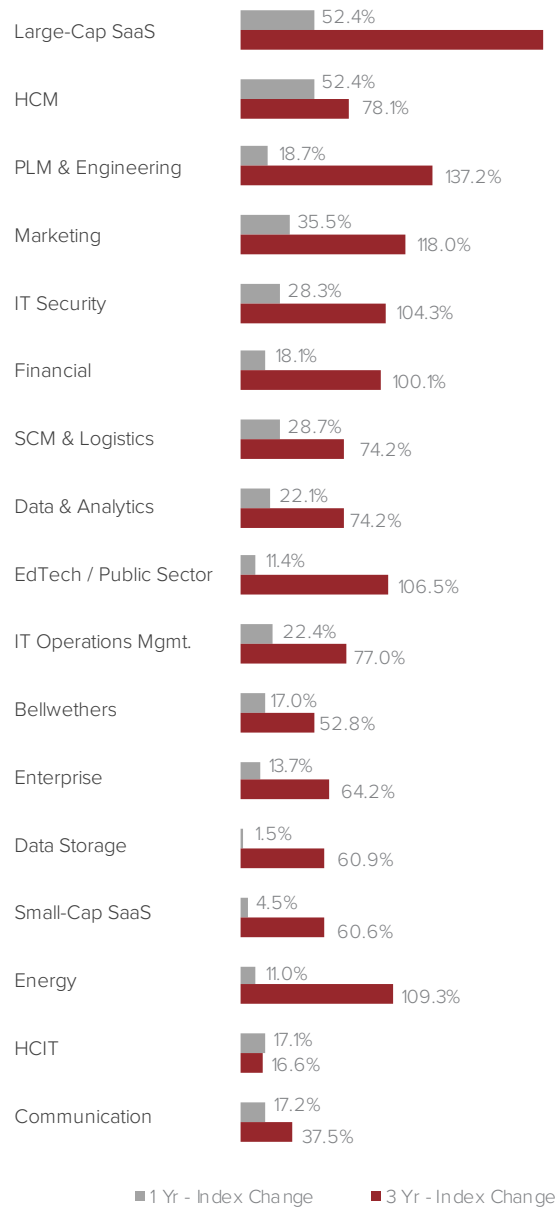
SELECT RECENT SOFTWARE PRIVATE PLACEMENTS^{1,3}

DATE	COMPANY	SECTOR	ROUND	ROUND SIZE (\$MM)	TOTAL RAISED (\$MM)	INVESTORS (CURRENT ROUND)	DESCRIPTION
03/13/19		SaaS	A	\$20	\$45	Fidelity Investments; Bessemer Venture Partners; Battery Ventures; Eight Roads; Arbor Ventures; LocalGlobe	Provider of a cloud-based human resource and benefits platform.
02/28/19		Infrastructure	D	\$65	\$122	Warburg Pincus; Battery Ventures; General Catalyst; M12; AXA Venture Partners; Acero Capital	Provider of embedded vulnerability and exploitation tools for software development.
02/28/19		SaaS	C	\$35	\$66	GSV Advisors; SignalFire; General Catalyst; Uncork Capital	Provider of a web-based classroom communication and engagement application.
01/29/19		SaaS	C	\$60	\$134	Founders Fund; Bedrock Capital; Quantum Energy Partners; Global Reserve Group	Provider of an on-demand workforce management and hiring platform for the oil and gas industry connecting shippers with operators.
01/23/19		SaaS	C	\$97	\$134	Brookfield Ventures; Sequoia Capital; GLP	Provider of a digital freight matching platform.
01/15/19		SaaS	C	\$33	\$62	Scale Venture Partners; Menlo Ventures; NewView Capital; Workday Ventures; Salesforce Ventures	Provider of a SaaS RFP and sourcing platform for procurement and purchasing.
01/09/19		SaaS	A	\$60	\$62	Insight Partners	Provider of a cloud-based sales tax platform for automated reporting and filing.
01/09/19		SaaS	Late Stage	\$50	\$106	Francisco Partners; Bpifrance; Goldman Sachs; Tempo Capital Partners	Provider of a cloud-based talent management platform.
01/09/19		Application	B	\$15	\$25	Aquiline Technology Growth; Edison Partners	Provider of integrated compliance management and reporting software.
01/08/19		Application	Late Stage	\$200	\$218	K1 Investment Management	Provider of enterprise workflow automation software for corporate legal departments.
01/04/19		Data & Analytics	A	\$12	\$14	Poseidon Asset Management; AFI Capital Partners; Canopy Rivers	Provider of market intelligence and data for the cannabis industry.
01/03/19		SaaS	C	\$25	\$42	JMI Equity	Provider of a cloud-based emergency mass communications and field employee monitoring platform.
01/02/19		Infrastructure	B	\$25	\$40	General Catalyst; Foundry Group; Matthew Szulik	Provider of a cloud-based open source software management platform.

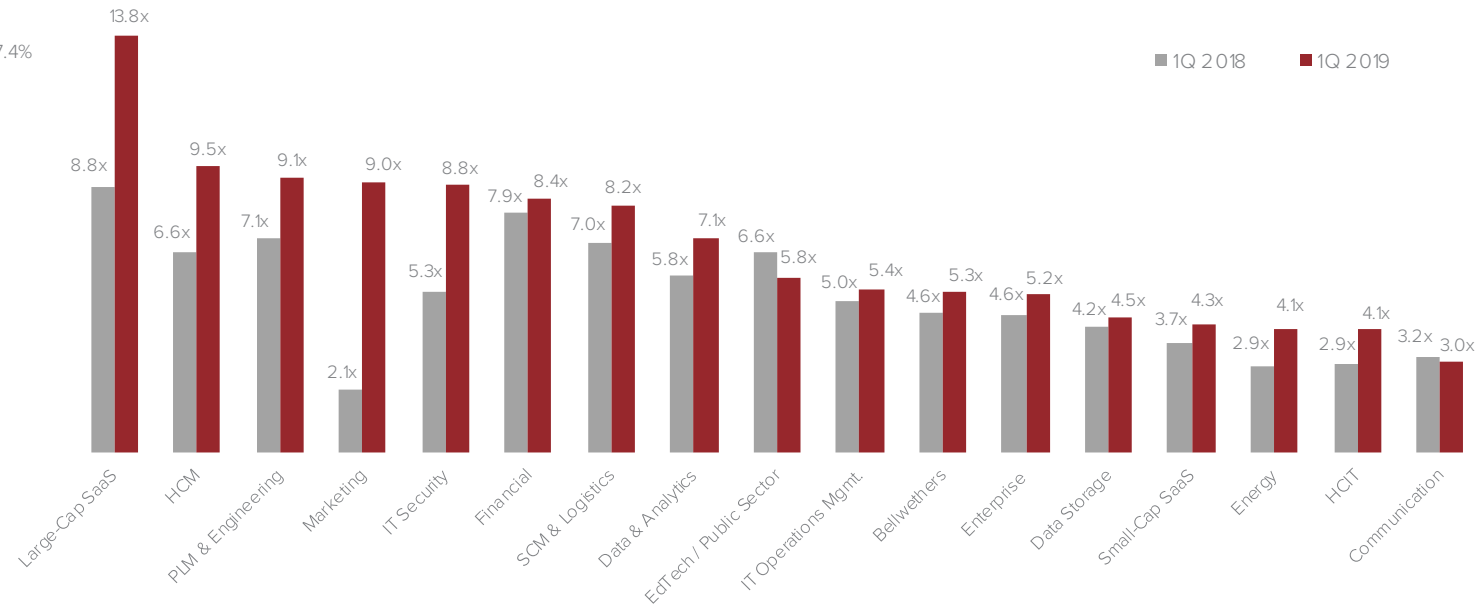
Note: Financial information presented above represents reported capital raised only.

PUBLIC SOFTWARE VALUATION MULTIPLES BY SECTOR¹

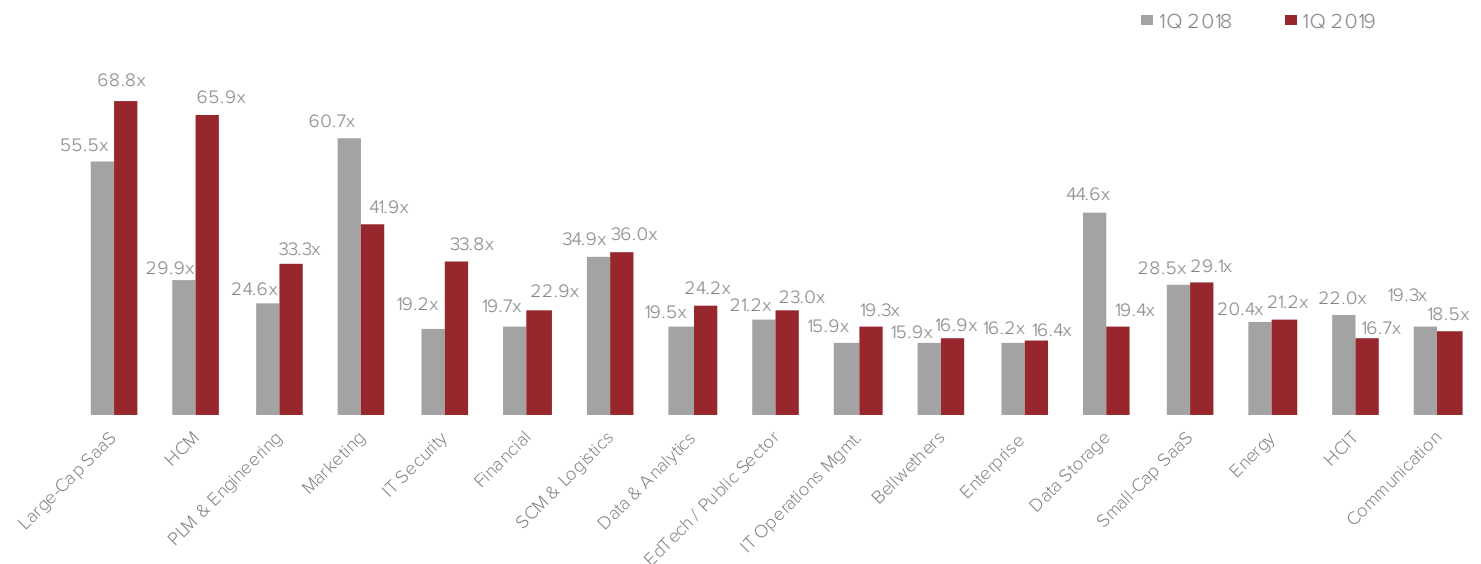
STOCK PERFORMANCE (1- & 3-YEAR)




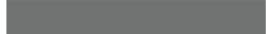
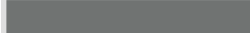














REVENUE MULTIPLE COMPARISON 1Q 2018 VS. 1Q 2019



EBITDA MULTIPLE COMPARISON 1Q 2018 VS. 1Q 2019

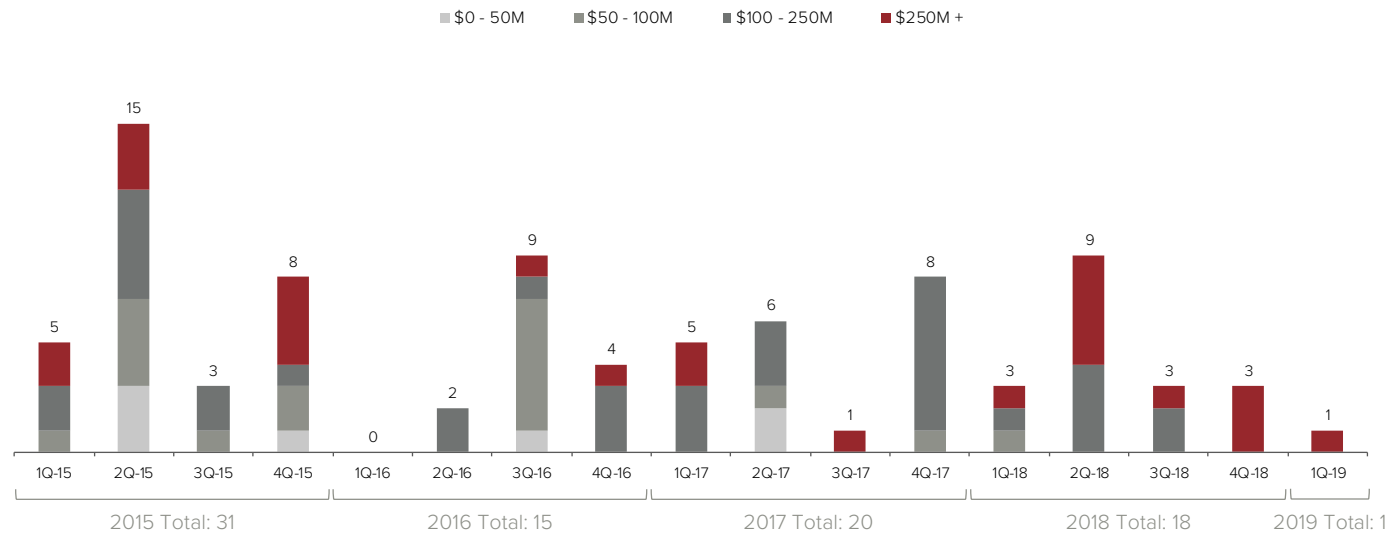


KEY METRICS BY SECTOR – COMPARABLE PUBLIC SOFTWARE COMPANIES¹

	COMPARABLE COMPANY SET MEDIANS				CORRELATION WITH EV / REVENUE MULTIPLE		
	EV / LTM REVENUE MULTIPLE	NTM REVENUE GROWTH	NTM EBITDA GROWTH	LTM EBITDA MARGIN	NTM REVENUE GROWTH	NTM EBITDA GROWTH	LTM EBITDA MARGIN
Large-Cap SaaS	 13.8x	30%	121%	14%	62%	26%	-
HCM	 9.5x	18%	67%	19%	77%	-	32%
PLM & Engineering	 9.1x	11%	32%	23%	-	-	18%
Marketing	 9.0x	16%	65%	16%	77%	80%	89%
IT Security	 8.8x	17%	40%	25%	24%	-	43%
Financial	 8.4x	10%	20%	35%	10%	24%	26%
SCM & Logistics	 8.2x	17%	32%	24%	85%	-	79%
Data & Analytics	 7.1x	17%	87%	13%	67%	-	81%
EdTech / Public Sector	 5.8x	19%	26%	23%	85%	90%	50%
IT Operations Mgmt.	 5.4x	10%	33%	30%	96%	38%	-
Bellwethers	 5.3x	8%	18%	30%	78%	79%	29%
Enterprise	 5.2x	8%	12%	30%	76%	89%	26%
Data Storage	 4.5x	18%	91%	20%	28%	19%	11%
Small-Cap SaaS	 4.3x	17%	68%	16%	37%	-	-
Energy	 4.1x	5%	24%	18%	94%	72%	100%
HCIT	 4.1x	10%	46%	18%	28%	34%	56%
Communication	 3.0x	12%	45%	22%	97%	100%	100%

SUMMARY OF TECHNOLOGY IPOs

RECENT U.S. TECHNOLOGY IPO ACTIVITY (BY OFFERING SIZE)¹

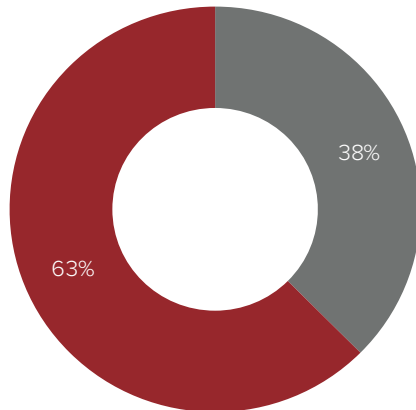


- IPO activity slowed meaningfully in 1Q 2019 with Lyft being the sole technology company listing their shares.
- The government shutdown effectively halted listing activity for the first two months of the quarter, with activity resuming in March as the SEC cleared the backlog of filings.
- Unicorn technology companies including Uber, Palantir and Slack are still signaling that they plan to list in 2019.

OFFERING SIZE AT IPO (LTM)¹

(All tech IPOs over the last 12 months)

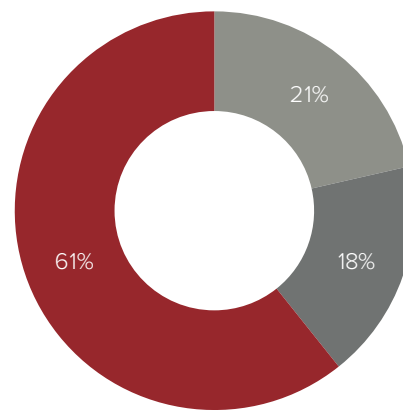
■ \$50 - 100M ■ \$100 - 250M ■ \$250M +



MARKET CAP AT IPO (LTM)¹

(All tech IPOs over the last 12 months)

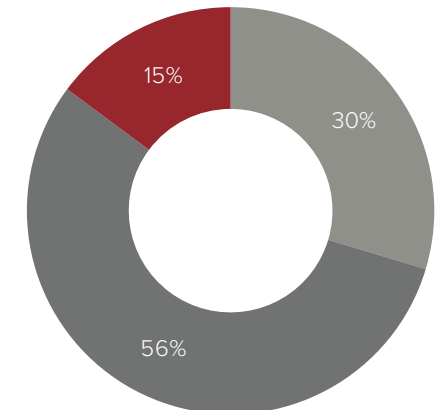
■ \$0-50M ■ \$50-500M ■ \$500M-\$1B ■ \$1B+



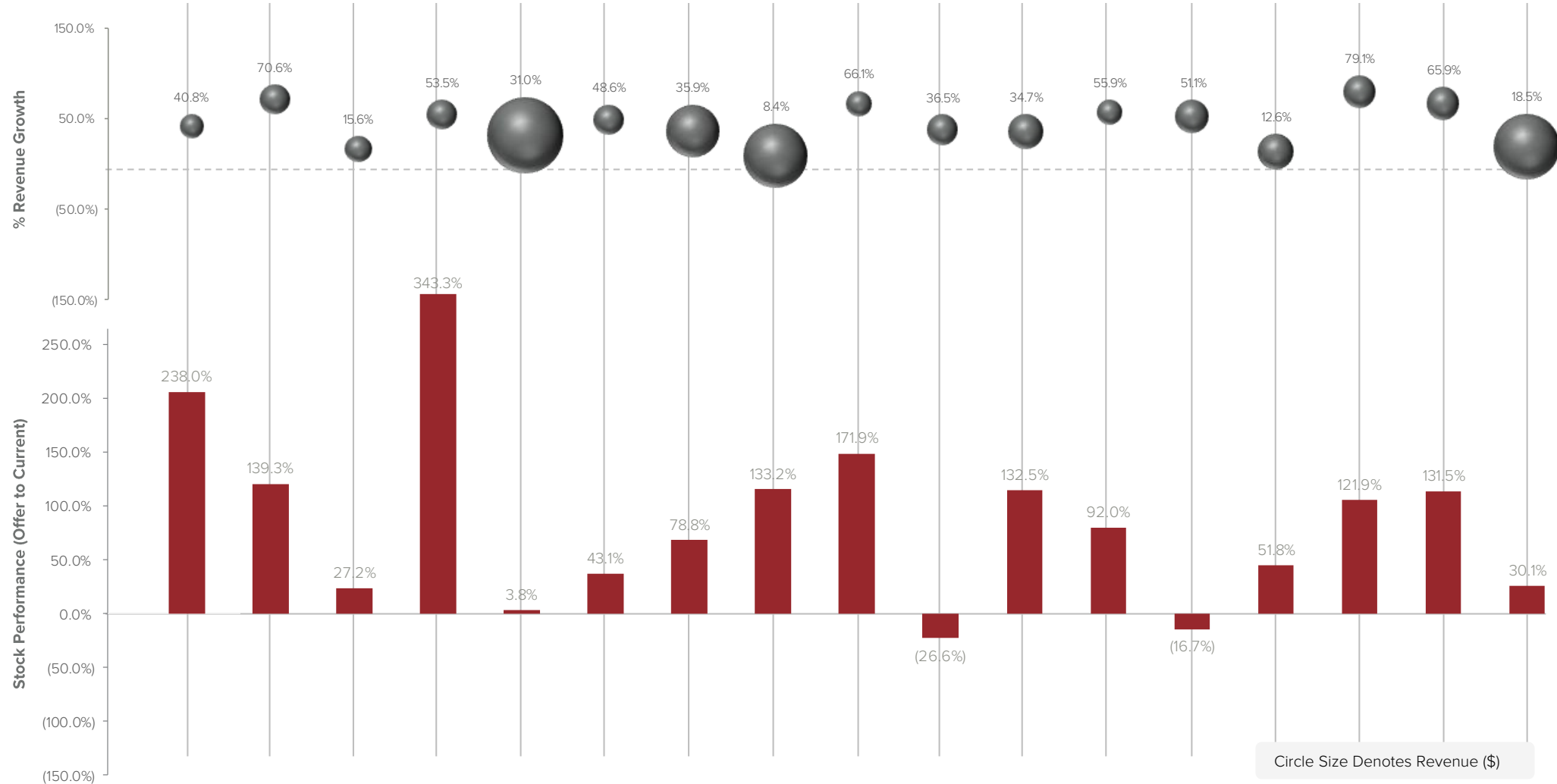
REVENUE GROWTH (1YR PRIOR TO IPO)¹

(All tech IPOs over the last 12 months)

■ < 25% ■ 25 - 75% ■ > 75%



KEY PERFORMANCE METRICS FOR RECENT SOFTWARE IPOs¹



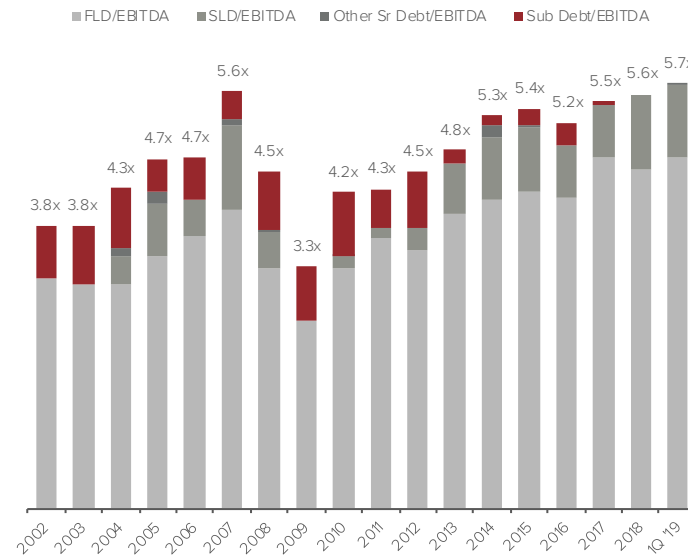
IPO DATE	11/14/17	11/17/17	2/8/18	3/15/18	3/22/18	4/12/18	4/26/18	4/26/18	4/27/18	5/4/18	6/15/18	6/28/18	9/19/18	9/25/18	10/4/18
OFFER PRICE PER SHARE	\$16.00	\$12.00	\$13.00	\$16.00	\$21.00	\$14.00	\$29.00	\$22.00	\$15.00	\$19.00	\$24.00	\$21.00	\$23.00	\$12.00	\$36.00
MARKET CAP AT OFFER (\$M)	\$672.4	\$1,026.6	\$253.8	\$1,877.3	\$911.4	\$1,127.6	\$4,411.2	\$2,999.0	\$174.5	\$1,250.7	\$1,559.5	\$455.5	\$1,800.0	\$1,493.7	\$2,501.7
OFFERING SIZE (\$M)	\$131.2	\$240.0	\$70.2	\$192.0	\$756.0	\$154.0	\$629.3	\$462.0	\$174.5	\$152.0	\$180.0	\$193.2	\$230.0	\$180.0	\$252.0
OFFER TO CURRENT	238.0%	139.3%	27.2%	343.3%	3.8%	43.1%	78.8%	133.2%	171.9%	(26.6%)	132.5%	92.0%	(16.7%)	51.8%	121.9%

DEBT MARKET OVERVIEW

MIDDLE MARKET LBO LOAN MULTIPLES^{4,5}

Defined as Issuers with EBITDA of \$50 Million or Less

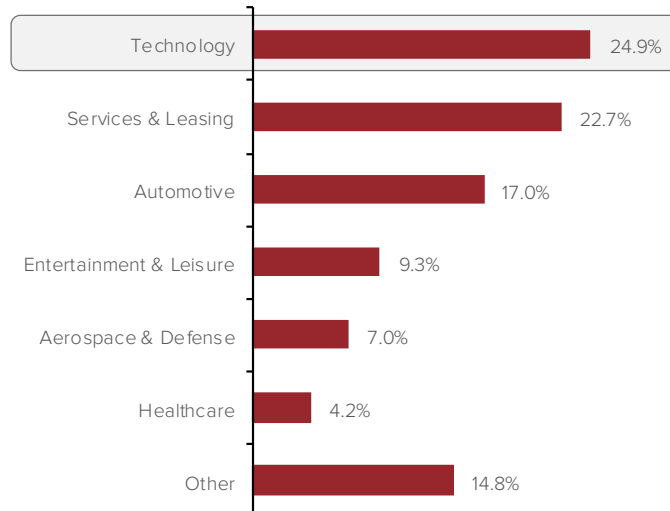
- Median middle market LBO loan multiples in 1Q 2019 increased slightly to 5.7x leverage.
- Middle market LBO loan volume decreased to \$0.6 billion in 1Q 2019, continuing a downward trend over the past two quarters.



LBO LOAN VOLUME BY INDUSTRY^{4,5}

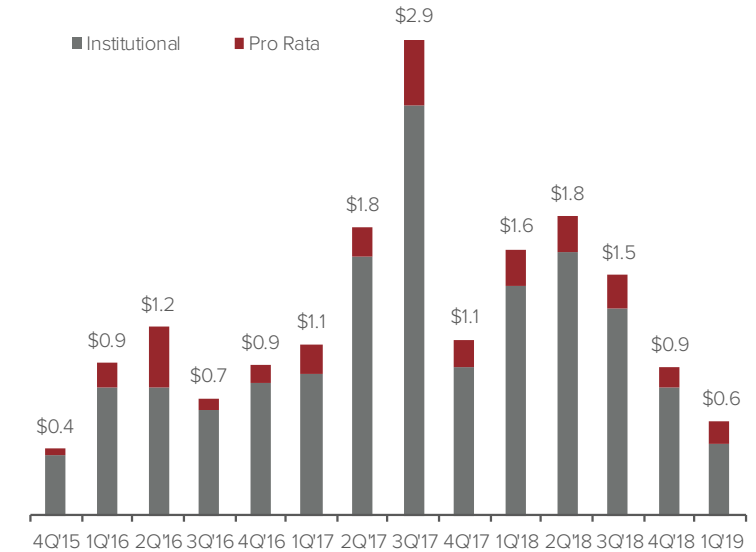
YTD 2019 New Issue LBO Loans

- Technology companies were the largest recipients of middle market LBO loans in 1Q 2019, representing 24.9% of new issuance.
- Median LBO debt percentages decreased slightly to 50% of total purchase price in 1Q 2019.



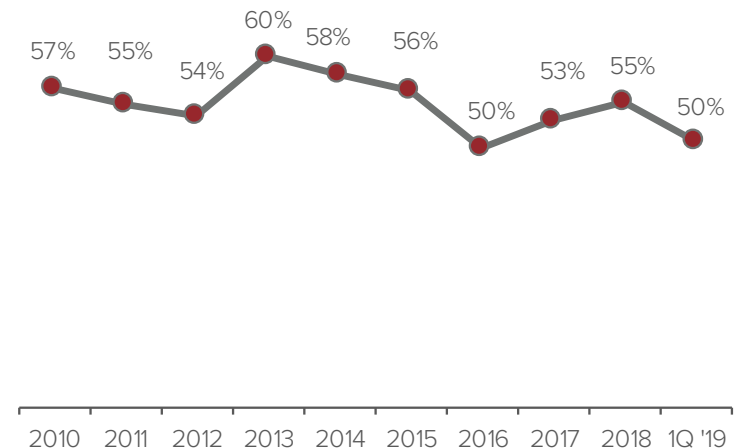
MIDDLE MARKET LBO VOLUME BY QUARTER^{4,5}

Defined as Issuers with EBITDA of \$50 Million or Less
(\$ in billions)



MEDIAN LBO DEBT PERCENTAGES³

Percentage of Total Purchase Price



SELECT HW TMT TRANSACTIONS

 acquired 	 strategic investment from 	 acquired by 	 acquired 	 acquired by 	 acquired 	 acquired by 	 acquired by 	 acquired 	 acquired by 	 acquired by 	 acquired 	 merged with 	 acquired by 	 acquired by
 acquired 	 a wholly-owned affiliate of acquired by 	 invested in 	 majority investment from 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 investment from 	 acquired 	 acquired by 	 merged with 	 investment from 	 acquired by
 acquired by 	 acquired 	 acquired by 	 investment from 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired 	 majority investment from 	 growth investment from 	 acquired by 	 majority investment from 	 acquired by 	 majority investment from
 recapitalized by 	 acquired by 	 acquired 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 recapitalized by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by
 acquired by 	 acquired by 	 acquired a majority stake in 	 acquired by 	 majority investment from 	 minority investment from 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 strategic investment from 	 merged with 	 acquired by 	 acquired by 	 acquired by
 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 majority recapitalization by 	 recapitalized by 	 acquired by 	 acquired by
 acquired 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 acquired by 	 significant equity investment from 	 acquired by 	 acquired by 	 acquired by 	 minority investment from 	 acquired by 	 acquired by 	 strategic investment from 	 acquired by

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY UNIVERSE¹

	Software Bellwethers	Microsoft	Google	Cisco	Oracle	IBM	SAP	Adobe	Salesforce	HPE		
APPLICATION SOFTWARE	HORIZONTAL	Communication Software	Twilio	NICE	Nuance	MobileIron	Synchronoss					
		Enterprise Software	Oracle	IBM	SAP	Adobe	ADP	Intuit	Amadeus	Constellation	OpenText	Sage
		Human Capital Management (HCM)	Workday	ADP	Paychex	Paycom	Ceridian	Paylocity	Cornerstone	Benefitfocus		
		Marketing Software	Adobe	Salesforce	HubSpot	Acxiom	Criteo	ChannelAdvisor				
		PLM & Engineering Software	Hexagon AB	Dassault	Autodesk	Cadence	Synopsys	Ansys	Trimble	PTC	Nemetschek	Altair
		Supply Chain & Logistics Software	Coupa	Wisetech	Manhattan	Descartes	SPS	Kinaxis	American	Amber Road		
	VERTICAL	Energy Software	AspenTech	AVEVA	Itron	PSI						
		Financial Software	Fiserv	Square	SS&C	MSCI	Jack Henry	Black Knight	Oracle FSS	Envestnet	Q2 Holdings	Blackline
		Healthcare IT (HCIT)	Veeva	Cerner	Medidata	Inovalon	HMS	Allscripts	NextGen	Evolent Health	Model N	
		EdTech / Public Sector Software	Constellation	Tyler Tech	Blackbaud	2U	Instructure	K12	NIC			
SAAS	Large-Cap SaaS (≥ \$2Bn Mkt Cap)	Salesforce	Workday	ServiceNow	Atlassian	Check Point	Veeva	Paycom	ZenDesk	DocuSign	RingCentral	
	Large-Cap SaaS (cont'd)	HubSpot	Guidewire	Proofpoint	Coupa	Anaplan	RealPage	Smartsheet	Xero	Medidata	CyberArk	
	Large-Cap SaaS (cont'd)	LogMeIn	Avalara	Cornerstone	Qualys	Five9	Q2 Holdings	Alarm.Com	Box	Mimecast	Rapid7	
	Large-Cap SaaS (cont'd)	Yext										
	Small-Cap SaaS (≤ \$2Bn Mkt Cap)	Ebix	SPS	Benefitfocus	Instructure	Eventbrite	Model N	Castlight Health	Domo	Amber Road		
	Data & Analytics	Verisk	Splunk	Tableau	Pegasystems	Teradata	Verint	Inovalon	PROS Holdings	Talend	MicroStrategy	
INFRASTRUCTURE SOFTWARE	IT Operations Management	VMware	ServiceNow	Arista	Micro Focus	Citrix	F5 Networks	SolarWinds	New Relic	NetScout	Software AG	
	IT Operations Management (cont'd)	Progress	Radware									
	Data Storage	Iron Mountain	NetApp	Dropbox	Nutanix	Pure Storage	Box	CommVault	Carbonite			
	IT Security	Cisco	Palo Alto	Symantec	VeriSign	Check Point	Fortinet	Proofpoint	Trend Micro	CyberArk	FireEye	
	IT Security (cont'd)	Qualys	Mimecast	Rapid7	SailPoint	ForeScout	Varonis	SecureWorks	Cheetah Mobile			

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS¹

Company	Ticker	Enterprise	Market	% of 52	1-Year Stock	3-Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /	
		Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings	
SOFTWARE BELLWETHERS															Software Bellwethers
Microsoft Corporation	MSFT	\$868,692	\$902,674	97.4%	28.9%	115.1%	20.1%	13.3%	41.8%	7.3x	6.5x	17.6x	15.0x	26.9x	Communication
Alphabet Inc.	GOOGL	728,235	812,553	90.6%	12.8%	52.8%	23.4%	24.5%	29.6%	5.3x	4.3x	18.0x	11.9x	26.4x	Enterprise
Cisco Systems, Inc.	CSCO	220,133	235,575	98.7%	24.8%	90.5%	5.7%	4.0%	31.4%	4.3x	4.2x	13.8x	11.7x	18.3x	
Oracle Corporation	ORCL	211,831	182,879	98.4%	17.0%	31.5%	0.4%	1.2%	42.8%	5.3x	5.3x	12.5x	11.1x	17.0x	
IBM Corporation	IBM	173,068	125,080	86.8%	(8.4%)	(5.9%)	0.6%	(1.9%)	21.7%	2.2x	2.2x	10.0x	9.3x	14.3x	HCM
SAP SE	SAP	141,278	141,755	90.9%	10.0%	44.2%	9.0%	7.7%	28.8%	4.8x	4.5x	16.9x	14.3x	29.4x	
Adobe Inc.	ADBE	133,608	129,985	96.0%	23.3%	185.8%	23.6%	24.4%	33.6%	14.1x	11.3x	41.9x	25.4x	48.5x	
salesforce.com, inc.	CRM	125,876	121,394	94.4%	35.5%	118.0%	26.7%	24.5%	16.2%	9.5x	7.6x	58.4x	32.3x	109.4x	Marketing
Hewlett Packard Enterprise Co.	HPE	28,322	21,111	86.2%	(12.1%)	50.3%	20.9%	1.1%	16.5%	0.9x	0.9x	5.6x	5.5x	29.9x	
Median		\$173,068	\$141,755	94.4%	17.0%	52.8%	20.1%	7.7%	29.6%	5.3x	4.5x	16.9x	11.9x	26.9x	
COMMUNICATION SOFTWARE															PLM & Engineering
Twilio, Inc.	TWLO	\$17,971	\$15,910	94.7%	NM	NM	62.9%	78.2%	NM	27.6x	15.5x	NM	NM	NM	SCM & Logistics
NICE Systems Ltd.	NICE-IL	7,772	7,306	96.8%	27.0%	82.2%	8.4%	11.7%	24.6%	5.4x	4.8x	21.9x	14.9x	45.9x	
Nuance Communications, Inc.	NUAN	6,132	4,825	94.6%	7.4%	(7.3%)	4.6%	(6.9%)	20.0%	3.0x	3.2x	15.0x	10.5x	NM	
MobileIron, Inc.	MOBL	555	588	96.5%	NM	NM	9.5%	12.0%	NM	2.9x	2.6x	NM	84.1x	NM	Energy
Synchronoss Technologies, Inc.	SNCR	464	257	49.8%	NM	NM	(19.0%)	6.8%	NM	1.4x	1.3x	NM	12.5x	NM	
Median		\$6,132	\$4,825	94.7%	17.2%	37.5%	8.4%	11.7%	22.3%	3.0x	3.2x	18.5x	13.7x	45.9x	
ENTERPRISE SOFTWARE															Financial
Oracle Corporation	ORCL	\$211,831	\$182,879	98.4%	17.0%	31.5%	0.4%	1.2%	42.8%	5.3x	5.3x	12.5x	11.1x	17.0x	HCIT
IBM Corporation	IBM	173,068	125,080	86.8%	(8.4%)	(5.9%)	0.6%	(1.9%)	21.7%	2.2x	2.2x	10.0x	9.3x	14.3x	
SAP SE	SAP	141,278	141,755	90.9%	10.0%	44.2%	9.0%	7.7%	28.8%	4.8x	4.5x	16.9x	14.3x	29.4x	
Adobe Inc.	ADBE	133,608	129,985	96.0%	23.3%	185.8%	23.6%	24.4%	33.6%	14.1x	11.3x	41.9x	25.4x	48.5x	EdTech / Public Sector
Automatic Data Processing, Inc.	ADP	70,458	69,378	99.7%	40.4%	78.1%	8.2%	8.2%	23.4%	5.1x	4.7x	21.7x	19.4x	38.2x	
Intuit Inc.	INTU	68,716	67,525	99.9%	50.5%	154.3%	18.3%	10.5%	31.0%	10.7x	9.7x	34.4x	26.0x	45.9x	
Amadeus IT Group	AMS-ES	38,211	34,891	82.8%	7.8%	89.3%	6.4%	8.4%	41.1%	6.6x	6.1x	16.0x	14.9x	29.5x	Large-Cap SaaS
Constellation Software Inc.	CSU-CA	17,755	17,978	94.9%	25.1%	106.5%	23.4%	19.8%	25.2%	5.8x	4.8x	23.0x	18.2x	47.4x	
Open Text Corporation	OTEX	12,514	10,272	96.1%	10.5%	50.3%	8.0%	5.2%	36.5%	4.4x	4.2x	12.0x	10.9x	39.3x	
Sage Group plc	SGE-GB	10,917	9,923	95.4%	1.9%	3.3%	14.2%	6.4%	28.5%	4.4x	4.1x	15.4x	15.6x	25.0x	Small-Cap SaaS
Median		\$69,587	\$68,452	95.7%	13.7%	64.2%	8.6%	7.9%	29.9%	5.2x	4.8x	16.4x	15.2x	33.9x	
															IT Operations
															Data Storage
															IT Security

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS

(CONT'D)¹

		Enterprise	Market	% of 52	1-Year Stock	3-Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /
Company	Ticker	Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTMEBITDA	Earnings
HUMAN CAPITAL MANAGEMENT SOFTWARE														
Workday, Inc.	WDAY	\$78,007	\$42,973	96.8%	52.4%	160.5%	32.1%	29.9%	NM	27.6x	21.2x	NM	112.2x	NM
Automatic Data Processing, Inc.	ADP	70,458	69,378	99.7%	40.4%	78.1%	8.2%	8.2%	23.4%	5.1x	4.7x	21.7x	19.4x	38.2x
Paychex, Inc.	PAYX	29,196	28,650	98.8%	29.5%	46.4%	10.7%	12.1%	41.9%	8.0x	7.1x	19.0x	17.5x	27.7x
Paycom Software, Inc.	PAYC	11,216	11,074	99.3%	76.3%	440.8%	30.8%	32.6%	35.9%	19.8x	14.9x	55.2x	36.5x	80.9x
Ceridian HCM Holding, Inc.	CDAY	8,159	7,091	98.2%	NA	NA	(0.6%)	12.5%	14.3%	10.9x	9.7x	76.6x	41.9x	NM
Paylocity Holding Corp.	PCTY	4,950	4,753	97.1%	75.3%	185.8%	25.1%	27.3%	14.8%	11.9x	9.3x	79.8x	32.0x	89.4x
Cornerstone Ondemand, Inc.	CSOD	3,632	3,228	90.8%	39.7%	66.3%	11.6%	8.3%	7.0%	6.8x	6.2x	96.8x	26.2x	NM
Benefitfocus, Inc.	BNFT	1,709	1,546	79.5%	97.7%	46.8%	0.8%	22.8%	NM	6.6x	5.4x	NM	77.0x	NM
Median		\$9,687	\$9,083	97.6%	52.4%	78.1%	11.2%	17.7%	19.1%	9.5x	8.2x	65.9x	34.2x	59.6x
MARKETING SOFTWARE														
Adobe Inc.	ADBE	\$133,608	\$129,985	96.0%	23.3%	185.8%	23.6%	24.4%	33.6%	14.1x	11.3x	41.9x	25.4x	48.5x
salesforce.com, inc.	CRM	125,876	121,394	94.4%	35.5%	118.0%	26.7%	24.5%	16.2%	9.5x	7.6x	58.4x	32.3x	109.4x
HubSpot, Inc.	HUBS	7,700	6,863	92.7%	54.0%	264.7%	36.6%	34.3%	NM	15.0x	11.2x	NM	88.7x	NM
Acxiom Holdings, Inc.	ACXM	4,050	3,743	86.4%	140.6%	153.9%	(49.6%)	(19.6%)	NM	9.0x	11.1x	NM	NM	NM
Criteo SA	CRTO	1,051	1,250	53.1%	(24.7%)	(51.4%)	(0.8%)	(55.2%)	10.5%	0.5x	1.0x	4.4x	3.4x	14.1x
Channeladvisor Corporation	ECOM	328	343	79.0%	35.7%	12.7%	7.1%	6.7%	NM	2.5x	2.3x	NM	22.4x	NM
Median		\$5,875	\$5,303	89.5%	35.6%	136.0%	15.3%	15.5%	16.2%	9.2x	9.4x	41.9x	25.4x	48.5x
PLM & ENGINEERING SOFTWARE														
Hexagon AB	HEXAB-SE	\$177,587	\$18,869	84.0%	(12.2%)	40.4%	13.3%	3.8%	27.1%	40.0x	38.5x	147.5x	118.7x	21.9x
Dassault Systemes SA	DSY-FR	36,845	38,779	90.3%	9.2%	89.7%	12.7%	8.8%	30.0%	9.0x	8.3x	29.9x	23.9x	57.7x
Autodesk, Inc.	ADSK	36,021	34,041	91.8%	23.6%	166.5%	25.9%	31.8%	4.8%	14.0x	10.6x	NM	35.5x	NM
Cadence Design Systems, Inc.	CDNS	18,410	17,751	99.5%	71.7%	167.7%	10.0%	8.8%	25.8%	8.6x	7.9x	33.3x	24.8x	51.3x
Synopsys, Inc.	SNPS	17,905	17,139	99.5%	37.6%	137.2%	11.7%	7.8%	20.7%	5.6x	5.2x	27.3x	19.8x	29.1x
ANSYS, Inc.	ANSS	15,017	15,272	95.7%	16.3%	105.4%	18.1%	13.7%	41.4%	11.6x	10.2x	28.0x	22.2x	36.4x
Trimble Inc.	TRMB	12,257	10,225	91.0%	13.0%	63.2%	17.1%	10.4%	19.5%	3.9x	3.6x	20.2x	15.5x	36.2x
PTC Inc.	PTC	11,657	10,884	85.4%	17.7%	179.1%	7.0%	11.6%	15.3%	9.2x	8.2x	59.9x	27.6x	184.2x
Nemetschek SE	NEM-DE	6,418	6,384	91.6%	48.2%	245.5%	22.0%	14.8%	27.7%	11.8x	10.3x	42.6x	38.0x	70.7x
Altair Engineering Inc.	ALTR	2,847	2,651	85.3%	19.6%	NA	18.9%	24.8%	9.1%	7.2x	5.8x	79.3x	41.7x	193.3x
Median		\$16,461	\$16,206	91.3%	18.7%	137.2%	15.2%	11.0%	23.3%	9.1x	8.2x	33.3x	26.2x	51.3x

Software Bellwethers

Communication

Enterprise

HCM

Marketing

PLM & Engineering

SCM & Logistics

Energy

Financial

HCIT

EdTech / Public Sector

Large-Cap SaaS

Small-Cap SaaS

Data & Analytics

IT Operations

Data Storage

IT Security

Software
Bellwethers

Communication

Enterprise

HCM

Marketing

PLM &
Engineering

SCM & Logistics

Energy

Financial

HCIT

EdTech /
Public SectorLarge-Cap
SaaSSmall-Cap
SaaSData &
Analytics

IT Operations

Data Storage

IT Security

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS (CONT'D) ¹

		Enterprise	Market	% of 52	1-Year Stock	3-Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /
Company	Ticker	Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings
SUPPLY CHAIN AND LOGISTICS SOFTWARE														
Coupa Software, Inc.	COUP	\$6,448	\$5,538	90.7%	98.9%	NA	39.4%	31.0%	NM	24.8x	18.9x	NM	NM	NM
Wisetech Global Ltd.	WTC-AU	5,122	5,166	90.0%	126.7%	NA	57.3%	36.7%	35.4%	24.1x	17.6x	68.0x	53.3x	142.8x
Manhattan Associates, Inc.	MANH	3,649	3,594	88.6%	32.0%	(2.2%)	(6.0%)	2.7%	25.5%	6.5x	6.4x	25.6x	27.8x	34.3x
Descartes Systems Group Inc.	DSG-CA	2,770	2,753	99.1%	25.4%	87.8%	15.9%	21.4%	32.3%	10.1x	8.3x	31.2x	22.9x	88.0x
SPS Commerce, Inc.	SPSC	1,801	1,892	94.0%	66.2%	160.1%	12.5%	13.3%	15.9%	7.3x	6.4x	45.7x	27.2x	79.2x
Kinaxis, Inc.	KXS-CA	1,379	1,511	75.2%	(9.8%)	93.2%	13.1%	28.9%	22.4%	9.1x	7.1x	40.8x	28.4x	104.9x
American Software, Inc.	AMSWA	381	373	63.4%	(7.7%)	34.2%	2.0%	3.8%	12.5%	3.4x	3.3x	27.3x	22.9x	60.3x
Amber Road, Inc.	AMBR	274	246	83.3%	(2.5%)	60.6%	7.7%	7.3%	NM	3.2x	3.0x	NM	41.2x	NM
Median		\$2,285	\$2,323	89.3%	28.7%	74.2%	12.8%	17.3%	24.0%	8.2x	6.8x	36.0x	27.8x	83.6x
ENERGY SOFTWARE														
Aspen Technology, Inc.	AZPN	\$7,591	\$7,258	87.7%	32.2%	191.1%	3.2%	11.0%	41.4%	15.0x	13.5x	36.2x	26.9x	41.9x
AVEVA Group plc	AVV-GB	6,649	6,704	98.8%	55.1%	192.8%	243.8%	4.9%	22.2%	6.7x	6.4x	30.3x	23.1x	93.3x
Itron, Inc.	ITRI	2,915	1,862	64.9%	(34.7%)	11.1%	17.7%	2.6%	10.2%	1.2x	1.2x	12.1x	10.4x	NM
PSI Aktiengesellschaft	PSAN-DE	357	299	89.8%	(10.2%)	27.4%	11.9%	4.8%	13.0%	1.5x	1.4x	11.7x	13.7x	24.0x
Median		\$4,782	\$4,283	88.7%	11.0%	109.3%	14.8%	4.9%	17.6%	4.1x	3.9x	21.2x	18.4x	41.9x
FINANCIAL SOFTWARE														
Fiserv, Inc.	FISV	\$47,630	\$34,503	99.4%	23.6%	73.4%	2.2%	7.3%	35.7%	8.2x	7.6x	22.9x	19.7x	29.1x
Square, Inc.	SQ	36,350	31,515	74.3%	52.7%	446.7%	49.0%	(25.9%)	3.6%	11.0x	14.9x	NM	76.3x	NM
SS&C Technologies Holdings, Inc.	SSNC	27,024	15,975	98.5%	18.2%	100.1%	104.2%	39.2%	32.4%	7.9x	5.7x	24.4x	14.5x	154.8x
MSCI Inc.	MSCI	18,644	16,699	99.6%	32.5%	172.5%	12.5%	9.4%	53.9%	13.0x	11.9x	24.1x	21.6x	32.9x
Jack Henry & Associates, Inc.	JKHY	10,729	10,708	84.8%	14.7%	64.3%	7.4%	3.9%	35.0%	6.8x	6.5x	19.4x	19.3x	34.6x
Black Knight Financial Services, Inc.	BKFS	9,595	8,165	96.4%	15.6%	77.4%	5.9%	8.8%	43.9%	8.6x	7.9x	19.6x	15.9x	48.5x
Oracle Financial Services Software Ltd.	532466-IN	4,238	4,200	73.5%	(14.6%)	(7.1%)	2.5%	10.6%	41.4%	6.0x	5.4x	14.4x	12.4x	22.1x
Envestnet, Inc.	ENV	3,504	3,139	96.5%	13.8%	135.9%	18.8%	14.0%	11.7%	4.3x	3.8x	36.8x	18.4x	NM
Q2 Holdings, Inc.	QTWO	3,365	3,026	96.4%	52.4%	205.2%	24.3%	34.7%	NM	14.0x	10.4x	NM	130.5x	NM
BlackLine, Inc.	BL	2,595	2,547	79.6%	18.0%	NA	28.7%	28.4%	NM	11.4x	8.9x	NM	108.6x	NM
Median		\$10,162	\$9,437	96.4%	18.1%	100.1%	15.7%	10.0%	35.4%	8.4x	7.8x	22.9x	19.5x	33.7x

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS

(CONT'D) ¹

		Enterprise	Market	% of 52	1-Year Stock	3-Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /
Company	Ticker	Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings
HEALTHCARE IT														
Veeva Systems Inc	VEEV	19,966	18,400	98.3%	73.5%	409.9%	25.8%	23.0%	27.4%	23.2x	18.8x	84.5x	50.8x	80.1x
Cerner Corporation	CERN	18,046	18,489	84.4%	(1.7%)	8.7%	4.4%	8.8%	26.4%	3.4x	3.1x	12.7x	10.5x	29.3x
Medidata Solutions, Inc.	MDSO	4,711	4,579	82.8%	17.1%	95.4%	16.5%	20.7%	13.5%	7.4x	6.1x	54.8x	24.8x	88.2x
Inovalon Holdings, Inc.	INOV	2,804	1,905	80.0%	17.5%	(34.8%)	17.4%	22.1%	21.9%	5.3x	4.4x	24.2x	13.6x	NM
HMS Holdings Corp.	HMSY	2,715	2,550	78.4%	77.6%	117.7%	14.8%	10.3%	25.0%	4.5x	4.1x	18.2x	15.2x	46.4x
Allscripts Healthcare Solutions, Inc.	MDRX	2,128	1,651	64.5%	(21.9%)	(24.7%)	(3.1%)	4.0%	9.8%	1.2x	1.2x	12.4x	6.9x	NM
NextGen Healthcare, Inc.	QSII	1,096	1,095	71.3%	24.0%	13.9%	0.5%	4.7%	13.5%	2.1x	2.0x	15.3x	12.2x	115.0x
Evolent Health Inc.	EVH	939	998	43.3%	(11.8%)	16.6%	44.2%	37.8%	10.9%	1.5x	1.1x	13.8x	49.0x	NM
Model N, Inc.	MODN	612	553	86.2%	(2.9%)	61.6%	6.0%	(1.7%)	NM	4.1x	4.1x	NM	52.2x	NM
Median		\$2,715	\$1,905	80.0%	17.1%	16.6%	14.8%	10.3%	17.7%	4.1x	4.1x	16.7x	15.2x	80.1x
EDTECH / PUBLIC SECTOR SOFTWARE														
Constellation Software Inc.	CSU-CA	\$17,755	\$17,978	94.9%	25.1%	106.5%	23.4%	19.8%	25.2%	5.8x	4.8x	23.0x	18.2x	47.4x
Tyler Technologies, Inc.	TYL	8,169	7,883	81.5%	(2.4%)	58.2%	11.3%	19.2%	22.8%	8.7x	7.3x	38.3x	24.8x	53.5x
Blackbaud, Inc.	BLKB	4,357	3,852	65.9%	(22.1%)	26.5%	7.6%	6.1%	16.9%	5.1x	4.8x	30.3x	23.2x	85.9x
2U, Inc.	TWOU	4,001	4,207	73.3%	(14.0%)	214.6%	43.6%	43.1%	NM	9.7x	6.8x	NM	NM	NM
Instructure, Inc.	INST	1,633	1,663	95.5%	11.4%	166.2%	31.9%	29.0%	NM	7.8x	6.0x	NM	NM	NM
K12 Inc.	LRN	1,293	1,387	99.7%	143.2%	247.6%	10.6%	7.0%	13.1%	1.3x	1.2x	10.1x	9.3x	36.7x
NIC Inc.	EGOV	981	1,152	97.2%	28.3%	(4.2%)	2.5%	0.1%	24.7%	2.8x	2.8x	11.5x	12.2x	20.0x
Median		\$4,001	\$3,852	94.9%	11.4%	106.5%	11.3%	19.2%	22.8%	5.8x	4.8x	23.0x	18.2x	47.4x

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS

(CONT'D) ¹

Company	Ticker	Enterprise	Market	% of 52	1- Year Stock	3- Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /	
		Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings	
LARGE-CAP SAAS (Market Cap > \$2Bn)															Software Bellwethers
salesforce.com, inc.	CRM	\$125,876	\$121,394	94.4%	35.5%	118.0%	26.7%	24.5%	16.2%	9.5x	7.6x	58.4x	32.3x	109.4x	Communication
Workday, Inc.	WDAY	78,007	42,973	96.8%	52.4%	160.5%	32.1%	29.9%	NM	27.6x	21.2x	NM	112.2x	NM	
ServiceNow, Inc.	NOW	48,473	44,440	97.9%	48.9%	303.1%	35.0%	40.5%	4.1%	18.6x	13.2x	NM	48.4x	NM	
Atlassian Corp. Plc	TEAM	27,022	26,444	95.3%	104.8%	358.1%	38.2%	40.7%	5.9%	26.3x	18.7x	NM	71.9x	NM	Enterprise
Check Point Software Technologies Ltd.	CHKP	20,443	19,644	98.1%	26.6%	50.0%	3.3%	5.1%	48.8%	10.7x	10.2x	21.9x	19.5x	23.9x	
Veeva Systems Inc	VEEV	19,966	18,400	98.3%	73.5%	409.9%	25.8%	23.0%	27.4%	23.2x	18.8x	84.5x	50.8x	80.1x	
Paycom Software, Inc.	PAYC	11,216	11,074	99.3%	76.3%	440.8%	30.8%	32.6%	35.9%	19.8x	14.9x	55.2x	36.5x	80.9x	HCM
Zendesk, Inc.	ZEN	10,369	9,182	98.4%	77.0%	313.3%	39.1%	43.7%	NM	17.3x	12.1x	NM	151.9x	NM	
DocuSign, Inc.	DOCU	9,926	8,831	76.0%	NA	NA	35.2%	35.3%	NM	14.2x	10.5x	NM	118.7x	NM	
RingCentral, Inc.	RNG	9,490	8,804	97.0%	70.6%	616.9%	34.3%	34.1%	1.0%	14.1x	10.5x	NM	86.1x	NM	PLM & Engineering
HubSpot, Inc.	HUBS	7,700	6,863	92.7%	54.0%	264.7%	36.6%	34.3%	NM	15.0x	11.2x	NM	88.7x	NM	
Guidewire Software, Inc.	GWRE	7,441	7,884	89.8%	19.8%	79.3%	28.0%	9.0%	8.1%	10.1x	9.3x	125.1x	49.8x	192.1x	
Proofpoint, Inc.	PFPT	7,094	6,649	92.2%	5.7%	128.4%	39.1%	28.0%	NM	9.9x	7.7x	NM	48.2x	NM	SCM & Logistics
Coupa Software, Inc.	COUP	6,448	5,538	90.7%	98.9%	NA	39.4%	31.0%	NM	24.8x	18.9x	NM	NM	NM	
Anaplan, Inc.	PLAN-US	6,242	4,989	95.6%	NA	NA	42.9%	36.0%	NM	25.9x	19.1x	NM	NM	NM	
RealPage, Inc.	RP	6,229	5,731	92.4%	18.9%	197.3%	29.6%	17.1%	19.9%	7.2x	6.1x	36.0x	21.3x	165.1x	Energy
Smartsheet, Inc.	SMAR	5,420	4,209	81.7%	NA	NA	59.7%	52.0%	NM	30.5x	20.1x	NM	NM	NM	
Xero Limited	XRO-AU	5,026	4,851	90.0%	34.4%	241.1%	34.2%	51.7%	12.3%	15.2x	10.0x	123.7x	50.2x	NM	
Medidata Solutions, Inc.	MDSO	4,711	4,579	82.8%	17.1%	95.4%	16.5%	20.7%	13.5%	7.4x	6.1x	54.8x	24.8x	88.2x	HCIT
CyberArk Software Ltd.	CYBR	4,693	4,377	99.4%	130.5%	182.9%	31.1%	26.2%	24.9%	13.7x	10.8x	54.9x	42.7x	93.0x	
LogMeIn, Inc.	LOGM	4,263	4,084	65.3%	(30.5%)	57.0%	21.6%	5.6%	31.2%	3.5x	3.4x	11.3x	10.5x	54.9x	
Avalara Inc	AVLR	4,201	3,865	93.7%	NA	NA	27.7%	28.4%	NM	15.4x	12.0x	NM	NM	NM	EdTech / Public Sector
Cornerstone Ondemand, Inc.	CSOD	3,632	3,228	90.8%	39.7%	66.3%	11.6%	8.3%	7.0%	6.8x	6.2x	96.8x	26.2x	NM	
Qualys, Inc.	QLYS	3,546	3,267	84.4%	14.0%	229.6%	20.8%	20.1%	28.4%	12.7x	10.6x	44.7x	27.6x	57.0x	
Five9, Inc.	FIVN	3,405	3,162	92.4%	79.5%	460.0%	28.7%	21.7%	6.7%	13.2x	10.9x	197.0x	63.5x	NM	Large-Cap SaaS
Q2 Holdings, Inc.	QTWO	3,365	3,026	96.4%	52.4%	205.2%	24.3%	34.7%	NM	14.0x	10.4x	NM	NM	NM	
Alarm.com Holdings, Inc.	ALRM	3,198	3,118	98.3%	71.4%	185.2%	24.1%	8.5%	8.6%	7.6x	7.0x	88.2x	30.3x	144.9x	
Box, Inc.	BOX	3,061	2,791	65.0%	(5.8%)	54.8%	20.2%	18.3%	NM	5.0x	4.3x	NM	64.3x	NM	Data & Analytics
Mimecast Limited	MIME	2,999	2,862	91.7%	33.7%	377.0%	26.6%	35.1%	8.3%	9.7x	7.2x	116.1x	40.1x	NM	
AppFolio Inc	APPF	2,802	2,705	87.1%	95.1%	551.6%	32.2%	41.1%	18.6%	14.7x	10.4x	79.3x	49.4x	135.5x	
Rapid7 Inc.	RPD	2,658	2,411	95.5%	96.5%	289.8%	21.5%	33.0%	NM	10.9x	8.2x	NM	153.2x	NM	IT Operations
Yext, Inc.	YEXT	2,602	2,338	79.4%	70.7%	NA	34.1%	37.2%	NM	11.4x	8.3x	NM	NM	NM	
Workiva, Inc.	WK	2,471	2,215	97.3%	110.9%	333.6%	17.5%	20.5%	NM	10.1x	8.4x	NM	NM	NM	
Median		\$5,420	\$4,851	92.7%	52.4%	229.6%	29.6%	29.9%	13.5%	13.7x	10.4x	68.8x	48.9x	90.6x	Data Storage

Software
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SaaSData &
Analytics

IT Operations

Data Storage

IT Security

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS

(CONT'D) ¹

Company	Ticker	Enterprise	Market	% of 52	1- Year Stock	3- Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /
		Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings
SMALL-CAP SAAS (Market Cap < \$2Bn)														
Ebix, Inc.	EBIX	\$2,123	\$1,507	55.4%	(33.8%)	20.4%	36.8%	28.5%	34.1%	4.3x	3.3x	12.5x	10.0x	16.2x
SPS Commerce, Inc.	SPSC	1,801	1,892	94.0%	66.2%	160.1%	12.5%	13.3%	15.9%	7.3x	6.4x	45.7x	27.2x	79.2x
Benefitfocus, Inc.	BNFT	1,709	1,546	79.5%	97.7%	46.8%	0.8%	22.8%	NM	6.6x	5.4x	NM	NM	NM
Instructure, Inc.	INST	1,633	1,663	95.5%	11.4%	166.2%	31.9%	29.0%	NM	7.8x	6.0x	NM	NM	NM
Eventbrite, Inc.	EB	1,385	1,524	48.4%	NA	NA	48.3%	16.6%	14%	4.5x	3.9x	NM	34.8x	NM
Model N, Inc.	MODN	612	553	86.2%	(2.9%)	61.6%	6.0%	(1.7%)	NM	4.1x	4.1x	NM	52.2x	NM
Castlight Health, Inc.	CSLT	527	548	64.1%	4.5%	17.7%	19.0%	2.8%	NM	3.4x	3.3x	NM	64.4x	NM
Domo, Inc.	DOMO	409	1,058	85.3%	NA	NA	31.3%	26.5%	NM	2.9x	2.3x	NM	NM	NM
Amber Road, Inc.	AMBR	274	246	83.3%	(2.5%)	60.6%	7.7%	7.3%	NM	3.2x	3.0x	NM	41.2x	NM
Median		\$1,385	\$1,507	83.3%	4.5%	60.6%	19.0%	16.6%	15.9%	4.3x	3.9x	29.1x	38.0x	47.7x

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS

(CONT'D)¹

Company	Ticker	Enterprise	Market	% of 52	1-Year Stock	3-Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /	
		Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings	
DATA & ANALYTICS															Software Bellwethers
Verisk Analytics Inc	VRSK	\$24,948	\$21,740	99.7%	27.9%	69.2%	11.6%	8.6%	47.3%	10.4x	9.6x	22.0x	19.9x	36.3x	Communication
Splunk Inc.	SPLK	19,278	18,702	86.8%	26.7%	155.0%	41.9%	26.9%	NM	10.7x	8.4x	NM	50.2x	NM	
Tableau Software, Inc.	DATA	11,938	10,944	92.3%	56.3%	176.7%	31.7%	23.7%	NM	10.3x	8.4x	NM	51.7x	NM	
Pegasystems Inc.	PEGA	5,469	5,083	95.4%	6.8%	159.5%	6.1%	11.5%	2.9%	6.1x	5.5x	NM	88.4x	NM	Enterprise
Teradata Corporation	TDC	5,181	5,158	88.9%	10.7%	65.8%	0.4%	(5.5%)	9.0%	2.4x	2.5x	26.6x	13.0x	171.9x	
Verint Systems Inc.	VRNT	4,533	4,005	99.5%	43.9%	74.2%	8.3%	12.5%	16.5%	3.7x	3.3x	22.3x	13.2x	60.7x	
Inovalon Holdings, Inc.	INOV	2,804	1,905	80.0%	17.5%	(34.8%)	17.4%	22.1%	21.9%	5.3x	4.4x	24.2x	13.6x	NM	HCM
PROS Holdings, Inc.	PRO	1,690	1,606	95.3%	27.9%	262.8%	16.7%	21.8%	NM	8.6x	7.0x	NM	NM	NM	
Talend SA	TLND	1,649	1,525	68.8%	5.1%	NA	36.2%	28.5%	NM	8.1x	6.3x	NM	NM	NM	
MicroStrategy Incorporated	MSTR	1,513	1,500	96.5%	13.1%	(17.9%)	(1.4%)	6.0%	3.4%	3.0x	2.9x	88.6x	45.2x	66.7x	Marketing
Median		\$4,857	\$4,544	93.8%	22.1%	74.2%	14.2%	17.1%	12.8%	7.1x	5.9x	24.2x	32.5x	63.7x	
IT OPERATIONS MANAGEMENT															
VMware, Inc.	VMW	\$77,730	\$73,740	95.2%	48.0%	249.5%	13.3%	13.5%	30.0%	8.7x	7.6x	28.9x	20.1x	30.4x	PLM & Engineering
ServiceNow, Inc.	NOW	48,473	44,440	97.9%	48.9%	303.1%	35.0%	40.5%	4.1%	18.6x	13.2x	NM	48.4x	NM	
Arista Networks, Inc.	ANET	24,278	23,794	99.2%	23.1%	407.7%	30.7%	29.6%	32.8%	11.3x	8.7x	34.4x	23.4x	72.6x	
Micro Focus International plc	MCRO-GB	15,288	10,642	96.8%	87.3%	15.6%	64.2%	8.2%	44.5%	4.8x	4.5x	10.8x	10.4x	22.6x	SCM & Logistics
Citrix Systems, Inc.	CTXS	15,087	13,163	85.6%	7.7%	60.9%	5.3%	4.9%	28.2%	5.1x	4.8x	18.0x	13.6x	22.9x	
F5 Networks, Inc.	FFIV	9,527	9,279	78.3%	8.1%	49.4%	4.0%	3.8%	31.2%	4.4x	4.2x	14.0x	11.1x	18.7x	
SolarWinds Corp.	SWI-US	7,706	6,016	91.5%	NA	NA	14.4%	14.6%	45.0%	9.3x	8.1x	20.6x	16.6x	NM	Energy
New Relic, Inc.	NEWR	5,762	5,686	86.4%	33.8%	291.7%	35.0%	34.8%	0.1%	12.9x	9.6x	NM	NM	NM	
NetScout Systems, Inc.	NTCT	2,406	2,167	87.6%	5.7%	23.5%	(15.2%)	2.9%	11.8%	2.6x	2.6x	22.4x	NA	NM	
Software AG	SOW-DE	2,384	2,491	62.8%	(35.7%)	(11.3%)	7.2%	(1.5%)	30.8%	2.3x	2.3x	7.5x	8.0x	13.8x	Financial
Progress Software Corporation	PRGS	2,054	2,020	94.1%	16.5%	77.0%	(2.0%)	2.0%	33.7%	5.2x	5.1x	15.5x	12.4x	33.7x	
Radware Ltd.	RDWR	1,291	1,184	91.7%	22.4%	120.6%	10.9%	11.4%	7.4%	5.5x	4.9x	74.6x	33.8x	100.9x	
Median		\$8,617	\$7,648	91.6%	22.4%	77.0%	12.1%	9.8%	30.4%	5.4x	5.0x	19.3x	15.1x	26.7x	HCIT
Small-Cap SaaS															
Data & Analytics															
IT Operations															
Data Storage															
IT Security															

APPENDIX: SOFTWARE SECTOR PUBLIC COMPANY METRICS (CONT'D) ¹

		Enterprise	Market	% of 52	1-Year Stock	3- Year Stock	Revenue Growth		LTM EBITDA	Enterprise Value /				Price /
Company	Ticker	Value (\$mm)	Cap (\$mm)	Week High	Performance	Performance	LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTMEBITDA	Earnings
DATA STORAGE														
Iron Mountain, Inc.	IRM	\$18,369	\$10,245	95.9%	8.9%	6.8%	9.9%	3.4%	34.0%	4.3x	4.2x	12.8x	12.1x	32.0x
NetApp, Inc.	NTAP	15,200	16,942	77.9%	11.2%	151.7%	7.7%	3.3%	21.9%	2.5x	2.4x	11.2x	9.2x	16.2x
Dropbox	DBX	8,418	8,978	50.3%	(30.0%)	NA	25.7%	21.9%	NM	6.0x	5.0x	NM	21.5x	NM
Nutanix, Inc.	NTNX	7,484	6,851	58.0%	(23.4%)	NA	26.7%	18.3%	NM	6.0x	5.1x	NM	NM	NM
Pure Storage, Inc.	PSTG	5,596	5,342	74.9%	9.3%	63.9%	32.9%	34.8%	NM	4.1x	3.1x	NM	28.4x	NM
Box, Inc.	BOX	3,061	2,791	65.0%	(5.8%)	54.8%	20.2%	18.3%	NM	5.0x	4.3x	NM	NM	NM
CommVault Systems, Inc.	CVLT	2,687	2,980	89.4%	13.5%	58.0%	3.9%	8.7%	4.9%	3.8x	3.5x	76.0x	16.4x	NM
Carbonite, Inc.	CARB	1,380	857	57.2%	(13.4%)	219.5%	23.8%	61.5%	17.9%	4.7x	2.9x	26.0x	10.0x	113.4x
Median		\$6,540	\$6,096	69.9%	1.5%	60.9%	22.0%	18.3%	19.9%	4.5x	3.8x	19.4x	14.3x	32.0x
IT SECURITY														
Cisco Systems, Inc.	CSCO	\$220,133	\$235,575	98.7%	24.8%	90.5%	5.7%	4.0%	31.4%	4.3x	4.2x	13.8x	11.7x	18.3x
Palo Alto Networks, Inc.	PANW	24,038	22,519	92.2%	32.4%	50.9%	30.3%	24.6%	5.1%	9.3x	7.4x	180.2x	26.5x	NM
Symantec Corporation	SYMC	23,156	14,676	78.6%	(11.2%)	24.9%	0.3%	4.6%	25.2%	4.9x	4.7x	19.4x	11.4x	NM
VeriSign, Inc.	VRSN	22,542	21,797	98.0%	53.6%	104.3%	4.3%	2.0%	67.1%	18.6x	18.2x	27.6x	25.0x	37.4x
Check Point Software Ltd.	CHKP	20,443	19,644	98.1%	26.6%	50.0%	3.3%	5.1%	48.8%	10.7x	10.2x	21.9x	19.5x	23.9x
Fortinet, Inc.	FTNT	15,083	14,244	88.5%	55.8%	187.1%	20.5%	19.4%	21.0%	8.4x	7.0x	39.9x	26.5x	42.9x
Proofpoint, Inc.	PFPT	7,094	6,649	92.2%	5.7%	128.4%	39.1%	28.0%	NM	9.9x	7.7x	NM	48.2x	NM
Trend Micro Incorporated	4704-JP	6,847	6,830	73.2%	(16.1%)	33.6%	9.4%	7.7%	32.3%	4.7x	4.4x	14.6x	13.7x	26.6x
CyberArk Software Ltd.	CYBR	4,693	4,377	99.4%	130.5%	182.9%	31.1%	26.2%	24.9%	13.7x	10.8x	54.9x	42.7x	93.0x
FireEye, Inc.	FEYE	3,597	3,396	81.2%	(1.2%)	(6.6%)	10.6%	8.5%	NM	4.3x	4.0x	NM	30.3x	NM
Qualys, Inc.	QLYS	3,546	3,267	84.4%	14.0%	229.6%	20.8%	20.1%	28.4%	12.7x	10.6x	44.7x	27.6x	57.0x
Mimecast Limited	MIME	2,999	2,862	91.7%	33.7%	377.0%	26.6%	35.1%	8.3%	9.7x	7.2x	116.1x	40.1x	NM
Rapid7 Inc.	RPD	2,658	2,411	95.5%	96.5%	289.8%	21.5%	33.0%	NM	10.9x	8.2x	NM	153.2x	NM
SailPoint Technologies	SAIL	2,574	2,522	82.4%	37.8%	NA	33.8%	24.7%	8.7%	10.3x	8.3x	118.9x	NM	NM
ForeScout Technologies, Inc.	FSCT	2,203	1,874	90.8%	30.0%	NA	34.8%	30.3%	NM	7.4x	5.7x	NM	NM	NM
Varonis Systems, Inc.	VRNS	1,790	1,774	71.2%	(2.2%)	226.0%	24.3%	14.6%	NM	6.6x	5.8x	NM	NM	NM
SecureWorks Corp.	SCWX	1,442	1,476	72.5%	123.6%	NA	10.9%	11.2%	NM	2.8x	2.5x	NM	NM	NM
Cheetah Mobile, Inc.	CMCM	490	917	44.9%	(52.1%)	(61.4%)	2.3%	4.6%	10.3%	0.7x	0.6x	6.3x	10.4x	5.0x
Median		\$4,145	\$3,886	89.7%	28.3%	104.3%	20.7%	17.0%	25.0%	8.8x	7.1x	33.8x	26.5x	32.0x

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SOURCES

1. FactSet.
2. HW proprietary transaction information.
3. PitchBook.
4. PNC Capital Markets.
5. S&P LCD stats.

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