

Technology, Media & Telecom

Quarterly Software Sector Review | Q3 2020



HW Software Introduction

HARRIS WILLIAMS (“HW”)

- 25+ years and more than 1,000 closed transactions
- 350+ professionals across eight offices globally
- 170+ closed transactions in the last 24 months
- 10 industry groups

FOCUSED ADVISORY SERVICES

- Mergers and acquisitions (M&A)
- Capital raises
- Corporate divestitures

CONSISTENT RECOGNITION FOR QUALITY



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

- 35+ dedicated TMT professionals
- TMT offices include Boston, San Francisco, and London

KEY TMT THEMES

- ✓ SaaS / Cloud
- ✓ Data & Analytics
- ✓ Digital Transformation
- ✓ A.I. / Machine Learning

HORIZONTAL FOCUS SECTORS

- Application Software
- Cloud Managed Services and Hosting Solutions
- Compliance Solutions
- CRM and Marketing Automation
- Human Capital Management
- Infrastructure and Security Software
- IT and Tech-Enabled Services
- Marketing, Research, and Insights Software

VERTICAL FOCUS SECTORS

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

HW SOFTWARE TEAM

TECHNOLOGY, MEDIA & TELECOM

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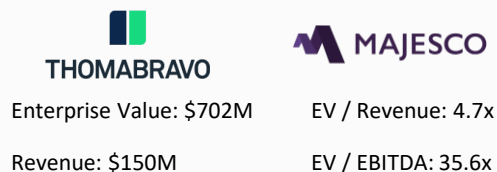
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SELECT HW SOFTWARE EXPERIENCE



Select Software M&A Transactions – Q3 2020

Closed September 21, 2020



Enterprise Value: \$702M EV / Revenue: 4.7x
Revenue: \$150M EV / EBITDA: 35.6x

Thoma Bravo's acquisition of Majesco

- Majesco is a provider of cloud-based software solutions for the insurance industry, offering distribution management, data and analytics, and digital engagement.
- The Company's software is used by over 200 customers ranging from large, global insurance carriers to mid-market insurers, MGAs, startups, and mutual and regional carriers to enable them to digitize and modernize their critical workflows.
- Following the take-private, Majesco will leverage Thoma Bravo's significant operational expertise to focus on long-term growth through new product development designed to provide additional value to its base of global insurance providers.

Announced September 17, 2020



Enterprise Value: \$900M

Clearlake's pending acquisition of Zywave

- Zywave is a provider of mission-critical, cloud-based insurance distribution software for insurance brokers across property and casualty, human capital management, and employee benefits markets.
- The Company offers solutions that streamline and automate key revenue-generating activities including sales, renewals, and quote delivery, as well as content generation, data tracking, and analytics for 6,000+ brokerages, including the top 100 U.S. insurance firms.
- Clearlake's acquisition will enable Zywave to continue executing an inorganic growth strategy, building on the recent purchases of miEdge, RateFactory, Code SixFour, and HR360, as it seeks to expand its offerings.

Closed September 17, 2020



Thomas H. Lee's acquisition of Insurance Technologies

- Insurance Technologies is a provider of sales and regulatory automation software solutions for the insurance and financial services industries.
- The Company's solution suite is used by carriers and brokers to manage the end-to-end sales and buying experience for insurance, investment and retirement products across a single, integrated platform.
- THL's investment will enable Insurance Technologies to continue its aggressive investment in technological innovation, increase speed to market for new products, and support development of a cloud-based product suite through organic and inorganic initiatives.

Announced September 16, 2020



GI Partners' pending acquisition of Sectigo

- Sectigo is a provider of automated digital identity management and web security software.
- The Company offers web security tools including TLS/SSL certificates, signing certificates, and Public Key Infrastructure management solutions that are used by over 700,000 businesses globally.
- Following the acquisition, Sectigo will leverage GI Partners' deep security software expertise and operational resources to accelerate growth globally through an organic and inorganic strategy.

Announced August 20, 2020



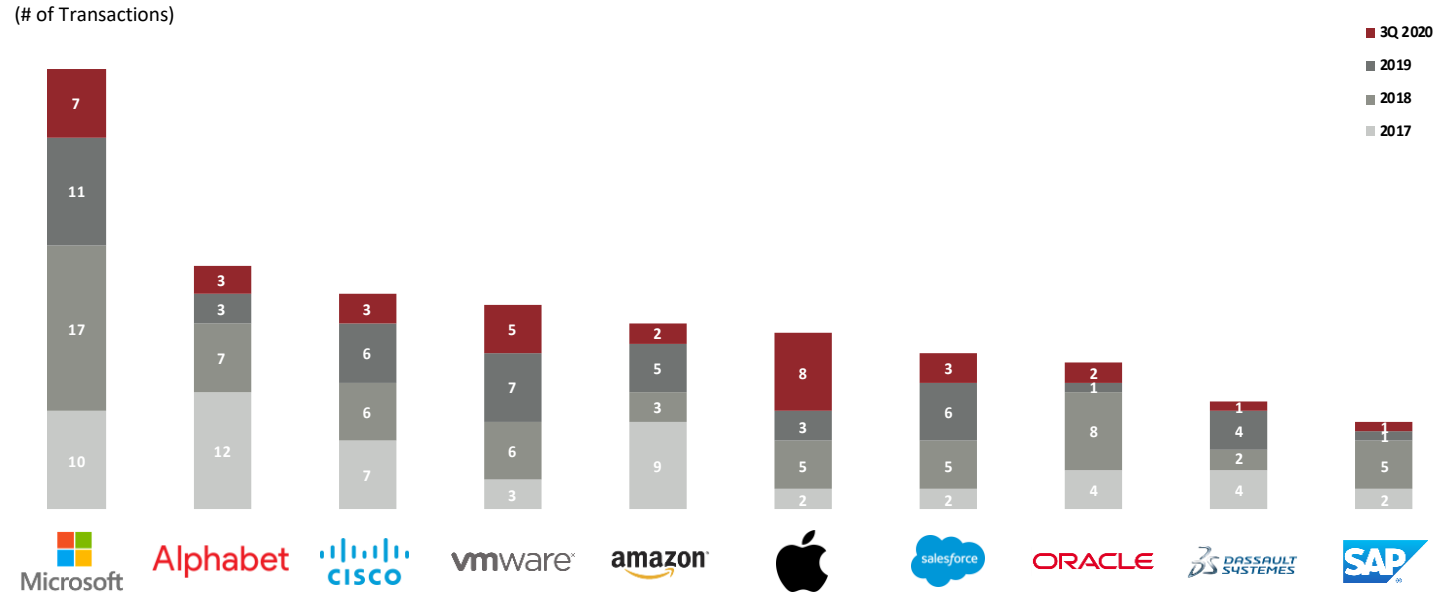
Hg Capital's pending majority investment in Sovos

- Sovos is a provider of tax and regulatory compliance software for global enterprises.
- The Company's cloud-based tax determination, transaction control compliance, and tax reporting software is used by over 8,000 customers across 70 countries to manage highly complex global tax regimes.
- The additional investment from Hg Capital, which was previously a minority investor, will be used to support geographic expansion, deepen its partner ecosystem, and develop new solutions to rapidly respond to emerging tax and regulatory changes.

Software Acquisition Activity – Strategic Acquirers

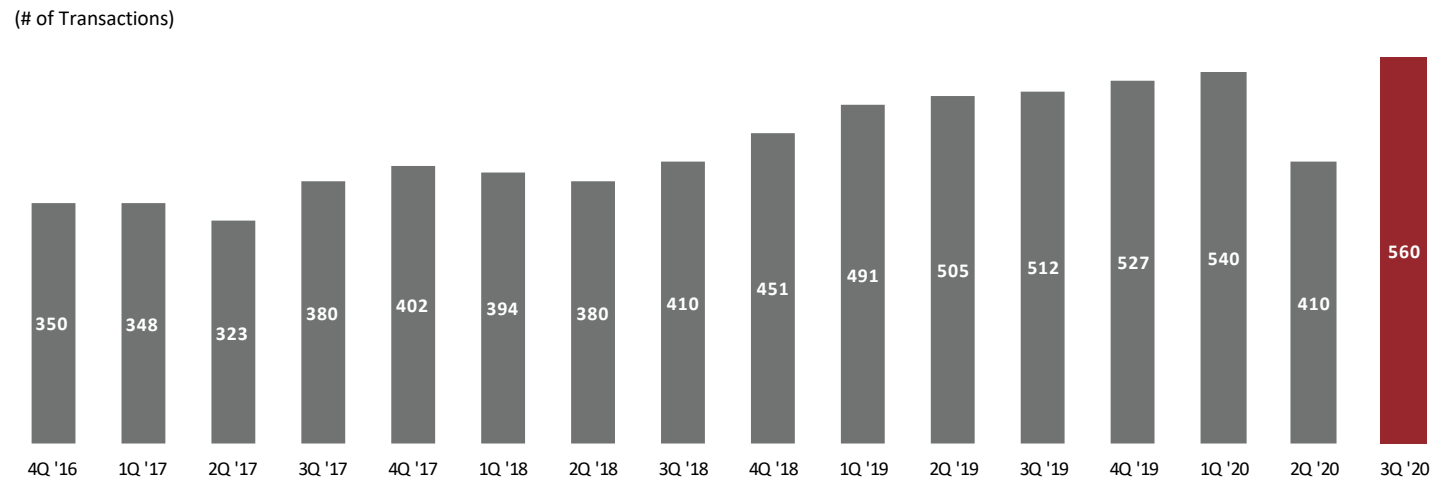
Most Active Strategic Acquirers of Software Assets by Volume¹

- > The 10 most active strategic software acquirers registered 35 acquisitions through 3Q 2020. M&A activity among large strategic software players remains on a pace set in 2019 as the deal environment picked up throughout the summer of 2020 after a slowdown in the spring.
- > Apple was the most active strategic acquirer through 3Q 2020, with eight acquisitions including Mobeewave.
- > Other notable 3Q 2020 strategic software transactions include Roper's acquisition of Vertafore and Microsoft's acquisition of ZeniMax.



Global Strategic Acquirer Software M&A Activity by Volume¹

- > Globally, strategic software M&A registered 560 acquisitions in 3Q 2020, an increase from 410 in 2Q 2020.
- > Strategics continue to view M&A as a meaningful contributor to growth and are focused on pursuing vertical-specific software solutions to expand and complement their current portfolios.



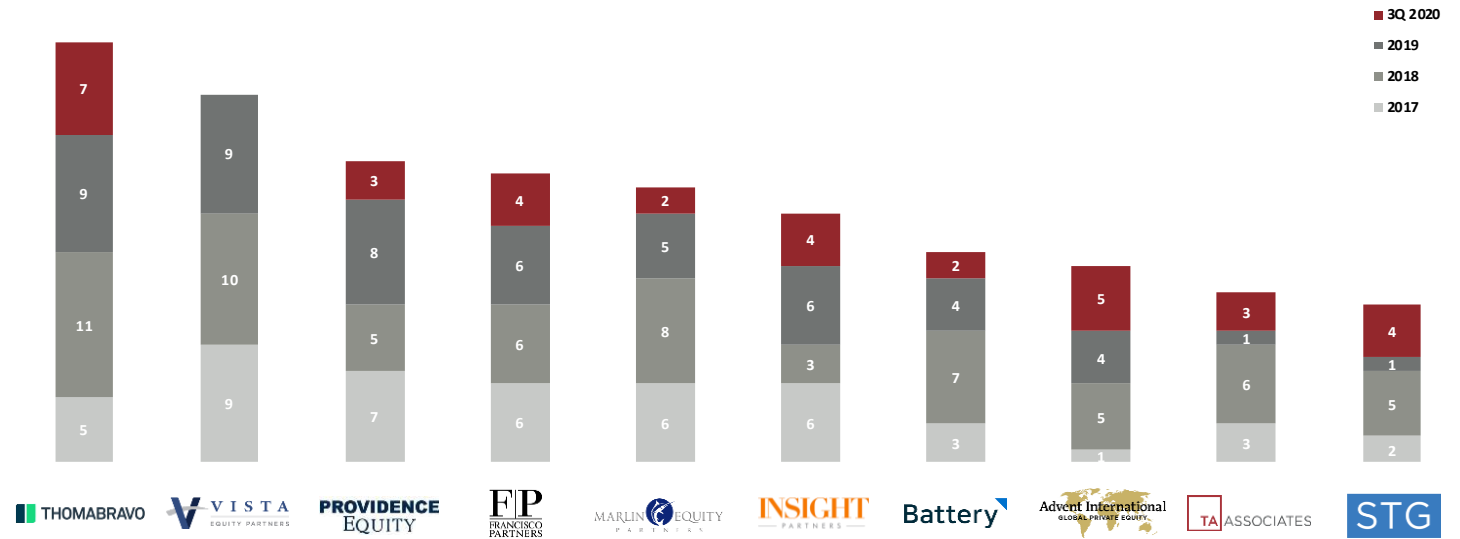
Note: Includes control investments only.

Software Acquisition Activity – Private Equity

Most Active Private Equity Buyers of New Software Platforms by Volume¹

- > The 10 most active software investors completed 34 new platform investments through 3Q 2020.
- > Thoma Bravo remained the most active software private equity firm through 3Q 2020, completing seven platform acquisitions including Command Alkon, Exostar, Syntellis Performance Solutions, Majesco, and Foundation Software.
- > Other notable 3Q 2020 private equity platform acquisitions include TH Lee's acquisition of Insurance Technologies and CD&R's acquisition of Epicor.

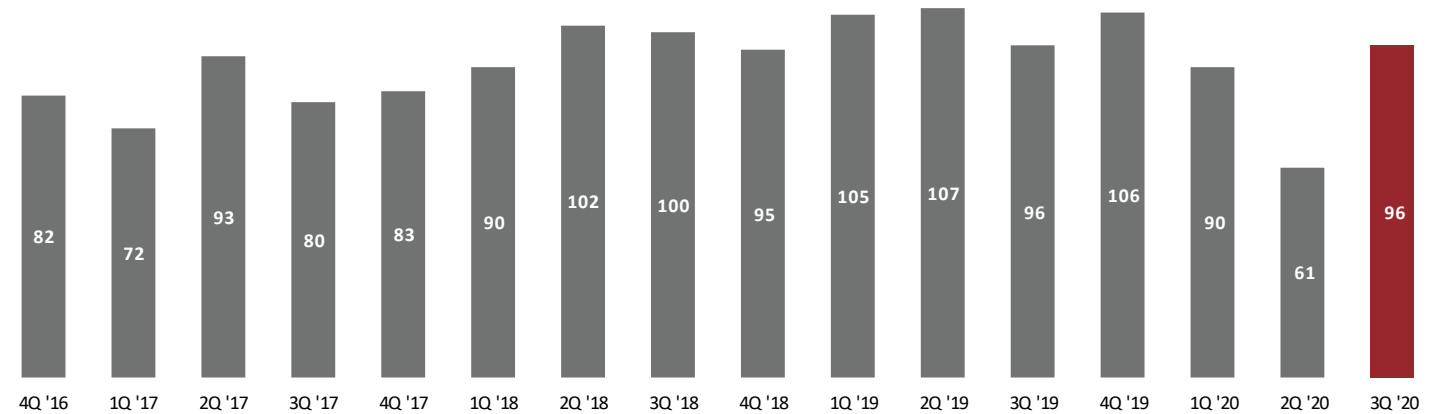
(# of Platform Transactions)



Global Private Equity New Software Platforms M&A Activity by Volume¹

- > Globally, private equity buyers registered 96 new software platform investments in 3Q 2020, a significant increase from 2Q 2020.
- > Private equity investments across software exhibited strong momentum compared to 2Q 2020 as private equity investors began to look at new platform investments after focusing their attention on add-on acquisitions for their existing portfolio during 2Q.

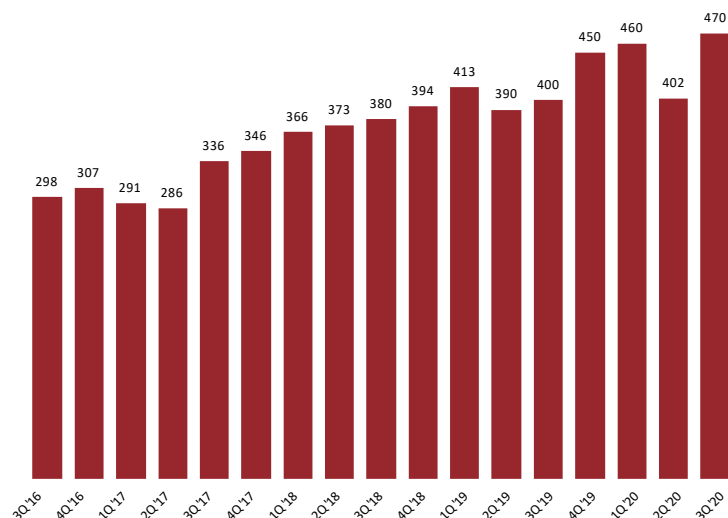
(# of Platform Transactions)



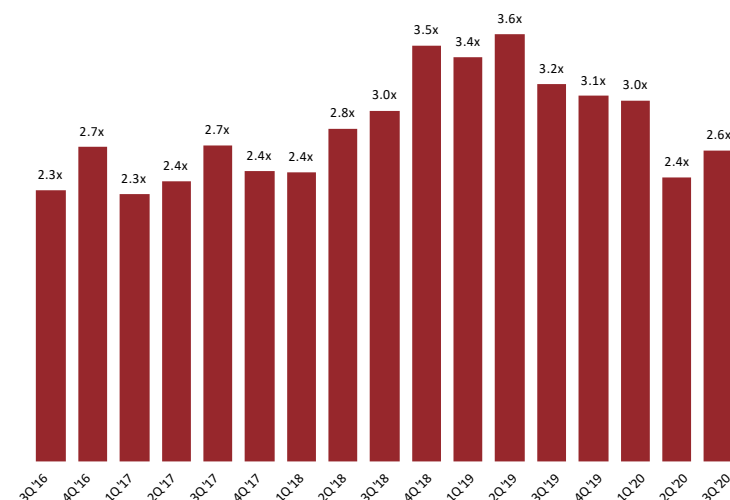
Note: Includes control new platform investments only. Excludes add-on acquisitions.

Application Software – M&A Market Summary

Application Software M&A Volume¹ (Global)



Median M&A Revenue Multiples¹ (Reported)



- Application Software M&A registered 470 transactions in 3Q 2020, representing a 17% increase from the prior quarter.
- Median reported Application Software M&A transaction multiples decreased to 2.6x revenue in 3Q 2020.

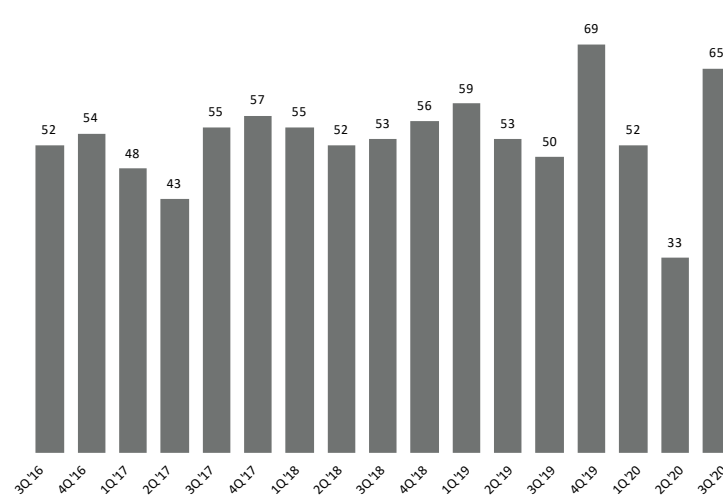
Notable Application Software M&A Transactions^{1,4,5}

- Application Software transaction volume increased in 3Q 2020, as both strategic and financial buyers began to shift their focus externally after navigating the initial impact of the pandemic in the spring.
- Notable 3Q 2020 vertical-specific software transactions include Thoma Bravo's pending acquisition of Foundation Software (AEC), A-KKR's acquisition of Navtor (Transportation), and CD&R's acquisition of Epicor.

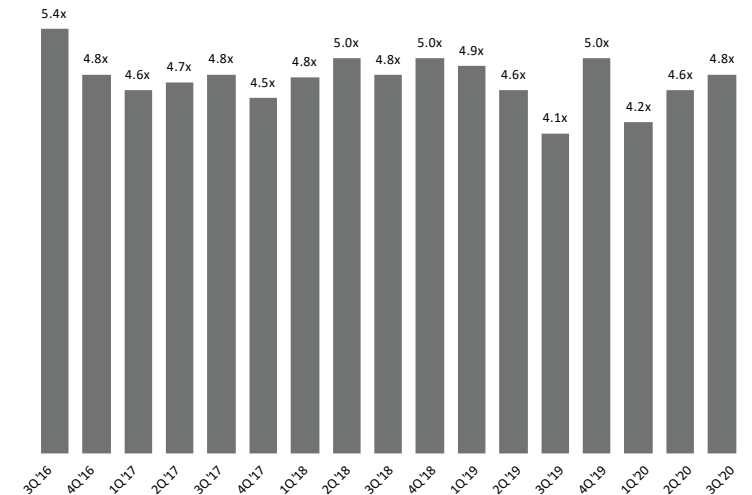
DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Application Software					
Pending	Levine Leichtman Capital	BigHand	Provider of voice productivity software solutions for legal and healthcare industries.	NA	NA
Pending	Pacific Equity	Citadel Group	Provider of information management enterprise software solutions.	\$508	4.2x
Pending	SUSE GmbH (EQT)	Rancher Labs	Provider of an enterprise open source container management software platform.	\$650	NA
10/01/2020	Hg; TA Associates	Sovos Compliance	Provider of tax compliance and regulatory reporting software.	NA	NA
10/14/2020	Clayton, Dubilier & Rice	Epicor Software	Provider of enterprise cloud-based internal business process management software solutions.	\$4,700	NA
10/13/2020	LGP; TPG	WellSky	Provider of health care performance management software for hospitals and government agencies.	NA	NA
10/13/2020	Cambium Learning Group (Veritas)	Rosetta Stone	Provider of a technology-based learning software platform.	\$756	4.0x
9/16/2020	Wolters Kluwer	XCM Solutions	Provider of workflow management software solutions for tax, accounting, and finance professionals.	\$161	8.5x
9/15/2020	Black Knight	Optimal Blue	Provider of an online digital mortgage loan trading software platform.	\$1,800	NA
9/15/2020	Accel-KKR	Shipper TMS business of Wabtec	Provider of supply chain optimization software for shippers and logistic providers.	NA	NA
9/09/2020	Aptos (West Street Capital)	Revionics	Provider of pricing, promotion, markdown, and space software solutions for retailers.	\$180	NA
9/01/2020	Dynamo Software (FP)	Imagineer Technology Group	Provider of relationship management solutions for asset managers and allocators.	NA	NA
8/31/2020	Thoma Bravo	Foundation Software	Provider of cost accounting, payroll, and construction management software.	NA	NA
8/31/2020	RealPage	STRATIS IoT	Provider of energy control and management software solutions for apartments and buildings.	NA	NA
8/27/2020	Accel-KKR	Navtor AS	Provider of route optimization and fleet management software solutions.	NA	NA
8/26/2020	MGA Systems	NetRate Systems	Provider of a workflow software platform for program administrators, MGAs, and insurance carriers.	NA	NA
8/12/2020	Hg; Warburg Pincus; TPG	Visma AS	Provider of enterprise software and business process outsourcing solutions.	\$12,200	NA
8/11/2020	Amdocs	Openet	Provider of transaction management and telecommunication software solutions.	\$180	2.6x
7/23/2020	Talkwalker (Marlin)	Nielsen Social	Provider of social measurement and audience insights API software platform.	NA	NA
7/14/2020	Uber Technologies	Routematch Software	Provider of enterprise intelligent transportation planning and tracking software solutions.	\$115	NA
MEDIAN				\$650	4.1x

SaaS – M&A Market Summary

SaaS M&A Volume¹ (Global)



Median M&A Revenue Multiples¹ (Reported)



- › SaaS M&A volume registered 65 transactions in 3Q 2020, a strong increase from previous quarters.
- › Median reported SaaS transaction revenue multiples increased slightly to 4.8x in 3Q 2020.

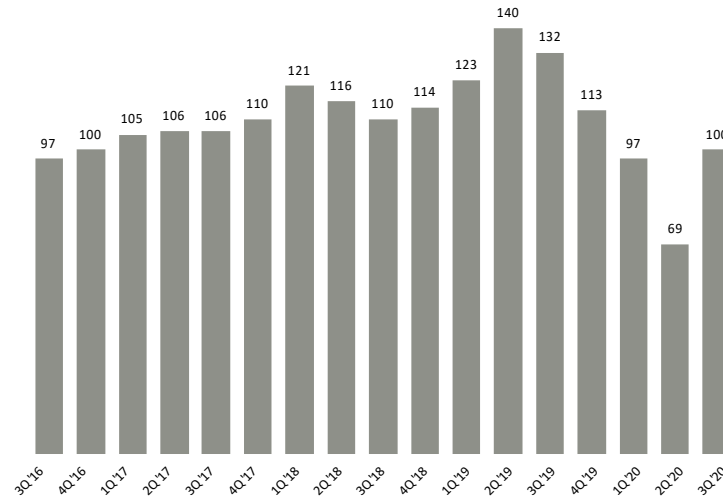
Notable SaaS M&A Transactions^{1,4,5}

- › Demand for cloud-based delivery models remains strong, resulting in continued robust M&A activity by both strategic and private equity buyers, even during the COVID-19 pandemic.
- › Notable 3Q 2020 SaaS transactions include Clearlake's pending acquisition of Zywave, Roper's acquisition of Vertafore, and THL Partners' acquisition of Insurance Technologies.

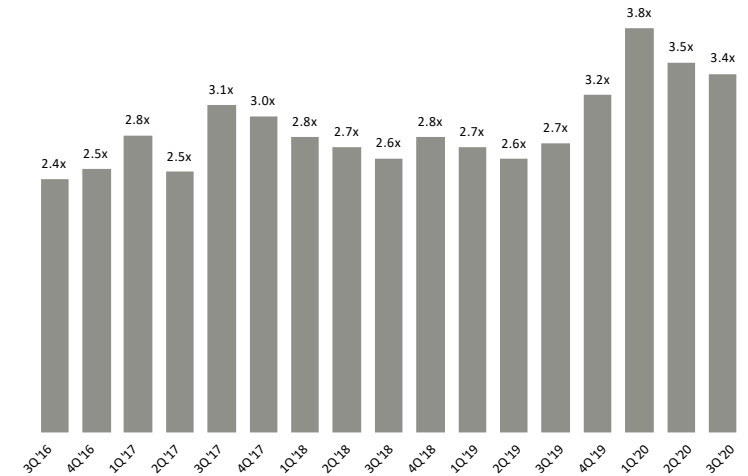
DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
SaaS					
Pending	Clearlake Capital	Zywave	Provider of SaaS automation solutions for the insurance brokers.	\$900	NA
10/21/2020	Episerver (Insight)	Optimizely	Provider of website optimization and testing software platform for individuals and organizations.	NA	NA
9/30/2020	Apax Partners	MyCase	Provider of cloud-based legal practice management software solutions.	\$193	NA
9/21/2020	Thoma Bravo	Majesco	Provider of cloud-based core insurance software solutions.	\$702	4.7x
9/17/2020	THL Partners	Insurance Technologies	Provider of web-based sales and regulatory insurance automation solutions.	NA	NA
9/04/2020	Intercontinental Exchange	Ellie Mae	Provider of a cloud-based mortgage process application platform.	\$11,019	NA
9/03/2020	Roper Technologies	Vertafore	Provider of cloud-based integrated management insurance software.	\$5,350	NA
9/02/2020	Zebra Technologies	Reflexis Systems	Provider of SaaS retail workforce execution management software solutions.	\$575	8.7x
8/31/2020	TCV	Oversight Systems	Provider of web-based software solutions for identifying fraud, misuse, and errors in transaction data files.	NA	NA
8/19/2020	Daxko (GI Partners)	Motionsoft	Provider of SaaS gym management and payment processing software solutions.	NA	NA
8/17/2020	Autodesk	Pype	Provider of web-based construction efficiency software solutions.	NA	NA
8/12/2020	Accel-KKR	Recurly	Provider of a cloud-based subscription billing services software platform.	NA	NA
8/05/2020	Clearlake Capital; Blackstone	Diligent	Provider of web-based secure corporate governance and collaboration software.	\$500	NA
7/27/2020	Modern Hire (Riverside)	Sonru	Provider of cloud-based automated video interview software solutions.	NA	NA
7/23/2020	Blue Yonder (NMC)	Yantriks	Provider of a SaaS commerce and fulfillment software solution.	NA	NA
7/07/2020	Sorting Hat Technologies	Prepladder	Provider of an online education and preparation material online platform for exams.	\$50	NA
7/06/2020	DocuSign	Liveoak Technologies	Provider of a cloud-based real-time communication, collaboration, and e-signature platform.	\$38	NA
MEDIAN				\$575	6.7x

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 100 transactions in 3Q 2020, breaking the downward trend of the prior three quarters.
- › Median reported Data and Analytics transaction multiples decreased to 3.4x in 3Q 2020.

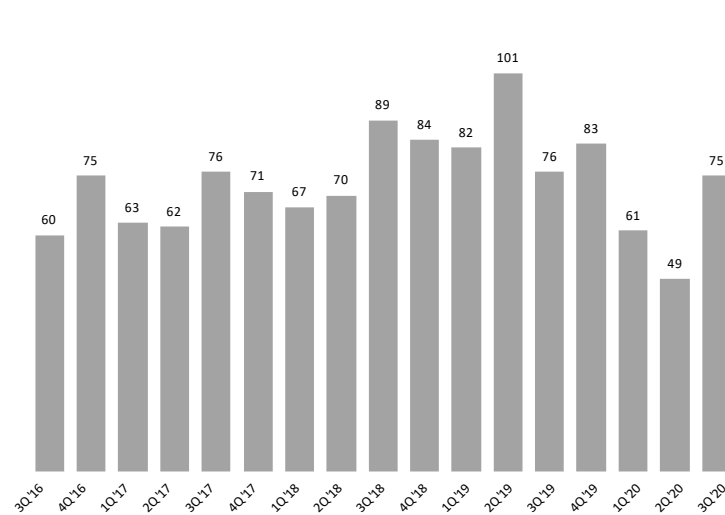
Notable Data and Analytics M&A Transactions^{1,4,5}

- › Data and Analytics remained a key focus area for enterprises in 3Q 2020 as companies increasingly seek data-driven insights and visibility to support critical decision-making.
- › Notable 3Q 2020 Data and Analytics transactions include JLL Partners' pending acquisition of MedeAnalytics, Veeam Software's (Insight) acquisition of Kasten, and HelpSystems' (HGGC) acquisition of GlobalSCAPE.

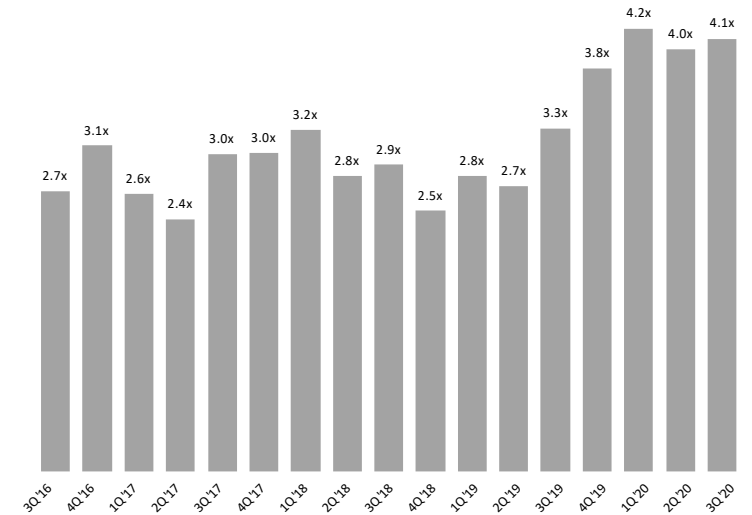
DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Data and Analytics					
Pending	Omnictracs (Goldman Sachs)	SmartDrive Systems	Provider of freight safety and risk management insight and analysis software.	\$450	NA
10/09/2020	Deutsche Bank	Quantitative Brokers	Provider of an algorithmic and data-driven analytics platform for treasury markets.	NA	NA
10/09/2020	JLL Partners	MedeAnalytics	Provider of cloud-based financial performance analytics software solutions for the health care industry.	\$225	NA
9/22/2020	mCube	Kinduct	Provider of cloud-based athlete management data and analytics software.	NA	NA
9/18/2020	TA Associates; Stirling Square Capital	DOCU Nordic	Provider of horizontal B2B business intelligence and data analytics software solutions.	NA	NA
9/16/2020	CB Insights	Blockdata	Provider of a data analytics blockchain tracking platform.	NA	NA
9/16/2020	Stirista	Nikaza	Provider of location data and analytics platform for consumer engagement.	NA	NA
9/15/2020	HelioCampus (Pamlico)	ABC Insights	Provider of data analysis benchmarking platform and tools for universities.	NA	NA
9/04/2020	BearingPoint France	Ockham Technologies	Provider of SaaS sales management data analytics platform.	NA	NA
9/02/2020	Providence Strategic Growth	Semarchy	Provider of data analysis and management software platform.	NA	NA
9/01/2020	Gong.io	Vayo	Provider of an online AI business platform designed to provide data-driven insights.	NA	NA
8/28/2020	HelpSystems (HGGC)	GlobalSCAPE	Provider of secure information exchange, data transfer, and sharing software platform.	\$220	5.4x
8/25/2020	Qlik Technologies (Bain)	Assets and IP of Knarr Analytics	Provider of real-time data analytics software that enables companies to visualize, annotate, and share data.	NA	NA
8/05/2020	Mediaocean (Macquarie)	4C Insights	Provider of a data science and social intelligence software platform.	\$150	NA
7/29/2020	Acrisure (Abry)	AI Insurance Business of Tulco	Provider of data science, AI, and machine learning capabilities for the insurance brokerage industry.	NA	NA
MEDIAN				\$222	5.4x

Infrastructure Software – M&A Market Summary

Infrastructure Software M&A Volume¹ (Global)



Median M&A Revenue Multiples¹ (Reported)



- › Infrastructure Software M&A registered 75 transactions in 3Q 2020, an increase from 49 in 2Q 2020.
- › In 3Q 2020, median reported Infrastructure Software transaction multiples increased slightly to 4.1x revenue.

Notable Infrastructure Software M&A Transactions^{1,4,5}

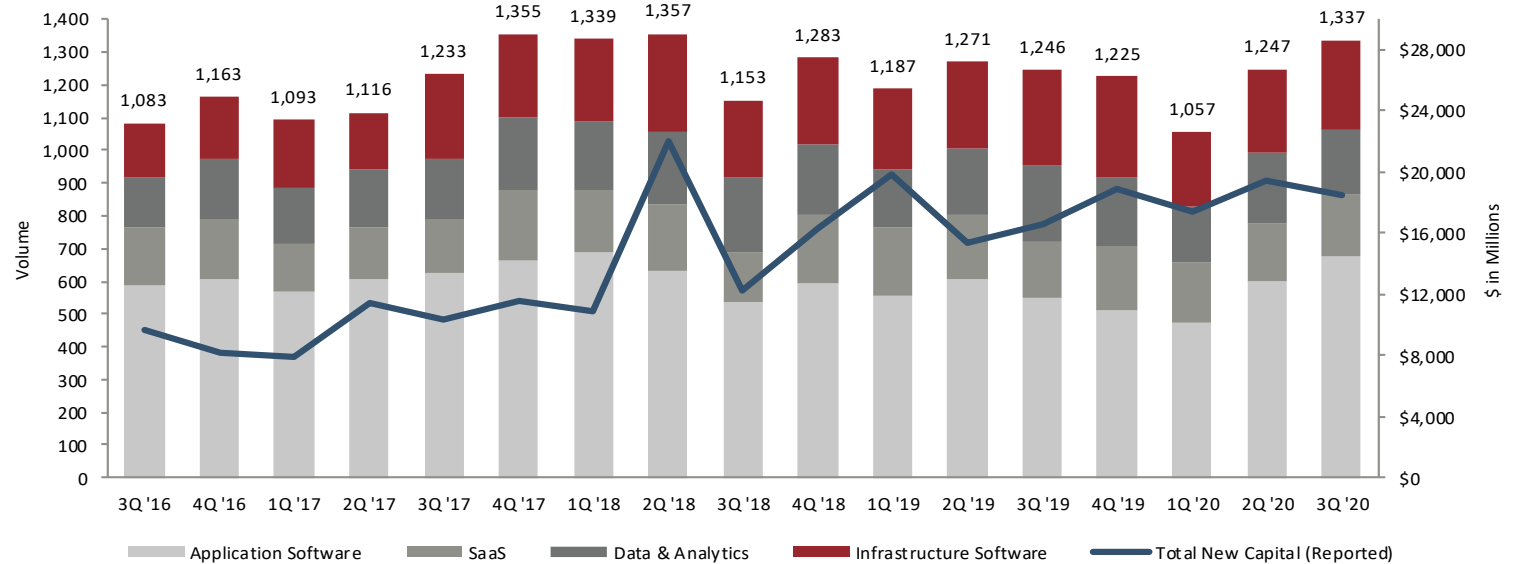
- › Infrastructure Software M&A activity increased in 3Q 2020, as both private equity investors and established software vendors continue to acquire software assets to build holistic security platforms.
- › Noteworthy Infrastructure Software M&A transactions in 3Q 2020 include Ivanti Software's pending acquisition of MobileIron, STG Partners and OTPP's acquisition of RSA Security, and CrowdStrike's acquisition of Preempt Security.

DATE CLOSED	ACQUIRER	TARGET	DESCRIPTION	ENTERPRISE VALUE (MM)	REVENUE MULTIPLE
Infrastructure Software					
Pending	Ivanti Software	MobileIron	Provider of enterprise mobile IT security and management platform.	\$859	4.0x
9/30/2020	GI Partners	Sectigo	Provider of automated digital identity management and web security solutions.	NA	NA
Pending	Providence Strategic Growth	Hornetsecurity	Provider of cloud-based security solutions to business customers worldwide.	NA	NA
Pending	Cove Hill Partners	SecureLink	Provider of cybersecurity infrastructure and shared desktop solutions.	NA	NA
Pending	Ivanti Software (Clearlake)	Pulse Secure	Provider of access and mobile security software solutions.	NA	NA
Pending	Warburg Pincus	Infoblox	Provider of network infrastructure automation and security software solutions.	\$3,000	NA
10/05/2020	Progress Software	Chef	Provider of cloud-based IT infrastructure automation solutions.	\$220	3.1x
10/01/2020	Fastly	Signal Sciences	Provider of web protection and security platform for web applications.	\$775	NA
10/01/2020	PagerDuty	Rundeck	Provider of an IT operations automation and security management platform.	\$100	NA
9/30/2020	CrowdStrike	Preempt Security	Provider of enterprise security software designed to combat breaches and insider threats.	\$96	NA
9/28/2020	TA Associates	Ivanti Software	Provider of enterprise intelligent IT management and security software solutions.	NA	NA
9/28/2020	Veritas Technologies	Globanet	Provider of enterprise-based email archive migration, compliance, and e-discovery software solutions.	NA	NA
9/25/2020	Veeam Software (Insight)	Kasten	Provider of enterprise cloud-native data management software for backup and disaster recovery.	\$150	NA
9/24/2020	Snyk	DeepCode	Provider of AI software for machine learning and programming languages.	NA	NA
9/01/2020	STG; Ontario Teachers' Pension	RSA Security	Provider of cybersecurity and risk management technology solutions.	\$2,075	NA
8/18/2020	ThreatConnect	Nehemiah Security	Provider of cybersecurity risk analytics software solutions.	NA	NA
8/14/2020	Advent	Forescout Technologies	Provider of network security, device visibility, and control solutions.	\$1,607	5.0x
7/20/2020	Perforce Software (Clearlake)	Methodics	Provider of enterprise intellectual property life cycle management and traceability software solutions.	NA	NA
7/09/2020	NetApp	Spot	Provider of a SaaS infrastructure predictive analytics and automation software platform.	\$450	NA
7/07/2020	Thoma Bravo	Exostar	Provider of a security platform for supply chain collaboration and identity and access management solutions.	\$100	NA
MEDIAN				\$450	4.0x

Private Placement Activity by Software Sector

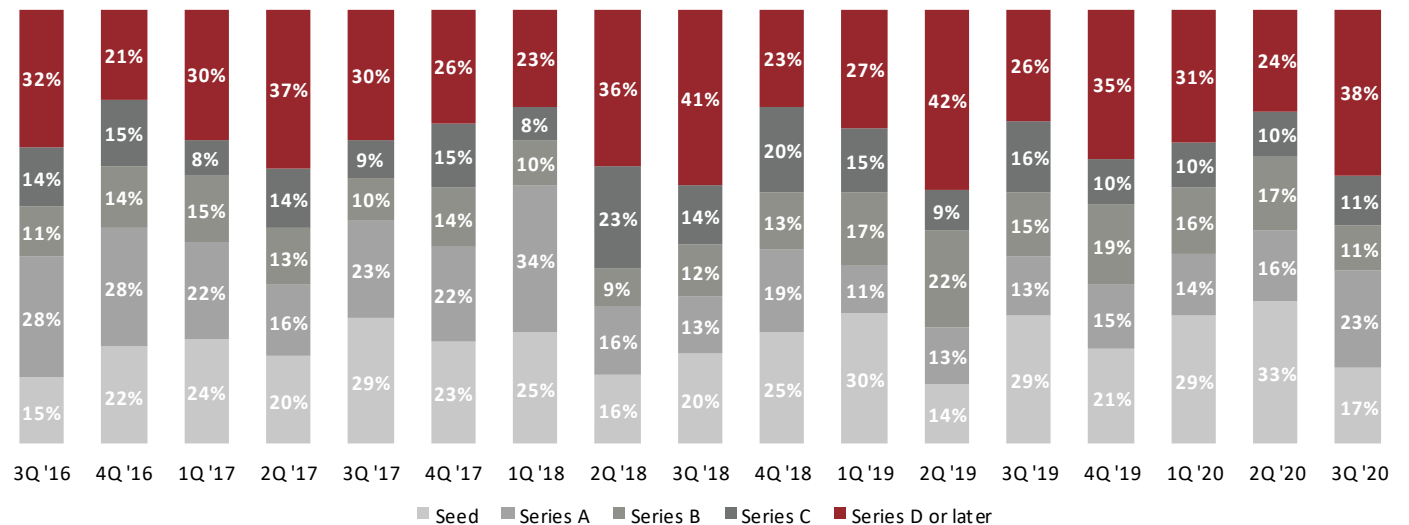
Private Placements by Software Sub-Sector and New Capital Raised^{1,4}

- › There were 1,337 private placement financings in 3Q 2020, which represented an increase compared to 3Q 2019.
- › Total reported capital investment in the software sector decreased slightly in 3Q 2020, but remains above historical averages.
















Private Placement Capital Raised by Round^{1,4} (As Percentage of Total Reported Private Placement Capital)

- › In 3Q 2020, the majority of private capital invested was in the larger stage (Series B or later) rounds, making up 60% of total capital invested.
- › Notable private placements across stages included Rippling's \$145 million Series B led by Founders Fund, Keeper Security's \$60 million growth round led by Insight Partners, and Coursera's \$130 million Series E led by NEA.



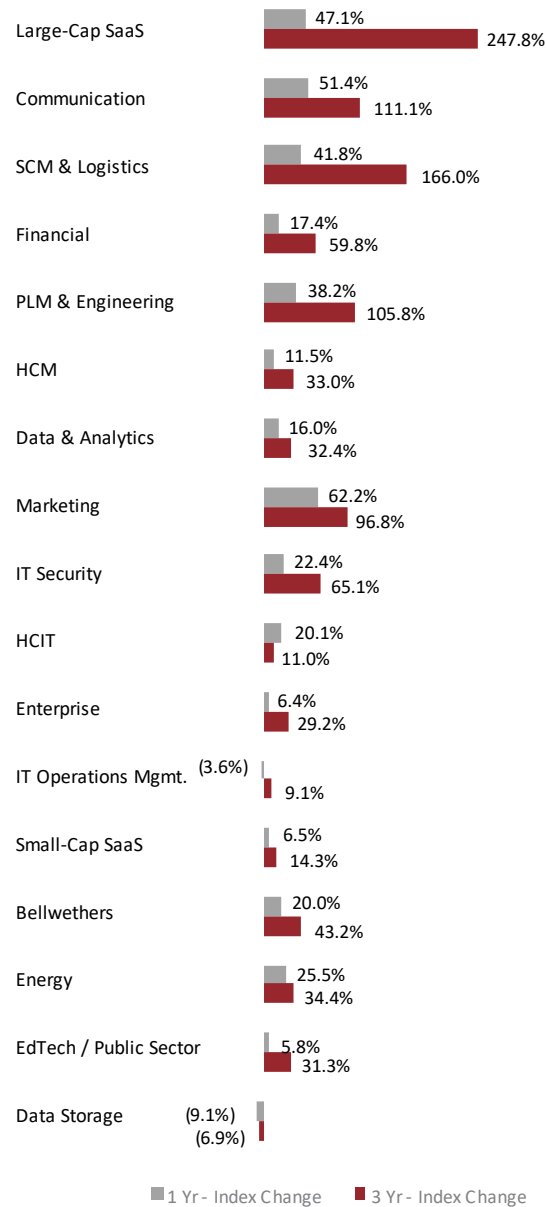
Select Recent Software Private Placements^{1,4}

DATE	COMPANY	SECTOR	ROUND	ROUND SIZE (\$MM)	TOTAL RAISED (\$MM)	INVESTORS (CURRENT ROUND)	DESCRIPTION
09/29/20	 papayaglobal	SaaS	B	\$40	\$91	Bessemer Venture Partners; Insight Partners; Scale Management; Group 11; ClaiTech; Workday Ventures; New Era Capital Partners; DYNAMIC Loop Capital	Provider of a cloud-based SaaS platform that automates payroll processing, labor law compliance, and other processes of human resource management.
09/18/20	 Outschool	SaaS	B	\$45	\$57	Lightspeed Venture Partners; Union Square Ventures; Y Combinator; SV Angel Management; FundersClub; Reach Capital	Provider of an online e-learning platform that enables users to find and book in-person learning activities for kids.
09/14/20	 Airtable	Infrastructure	D	\$185	\$355	Benchmark; Charles River Ventures; Coatue Management; Thrive Capital; Caffeinated Capital; D1 Capital Partners	Provider of a real-time, all-in-one collaboration software platform for mobile and desktop applications.
08/27/20	 Deel	SaaS	B	\$30	\$49	Spark Capital Partners	Provider of a payroll and contract compliance platform for international teams.
08/17/20	 Grafana	Data & Analytics	B	\$50	\$75	Lightspeed Venture Partners; Lead Edge Capital	Provider of an open source SaaS platform for time series analytics and performance monitoring.
08/17/20	 Agiloft	SaaS	Growth	\$45	\$45	FTV Capital	Provider of business process automation and contract life cycle management software.
08/13/20	 keeper	Infrastructure	Growth	\$60	\$60	Insight Partners	Provider of security and password management software for mobile devices and computers.
08/04/20	 RIPPLING	SaaS	B	\$145	\$197	Founders Fund; Bedrock Ventures; Coatue Management; Greenoaks Capital; KPCB	Provider of a consolidated HRIS and IT management software platform.
07/23/20	 FREIGHTWAVES	Data & Analytics	Growth	\$30	\$75	Kayne Anderson Capital	Provider of an analytics platform that provides supply chain, logistics, and analytics to the freight industry.
07/14/20	 Auth0	Infrastructure	F	\$120	\$333	Salesforce Ventures; Bessemer Venture Partners; Meritech Capital; Trinity Ventures; Sapphire Ventures; K9 Ventures; Telstra Ventures; Wil; Deutsche Telekom Capital	Provider of a cloud-based identity and authentication software platform.
07/14/20	 PRICE f(x)	SaaS	C	\$65	\$131	Apax Partners; Bain & Company, Credo Ventures, Digital+ Partners	Provider of SaaS-based price management and price optimization software solutions.
07/14/20	 Lattice	SaaS	D	\$45	\$94	Tiger Global, Founders Fund, Frontline Ventures, FUEL Capital, Khosla Ventures, Thrive Capital	Provider of an employee performance management software platform for real-time employee feedback.
07/07/20	 coursera	SaaS	F	\$130	\$463	NEA; KPCB; SEEK; Learn Capital; SuRo Capital; GSV Asset Management; G Squared	Provider of an online education and LMS software platform for courses from various universities and organizations.

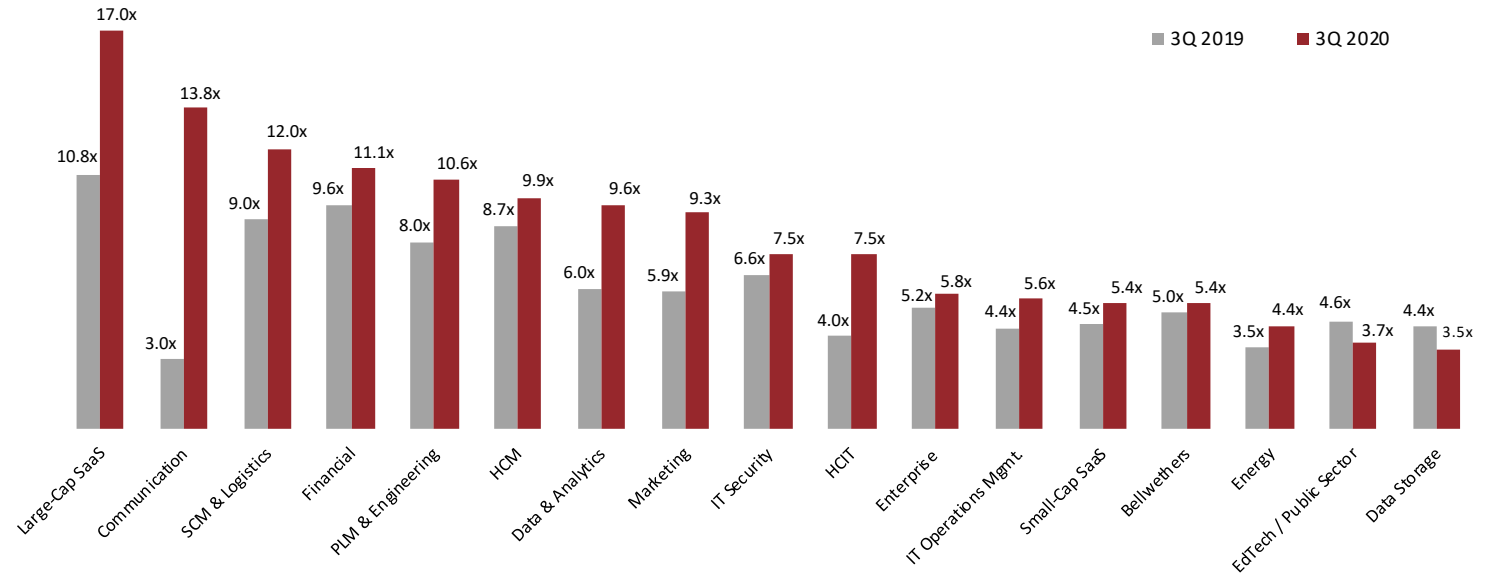
Note: Financial information presented above represents reported capital raised only.

Public Software Valuation Multiples by Sector¹

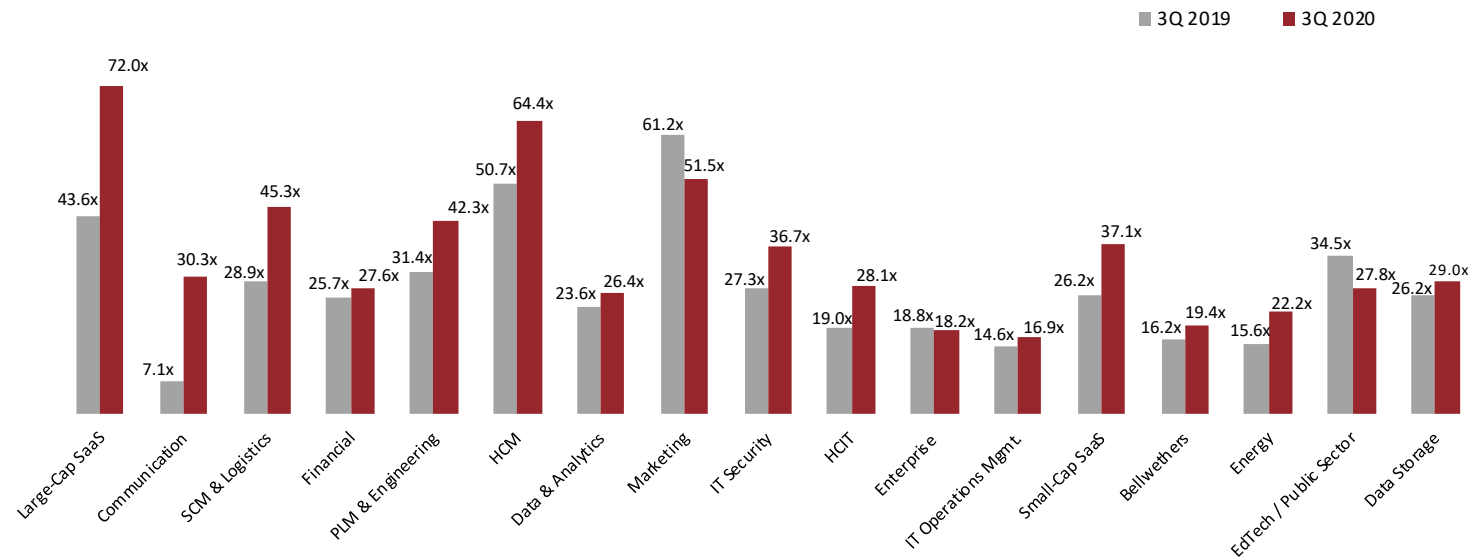
Stock Performance (1- & 3-Year)



Revenue Multiple Comparison 3Q 2019 vs. 3Q 2020



EBITDA Multiple Comparison 3Q 2019 vs. 3Q 2020

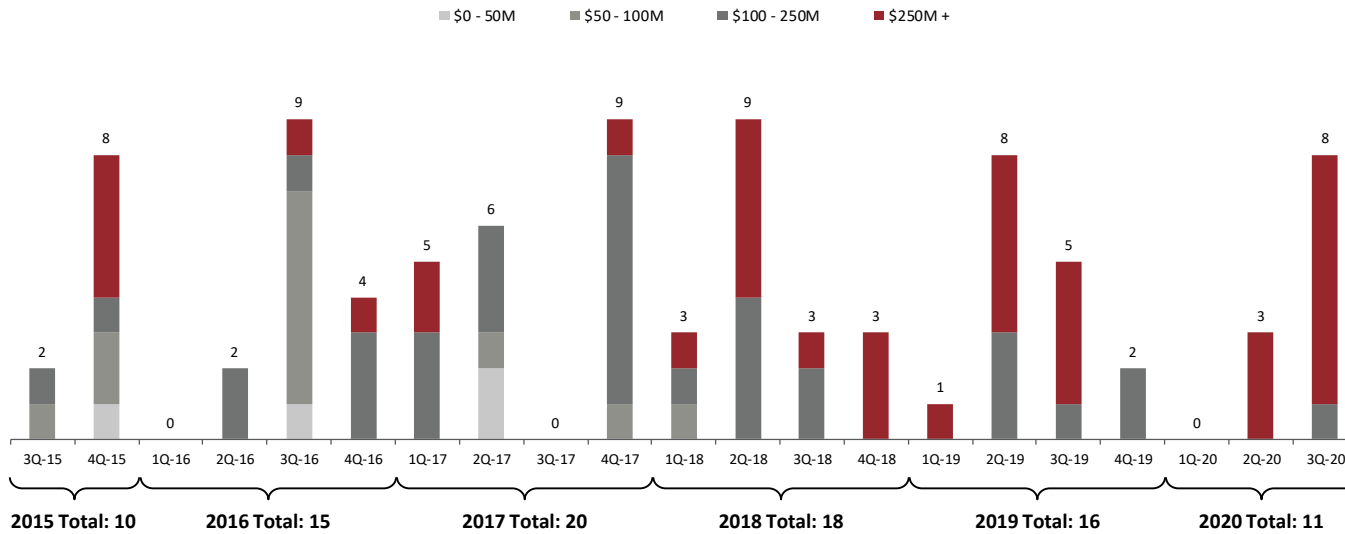


Key Metrics by Sector – Comparable Public Software Companies¹

	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	17.0x	19%	143%	12%	91%	21%	-
Communication	13.8x	14%	60%	20%	97%	-	-
SCM & Logistics	12.0x	8%	26%	21%	79%	-	59%
Financial	11.1x	10%	21%	33%	21%	-	-
PLM & Engineering	10.6x	10%	56%	22%	67%	29%	51%
HCM	9.9x	8%	41%	21%	39%	-	-
Data & Analytics	9.6x	10%	67%	14%	96%	18%	-
Marketing	9.3x	14%	54%	16%	74%	69%	54%
IT Security	7.5x	11%	62%	15%	83%	-	49%
HCT	7.5x	14%	71%	21%	14%	-	60%
Enterprise	5.8x	2%	25%	30%	63%	44%	40%
IT Operations Mgmt.	5.6x	7%	47%	23%	87%	86%	-
Small-Cap SaaS	5.4x	9%	96%	17%	69%	-	-
Bellwethers	5.4x	8%	20%	28%	79%	45%	28%
Energy	4.4x	-	45%	19%	69%	70%	93%
EdTech / Public Sector	3.7x	11%	81%	17%	-	-	64%
Data Storage	3.5x	0%	110%	15%	52%	-	33%

Summary of Technology IPOs

Recent U.S. Technology IPO Activity (by Offering Size)¹

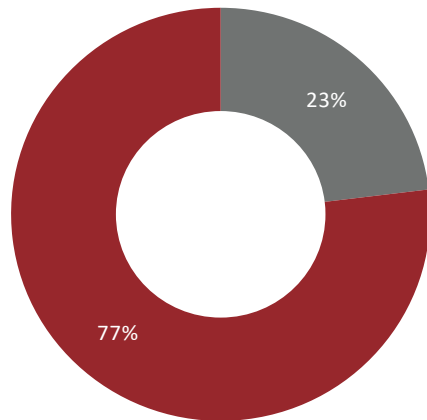


- › Continuing the momentum from the previous quarter, IPO activity increased substantially with eight technology companies listing publicly in 3Q 2020.
- › Notable 3Q 2020 IPOs include cloud insurance software vendor Duck Creek Technologies and construction and engineering software provider Bentley Systems.
- › The pipeline of technology IPOs remains strong with companies including McAfee and Airbnb planning on listing in Q4.

Offering Size at IPO (LTM)¹

(All tech IPOs over the last 12 months)

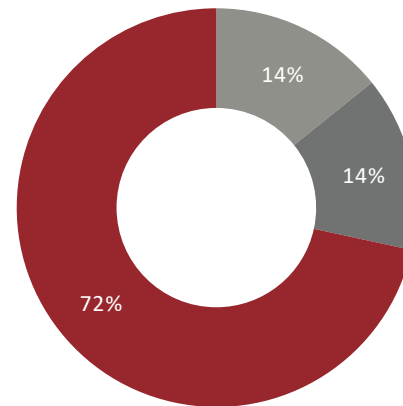
■ \$50 - 100M ■ \$100 - 250M ■ \$250M +



Market Cap at IPO (LTM)¹

(All tech IPOs over the last 12 months)

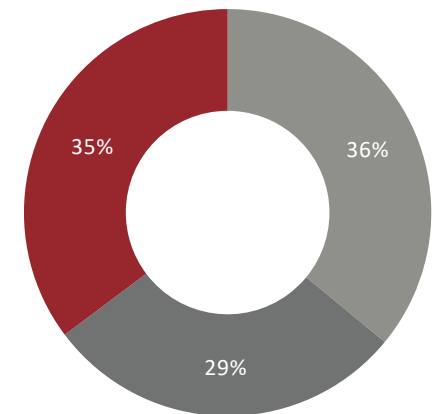
■ \$0-50M ■ \$50-500M ■ \$500M-\$1B ■ \$1B+



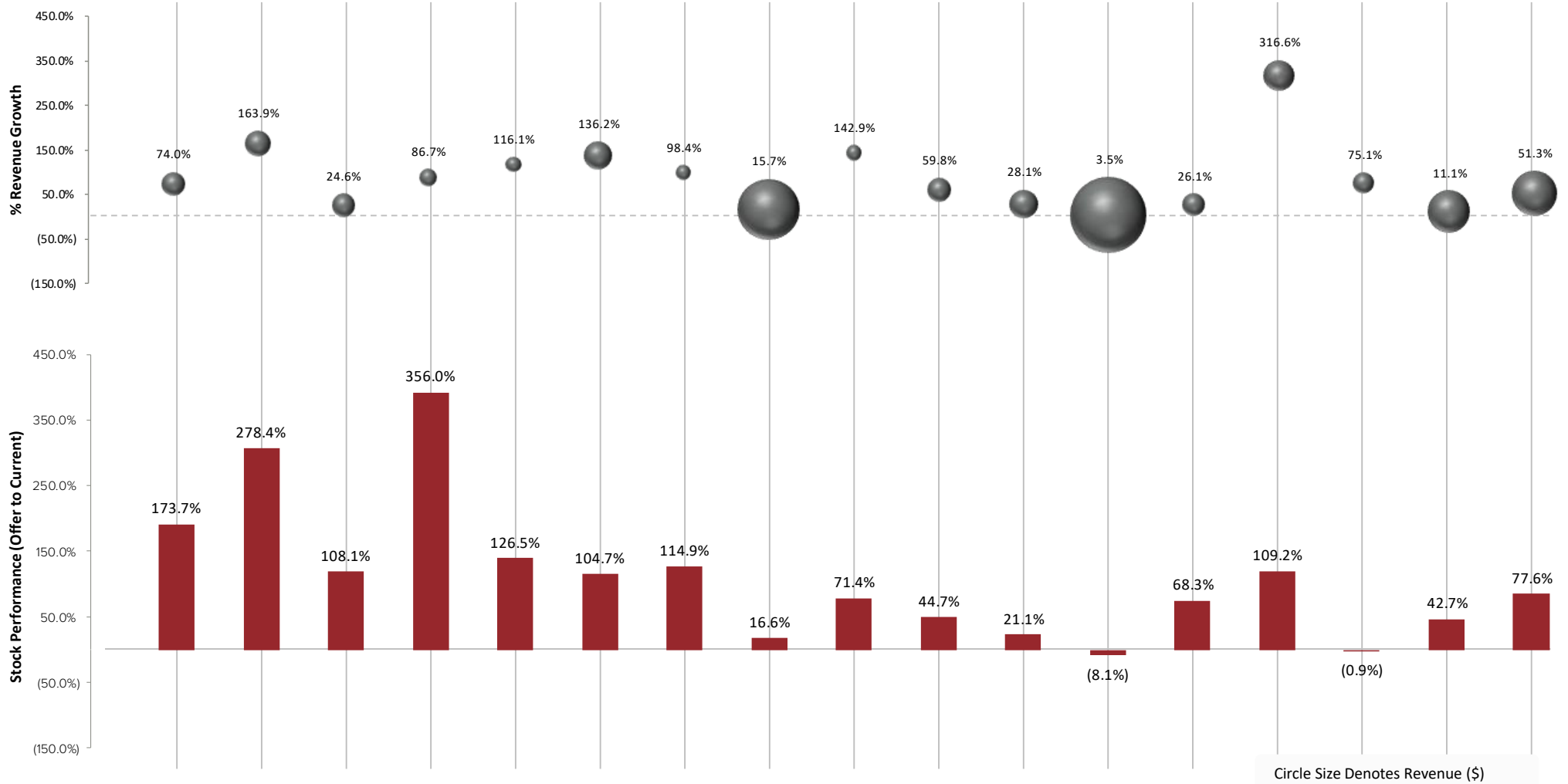
Revenue Growth (1YR Prior to IPO)¹

(All tech IPOs over the last 12 months)

■ < 25% ■ 25 - 75% ■ > 75%



Key Performance Metrics for Recent Software IPOs¹



IPO DATE	9/13/19	9/18/19	9/19/19	12/11/19	12/12/19	6/3/20	6/25/20	6/30/20	7/1/20	7/21/20	7/28/20	8/4/20	8/13/20	9/15/20	9/16/20	9/22/20	9/30/20
OFFER PRICE PER SHARE	\$15.00	\$27.00	\$15.00	\$22.00	\$17.00	\$21.00	\$20.00	\$22.00	\$29.00	\$26.00	\$19.00	\$21.00	\$27.00	\$120.00	\$22.00	\$22.00	\$5.35
MARKET CAP AT OFFER (\$M)	\$1,299.2	\$745.2	\$1,192.7	\$1,584.6	\$658.1	\$1,092.5	\$402.5	\$9,306.0	\$1,639.8	\$3,095.6	\$489.2	\$4,180.2	\$3,528.6	\$4,849.0	\$2,220.0	\$5,491.9	\$16,500.0
OFFERING SIZE (\$M)	\$525.0	\$648.0	\$187.5	\$216.1	\$150.0	\$934.5	\$350.0	\$1,722.6	\$319.0	\$468.0	\$401.9	\$703.5	\$405.0	\$3,360.0	\$325.6	\$236.5	\$0.0
OFFER TO CURRENT	173.7%	278.4%	108.1%	356.0%	126.5%	104.7%	114.9%	16.6%	71.4%	44.7%	21.1%	(8.1%)	68.3%	109.2%	(0.9%)	42.7%	77.6%

Select HW TMT Transactions

 pending acquisition by 	 acquired by 	 acquisition of 	 acquired by 	 acquired 	 acquired 	 acquired by 	 acquired by 	 strategic investment in 	 acquired by 	 investment from 	 acquired by 	 recapitalized by 	 acquired 	 acquired by
 significant growth investment from 	 acquired by 	 acquired by 	 significant growth investment from 	 acquired by 	 acquired by 	 has received a controlling investment from 	 acquired 	 acquired by 	 acquired 	 strategic investment from 	 acquired by 	 acquired 	 acquired by 	 acquired
 acquired by 	 acquired by 	 acquired 	 acquired by 	 acquired by 	 acquired 	 acquired by 	 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 	 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

Appendix: Software Sector Public Company Universe¹

	Software Bellwethers	Microsoft	Alphabet	Adobe	Salesforce	SAP	Oracle	Cisco	IBM	HPE
APPLICATION SOFTWARE	Communication Software	Zoom	Twilio	Slack	NICE	Nuance	Agora	MobileIron	Synchronoss	
	Enterprise Software	Adobe	SAP	Oracle	IBM	Intuit	ADP	Amadeus	Constellation	OpenText Sage
	Human Capital Management (HCM)	ADP	Workday	Paychex	Paycom	Ceridian	Paylocity	Cornerstone	Benefitfocus	
	Marketing Software	Adobe	Salesforce	HubSpot	ZoomInfo	Axiom	Criteo	ChannelAdvisor	Marin	
	PLM & Engineering Software	Autodesk	Dassault	Synopsys	Cadence	Ansys	Hexagon AB	Trimble	PTC	Nemetschek Bentley
	PLM & Engineering Software (cont'd)	Altair								
	Supply Chain & Logistics Software	Coupa	Trimble	Manhattan	Wisetech	Descartes	Kinaxis	SPS	American	
		Energy Software	Trimble	AVEVA	AspenTech	Itron	PSI			
VERTICAL	Financial Software	Square	Fiserv	MSCI	SS&C	Black Knight	Jack Henry	Duck Creek	Blackline	Q2 Holdings Envestnet
	Financial Software (Con't)	Oracle FSS	Vertex							
	Healthcare IT (HCIT)	Veeva	Cerner	Change Health	Inovalon	HMS	Health Catalyst	Allscripts	Phreesia	Evolent Health
	EdTech / Public Sector Software	Constellation	Tyler Tech	Blackbaud	2U	NIC	K12			
		Large-Cap SaaS (≥ \$3Bn Mkt Cap)	Salesforce	Zoom	ServiceNow	Workday	Atlassian	Veeva	DocuSign	CrowdStrike
SAAS	Large-Cap SaaS (cont'd)	Paycom	Check Point	HubSpot	ZenDesk	Dynatrace	Avalara	Xero	Anaplan	Guidewire Five9
	Large-Cap SaaS (cont'd)	Proofpoint	Smartsheet	RealPage	Q2 Holdings	AppFolio	Medallia	CyberArk	Qualys	LivePerson Rapid7
	Small-Cap SaaS (< \$3Bn Mkt Cap)	Mimecast	SPS	Box	Alarm.Com	Workiva	Cornerstone	PagerDuty	Yext	Talend Model N
	Small-Cap SaaS (cont'd)	Domo	Upland	Eventbrite	Ebix	Benefitfocus	Castlight Health			
		Data & Analytics	Snowflake	Datadog	Splunk	Verisk	Palantir	Dun & Bradstreet	Pegasystems	Inovalon
	Data & Analytics (cont'd)	MicroStrategy	PROS Holdings	Talend						
INFRASTRUCTURE SOFTWARE	IT Operations Management	ServiceNow	VMware	Citrix	Arista	Dynatrace	Fastly	F5 Networks	SolarWinds	Software AG New Relic
	IT Operations Management (cont'd)	PagerDuty	Progress	NetScout	Radware	Micro Focus				
	Data Storage	NetApp	Dropbox	Iron Mountain	Nutanix	Pure Storage	Box	CommVault		
	IT Security	Cisco	CrowdStrike	Palo Alto	VeriSign	Fortinet	Check Point	Cloudflare	Trend Micro	Proofpoint CyberArk
	IT Security (cont'd)	Qualys	Varonis	SailPoint	Rapid7	Mimecast	FireEye	Ping	SecureWorks	Tufin Cheetah Mobile
	IT Security (cont'd)	Symantec								

Appendix: Software Sector Public Company Metrics¹

Company	Ticker	Enterprise Value (\$mm)	Market Cap (\$mm)	% of 52 Week High	1-Year Stock Performance	3-Year Stock Performance	Revenue Growth		LTM EBITDA Margin	Enterprise Value /				Price / Earnings	
							LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA	Earnings	
SOFTWARE BELLWETHERS															Software Bellwethers
Microsoft Corporation	MSFT	\$1,537,322	\$1,591,704	90.3%	51.3%	182.4%	13.6%	9.6%	45.6%	10.7x	9.8x	23.6x	21.0x	35.9x	
Alphabet Inc.	GOOG.L	893,245	998,182	84.9%	20.0%	50.5%	12.0%	13.5%	27.7%	5.4x	4.7x	19.4x	13.7x	31.7x	Communication
Adobe Inc.	ADBE	234,731	235,269	91.3%	77.5%	228.8%	16.8%	14.3%	36.7%	18.9x	16.5x	51.5x	33.5x	60.9x	
salesforce.com, inc.	CRM	225,606	228,701	88.3%	69.3%	169.0%	31.6%	15.5%	10.8%	11.6x	10.1x	107.8x	33.6x	96.6x	Enterprise
SAP SE	SAP	196,848	185,643	92.6%	23.1%	43.2%	6.2%	7.8%	26.5%	6.2x	5.8x	23.5x	17.0x	36.3x	
Oracle Corporation	ORCL	208,862	179,750	95.4%	8.5%	23.5%	(0.8%)	2.3%	42.8%	5.3x	5.2x	12.4x	10.7x	17.5x	HCM
Cisco Systems, Inc.	CSCO	152,915	166,755	78.3%	(20.3%)	17.1%	(5.0%)	(2.0%)	32.1%	3.1x	3.2x	9.7x	8.8x	14.9x	
IBM Corporation	IBM	164,155	108,357	76.6%	(16.3%)	(16.1%)	(2.7%)	(0.5%)	21.4%	2.2x	2.2x	10.2x	8.5x	13.7x	
Hewlett Packard Enterprise Co.	HPE	24,185	12,053	53.3%	(38.2%)	(36.3%)	(9.6%)	(0.3%)	17.4%	0.9x	0.9x	5.2x	5.2x	NM	Marketing
Median		\$208,862	\$185,643	88.3%	20.0%	43.2%	6.2%	7.8%	27.7%	5.4x	5.2x	19.4x	13.7x	33.8x	PLM & Engineering
COMMUNICATION SOFTWARE															
Zoom Video Communications, Inc.	ZM	\$132,300	\$133,709	88.7%	516.9%	NA	190.4%	112.5%	18.7%	98.3x	46.2x	NM	147.3x	NM	SCM & Logistics
Twilio, Inc.	TWLO	35,410	36,618	85.6%	124.7%	727.8%	57.9%	27.8%	NM	25.4x	19.9x	NM	NM	NM	
Slack Technologies, Inc.	WORK	14,654	15,324	67.0%	13.2%	NA	51.4%	29.3%	NM	19.1x	14.8x	NM	NM	NM	
NICE Systems Ltd.	TASE:NICE	13,690	14,186	96.5%	51.4%	174.6%	6.3%	4.8%	26.4%	8.5x	8.1x	32.1x	25.5x	71.7x	Energy
Nuance Communications, Inc.	NUAN	10,713	9,370	96.7%	103.5%	111.1%	12.5%	(17.9%)	20.7%	5.9x	7.2x	28.5x	28.0x	61.1x	
Agora, Inc.	NasdaqGS:AP	3,737	4,377	62.8%	NA	NA	NM	23.2%	5.3%	35.4x	28.7x	NM	NM	NM	Financial
MobileIron, Inc.	MOBL	756	831	96.0%	7.1%	89.5%	6.2%	(4.9%)	NM	3.5x	3.7x	NM	NM	NM	
Synchronoss Technologies, Inc.	SNCR	392	131	46.2%	(44.3%)	(67.7%)	(10.5%)	(1.5%)	NM	1.3x	1.3x	NM	17.2x	NM	HCIT
Median		\$12,202	\$11,778	87.1%	51.4%	111.1%	12.5%	14.0%	19.7%	13.8x	11.4x	30.3x	26.7x	66.4x	EdTech / Public Sector
ENTERPRISE SOFTWARE															
Adobe Inc.	ADBE	\$234,731	\$235,269	91.3%	77.5%	228.8%	16.8%	14.3%	36.7%	18.9x	16.5x	51.5x	33.5x	60.9x	Large-Cap SaaS
SAP SE	SAP	196,848	185,643	92.6%	23.1%	43.2%	6.2%	7.8%	26.5%	6.2x	5.8x	23.5x	17.0x	36.3x	
Oracle Corporation	ORCL	208,862	179,750	95.4%	8.5%	23.5%	(0.8%)	2.3%	42.8%	5.3x	5.2x	12.4x	10.7x	17.5x	Small-Cap SaaS
IBM Corporation	IBM	164,155	108,357	76.6%	(16.3%)	(16.1%)	(2.7%)	(0.5%)	21.4%	2.2x	2.2x	10.2x	8.5x	13.7x	
Intuit Inc.	INTU	81,990	85,404	90.6%	22.7%	129.5%	13.2%	7.3%	30.9%	10.7x	9.9x	34.6x	26.2x	46.8x	
Automatic Data Processing, Inc.	ADP	60,509	59,959	76.5%	(13.6%)	27.6%	3.4%	(2.9%)	25.8%	4.1x	4.3x	16.1x	19.1x	24.3x	Data & Analytics
Amadeus IT Group	BME:AMS	28,306	25,135	60.4%	(27.6%)	(13.5%)	(24.7%)	(11.0%)	30.8%	6.2x	7.0x	20.3x	23.7x	69.3x	
Constellation Software Inc.	TSX:CSU	23,674	23,534	90.4%	11.8%	117.4%	13.7%	11.4%	17.4%	6.4x	5.7x	36.8x	20.3x	69.4x	IT Operations
Open Text Corporation	OTEX	14,242	11,458	88.3%	3.5%	30.8%	8.4%	1.1%	29.3%	4.6x	4.5x	15.6x	12.0x	48.9x	
Sage Group plc	LSE:SGE	10,493	10,186	90.7%	4.3%	3.2%	(1.9%)	0.6%	30.1%	4.3x	4.3x	14.3x	17.1x	24.3x	Data Storage
Median		\$71,249	\$72,682	90.5%	6.4%	29.2%	4.8%	1.7%	29.7%	5.8x	5.5x	18.2x	18.1x	41.5x	IT Security

Appendix: Software Sector Public Company Metrics (Cont'd)¹

Company	Ticker	Enterprise Value (\$mm)	Market Cap (\$mm)	% of 52 Week High	1-Year Stock Performance	3-Year Stock Performance	Revenue Growth		LTM EBITDA Margin	Enterprise Value /				Price / Earnings	
							LTM	NTM		LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA		
HUMAN CAPITAL MANAGEMENT SOFTWARE															
Automatic Data Processing, Inc.	ADP	\$60,509	\$59,959	76.5%	(13.6%)	27.6%	3.4%	(2.9%)	25.8%	4.1x	4.3x	16.1x	19.1x	24.3x	Software Bellwethers
Workday, Inc.	WDAY	50,404	51,020	86.5%	26.6%	104.1%	23.1%	14.6%	NM	12.6x	11.0x	NM	44.3x	NM	Communication
Paychex, Inc.	PAYX	28,719	28,715	88.1%	(3.6%)	33.0%	2.0%	(2.3%)	40.2%	7.2x	7.4x	17.9x	18.7x	27.5x	Enterprise
Paycom Software, Inc.	PAYC	17,872	17,932	91.0%	48.6%	315.3%	21.4%	13.3%	32.2%	22.6x	19.9x	69.9x	53.3x	101.8x	Enterprise
Ceridian HCM Holding, Inc.	CDAY	12,636	12,151	95.0%	67.4%	NA	8.6%	5.3%	12.7%	15.1x	14.3x	118.4x	78.3x	161.4x	Enterprise
Paylocity Holding Corp.	PCTY	8,583	8,687	96.3%	65.4%	230.6%	20.0%	10.4%	15.8%	15.3x	13.8x	97.0x	57.8x	134.8x	HCM
Cornerstone OnDemand, Inc.	CSOD	3,523	2,339	56.4%	(33.7%)	(10.5%)	13.5%	26.4%	9.5%	5.6x	4.4x	58.9x	14.0x	NM	HCM
Benefitfocus, Inc.	BNFT	540	361	43.9%	(53.0%)	(66.7%)	5.3%	(5.4%)	NM	1.9x	2.0x	NM	14.7x	NM	Marketing
Median		\$15,254	\$15,042	87.3%	11.5%	33.0%	11.1%	7.9%	20.8%	9.9x	9.2x	64.4x	31.7x	101.8x	Marketing
MARKETING SOFTWARE															
Adobe Inc.	ADBE	\$234,731	\$235,269	91.3%	77.5%	228.8%	16.8%	14.3%	36.7%	18.9x	16.5x	51.5x	33.5x	60.9x	PLM & Engineering
salesforce.com, inc.	CRM	225,606	228,701	88.3%	69.3%	169.0%	31.6%	15.5%	10.8%	11.6x	10.1x	107.8x	33.6x	96.6x	SCM & Logistics
HubSpot, Inc.	HUBS	12,952	13,315	91.1%	92.8%	247.7%	29.0%	18.5%	NM	17.0x	14.3x	NM	135.5x	NM	SCM & Logistics
ZoomInfo Technologies Inc.	ZI	7,909	6,911	66.8%	NA	NA	165.6%	32.8%	16.5%	20.6x	15.5x	125.1x	31.7x	NM	Energy
Axiom Holdings, Inc.	ACXM	2,780	3,410	NA	NA	96.8%	30.0%	13.3%	NM	7.0x	6.2x	NM	NM	NM	Energy
Criteo SA	CRTO	480	732	58.7%	(34.8%)	(70.6%)	(7.4%)	(64.3%)	11.0%	0.2x	0.6x	2.1x	2.7x	8.9x	Financial
ChannelAdvisor Corporation	ECOM	364	415	64.8%	55.1%	25.8%	4.1%	5.3%	16.9%	2.7x	2.5x	15.8x	10.9x	25.7x	Financial
Marin Software, Inc.	MRIN	14	9	39.7%	(48.0%)	(89.1%)	(28.9%)	NM	NM	0.4x	NM	NM	NM	NM	HCIT
Median		\$5,344	\$5,161	66.8%	62.2%	96.8%	22.9%	14.3%	16.5%	9.3x	10.1x	51.5x	32.6x	43.3x	HCIT
PLM & ENGINEERING SOFTWARE															
Autodesk, Inc.	ADSK	\$51,219	\$50,656	88.2%	56.4%	105.8%	20.8%	13.5%	17.8%	14.5x	12.7x	81.3x	37.0x	139.5x	EdTech / Public Sector
Dassault Systemes SA	ENXTPA:DSY	51,543	48,893	97.3%	22.2%	86.6%	13.4%	15.7%	20.5%	10.6x	9.2x	52.1x	28.0x	84.2x	Large-Cap SaaS
Synopsys, Inc.	SNPS	32,103	32,474	93.0%	55.9%	165.7%	6.2%	12.8%	21.6%	9.1x	8.1x	42.3x	24.9x	51.7x	Large-Cap SaaS
Cadence Design Systems, Inc.	CDNS	29,235	29,728	90.7%	61.4%	170.2%	9.4%	7.5%	28.5%	11.6x	10.8x	40.7x	28.8x	27.6x	Small-Cap SaaS
ANSYS, Inc.	ANSS	27,874	28,073	92.2%	47.8%	166.6%	9.4%	11.3%	34.0%	18.3x	16.5x	53.9x	37.9x	70.5x	Small-Cap SaaS
Hexagon AB	OM:HEXA B	30,101	27,812	97.8%	42.8%	67.9%	(3.1%)	8.4%	26.8%	7.0x	6.5x	26.3x	15.5x	40.8x	Small-Cap SaaS
Trimble Inc.	TRMB	13,935	12,186	89.3%	25.5%	24.1%	(3.2%)	(0.3%)	20.0%	4.4x	4.5x	22.2x	20.0x	25.3x	Data & Analytics
PTC Inc.	PTC	10,511	9,605	84.7%	21.3%	47.0%	13.7%	7.3%	20.7%	7.5x	7.0x	36.2x	21.5x	110.3x	Data & Analytics
Nemetschek SE	XTRA:NEM	8,646	8,477	84.1%	33.5%	172.6%	11.3%	12.9%	22.6%	13.3x	11.8x	58.7x	40.9x	58.7x	IT Operations
Bentley Systems	NasdaqGS:BS	8,334	8,203	88.8%	NA	NA	279.3%	NM	28.1%	10.8x	NM	38.6x	NM	65.4x	IT Operations
Altair Engineering Inc.	ALTR	3,036	3,069	94.7%	21.3%	NA	7.0%	2.5%	5.2%	6.7x	6.5x	127.6x	91.0x	NM	Data Storage
Median		\$27,874	\$27,812	90.7%	38.2%	105.8%	9.4%	9.8%	21.6%	10.6x	8.7x	42.3x	28.4x	62.1x	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	
SUPPLY CHAIN AND LOGISTICS SOFTWARE															Software Bellwethers
Coupa Software, Inc.	COUP	\$19,029	\$18,881	77.6%	111.7%	780.4%	43.8%	20.4%	NM	41.5x	34.5x	NM	180.4x	NM	
Trimble Inc.	TRMB	13,935	12,186	89.3%	25.5%	24.1%	(3.2%)	(0.3%)	20.0%	4.4x	4.5x	22.2x	20.0x	25.3x	Communication
Manhattan Associates, Inc.	MANH	5,977	6,066	93.9%	18.4%	129.7%	2.6%	(4.1%)	19.8%	9.9x	10.3x	49.9x	39.6x	70.9x	Enterprise
Wisetech Global Ltd.	ASX:WTC	5,829	5,958	72.0%	(25.7%)	196.4%	21.4%	21.2%	23.6%	19.7x	16.2x	83.4x	47.6x	53.7x	
Descartes Systems Group Inc.	TSX:DSG	4,740	4,809	92.1%	41.8%	122.9%	11.8%	8.3%	37.3%	14.2x	13.1x	37.9x	32.5x	112.6x	
Kinaxis, Inc.	TSX:KXS	3,714	3,965	87.1%	127.3%	166.0%	33.5%	7.1%	22.0%	17.1x	15.9x	77.7x	76.9x	147.1x	HCM
SPS Commerce, Inc.	SPSC	2,532	2,735	92.9%	65.4%	174.6%	11.3%	8.2%	21.1%	8.6x	8.0x	41.0x	28.8x	70.5x	
American Software, Inc.	AMSWA	366	456	NA	NA	NA	6.1%	(0.3%)	7.0%	3.2x	3.2x	45.3x	26.1x	59.8x	
Median		\$5,285	\$5,384	89.3%	41.8%	166.0%	11.6%	7.6%	21.1%	12.0x	11.7x	45.3x	36.1x	70.5x	Marketing
ENERGY SOFTWARE															PLM & Engineering
Trimble Inc.	TRMB	\$13,935	\$12,186	89.3%	25.5%	24.1%	(3.2%)	(0.3%)	20.0%	4.4x	4.5x	22.2x	20.0x	25.3x	
AVEVA Group plc	LSE:AVV	9,923	9,980	89.2%	29.4%	NA	4.0%	(0.1%)	18.7%	9.6x	9.6x	51.2x	33.0x	114.8x	
Aspen Technology, Inc.	AZPN	8,752	8,573	88.6%	2.9%	101.5%	(1.4%)	23.2%	43.8%	14.8x	12.0x	33.9x	21.6x	38.0x	SCM & Logistics
Itron, Inc.	ITRI	3,336	2,450	68.8%	(17.9%)	(21.6%)	(2.9%)	(3.5%)	9.2%	1.4x	1.5x	15.3x	17.0x	NM	Energy
PSI Aktiengesellschaft	XTRA:PSAN	425	458	89.6%	32.8%	44.8%	4.6%	8.7%	9.2%	1.7x	1.6x	18.4x	12.7x	29.9x	
Median		\$8,752	\$8,573	89.2%	25.5%	34.4%	(1.4%)	(0.1%)	18.7%	4.4x	4.5x	22.2x	20.0x	34.0x	Financial
FINANCIAL SOFTWARE															HCIT
Square, Inc.	SQ	\$72,064	\$72,096	95.3%	162.4%	464.2%	49.0%	47.7%	NM	12.2x	8.3x	NM	141.6x	NM	
Fiserv, Inc.	FISV	91,715	69,007	82.4%	(0.5%)	59.8%	141.0%	8.8%	31.4%	6.4x	5.8x	20.3x	15.1x	82.2x	
MSCI Inc.	MSCI	31,998	29,840	89.5%	63.8%	205.2%	10.2%	8.0%	54.6%	19.7x	18.2x	36.0x	32.2x	57.1x	EdTech / Public Sector
SS&C Technologies Holdings, Inc.	SSNC	22,533	15,589	90.7%	17.4%	50.7%	6.2%	0.2%	36.8%	4.8x	4.8x	13.1x	12.4x	30.9x	
Black Knight Financial Services, Inc.	BKFS	14,543	13,527	NA	NA	NA	3.3%	11.1%	33.7%	12.3x	11.1x	36.5x	22.4x	97.0x	Large-Cap SaaS
Jack Henry & Associates, Inc.	JKHY	12,316	12,461	80.9%	11.4%	58.2%	9.3%	3.9%	26.3%	7.3x	7.0x	27.6x	22.8x	42.0x	
Duck Creek Technologies	NasdaqGS:DC	5,944	5,937	99.1%	NA	NA	28.4%	13.0%	5.7%	29.5x	26.1x	NM	NM	NM	Small-Cap SaaS
BlackLine, Inc.	BL	4,889	5,100	95.3%	87.5%	162.7%	26.0%	12.6%	NM	15.2x	13.5x	NM	122.1x	NM	
Q2 Holdings, Inc.	QTWO	4,971	4,881	85.7%	15.7%	119.1%	28.9%	23.1%	NM	13.9x	11.3x	NM	181.8x	NM	
Envestnet, Inc.	ENV	4,736	4,149	83.4%	36.1%	51.3%	14.4%	7.6%	13.7%	4.9x	4.6x	36.1x	20.7x	NM	Data & Analytics
Oracle Financial Services Software Ltd.	BSE:532466	3,014	3,596	95.0%	(3.1%)	(15.3%)	(8.1%)	10.9%	45.7%	4.6x	4.2x	10.1x	8.5x	17.4x	
Vertex, Inc.	NasdaqGM:VEF	3,503	3,376	77.5%	NA	NA	NM	7.5%	NM	10.0x	9.3x	NM	50.8x	NM	IT Operations
Median		\$9,130	\$9,199	89.5%	17.4%	59.8%	14.4%	9.9%	32.6%	11.1x	8.8x	27.6x	22.8x	49.5x	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	
HEALTHCARE IT															Software Bellwethers
Veeva Systems Inc	VEEV	\$40,973	\$42,411	94.1%	84.2%	398.5%	32.5%	20.6%	27.1%	31.9x	26.5x	117.9x	68.8x	129.1x	
Cerner Corporation	CERN	23,152	22,076	89.4%	6.0%	1.4%	1.6%	0.2%	20.8%	4.1x	4.1x	19.8x	12.8x	42.6x	Communication
Change Healthcare, Inc.	CHNG	9,467	4,415	82.6%	20.1%	NA	NM	264%	NM	10.6x	2.9x	NM	9.7x	NM	
Inovalon Holdings, Inc.	INOV	5,055	4,109	98.1%	61.4%	55.1%	12.3%	10.3%	27.4%	7.7x	7.0x	28.1x	20.4x	NM	Enterprise
HMS Holdings Corp.	HMSY	2,186	2,120	68.5%	(30.5%)	20.6%	(0.3%)	14.4%	17.2%	3.5x	3.1x	20.3x	11.1x	36.7x	
Health Catalyst, Inc.	HCAT	1,280	1,453	88.7%	15.7%	NA	21.5%	14.6%	NM	7.5x	6.5x	NM	NM	NM	HCM
Allscripts Healthcare Solutions, Inc.	MDRX	2,291	1,327	68.9%	(25.9%)	(42.8%)	(1.9%)	(1.0%)	4.1%	1.3x	1.3x	32.7x	7.3x	NM	
Phreesia, Inc.	PHR	1,167	1,220	92.2%	32.5%	NA	21.5%	15.1%	NM	8.7x	7.6x	NM	NM	NM	
Evolent Health Inc.	EVH	1,338	1,063	85.6%	72.6%	(30.3%)	28.6%	6.3%	NM	1.4x	1.3x	NM	37.7x	NM	Marketing
Median		\$2,291	\$2,120	88.7%	20.1%	11.0%	16.9%	14.4%	20.8%	7.5x	4.1x	28.1x	12.8x	42.6x	
EDTECH / PUBLIC SECTOR SOFTWARE															PLM & Engineering
Constellation Software Inc.	TSX:CSU	\$23,674	\$23,534	90.4%	11.8%	117.4%	13.7%	11.4%	17.4%	6.4x	5.7x	36.8x	20.3x	69.4x	SCM & Logistics
Tyler Technologies, Inc.	TYL	13,643	14,026	91.0%	32.8%	100.0%	11.2%	6.1%	18.8%	12.3x	11.6x	65.1x	40.5x	74.4x	
Blackbaud, Inc.	BLKB	3,264	2,696	58.8%	(38.2%)	(36.4%)	4.9%	(0.7%)	12.9%	3.6x	3.6x	27.8x	14.6x	120.6x	
2U, Inc.	TWOU	2,561	2,411	68.5%	108.0%	(39.6%)	40.7%	19.5%	NM	3.8x	3.2x	NM	128.5x	NM	Energy
NIC Inc.	EGOV	1,111	1,320	75.9%	(4.6%)	14.9%	5.8%	10.9%	19.1%	3.1x	2.8x	16.0x	11.5x	26.3x	
K12 Inc.	LRN	1,068	1,045	49.8%	(0.2%)	47.6%	2.5%	38.8%	5.7%	1.0x	0.7x	18.0x	5.9x	42.7x	Financial
Median		\$2,913	\$2,553	72.2%	5.8%	31.3%	8.5%	11.2%	17.4%	3.7x	3.4x	27.8x	17.5x	69.4x	
															HCM
															EdTech / Public Sector
															Large-Cap SaaS
															Small-Cap SaaS
															Data & Analytics
															IT Operations
															Data Storage
															IT Security

Appendix: Software Sector Public Company Metrics (Cont'd)¹

Company	Ticker	Enterprise Value (\$mm)	Market Cap (\$mm)	% of 52 Week High	1-Year Stock Performance	3-Year Stock Performance	Revenue Growth		LTM EBITDA Margin	Enterprise Value /				Price / Earnings	
							LTM	NTM	Margin	LTM Rev.	NTM Rev.	LTM EBITDA	NTM EBITDA		
LARGE-CAP SAAS (Market Cap > \$3Bn)															Software Bellwethers
salesforce.com, inc.	CRM	\$225,606	\$228,701	88.3%	69.3%	169.0%	31.6%	15.5%	10.8%	11.6x	10.1x	107.8x	33.6x	96.6x	
Zoom Video Communications, Inc.	ZM	132,300	133,709	88.7%	516.9%	NA	190.4%	112.5%	18.7%	98.3x	46.2x	NM	147.3x	NM	Communication
ServiceNow, Inc.	NOW	91,879	93,023	96.6%	91.1%	312.7%	31.3%	23.8%	12.4%	23.2x	18.8x	187.0x	61.4x	127.7x	
Workday, Inc.	WDAY	50,404	51,020	86.5%	26.6%	104.1%	23.1%	14.6%	NM	12.6x	11.0x	NM	44.3x	NM	Enterprise
Atlassian Corp. Plc	TEAM	43,975	45,077	91.1%	44.9%	417.2%	33.4%	19.1%	2.9%	27.2x	22.9x	NM	89.8x	NM	
Veeva Systems Inc	VEEV	40,973	42,411	94.1%	84.2%	398.5%	32.5%	20.6%	27.1%	31.9x	26.5x	117.9x	68.8x	129.1x	
DocuSign, Inc.	DOCU	39,868	39,855	74.2%	247.6%	NA	40.6%	37.5%	NM	34.3x	24.9x	NM	NM	NM	HCM
CrowdStrike Holdings, Inc.	CRWD	29,116	30,135	89.7%	135.5%	NA	86.4%	48.4%	NM	44.5x	30.0x	NM	NM	NM	
RingCentral, Inc.	RNG	24,749	24,429	86.4%	118.5%	557.7%	32.4%	22.2%	NM	24.0x	19.6x	NM	150.8x	NM	Marketing
Coupa Software, Inc.	COUP	19,029	18,881	77.6%	111.7%	780.4%	43.8%	20.4%	NM	41.5x	34.5x	NM	180.4x	NM	
Paycom Software, Inc.	PAYC	17,872	17,932	91.0%	48.6%	315.3%	21.4%	13.3%	32.2%	22.6x	19.9x	69.9x	53.3x	101.8x	PLM & Engineering
Check Point Software Technologies Ltd.	CHKP	15,280	16,872	91.9%	9.9%	5.5%	3.6%	2.6%	44.6%	7.5x	7.4x	16.9x	15.0x	20.2x	
HubSpot, Inc.	HUBS	12,952	13,315	91.1%	92.8%	247.7%	29.0%	18.5%	NM	17.0x	14.3x	NM	135.5x	NM	SCM & Logistics
Zendesk, Inc.	ZEN	12,033	11,880	95.5%	41.2%	253.6%	31.5%	20.8%	NM	13.0x	10.8x	NM	105.8x	NM	
Dynatrace, Inc.	DT	11,838	11,530	84.0%	119.7%	NA	27.1%	18.6%	NM	20.5x	17.2x	NM	64.9x	NM	Energy
Avalara Inc	AVLR	10,227	10,634	88.3%	89.2%	NA	34.3%	18.0%	NM	23.6x	20.0x	NM	NM	NM	
Xero Limited	ASX:XRO	10,264	10,291	97.4%	61.7%	254.9%	13.3%	32.8%	6.5%	24.0x	18.1x	NM	81.2x	NM	
Anaplan, Inc.	PLAN	8,495	8,747	97.3%	33.1%	NA	36.5%	22.7%	NM	21.3x	17.4x	NM	NM	NM	Financial
Guidewire Software, Inc.	GWRE	8,020	8,704	84.0%	(1.1%)	33.9%	3.2%	(1.6%)	2.3%	10.8x	11.0x	NM	NM	NM	
Five9, Inc.	FIVN	8,442	8,473	98.3%	141.3%	442.6%	28.1%	15.7%	2.8%	22.8x	19.7x	NM	117.3x	NM	HcIT
Proofpoint, Inc.	PFPT	5,947	6,084	79.0%	(18.2%)	21.0%	22.4%	12.6%	NM	6.1x	5.4x	NM	34.7x	NM	
Smartsheet, Inc.	SMAR	5,486	5,961	81.3%	37.2%	NA	48.6%	27.3%	NM	16.8x	13.2x	NM	NM	NM	EdTech / Public Sector
RealPage, Inc.	RP	6,390	5,698	82.6%	(8.3%)	44.5%	15.3%	12.8%	16.8%	6.0x	5.3x	35.5x	19.5x	116.8x	
Q2 Holdings, Inc.	QTWO	4,971	4,881	85.7%	15.7%	119.1%	28.9%	23.1%	NM	13.9x	11.3x	NM	181.8x	NM	Large-Cap SaaS
AppFolio Inc	APPF	4,922	4,864	78.5%	49.1%	195.7%	30.6%	22.2%	7.6%	17.0x	13.9x	NM	79.7x	158.7x	
Medallia, Inc.	MDLA	3,747	4,033	68.2%	(0.0%)	NA	23.7%	13.7%	NM	8.5x	7.5x	NM	117.1x	NM	Small-Cap SaaS
CyberArk Software Ltd.	CYBR	3,389	4,006	71.4%	3.6%	152.2%	15.7%	10.5%	10.1%	7.5x	6.8x	74.0x	36.0x	117.6x	
Qualys, Inc.	QLYS	3,456	3,847	78.3%	29.7%	89.2%	14.1%	11.3%	34.4%	10.1x	9.1x	29.4x	21.5x	45.3x	Data & Analytics
LivePerson, Inc.	LPSN	3,469	3,440	81.4%	45.6%	283.7%	21.2%	21.5%	NM	10.7x	8.8x	NM	145.4x	NM	
Rapid7 Inc.	RPD	3,266	3,124	90.4%	34.9%	248.0%	29.9%	18.5%	NM	8.9x	7.5x	NM	NM	NM	IT Operations
Median		\$11,051	\$11,082	87.4%	47.1%	247.8%	29.5%	18.9%	11.6%	17.0x	14.1x	72.0x	79.7x	116.8x	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 < \$3Bn)															Software Bellwethers
Mimecast Limited	MIME	\$2,993	\$2,970	86.3%	31.5%	65.1%	22.6%	15.0%	10.5%	6.8x	5.9x	64.3x	29.6x	NM	Software Bellwethers
SPS Commerce, Inc.	SPSC	2,532	2,735	92.9%	65.4%	174.6%	11.3%	8.2%	21.1%	8.6x	8.0x	41.0x	28.8x	70.5x	Communication
Box, Inc.	BOX	2,900	2,718	78.6%	4.8%	(10.1%)	12.4%	9.0%	NM	3.9x	3.6x	NM	16.2x	NM	Enterprise
Alarm.com Holdings, Inc.	ALRM	2,670	2,705	74.0%	18.5%	22.3%	22.9%	0.2%	15.5%	4.8x	4.7x	30.6x	24.8x	47.9x	Enterprise
Workiva, Inc.	WK	2,479	2,663	90.7%	27.2%	167.4%	20.6%	12.6%	NM	7.7x	6.8x	NM	NM	NM	HCM
Cornerstone OnDemand, Inc.	CSOD	3,523	2,339	56.4%	(33.7%)	(10.5%)	13.5%	26.4%	9.5%	5.6x	4.4x	58.9x	14.0x	NM	HCM
PagerDuty, Inc.	PD	1,797	2,153	72.8%	(4.0%)	NA	32.5%	20.0%	NM	9.5x	7.9x	NM	NM	NM	HCM
Yext, Inc.	YEXT	1,723	1,816	72.6%	(4.5%)	14.3%	25.7%	16.8%	NM	5.2x	4.5x	NM	NM	NM	Marketing
Talend SA	TLND	1,227	1,232	83.4%	14.9%	(4.6%)	17.0%	11.7%	NM	4.6x	4.1x	NM	NM	NM	Marketing
Model N, Inc.	MODN	1,143	1,219	79.2%	27.1%	136.0%	10.5%	8.2%	NM	7.3x	6.8x	NM	54.0x	NM	Marketing
Domo, Inc.	DOMO	1,153	1,122	81.1%	139.9%	NA	20.1%	12.9%	NM	6.0x	5.4x	NM	NM	NM	PLM & Engineering
Upland Software, Inc.	UPLD	1,591	1,108	83.8%	8.1%	78.2%	41.7%	8.3%	18.4%	6.1x	5.6x	33.2x	16.9x	NM	PLM & Engineering
Eventbrite, Inc.	EB	656	986	47.4%	(38.7%)	NA	(28.7%)	(27.0%)	NM	3.0x	4.0x	NM	NM	NM	SCM & Logistics
Ebix, Inc.	EBIX	1,306	637	46.4%	(51.1%)	(68.4%)	(1.7%)	(0.6%)	25.4%	2.4x	2.4x	9.5x	NM	7.0x	SCM & Logistics
Benefitfocus, Inc.	BNFT	540	361	43.9%	(53.0%)	(66.7%)	5.3%	(5.4%)	NM	1.9x	2.0x	NM	14.7x	NM	Energy
Castlight Health, Inc.	CSLT	143	170	63.1%	(19.9%)	(73.7%)	(4.6%)	(16.5%)	NM	1.0x	1.2x	NM	NM	NM	Energy
Median		\$2,479	\$2,339	79.2%	18.5%	22.3%	20.1%	12.6%	13.0%	6.0x	5.4x	49.9x	26.8x	59.2x	Financial
															Financial
															HCIT
															EdTech / Public Sector
															Large-Cap SaaS
															Small-Cap SaaS
															Data & 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	
DATA & ANALYTICS															Software Bellwethers
Snowflake Inc.	NYSE:SNOW	\$71,530	\$70,505	78.7%	NA	NA	NM	106.9%	NM	177.6x	85.9x	NM	NM	NM	
Datadog, Inc.	DDOG	30,150	30,989	94.6%	201.3%	NA	80.8%	38.3%	2.7%	62.7x	45.4x	NM	NM	NM	Communication
Splunk Inc.	SPLK	30,785	30,175	83.3%	59.6%	183.2%	14.6%	9.6%	NM	13.1x	12.0x	NM	NM	NM	
Verisk Analytics Inc	VRSK	33,206	30,092	95.7%	17.2%	122.8%	8.3%	5.3%	42.3%	12.3x	11.7x	29.1x	24.0x	58.3x	Enterprise
Palantir Technologies Inc.	NYSE:PLTR	16,816	15,673	83.2%	NA	NA	NM	39.3%	NM	18.7x	13.4x	NM	NM	NM	
Dun & Bradstreet Holdings, Inc.	NYSE:DNB	15,907	10,849	91.0%	NA	NA	12.5%	7.2%	29.8%	9.6x	9.0x	32.2x	21.5x	NM	HCM
Pegasystems Inc.	PEGA	9,793	9,733	89.4%	77.9%	110.0%	12.4%	17.0%	NM	9.9x	8.5x	NM	189.0x	NM	
Inovalon Holdings, Inc.	INOV	5,055	4,109	98.1%	61.4%	55.1%	12.3%	10.3%	27.4%	7.7x	7.0x	28.1x	20.4x	NM	
Verint Systems Inc.	VRNT	3,641	3,151	80.5%	12.6%	15.1%	(1.0%)	4.8%	14.1%	2.9x	2.8x	20.4x	11.0x	165.6x	Marketing
Teradata Corporation	TDC	2,674	2,474	72.2%	(26.8%)	(32.8%)	(10.5%)	(0.4%)	7.5%	1.5x	1.5x	19.4x	6.7x	21.3x	
MicroStrategy Incorporated	MSTR	971	1,393	85.3%	1.5%	17.9%	(2.5%)	NM	8.3%	2.0x	NM	24.7x	NM	53.8x	PLM & Engineering
PROS Holdings, Inc.	PRO	1,310	1,384	46.4%	(46.4%)	32.4%	17.4%	(2.4%)	NM	5.0x	5.2x	NM	NM	NM	
Talend SA	TLND	1,227	1,232	83.4%	14.9%	(4.6%)	17.0%	11.7%	NM	4.6x	4.1x	NM	NM	NM	SCM & Logistics
Median		\$9,793	\$9,733	83.4%	16.0%	32.4%	12.4%	10.0%	14.1%	9.6x	8.7x	26.4x	21.0x	56.1x	
IT OPERATIONS MANAGEMENT															Energy
ServiceNow, Inc.	NOW	\$91,879	\$93,023	96.6%	91.1%	312.7%	31.3%	23.8%	12.4%	23.2x	18.8x	187.0x	61.4x	127.7x	
VMware, Inc.	VMW	63,089	60,360	82.9%	(4.3%)	31.6%	7.9%	7.3%	20.1%	5.6x	5.2x	27.7x	13.6x	38.6x	Financial
Citrix Systems, Inc.	CTXS	18,074	17,012	79.3%	42.7%	79.3%	6.7%	(1.6%)	25.1%	5.6x	5.7x	22.5x	18.0x	22.0x	
Arista Networks, Inc.	ANET	13,024	15,732	77.4%	(13.4%)	9.1%	(3.9%)	5.7%	33.9%	5.7x	5.4x	16.9x	13.9x	20.9x	HCI
Dynatrace, Inc.	DT	11,838	11,530	84.0%	119.7%	NA	27.1%	18.6%	NM	20.5x	17.2x	NM	64.9x	NM	
Fastly, Inc.	FSLY	9,486	9,840	79.5%	290.3%	NA	45.5%	39.1%	NM	38.5x	27.7x	NM	NM	NM	EdTech / Public Sector
F5 Networks, Inc.	FFIV	7,202	7,510	78.5%	(12.6%)	1.8%	5.0%	3.9%	22.7%	3.1x	3.0x	13.6x	8.8x	23.1x	
SolarWinds Corp.	SWI	8,057	6,354	92.3%	10.2%	NA	11.6%	7.6%	22.8%	8.2x	7.6x	36.0x	16.4x	NM	Large-Cap SaaS
Software AG	XTRA:SOW	3,313	3,656	94.6%	66.9%	1.9%	(0.4%)	(1.2%)	24.4%	3.3x	3.3x	13.5x	14.1x	24.3x	
New Relic, Inc.	NEWR	3,068	3,395	76.0%	(8.3%)	13.2%	21.3%	10.8%	NM	4.9x	4.5x	NM	43.6x	NM	Small-Cap SaaS
PagerDuty, Inc.	PD	1,797	2,153	72.8%	(4.0%)	NA	32.5%	20.0%	NM	9.5x	7.9x	NM	NM	NM	
Progress Software Corporation	PRGS	1,735	1,652	69.9%	(3.6%)	(3.9%)	10.8%	16.7%	34.9%	4.0x	3.4x	11.4x	NM	28.8x	Data & Analytics
NetScout Systems, Inc.	NTCT	1,686	1,582	73.7%	(5.3%)	(32.5%)	(0.1%)	(1.1%)	16.0%	1.9x	1.9x	11.8x	8.4x	172.5x	
Radware Ltd.	RDWR	922	1,123	89.8%	(0.1%)	43.8%	1.7%	3.7%	9.2%	3.7x	3.6x	40.3x	24.6x	63.5x	
Micro Focus International plc	LSE:MCRO	5,590	1,065	21.3%	(78.4%)	(91.4%)	1.4%	(8.2%)	31.8%	1.8x	1.9x	5.6x	5.2x	NM	IT Operations
Median		\$7,202	\$6,354	79.3%	(3.6%)	9.1%	7.9%	7.3%	22.8%	5.6x	5.2x	16.9x	15.2x	28.8x	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	
DATA STORAGE															Software Bellwethers
NetApp, Inc.	NTAP	\$8,875	\$9,733	67.1%	(16.5%)	0.2%	(7.3%)	(1.3%)	20.3%	1.6x	1.6x	8.0x	7.5x	12.3x	
Dropbox	DBX	7,934	7,961	79.8%	(4.5%)	NA	17.9%	11.2%	9.8%	4.4x	4.0x	45.2x	14.4x	NM	Communication
Iron Mountain, Inc.	IRM	18,566	7,719	77.7%	(17.3%)	(31.1%)	(1.2%)	(1.1%)	34.3%	4.4x	4.5x	12.9x	12.5x	38.2x	
Nutanix, Inc.	NTNX	4,518	4,595	58.6%	(15.5%)	(0.9%)	5.8%	(0.1%)	NM	3.5x	3.5x	NM	NM	NM	Enterprise
Pure Storage, Inc.	PSTG	3,465	4,128	75.1%	(9.1%)	(3.8%)	11.4%	2.4%	NM	2.0x	2.0x	NM	40.0x	NM	
Box, Inc.	BOX	2,900	2,718	78.6%	4.8%	(10.1%)	12.4%	9.0%	NM	3.9x	3.6x	NM	16.2x	NM	HCM
CommVault Systems, Inc.	CVLT	1,551	1,893	78.6%	(8.7%)	(32.9%)	(2.2%)	0.3%	3.9%	2.3x	2.3x	59.0x	12.9x	NM	
Median		\$4,518	\$4,595	77.7%	(9.1%)	(6.9%)	5.8%	0.3%	15.0%	3.5x	3.5x	29.0x	13.6x	25.2x	Marketing
IT SECURITY															PLM & Engineering
Cisco Systems, Inc.	CSCO	\$152,915	\$166,755	78.3%	(20.3%)	17.1%	(5.0%)	(2.0%)	32.1%	3.1x	3.2x	9.7x	8.8x	14.9x	
CrowdStrike Holdings, Inc.	CRWD	29,116	30,135	89.7%	135.5%	NA	86.4%	48.4%	NM	44.5x	30.0x	NM	NM	NM	
Palo Alto Networks, Inc.	PANW	23,318	23,587	89.0%	20.1%	69.8%	17.5%	18.4%	0.1%	6.8x	5.8x	NM	25.2x	NM	SCM & Logistics
VeriSign, Inc.	VRSN	24,127	23,528	92.6%	8.6%	92.5%	1.6%	2.8%	69.3%	19.4x	18.8x	27.9x	26.6x	29.8x	
Fortinet, Inc.	FTNT	17,582	19,065	77.5%	53.5%	228.7%	20.4%	15.3%	20.4%	7.5x	6.5x	36.7x	22.6x	46.4x	
Check Point Software Ltd.	CHKP	15,280	16,872	91.9%	9.9%	5.5%	3.6%	2.6%	44.6%	7.5x	7.4x	16.9x	15.0x	20.2x	Energy
Cloudflare, Inc.	NET	11,895	12,553	90.7%	121.1%	NA	48.6%	34.1%	NM	34.1x	25.4x	NM	NM	NM	
Trend Micro Incorporated	TSE:4704	6,673	8,422	92.9%	24.7%	15.7%	4.4%	6.2%	33.2%	4.2x	4.0x	12.8x	12.6x	30.9x	Financial
Proofpoint, Inc.	PFPT	5,947	6,084	79.0%	(18.2%)	21.0%	22.4%	12.6%	NM	6.1x	5.4x	NM	34.7x	NM	
CyberArk Software Ltd.	CYBR	3,389	4,006	71.4%	3.6%	152.2%	15.7%	10.5%	10.1%	7.5x	6.8x	74.0x	36.0x	117.6x	HCIT
Qualys, Inc.	QLYS	3,456	3,847	78.3%	29.7%	89.2%	14.1%	11.3%	34.4%	10.1x	9.1x	29.4x	21.5x	45.3x	
Varonis Systems, Inc.	VRNS	3,592	3,641	90.6%	93.1%	175.5%	(4.3%)	12.0%	NM	13.9x	12.4x	NM	NM	NM	EdTech / Public Sector
SailPoint Technologies	SAIL	3,475	3,588	92.8%	111.7%	NA	23.3%	6.7%	9.2%	10.4x	9.8x	113.0x	NM	NM	
Rapid7 Inc.	RPD	3,266	3,124	90.4%	34.9%	248.0%	29.9%	18.5%	NM	8.9x	7.5x	NM	NM	NM	Large-Cap SaaS
Mimecast Limited	MIME	2,993	2,970	86.3%	31.5%	65.1%	22.6%	15.0%	10.5%	6.8x	5.9x	64.3x	29.6x	NM	
FireEye, Inc.	FEYE	2,870	2,762	67.3%	(7.5%)	(26.4%)	6.8%	1.7%	NM	3.1x	3.1x	NM	19.8x	NM	Small-Cap SaaS
Ping Identity Holding Corp.	PING	2,508	2,517	82.6%	80.9%	NA	16.5%	5.0%	5.1%	10.0x	9.5x	197.5x	86.0x	NM	
SecureWorks Corp.	SCWX	783	936	62.5%	(11.9%)	(7.8%)	5.6%	(0.1%)	1.1%	1.4x	1.4x	124.9x	32.8x	NM	Data & Analytics
Tufin Software Technologies Ltd	TUFN	212	295	41.0%	(49.9%)	NA	4.0%	3.5%	NM	2.1x	2.1x	NM	NM	NM	
Cheetah Mobile, Inc.	CMCM	(152)	284	46.3%	(42.5%)	(75.5%)	(50.2%)	33.8%	NM	-0.4x	-0.3x	NM	NM	NM	
Symantec Corporation	SYMC	87	60	85.5%	19.8%	(63.1%)	(1.1%)	NM	43.7%	2.1x	NM	4.7x	NM	22.7x	IT Operations
Median		\$3,475	\$3,847	85.5%	20.1%	43.1%	14.1%	10.9%	20.4%	7.5x	6.6x	33.0x	25.2x	30.3x	Data Storage
IT Security															IT Security

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