



GP Bullhound

Global Software Market Perspectives

Q2 2018

Important disclosures appear at the back of this report

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- 1** **Key Sector Takeaways**
- 2** Recent Software Transaction Trends
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- 4** SaaS CEO Commentary
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GP Bullhound's Views on Current Trends in Software

- **Machine learning and artificial intelligence are being incorporated on a wide scale as a way for SaaS products to differentiate themselves in crowded markets**
 - Chatbots and virtual assistants have had a huge impact on CX over the past couple years, creating extremely personalized experiences, freeing up resources and cutting costs
 - Machine learning and Artificial Intelligence APIs are now widely available to SaaS companies. Those that adopt it, often through the large cloud providers, are able to differentiate their product through predictive sales efforts, personalized solutions and automated data visualization
 - » SaaS companies still need to have the specialist ML/AI human talent necessary to maximize the impact of these features
- **It is early days in a transformational shift in desktop computing; increasingly organizations will migrate away from running an OS on individual devices to Desktop as a Service (DaaS)**
 - DaaS is a cloud computing offering in which a third party hosts the back end of a virtual desktop infrastructure (VDI) deployment
 - DaaS enhances security, eases implementation of a mobile workforce, provides device cost savings, automates disaster recovery and allow more efficient use of IT resources
 - Businesses are increasingly using VDI to decrease upfront costs, enhance security and optimize IT resources for efficiency and cost benefits
- **Enterprise software companies focused on one department are aggressively expanding into adjacent departments**
 - Companies like ServiceNow, focused on ITSM, and Workday, HR/HCM provider, are aggressively expanding into other enterprise departments - ServiceNow into HR and Workday into Financial Management
 - Companies are carrying out this department expansion with transformational M&A, and to a lesser extent investing in a bottom up build of a new product



Deal Amount: \$6.8Bn



Deal Amount: \$1.6Bn

GP Bullhound's Views on Current Trends in Software (Cont'd)

- **We are observing an upward trend in the revenue multiples being paid for premium software assets of scale**

- We analyzed Enterprise Value / Revenue multiples in H1 2017 and H1 2018 for SaaS deals greater than \$100m, as well as SaaS deals greater than \$500m
 - » When comparing deals with an enterprise value of \$500m or greater that occurred in H1 2018 against H1 2017 there is a material increase in the median EV/Revenue multiple being paid
 - » The 2018 scale premium phenomenon drops significantly when evaluating deals greater than \$100m, reinforcing the underlying trend

Enterprise Value		H1 2017	H1 2018	% Change
> \$100m	# Deals	54	56	4%
	EV/Revenue	4.3x	5.4x	26%
> \$500m	# Deals	21	19	(10%)
	EV/Revenue	5.0x	8.9x	78%

- As the SaaS market has matured, and consolidation has taken place, high quality companies of scale have become increasingly rare, as a result scale premiums are being paid and trending upwards

- **We have seen several high profile software companies filing for IPOs and then being acquired, either before the IPO, or shortly after their public market debut**

- The software IPO market in the US has opened up in H1 2018 with 14 software IPOs, up from 4 in H1 2017
- Filing to go public gives companies leverage over any potential bidders, allowing them to maximize valuation. This manifests itself either through a public market stock premium (particularly advantageous given the initial performance of recent software IPOs), or an above market revenue multiple if the transaction occurs post filing
 - » Mulesoft was acquired by Salesforce for \$6.8Bn after being public for 12 months (35.7% 1 day premium, 164% increase over IPO price)
 - » Appdynamics acquired by Cisco in 2017, during its IPO filing period, but before going public, for \$3.7Bn at an 18.9x EV/LTM Rev multiple
 - » Adaptive Insights acquired by Workday for \$1.6Bn in June 2018, a month after filing - the IPO had them valued at \$580m - \$670m

- **We have previously discussed Private Equity firms enacting a software roll up strategy, this trend has picked up so much momentum we felt it should be highlighted once again (see next slide)**

- Private equity firms are acquiring 'platform' companies around which they acquire multiple complementary companies
- 'Roll up' acquisitions provide the platform company with product depth, revenue/ARR scale, geographic diversification, customers, etc.

Source: Pitchbook

Private Equity Roll Up Acquisition Strategy Case Studies

Private Equity Firm				
Platform Company	 <p>Deal Date: 4/18/16 Deal Amount: \$1.7Bn Business Description: Event management software</p> <p>Rationale: Event management is a crowded market with clear market leaders and decreasing inflow of capital</p>	 <p>Deal Date: 5/18/16 Deal Amount: NA Business Description: Real estate and facilities management SaaS</p> <p>Rationale: Focused on verticals that tend to have lower churn and higher LTV – healthcare, education and government</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>Date: 10/31/16 Amount: NA Business Description: SaaS for faith-based organizations</p> <p>Rationale: Huge TAM and competitive space ripe for consolidation, verticality leads to lower churn</p> </div> <div style="width: 45%; border-left: 1px dashed gray; padding-left: 10px;">  <p>Date: 4/7/17 Amount: NA Business Description: 3 Membership management SaaS providers merged into 1</p> </div> </div>	 <p>Deal Date: 9/18/15 Deal Amount: NA Business Description: SaaS based talent management solutions</p> <p>Rationale: HR software is flooded with point solutions, increasingly customers are looking for suite of products to fill all HR needs</p>
Acquisitions	 <p>Deal Date: 6/5/18</p>  <p>Deal Date: 5/23/18</p>  <p>Deal Date: 12/11/14</p>	 <p>Deal Date: 3/21/18</p>  <p>Deal Date: 11/7/17</p>  <p>Deal Date: 8/9/17</p>	 <p>Date: 3/19/18</p>  <p>Date: 9/27/17</p> <div style="border: 1px dashed gray; padding: 5px; margin: 5px;">  <p>yourmembership</p>  <p>Date: 4/7/17</p> </div>  <p>Date: 6/14/18</p>  <p><i>Maximizing Fundraising Revenue</i> Date: 12/11/17</p>  <p>Date: 4/26/17</p>	 <p>Deal Date: 1/8/18</p>  <p>Date: 9/10/12</p>

* Cvent acquired and subsequently merged with existing portfolio company Lanyon (Cvent is platform)

 Community Brands, the platform company, was formed by the acquisition of these 3 companies

European Software Market Update

- **Deal making for European software remains robust**

- Tech investment has increased to \$20bn in 2017 up from \$3bn in 2014
- Valuation multiples expanded due to increased demand for high quality companies

- **GDPR and Brexit Impact not yet visible as companies and courts are still determining realistic guidelines**

- **Protectionism continues to threaten European M&A activity**

- Asian (especially Chinese) buyers are now being heavily scrutinized, however deals are still occurring as China focuses on acquiring companies or technology to meet its Made in China 2025 initiative with a focus on AI, semiconductors, autonomous driving, and others
 - » Softbank sells a stake in UK's ARM Holdings to two Chinese government backed funds
- Capital controls from China are limiting buyers ability to pay up front and curbing “irrational investment”

- **European ecosystem for growth software companies is building on successes - 69 billion dollar tech companies, a 2.3x increase since 2014**

- Three key elements to create a thriving start-up ecosystem are now in place
 - » Great entrepreneurs with backable track records and the desire to continue to build companies
 - » Talented teams with pouring out of top European universities with STEM degrees
 - Start-up accelerators have expanded from Seedcamp in 2017 to over 100 accelerators including Cherry Ventures, Mosaic and Local globe as well as Rocket Internet serving as a for-profit incubator
 - » Investors leveraging past successes continue to attract new investors and raise larger funds
 - Forty per cent of successful entrepreneurs are angel investors or mentors to the next generation of founders, while angel investment across Europe grew to €6.1 billion (£5.5bn) in 2015, from €5.5 billion two years earlier
 - Alongside the likes of Accel, Index Ventures and others, new entrants such as private-equity firm EQT Ventures and our own \$765 million (£579m) fund - one of the largest ever raised in Europe - ensure Series A-, B- and C-stage startups have the horsepower they require

2H 2018 M&A activity is expected to remain robust in Europe, however protectionism and country specific weakness may limit deal activity in certain industries

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Notable Software M&A Deals & Private Financings

(Q2 2018)

Selected M&A Transactions

Announce Date	Target	Buyer	Target Description	Value (\$)	Implied EV/LTM Rev
Jun-18	AppNexus	AT&T	Real time advertising optimization	2,000	-
Jun-18	Magento Commerce	Adobe Systems	Open source eCommerce solutions	1,680	11.2x
Jun-18	FacilitySource	CBRE Group	Facility maintenance management	290	-
Jun-18	Adaptive Insights	Workday	Business planning software	1,550	-
May-18	Weebly	Square	Website creation platform	365	-
May-18	Raet	Consortium of Financial Investors	Provider of HR cloud software	738	5.2x
May-18	CommerceHub	GTCR, Sycamore Partners Management	Developer of supply chain software	1,100	9.5x
May-18	Equatex	Computershare	Share plane management	420	6.5x
May-18	MuleSoft	Salesforce	Cloud-based application integration	6,801	22.3x
May-18	NDS Group	Permira	Content security software	1,000	-
Apr-18	ClickPay	RealPage	Platform for automating real estate receivables	219	10.0x
Apr-18	LogicMonitor	Vista Equity Partners	Data center monitoring software	415	-
Apr-18	Avetta	TCV, Welsh, Carson, Anderson & Stowe	Supply chain risk management	531	10.6x
Apr-18	Phantom Cyber	Splunk	Security automation	350	-
Apr-18	Callidus Software	SAP	Performance management	2,400	8.9x
Apr-18	Jive	LogMeIn	Phone setup management	342	-
Apr-18	ABILITY Network	Inovalon Holdings	Healthcare technology platform	1,200	-
			Median		9.7x

Selected Private Financings

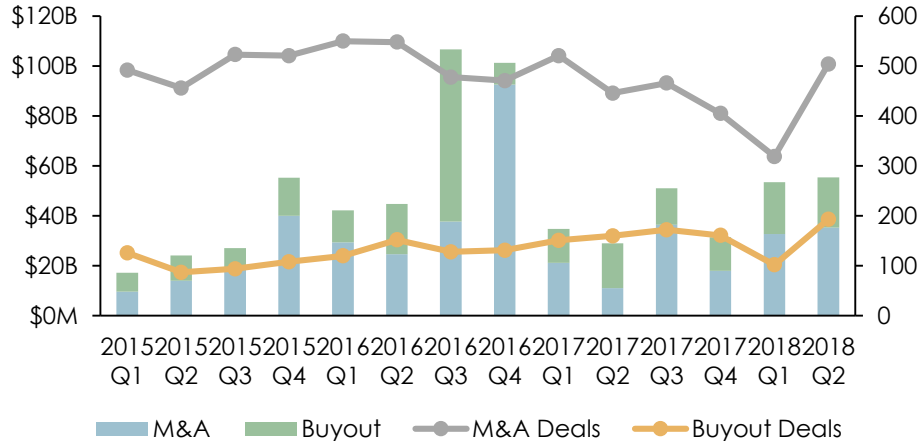
Announce Date	Issuer	Selected Investors	Issuer Description	Capital Raised (\$)
Jun-18	CrowdStrike	Accel, CapitalG, GA, IVP, March Capital Partners	Cloud-based cybersecurity platform	200
Jun-18	Cylance	SharesPost, The Blackstone Group	Cloud-based cybersecurity platform	120
Jun-18	Cohesity	Consortium of investors	Hyperconverged data platform	250
Jun-18	OutSystems	Goldman Sachs, KKR	Application development and delivery platform	360
Jun-18	Dataminr	Undisclosed	Real-time AI platform	221
Jun-18	Eze Castle Integration	H.I.G. Capital	Cloud management and cyber-security service	115
May-18	Tradeshift	GP Bullhound, Gray Swan, Holding14, HSBC, Goldman Sachs & other investors	Procure-to-pay solutions	250
May-18	Signifyd	Consortium of investors	Fraud prevention software	100
May-18	Exterro	Leeds Equity Partners	Information governance software	100
May-18	Tanium	TPG Growth	Endpoint security and configuration compliance software	175
May-18	Fuze	Bessemer Venture Partners, Summit Partners	Cloud-based unified communications	150
May-18	Mesosphere	Andreessen Horowitz & a consortium of investors	API for production container operations	125
Apr-18	Weimob	Tencent & a consortium of other investors	Customer relationship management software	160
Apr-18	Connexeo	Great Hill Partners	Administration Software and Payment Systems	110
Apr-18	Lytix	Consortium of investors	Telematics for driver risk management	700
Apr-18	Coveo	Evergreen Coast Capital	Predictive insights platform	100
Apr-18	Qwil	Consortium of investors	Contractor management platform	107

Source(s): Capital IQ, Pitchbook

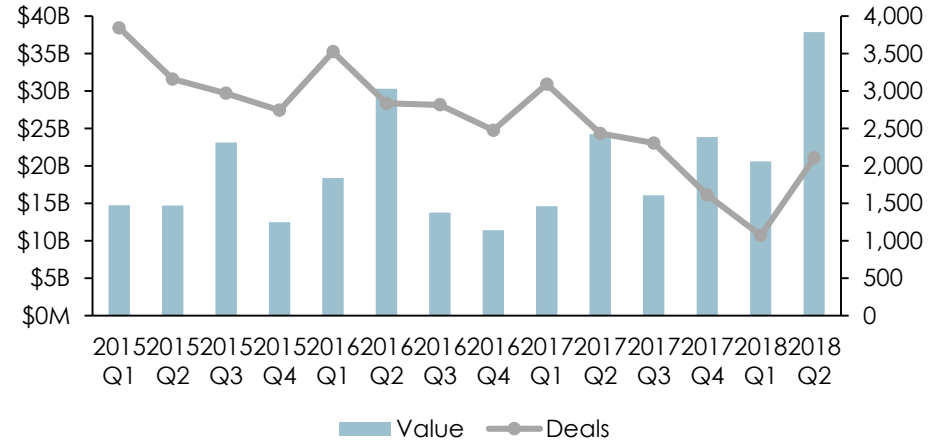
Global Software Transaction Trends

M&A and Private Placement Activity by Quarter

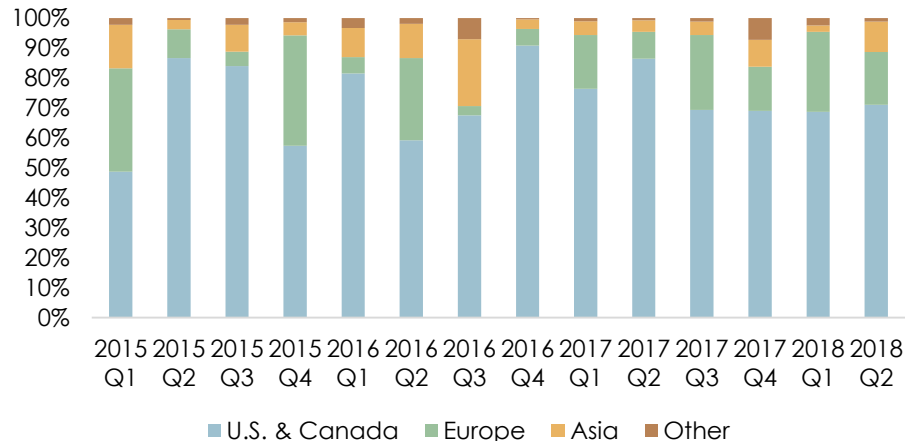
Q2 Has Seen a Huge Increase in M&A Deal Volume



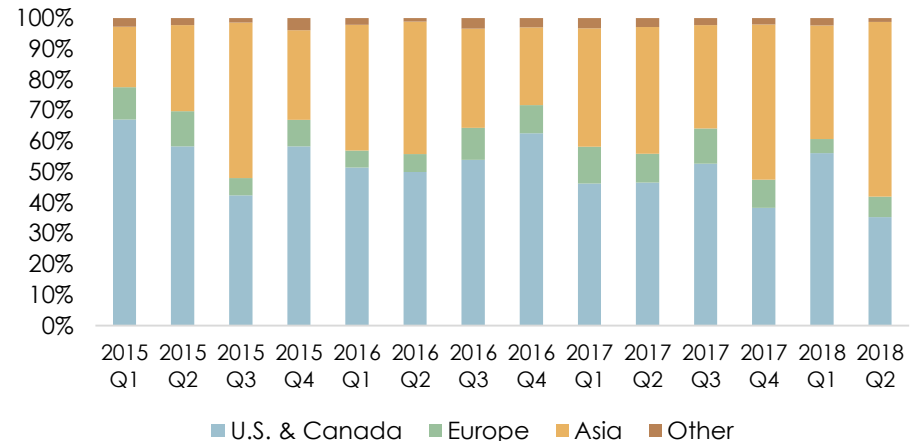
SaaS Private Placements Have Also Seen a Large QoQ Increase



The US and Europe Continue to Dominate M&A Deal Volume



Private Placement Deal Volume by Region has Stayed Consistent



Software IPOs in Q2 2018

Carbon Black.

- Description (NASDAQ:CBLK): Provider of endpoint security software designed to transform security in the cloud
- Listing Date: 05/04/18
- Offering Amount: \$152.0m
- Offering Price/Share: \$19
- % Change/IPO Price: 36.8%
- LTM Revenue: \$174.5m
- EV/Revenue¹: 12.0x
- Selected Metrics:
 - Revenue Growth CY 17/16: 39%
 - 93% retention dollar rate
 - 3,700+ customers growing at 40%+ YoY

CERIDIAN

- Description (NYSE:CDAY): Provider of cloud-based human capital management suite
- Listing Date: 04/26/18
- Offering Amount: \$462.0m
- Offering Price/Share: \$22
- % Change/IPO Price: 50.9%
- LTM Revenue: \$772.6m
- EV/Revenue¹: 7.5x
- Selected Metrics:
 - Revenue Growth CY 17/16: 7%
 - 95% cloud revenue retention rate
 - 3,000+ Dayforce customers
 - 56% enterprise size customers

DocuSign®

- Description (NASDAQ:DOCU): Electronic signature platform designed to replace traditional paper-based agreement process
- Listing Date: 04/27/2018
- Offering Amount: \$629.3m
- Offering Price/Share: \$29
- % Change/IPO Price: 82.6%
- LTM Revenue: \$560.8m
- EV/Revenue¹: 15.3x
- Selected Metrics:
 - Revenue Growth CY 17/16: 36%
 - Subscription Revenue %: 93%
 - 244 million transactions completed in 2018
 - 115% net dollar retention

DOMO

- Description (NASDAQ:DOMO): Cloud-based business-management platform designed to connect data, people, and expertise that are needed to improve business results
- Listing Date: 06/27/2018
- Offering Amount: \$193.2m
- Offering Price/Share: \$21
- % Change/IPO Price: 30.0%
- LTM Revenue: \$116.2m
- EV/Revenue¹: 12.0x
- Selected Metrics:
 - Revenue Growth CY 17/16: 46%
 - Net revenue retention rate 100%+
 - 1,500+ customers growing at 25% YoY
 - (\$149m) operating cash flow FY 2018

Pivotal

- Description (NYSE:PVTL): Cloud-native platform for software development and IT operations
- Listing Date: 04/20/18
- Offering Amount: \$555.0m
- Offering Price/Share: \$15
- % Change/IPO Price: 61.8%
- LTM Revenue: \$544.0m
- EV/Revenue¹: 10.3x
- Selected Metrics:
 - Revenue Growth CY 17/16: 22%
 - 158% net dollar retention
 - 300+ customers
 - 73% subscription revenue growth

PLURALSIGHT

- Description (NASDAQ:PS): Cloud-based technology skills development platform
- Listing Date: 05/17/2018
- Offering Amount: \$310.5m
- Offering Price/Share: \$15
- % Change/IPO Price: 63.0%
- LTM Revenue: \$179.2m
- EV/Revenue¹: 11.6x
- Selected Metrics:
 - Revenue Growth CY 17/16: 27%
 - 2x+ upsell on 2013 cohort
 - 35% of revenue is international
 - 120% net dollar retention

smartsheet

- Description (NYSE:SMAR): Cloud-based collaboration and work management platform designed to automate large-scale collaborative work
- Listing Date: 04/27/2018
- Offering Amount: \$175m
- Offering Price/Share: \$15
- % Change/IPO Price: 73.1%
- LTM Revenue: \$125.3m
- EV/Revenue¹: 21.4x
- Selected Metrics:
 - 74k domain-based customers
 - \$1.6k ACV
 - 130% net dollar retention

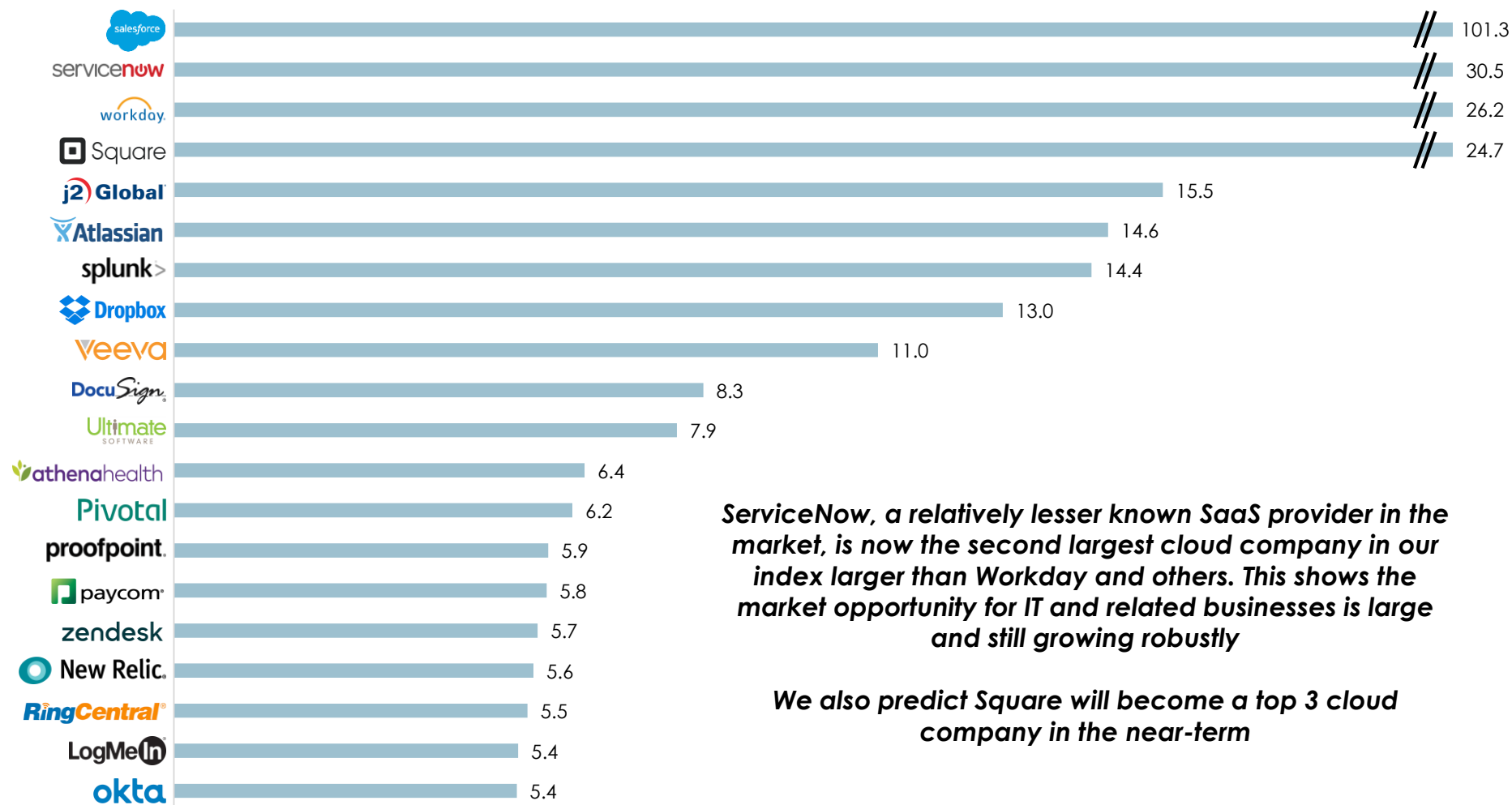
ZUORA

- Description (NYSE:ZUO): SaaS enterprise platform designed to automate and manage subscriptions and order-to-cash operations
- Listing Date: 04/12/2018
- Offering Amount: \$154m
- Offering Price/Share: \$14
- % Change/IPO Price: 94.3%
- LTM Revenue: \$187.3m
- EV/Revenue¹: 14.6x
- Selected Metrics:
 - Revenue Growth CY 17/16: 49%
 - 110% net dollar retention
 - 415 customers with ACV of \$100k+

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GP Bullhound Selected SaaS Index Market Valuations

(Market Cap Values in \$ in billions)



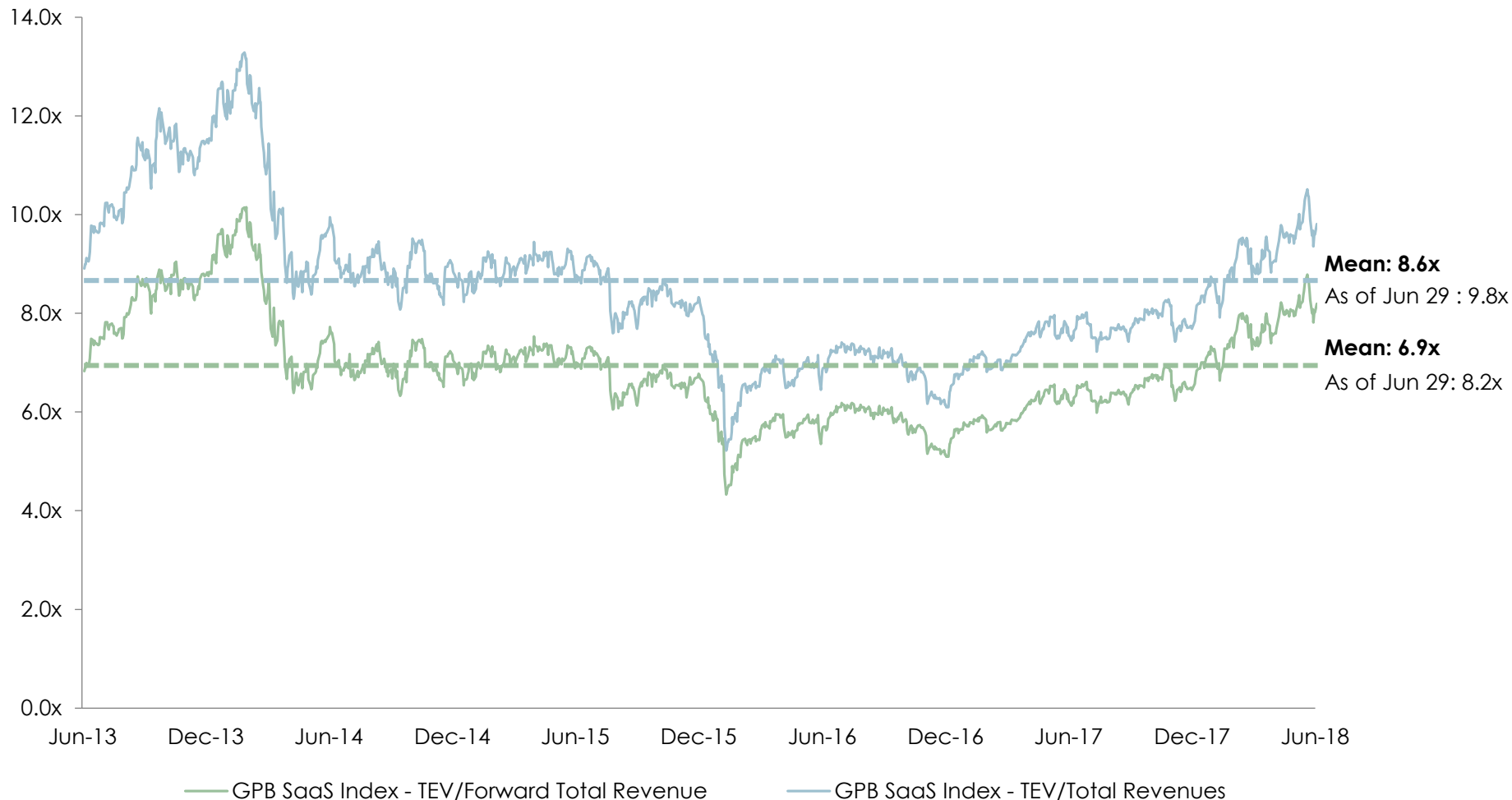
ServiceNow, a relatively lesser known SaaS provider in the market, is now the second largest cloud company in our index larger than Workday and others. This shows the market opportunity for IT and related businesses is large and still growing robustly

We also predict Square will become a top 3 cloud company in the near-term

Analysis of GP Bullhound SaaS Index Valuations

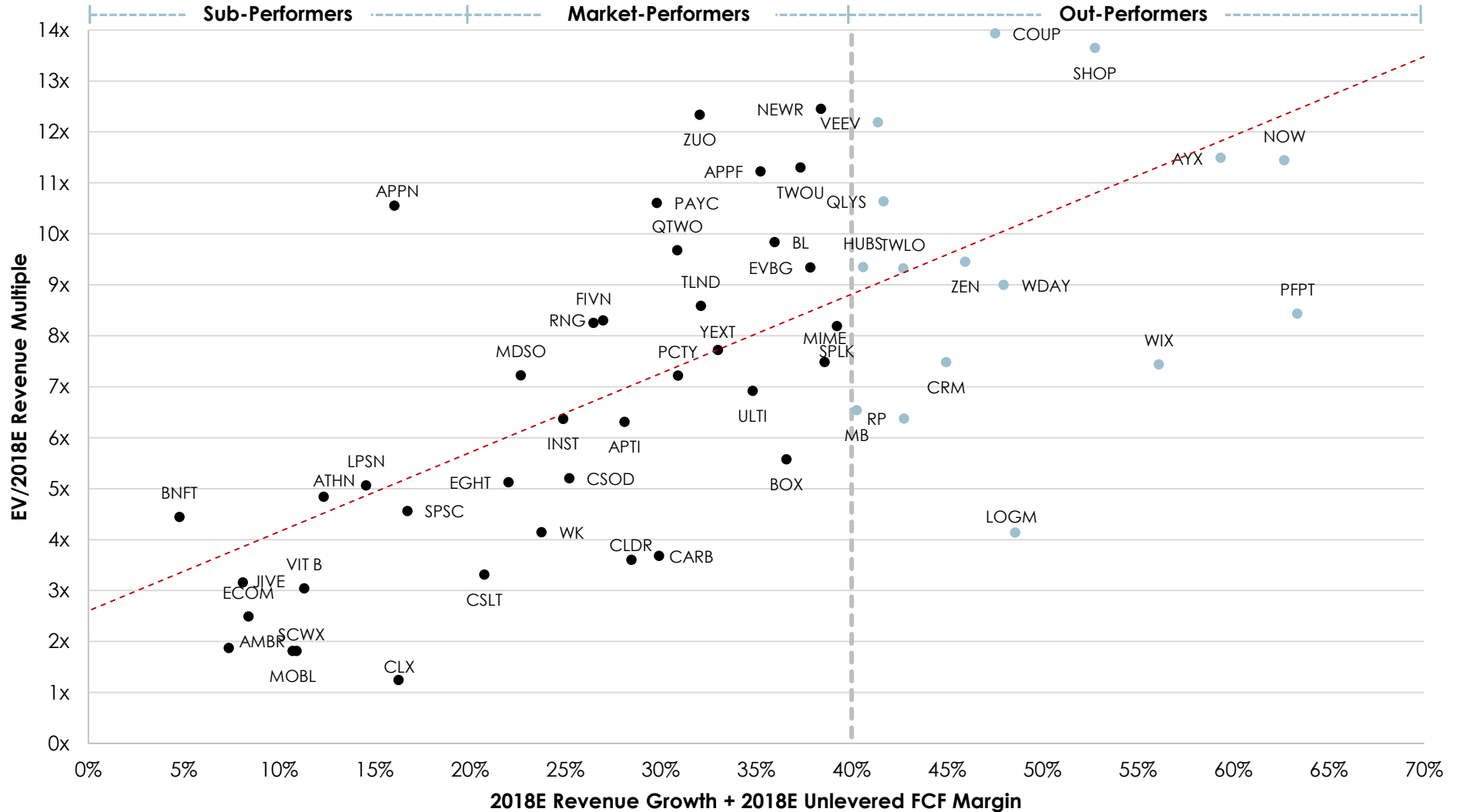
Revenue Multiple Trends – Last Five Years

Current SaaS valuations are considerably higher than the 5 year mean



Rule of 40% – Public SaaS (Cont'd)

Companies whose summed revenue growth rate and FCF margin is greater than 40%, are valued higher by investors than those below this 'rule of 40' line

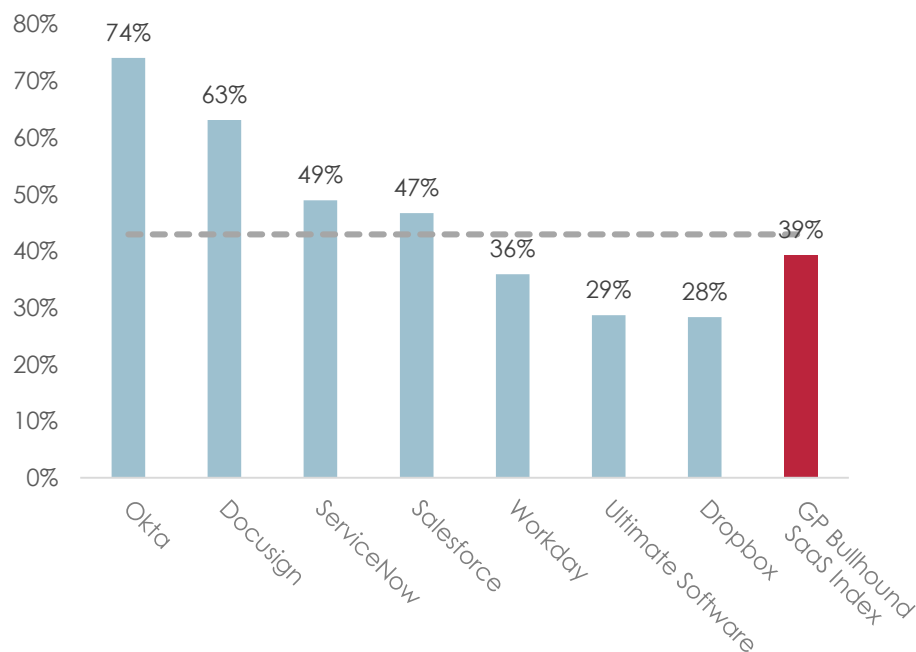


Vertically Focused Cloud Software

*Significantly Lower Sales & Marketing Spend as a Percentage of Revenue
However, generally lower growth and valuation multiples*

Horizontal Software

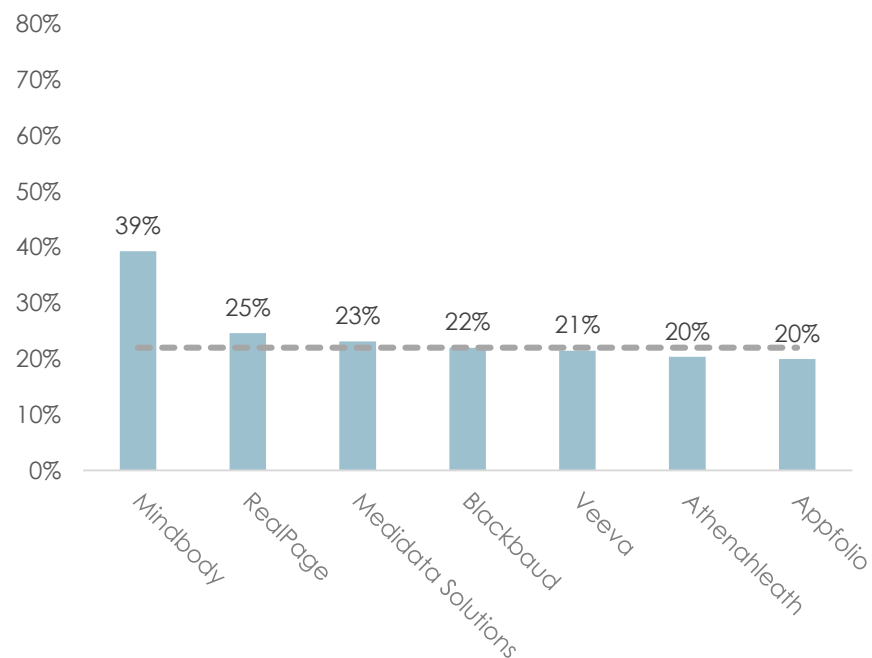
Median: 43%



EV/LTM Revenue	17.4x	15.3x	14.2x	8.9x	10.7x	7.8x	10.5x
FY18/17E Revenue Growth	61.9%	35.9%	34.4%	24.4%	35.6%	18.8%	22.6%

Vertically-Specific Software

Median: 22%



8.0x	9.2x	7.3x	4.2x	6.8x	13.3x	6.6x
28.2%	27.9%	25.1%	11.3%	16.8%	20.3%	11.3%

Software Public Company Valuations

High Growth (2018 Revenue Growth Rate >30%)

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
SS&C Technologies	US	8,287	\$51.90	36.7%	28.2%	3.7%	\$12,357	\$14,269	\$74	8.5x	4.2x	3.4x	20.6x	13.4x	10.2x	102.9%	45.2%	31.3%
Aveva Group	UK	4,400	35.44	NA	NA	16.9%	5,713	5,587	148	17.6x	9.3x	5.6x	NA	28.3x	21.5x	89.1%	NA	32.9%
Micro Focus	UK	16,100	17.46	(45.5%)	(48.8%)	(0.4%)	7,620	11,749	730	4.8x	3.0x	3.1x	NA	8.5x	7.8x	63.1%	NA	34.8%
Shopify	CA	3,000	145.89	68.9%	44.4%	1.8%	15,486	13,906	1,580	21.1x	13.6x	10.0x	NM	NM	NM	54.3%	56.1%	3.9%
Gridsum	CN	929	6.96	(16.2%)	(23.9%)	11.0%	215	216	39	2.2x	1.4x	1.0x	NM	11.0x	4.0x	53.0%	NA	13.0%
Alteryx	US	629	38.16	95.6%	51.0%	16.7%	2,313	2,134	179	16.6x	11.5x	8.7x	NM	NM	NM	44.8%	87.1%	(5.7%)
MongoDB	US	962	49.63	NA	67.2%	8.5%	2,513	2,242	271	14.7x	10.2x	7.6x	NM	NM	NM	44.5%	72.4%	(31.8%)
2U	US	1,865	83.56	80.4%	29.5%	(9.6%)	4,783	4,624	182	16.2x	11.3x	8.5x	NM	NM	NM	43.4%	78.1%	4.2%
Upland Software	US	375	34.37	56.9%	58.7%	(1.7%)	740	867	33	8.9x	6.3x	5.9x	29.0x	17.7x	16.0x	41.4%	68.7%	35.6%
Trade Desk	US	713	93.80	84.5%	105.1%	13.4%	3,951	3,812	139	12.4x	8.8x	6.9x	41.8x	28.3x	21.8x	41.0%	77.7%	31.1%
Wix	IL	1,771	100.30	44.3%	74.3%	17.9%	4,703	4,439	265	10.5x	7.4x	5.9x	66.0x	41.0x	25.9x	40.7%	80.0%	18.2%
Extreme Networks	US	1,628	7.96	(16.2%)	(36.4%)	(12.0%)	923	996	105	1.3x	0.9x	0.9x	11.3x	6.8x	NA	40.0%	NA	13.5%
Twilio	US	1,027	56.02	93.2%	137.4%	3.8%	5,365	5,057	308	13.0x	9.3x	7.6x	NM	NM	NM	39.7%	54.5%	2.5%
Proofpoint	US	2,047	115.31	33.7%	29.8%	(3.9%)	5,863	5,947	117	11.7x	8.4x	6.6x	NM	65.1x	43.0x	38.4%	77.0%	12.9%
Okta	US	1,176	50.37	116.3%	96.7%	(6.1%)	5,370	5,083	547	19.6x	14.3x	10.8x	NM	NM	NM	37.3%	73.3%	(15.1%)
Talend	FR	913	62.28	81.9%	66.2%	7.1%	1,845	1,751	95	11.8x	8.6x	6.7x	NM	NM	NM	37.1%	78.0%	(4.9%)
MINDBODY	US	1,461	38.60	43.0%	26.8%	(0.8%)	1,832	1,629	218	9.0x	6.5x	5.2x	NM	NM	NM	37.0%	71.6%	0.7%
Zscaler	US	950	35.75	NA	NA	39.5%	4,276	3,988	287	25.7x	18.8x	14.3x	NA	NM	NM	36.5%	NA	(4.3%)
ServiceNow	US	6,675	172.47	63.0%	32.3%	(2.2%)	30,471	29,740	1,886	15.5x	11.4x	8.9x	70.6x	44.4x	32.0x	35.7%	79.6%	25.7%
Everbridge	US	618	47.42	89.5%	59.6%	4.9%	1,363	1,302	152	12.6x	9.3x	7.4x	NM	NM	NM	34.4%	71.9%	(2.4%)
Amazon	US	566,000	1,699.80	74.2%	45.3%	5.4%	824,789	844,313	24,963	4.8x	3.6x	2.9x	44.1x	28.3x	21.5x	33.9%	39.2%	12.6%
Athassian	UK	2,503	62.52	77.7%	37.3%	(0.3%)	14,631	13,867	764	18.9x	14.1x	11.2x	70.8x	52.5x	43.0x	33.9%	NA	26.9%
Zendesk	US	2,230	54.49	97.1%	61.0%	(3.2%)	5,697	5,399	738	12.7x	9.5x	7.4x	NM	NM	NM	33.9%	73.5%	6.9%
Tremor Video	US	136	4.04	71.9%	0.2%	1.3%	211	138	73	3.1x	2.3x	1.8x	NM	22.1x	8.2x	33.8%	93.0%	10.5%
CenturyLink	US	50,000	18.64	(22.9%)	11.8%	2.3%	20,110	56,986	501	3.2x	2.4x	2.4x	9.2x	6.4x	6.3x	33.7%	56.2%	37.3%
Pure Storage	US	2,300	23.88	83.7%	50.6%	16.7%	5,514	4,846	1,098	4.8x	3.6x	2.8x	NM	40.9x	23.9x	33.7%	66.0%	8.7%
Yext	US	800	19.34	47.7%	60.8%	31.6%	1,873	1,749	124	10.3x	7.7x	5.9x	NM	NM	NM	33.1%	75.3%	(16.1%)
Instructure	US	1,177	42.55	44.5%	28.5%	1.4%	1,461	1,324	137	8.5x	6.4x	5.1x	NM	NM	NM	32.9%	71.9%	(10.0%)
Splunk	US	3,200	99.11	71.5%	19.6%	(8.6%)	14,371	13,493	950	10.9x	8.2x	6.6x	NM	56.4x	39.7x	32.6%	82.9%	14.5%
Mimecast	UK	1,192	41.21	54.3%	43.7%	(6.3%)	2,430	2,366	137	9.9x	7.5x	6.2x	NM	56.7x	38.3x	32.5%	NA	13.2%
HubSpot	US	2,283	125.40	92.0%	41.9%	5.4%	4,817	4,590	529	12.4x	9.3x	7.5x	NM	NM	69.3x	32.4%	81.7%	9.3%
Zuora	US	933	27.20	NA	NA	31.6%	2,923	2,736	203	16.3x	12.3x	9.7x	NA	NM	NM	32.0%	54.7%	(21.2%)
New Relic	US	1,284	100.59	134.5%	74.1%	1.7%	5,631	5,383	248	16.4x	12.5x	9.9x	NM	NM	NM	32.0%	NA	10.5%
Average										11.7x	8.3x	6.5x	40.4x	31.1x	25.4x	42.0%	70.6%	9.1%
Median										11.8x	8.6x	6.6x	41.8x	28.3x	21.8x	37.0%	73.3%	10.5%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Software Public Company Valuations (Cont'd)

Strong Growth (2018 Revenue Growth Rate Between 20% and 30%)

Company Name	HQ	Employee	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins		
			06-29-18	LTM	L6M				L1M	CY17A	CY18E	CY19E	CY17A	CY18E		CY19E	Gross	EBITDA
Coupa Software	US	833	\$62.24	109.9%	99.4%	20.5%	\$3,548	\$3,283	\$430	18.1x	13.9x	11.2x	NM	NM	NM	29.7%	71.8%	(0.8%)
Pluralsight	US	890	24.45	NA	NA	13.4%	1,538	2,074	32	12.4x	9.6x	7.4x	NA	NM	NM	29.5%	75.1%	(25.3%)
RingCentral	US	1,352	70.35	93.5%	45.4%	(6.0%)	5,537	5,339	555	10.7x	8.3x	6.7x	NM	69.8x	53.9x	29.0%	76.8%	11.9%
Wisetech	AU	900	11.58	114.2%	4.8%	5.4%	3,463	3,421	47	23.9x	18.5x	14.6x	66.7x	51.4x	38.2x	28.9%	NA	36.0%
RealPage	US	5,700	55.10	52.8%	24.4%	(6.9%)	4,965	5,513	102	8.2x	6.4x	5.7x	34.0x	24.4x	20.3x	28.6%	63.6%	26.1%
Blackline	US	771	43.43	19.8%	32.4%	7.6%	2,321	2,207	114	12.6x	9.8x	7.9x	NM	NM	NM	28.5%	80.8%	4.9%
Hortonworks	US	1,240	18.22	40.4%	(9.4%)	1.7%	1,440	1,351	89	5.3x	4.1x	3.3x	NM	NM	NM	28.5%	73.9%	(16.6%)
AppFolio	US	672	61.15	88.4%	47.3%	6.4%	2,090	2,044	46	14.4x	11.2x	9.1x	NM	50.0x	35.8x	28.4%	61.8%	22.5%
ForeScout Technologies	US	859	34.26	NA	7.4%	14.5%	1,377	1,175	223	5.4x	4.2x	3.5x	NM	NM	NM	27.7%	74.7%	(11.3%)
Ebix	US	4,515	76.25	41.3%	(3.8%)	1.8%	2,399	2,745	130	7.7x	6.0x	5.7x	22.3x	16.3x	14.6x	27.5%	65.1%	37.1%
Square	US	2,338	61.64	163.4%	77.8%	8.3%	24,699	24,123	939	24.9x	16.3x	12.1x	NM	NM	53.4x	52.9%	72.1%	17.2%
Yonyou	CN	14,762	3.70	91.8%	48.1%	(9.8%)	7,034	7,220	524	7.6x	6.0x	5.1x	NM	53.4x	35.6x	27.1%	71.4%	11.3%
Varonis Systems	US	1,318	74.50	103.6%	53.5%	(3.4%)	2,142	1,988	154	9.4x	7.4x	6.3x	NM	NM	NM	26.9%	90.5%	2.6%
Pivotal Software	US	2,671	24.27	NA	NA	33.8%	6,242	5,597	645	11.0x	8.7x	7.0x	NA	NM	NM	26.9%	63.2%	(11.3%)
Paycom	US	2,548	98.83	46.3%	23.0%	(5.0%)	5,837	5,804	68	13.4x	10.6x	8.6x	43.7x	26.0x	21.2x	26.6%	83.5%	40.8%
DocuSign	US	2,255	52.95	NA	NA	9.3%	8,291	8,570	269	16.5x	13.1x	10.8x	NA	NM	NM	26.5%	77.6%	5.1%
Workday	US	8,600	121.12	25.6%	19.0%	(7.1%)	26,162	24,306	3,366	11.4x	9.0x	7.3x	69.9x	48.8x	36.0x	26.5%	74.8%	18.4%
Carbon Black	US	932	26.00	NA	NA	12.9%	1,756	2,099	34	13.0x	10.3x	8.4x	NA	NM	NM	25.9%	78.4%	(27.2%)
Palo Alto Networks	US	5,121	205.47	52.5%	41.8%	(1.1%)	19,084	18,007	1,621	9.1x	7.3x	6.1x	38.2x	28.4x	22.9x	25.7%	NA	25.6%
Salesforce	US	29,000	136.40	57.1%	33.4%	7.5%	101,333	98,162	7,159	9.4x	7.5x	6.2x	43.7x	32.9x	26.4x	25.7%	76.6%	22.7%
Constellation Software	CA	14,335	775.15	47.3%	27.6%	1.3%	16,427	16,351	348	6.7x	5.3x	4.7x	25.6x	21.0x	18.0x	25.5%	66.8%	25.2%
Datawatch	US	144	9.50	8.6%	0.0%	5.6%	121	116	15	3.1x	2.5x	2.0x	NM	NM	NA	25.4%	NA	(2.2%)
Inovalon	US	2,119	9.93	(24.8%)	(33.8%)	(5.5%)	1,511	1,303	450	2.9x	2.3x	2.0x	11.9x	8.1x	6.7x	25.0%	69.4%	28.5%
Carbonite	US	954	34.90	59.0%	39.0%	(7.9%)	998	1,130	71	4.6x	3.7x	3.3x	23.9x	13.9x	12.1x	25.0%	76.6%	26.4%
Guidewire Software	US	2,219	88.78	29.2%	19.6%	(5.5%)	7,126	6,434	994	11.3x	9.1x	7.7x	54.2x	46.9x	35.6x	24.4%	NA	19.5%
Attunity	IL	256	11.61	61.3%	66.3%	10.4%	241	212	29	3.4x	2.8x	2.3x	54.8x	28.1x	22.0x	24.3%	85.8%	9.8%
CyberArk	IL	1,015	62.96	26.4%	52.1%	5.0%	2,270	1,945	325	7.6x	6.1x	5.2x	34.7x	28.8x	23.4x	23.8%	87.0%	21.3%
Sophos	UK	3,362	8.43	45.9%	9.4%	10.4%	3,973	4,148	120	7.3x	5.9x	5.2x	NM	50.1x	36.7x	23.7%	NA	11.8%
Paylocity	US	2,115	58.86	31.7%	24.8%	(1.5%)	3,099	2,970	130	8.9x	7.2x	5.9x	44.9x	33.0x	25.0x	23.5%	NA	21.8%
Adobe	US	17,973	243.81	72.6%	39.1%	0.7%	119,385	114,935	6,334	15.9x	12.9x	10.8x	37.8x	28.9x	23.7x	23.3%	88.2%	44.5%
Applo	US	811	36.20	104.9%	53.9%	13.2%	1,581	1,442	245	7.8x	6.3x	5.4x	NM	NM	NM	22.8%	71.7%	3.4%
Park City Group	US	77	7.90	(35.5%)	(17.3%)	6.8%	156	146	15	7.1x	5.8x	4.5x	NA	23.5x	16.4x	22.7%	NA	24.7%
Q2 Holdings	US	844	57.05	54.4%	54.8%	(1.0%)	2,423	2,304	294	11.9x	9.7x	7.9x	NM	NM	66.0x	22.7%	53.2%	9.6%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Software Public Company Valuations (Cont'd)

Strong Growth (2018 Revenue Growth Rate Between 20% and 30%)

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Dropbox	US	1,858	32.42	NA	NA	8.9%	12,981	12,305	846	11.1x	9.1x	7.8x	NA	42.6x	36.1x	22.6%	73.8%	21.3%
Alphabet	US	85,050	1,129.19	20.4%	7.2%	5.7%	779,553	681,970	102,885	6.2x	5.1x	4.3x	15.5x	13.7x	11.6x	22.4%	56.2%	36.9%
Veeva	US	2,171	76.86	25.3%	39.0%	1.4%	11,025	10,106	918	14.9x	12.2x	10.4x	44.4x	36.5x	30.8x	21.9%	72.3%	33.4%
Cloudera	US	1,648	13.64	(13.0%)	(17.4%)	(14.0%)	2,021	1,592	429	4.4x	3.6x	3.0x	NM	NM	NM	21.7%	74.3%	(18.7%)
Appian	US	2,000	36.16	97.1%	14.9%	15.0%	2,215	2,154	61	12.8x	10.6x	9.0x	NM	NM	NM	21.5%	61.9%	(18.0%)
Qualys	US	934	84.30	107.6%	42.0%	9.9%	3,286	2,957	329	12.9x	10.6x	9.0x	35.0x	29.4x	24.8x	21.0%	78.3%	36.2%
Ellie Mae	US	1,500	103.84	(4.3%)	16.2%	(2.9%)	3,567	3,335	231	8.1x	6.7x	5.7x	27.9x	25.5x	20.0x	20.8%	59.5%	26.3%
Five9	US	873	34.57	63.5%	38.9%	2.1%	1,994	1,961	81	9.9x	8.3x	7.1x	NM	67.5x	49.4x	20.5%	60.4%	12.2%
Investnet	US	3,516	54.95	40.5%	10.2%	0.7%	2,485	2,864	44	4.2x	3.5x	3.1x	23.5x	18.7x	15.5x	20.1%	64.3%	18.7%
Average										10.2x	8.0x	6.6x	37.6x	34.0x	28.7x	25.8%	72.3%	13.9%
Median										9.4x	7.5x	6.3x	36.4x	28.9x	24.8x	25.4%	73.8%	18.6%

Software Public Company Valuations (Cont'd)

High Profitability (2018 EBITDA Margin >35%)

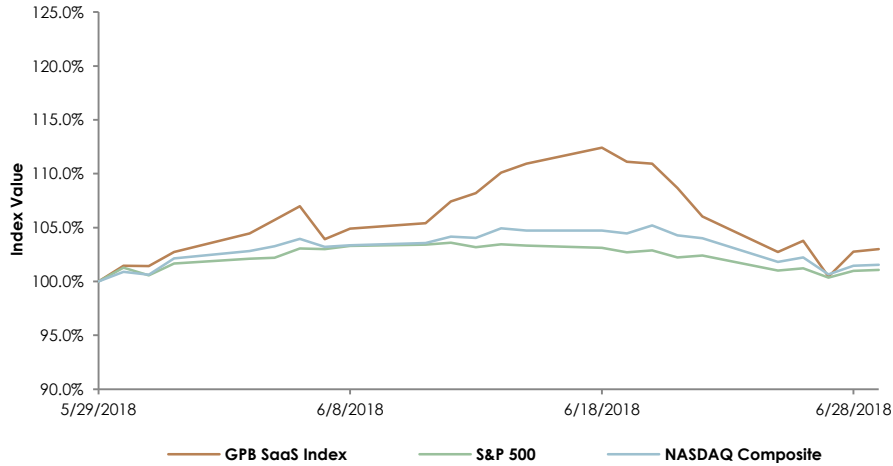
Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Verisign	US	952	\$137.42	47.0%	20.1%	6.6%	\$16,914	\$16,972	\$2,356	14.6x	14.0x	13.4x	21.1x	19.7x	18.8x	4.2%	84.4%	70.8%
MSCI	US	3,059	165.43	59.0%	30.7%	4.1%	14,727	15,956	850	12.5x	11.1x	10.2x	24.2x	20.3x	18.2x	13.1%	79.7%	54.7%
Check Point Software	IL	4,576	97.68	(10.9%)	(5.7%)	1.2%	15,535	14,024	1,510	7.6x	7.4x	7.1x	13.5x	13.7x	13.2x	1.9%	89.5%	54.0%
Progress Software	US	1,470	38.82	26.7%	(8.8%)	3.0%	1,765	1,740	144	4.4x	4.3x	4.3x	9.5x	8.8x	9.2x	1.9%	88.8%	49.0%
Black Knight	US	4,430	53.55	NA	21.3%	7.5%	8,001	9,494	10	9.0x	8.5x	7.8x	18.7x	17.5x	15.9x	6.0%	NA	48.4%
Aspen Technology	US	1,419	92.74	70.4%	40.1%	(0.5%)	6,624	6,723	71	13.8x	13.2x	12.5x	28.9x	27.5x	25.6x	4.8%	NA	47.9%
ANSYS	US	3,000	174.18	44.6%	18.0%	7.8%	14,634	13,744	890	12.7x	11.2x	10.2x	25.6x	24.4x	22.3x	13.4%	89.2%	45.7%
Adobe	US	17,973	243.81	72.6%	39.1%	0.7%	119,385	114,935	6,334	15.9x	12.9x	10.8x	37.8x	28.9x	23.7x	23.3%	88.2%	44.5%
Symantec	US	13,000	20.65	(26.4%)	(26.4%)	(1.8%)	12,835	15,699	2,162	3.2x	3.3x	3.1x	6.9x	7.5x	6.8x	(3.0%)	NA	43.9%
Intel	US	102,700	49.71	48.2%	7.7%	(10.1%)	231,649	244,064	16,197	3.9x	3.6x	3.5x	9.5x	8.4x	7.9x	10.1%	62.0%	42.7%
MYOB	AU	1,500	2.14	(17.2%)	(24.4%)	(7.4%)	1,261	1,541	43	4.7x	4.6x	4.2x	10.4x	10.9x	10.3x	2.5%	90.8%	42.1%
Microsoft	US	124,000	98.61	44.0%	15.3%	0.6%	757,640	713,988	132,273	7.1x	6.2x	5.7x	17.9x	14.9x	13.3x	13.9%	NA	41.6%
Paycom	US	2,548	98.83	46.3%	23.0%	(5.0%)	5,837	5,804	68	13.4x	10.6x	8.6x	43.7x	26.0x	21.2x	26.6%	83.5%	40.8%
j2 Global	US	2,487	86.61	0.8%	15.4%	1.8%	4,253	4,927	331	4.4x	4.0x	3.7x	10.5x	9.9x	8.9x	9.7%	83.8%	40.4%
F5 Networks	US	4,289	172.45	35.4%	31.4%	(0.2%)	10,539	9,515	1,025	4.5x	4.4x	4.3x	11.6x	11.3x	10.5x	3.9%	NA	38.7%
Akamai Technologies	US	7,454	73.23	45.8%	12.6%	(3.4%)	12,495	12,352	812	5.0x	4.6x	4.2x	13.4x	11.8x	10.6x	8.8%	66.3%	38.5%
CenturyLink	US	50,000	18.64	(22.9%)	11.8%	2.3%	20,110	56,986	501	3.2x	2.4x	2.4x	9.2x	6.4x	6.3x	33.7%	56.2%	37.3%
Temenos	CH	4,980	150.98	72.4%	17.7%	2.8%	10,458	10,703	195	14.7x	12.6x	11.3x	41.7x	33.9x	29.4x	16.2%	82.2%	37.3%
VMware	US	20,615	146.97	68.8%	17.3%	7.7%	59,796	51,402	12,630	6.5x	5.8x	5.4x	17.6x	15.7x	14.8x	11.6%	87.8%	37.1%
Ebix	US	4,515	76.25	41.3%	(3.8%)	1.8%	2,399	2,745	130	7.7x	6.0x	5.7x	22.3x	16.3x	14.6x	27.5%	65.1%	37.1%
Fiserv	US	24,000	74.09	21.8%	13.0%	3.4%	30,335	34,557	382	6.1x	5.9x	5.6x	17.0x	15.9x	15.3x	3.3%	47.3%	37.1%
Alphabet	US	85,050	1,129.19	20.4%	7.2%	5.7%	779,553	681,970	102,885	6.2x	5.1x	4.3x	15.5x	13.7x	11.6x	22.4%	56.2%	36.9%
FIS	US	53,000	106.03	25.0%	12.7%	3.6%	35,097	43,564	725	4.8x	5.1x	4.9x	14.2x	13.8x	13.1x	(6.6%)	39.3%	36.8%
LogMeIn	US	2,676	103.25	(1.9%)	(9.8%)	(4.5%)	5,391	5,026	365	5.0x	4.1x	3.8x	13.6x	11.3x	10.1x	19.9%	83.3%	36.7%
Verizon	US	154,700	50.31	13.3%	(4.9%)	4.4%	207,876	327,443	1,923	2.6x	2.5x	2.5x	7.2x	6.9x	6.8x	3.3%	58.1%	36.7%
TriNet	US	2,700	55.94	71.0%	26.2%	5.0%	3,932	4,015	330	5.0x	4.7x	4.3x	14.4x	12.8x	11.5x	6.9%	74.0%	36.4%
Intuit	US	8,200	204.31	53.5%	29.5%	3.9%	52,422	50,936	1,936	9.4x	8.3x	7.5x	25.5x	22.7x	20.5x	13.6%	NA	36.3%
Qualys	US	934	84.30	107.6%	42.0%	9.9%	3,286	2,957	329	12.9x	10.6x	9.0x	35.0x	29.4x	24.8x	21.0%	78.3%	36.2%
Wiseftech	AU	900	11.58	114.2%	4.8%	5.4%	3,463	3,421	47	23.9x	18.5x	14.6x	66.7x	51.4x	38.2x	28.9%	NA	36.0%
Open Text	CA	12,200	35.19	13.2%	(1.3%)	2.8%	9,412	11,476	605	4.4x	4.0x	4.0x	12.8x	11.3x	10.6x	9.6%	NA	35.9%
Upland Software	US	375	34.37	56.9%	58.7%	(1.7%)	740	867	33	8.9x	6.3x	5.9x	29.0x	17.7x	16.0x	41.4%	68.7%	35.6%
Cisco	US	72,900	43.03	37.0%	12.3%	0.1%	202,365	176,072	54,431	3.7x	3.5x	3.4x	10.2x	10.0x	10.0x	4.5%	NA	35.0%
Citrix	US	7,500	104.84	31.9%	19.1%	(1.1%)	14,208	14,881	1,465	5.3x	5.1x	5.0x	14.7x	14.6x	15.6x	2.9%	86.4%	35.0%
Average										8.1x	7.1x	6.5x	20.3x	17.1x	15.3x	12.2%	74.5%	41.3%
Median										6.2x	5.8x	5.4x	15.5x	14.6x	13.3x	9.7%	81.0%	37.3%

Source(s): Capital IQ as of 6/29/2018

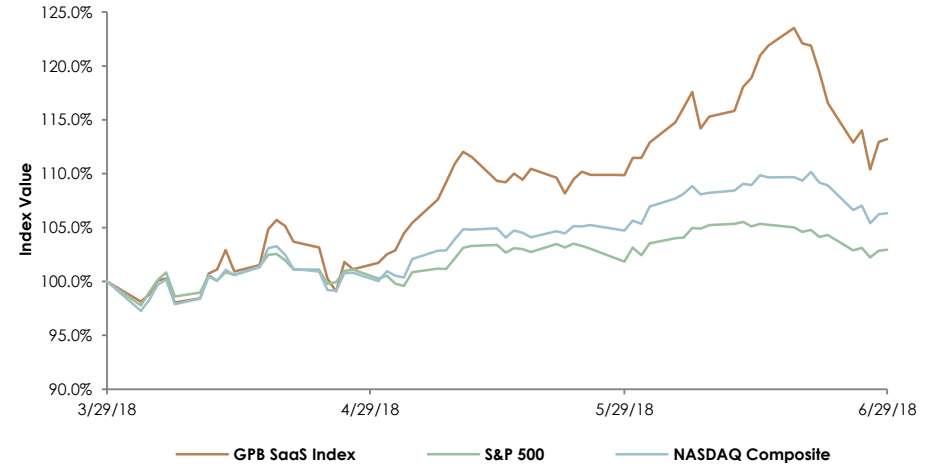
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GP Bullhound SaaS Index Performance

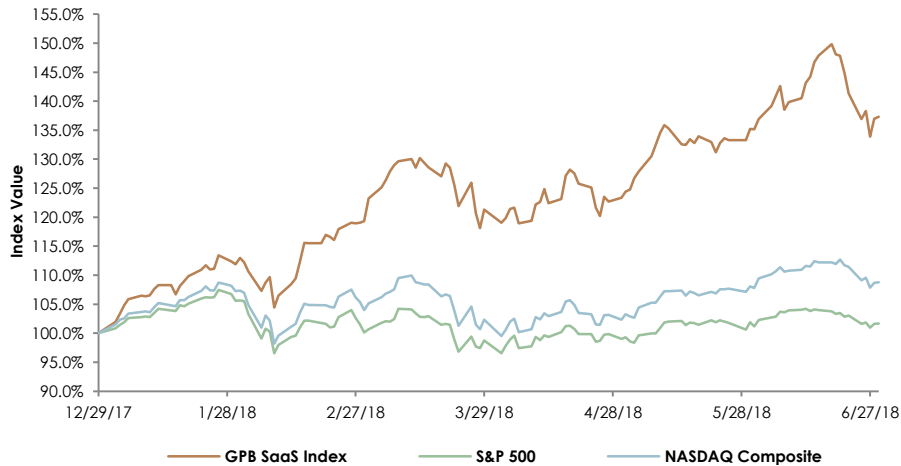
L1M



L3M



L6M



L12M



- 1 Key Sector Takeaways
- 2 Recent Software Transaction Trends
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SaaS Company Executive Commentary



Danielle Weinblatt
Co-Founder & CEO



ConveyIQ is the first SaaS solution that automates applicant communication for every step in the hiring process from application through on-boarding. This eliminates time consuming administrative tasks that enables talent acquisition teams to focus on what matters – hiring top talent

"In the last several years, finding talented individuals is consistently named as one of the top challenges CEOs face in growing their organizations. With executives becoming increasingly aware of the need to align recruiting strategies with their business objectives, budgets have grown, and HR SaaS companies have seen an increase in demand for their solutions. With decreasing marginal returns from existing sourcing strategies, cost-of-hire metrics are rising and it is taking longer to fill critical roles. The way to drive ROI in recruiting, is to improve conversions during the hiring process without increasing labor or costs."

SaaS Company Executive Commentary (Cont'd)



Eric Fjellborg
Founder & CEO



Workforce management software designed to make management of staff efficient and fun. The company's workforce management software provides support for scheduling, time reporting, communication, task management, budgeting and forecasting

"The Workforce Management software market is very exciting right now, most enterprises have realized that they need a SaaS WFM solution to stay modern and relevant in the eyes of their employees. The Digital Employee Journey is crucial to attract and retain talent in today's labor market. With a SaaS WFM tool the employees can easily be invited to interact with managers, colleagues and also influence their working times in new ways."

SaaS Company Executive Commentary (Cont'd)



Matthew Bellows
Founder & CEO



Provides an email tracking platform designed to connect businesses with prospects and track customer engagement. The platform is an e-mail tracking analytics, customized templates and customer-relationship management integration that enhance sales productivity

"Every year, companies spend more on CRM systems. And every year, sales teams' quota attainment lags. It's clear that what businesses need most is not more reporting infrastructure, but instead software tailored for the most important jobs at your company - generating revenue. At Yesware we serve sales teams at thousands of companies as they grow their businesses."

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Key SaaS Metrics

Definitions & Calculations

<u>Metric</u>	<u>Definition</u>	<u>Calculation</u>
MRR	Normalized measurement of recurring revenue, most frequently measured with a constant value in each month of the subscription period	$\mathbf{MRR} = \# \text{ of paying customers} * \text{ARPA/month}$
Customer Acquisition Cost (CAC)	All S&M expenses for new customers. Sometimes excludes people management S&M costs	$\mathbf{CAC} = \frac{\text{S\&M}}{\# \text{ of new customers}}$
Customer Lifetime Value (CLV)	Amount of profit a customer is calculated to deliver to the company over the lifetime of the customer	$\mathbf{CLV} = \frac{\text{ARPU} * \text{GM}}{\text{Churn rate}}$
Payback Period	The number of months a company requires to payback its cost of customer acquisition	$\mathbf{Payback Period} = \frac{\text{CAC}}{\text{ARPA} * \text{GM}}$
Churn (Gross & Net)	<p>Gross Churn is the number of customers you lose in a given period or cohort regardless of account expansion or growth</p> <p>Net Churn is the number of customers gained or lost in a given period or cohort after taking into consideration new, reactivated, or expanded accounts</p>	$\mathbf{Gross Churn} = \frac{\text{customers lost over time period}}{\text{customers at beginning of time period}}$ $\mathbf{Net Churn} = \frac{(\text{customers lost over time period} - \text{customers gained over time period})}{\text{customers at beginning of time period}}$

Key SaaS Metrics (Cont'd)

Investors focus on key SaaS metrics, long-term business model viability and valuations

<p>MRR / ARR / ARRR</p>	<ul style="list-style-type: none"> • Monthly Recurring Revenues (MRR), Annual Recurring Revenue (ARR), Annual Run Rate Revenue (ARRR) are the key metrics that investors will focus on <ul style="list-style-type: none"> - Note: ARRR = ARR + Non-recurring revenue items - Also important to understand, the % on-demand SaaS vs. traditional license, and the mix between software and services • Important to show continued growth in top line revenue (both reported and for the above metrics)
<p>CAC vs. CLV</p>	<ul style="list-style-type: none"> • Customer Acquisition Cost (CAC) payback period is typically stated in months. Represents the time taken to fully pay back sales and marketing investments • Growth is the key target for SaaS companies, but sales and marketing investments should ultimately be profitable. CAC payback periods: <ul style="list-style-type: none"> - For SMEs, CAC payback period should be 6-12 months - For Enterprise Customers, CAC payback period should be 9-15 months - A CAC payback period of >24months should be a cause for concern • Customer Lifetime Value = NPV of recurring gross profit of a customer less the initial cost of customer acquisition • For SMEs, CLV should be between 3 & 4 years <ul style="list-style-type: none"> - For Enterprise Customers, CLV should be between 5 & 7 years
<p>Churn & Renewal Rates</p>	<ul style="list-style-type: none"> • Logo Churn: Churn of absolute number of customers. Top companies have a Logo Churn of <7% • MRR Churn: Churn of customer MRR that has been lost over given period of time. Top companies have a MRR Churn of <5%, including upgrades/customer expansion, churn is ideally negative • MRR Renewal: Total MRR of renewed customers/Total MRR of existing customers at year beginning. Top companies have a MRR Renewal percentage of 105-110% due to upsells to its installed base • Net Revenue Retention: <ul style="list-style-type: none"> - Key metric for performance of SaaS business - >100% upsells more than make up for churn - ARR as a Percentage of Upsells: 15%+
<p>Free Cash Flow / Burn Rate</p>	<ul style="list-style-type: none"> • Growth is of paramount importance, with excess cash being used to fuel growth • Important, therefore, to understand the cash burn in the business and planning for capital efficient hyper-growth

Source(s): GP Bullhound analysis

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Public Comps – GP Bullhound SaaS Index

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Salesforce	US	29,000	\$136.40	57.1%	33.4%	7.5%	\$101,333	\$98,162	\$7,159	9.4x	7.5x	6.2x	43.7x	32.9x	32.9x	25.7%	76.6%	22.7%
ServiceNow	US	6,675	172.47	63.0%	32.3%	(2.2%)	30,471	29,740	1,886	15.5x	11.4x	8.9x	70.6x	44.4x	44.4x	35.7%	79.6%	25.7%
Workday	US	8,600	121.12	25.6%	19.0%	(7.1%)	26,162	24,306	3,366	11.4x	9.0x	7.3x	69.9x	48.8x	48.8x	26.5%	74.8%	18.4%
Square	US	2,338	61.64	163.4%	77.8%	8.3%	24,699	24,123	939	24.9x	16.3x	12.1x	NM	NM	NM	52.9%	72.1%	17.2%
j2 Global	CA	3,000	145.89	68.9%	44.4%	1.8%	15,486	13,906	1,580	21.1x	13.6x	10.0x	NM	NM	NM	54.3%	56.1%	3.9%
Atlassian	UK	2,503	62.52	77.7%	37.3%	(0.3%)	14,631	13,867	764	18.9x	14.1x	11.2x	70.8x	52.5x	52.5x	33.9%	NA	26.9%
Splunk	US	3,200	99.11	71.5%	19.6%	(8.6%)	14,371	13,493	950	10.9x	8.2x	6.6x	NM	56.4x	56.4x	32.6%	82.9%	14.5%
Dropbox	US	1,858	32.42	NA	NA	8.9%	12,981	12,305	846	11.1x	9.1x	7.8x	NA	42.6x	42.6x	22.6%	73.8%	21.3%
Veeva	US	2,171	76.86	25.3%	39.0%	1.4%	11,025	10,106	918	14.9x	12.2x	10.4x	44.4x	36.5x	36.5x	21.9%	72.5%	33.4%
DocuSign	US	2,255	52.95	NA	NA	9.3%	8,291	8,570	269	16.5x	13.1x	10.8x	NA	NM	NM	26.5%	77.6%	5.1%
Ultimate Software	US	4,208	257.31	22.6%	17.9%	(2.0%)	7,877	7,739	148	8.3x	6.9x	5.9x	36.0x	28.0x	28.0x	19.7%	65.2%	24.7%
athenahealth	US	5,156	159.14	12.4%	19.6%	4.6%	6,431	6,558	142	5.4x	4.8x	4.4x	24.9x	17.5x	17.5x	11.6%	54.2%	27.8%
Pivotal Software	US	2,671	24.27	NA	NA	33.8%	6,242	5,597	645	11.0x	8.7x	7.0x	NA	NM	NM	26.9%	63.2%	(11.3%)
Proofpoint	US	2,047	115.31	33.7%	29.8%	(3.9%)	5,863	5,947	117	11.7x	8.4x	6.6x	NM	65.1x	65.1x	38.4%	77.0%	12.9%
Paycom	US	2,548	98.83	46.3%	23.0%	(5.0%)	5,837	5,804	68	13.4x	10.6x	8.6x	43.7x	26.0x	26.0x	26.6%	83.5%	40.8%
Zendesk	US	2,230	54.49	97.1%	61.0%	(3.2%)	5,697	5,399	738	12.7x	9.5x	7.4x	NM	NM	NM	33.9%	73.5%	6.9%
New Relic	US	1,284	100.59	134.5%	74.1%	1.7%	5,631	5,383	248	16.4x	12.5x	9.9x	NM	NM	NM	32.0%	NA	10.5%
RingCentral	US	1,352	70.35	93.5%	45.4%	(6.0%)	5,537	5,339	555	10.7x	8.3x	6.7x	NM	69.8x	69.8x	29.0%	76.8%	11.9%
LogMeIn	US	2,676	103.25	(1.9%)	(9.8%)	(4.5%)	5,391	5,026	365	5.0x	4.1x	3.8x	13.6x	11.3x	11.3x	19.9%	83.3%	36.7%
Okta	US	1,176	50.37	116.3%	96.7%	(6.1%)	5,370	5,083	547	19.6x	14.3x	10.8x	NM	NM	NM	37.3%	73.3%	(15.1%)
Twilio	US	1,027	56.02	93.2%	137.4%	3.8%	5,365	5,057	308	13.0x	9.3x	7.6x	NM	NM	NM	39.7%	54.5%	2.5%
RealPage	US	5,700	55.10	52.8%	24.4%	(6.9%)	4,965	5,513	102	8.2x	6.4x	5.7x	34.0x	24.4x	24.4x	28.6%	63.6%	26.1%
HubSpot	US	2,283	125.40	92.0%	41.9%	5.4%	4,817	4,590	529	12.4x	9.3x	7.5x	NM	NM	NM	32.4%	81.7%	9.3%
2U	US	1,865	83.56	80.4%	29.5%	(9.6%)	4,783	4,624	182	16.2x	11.3x	8.5x	NM	NM	NM	43.4%	78.1%	4.2%
Medidata Solutions	US	1,680	80.56	3.0%	27.1%	6.6%	4,769	4,625	523	8.5x	7.2x	6.1x	35.2x	29.9x	29.9x	17.4%	76.6%	24.2%
Wix	IL	1,771	100.30	44.3%	74.3%	17.9%	4,703	4,439	265	10.5x	7.4x	5.9x	66.0x	41.0x	41.0x	40.7%	80.0%	18.2%
Ceridian HCM	US	4,212	33.19	NA	NA	(3.1%)	4,537	5,823	62	7.8x	7.9x	7.4x	NA	38.8x	38.8x	(2.3%)	44.6%	20.5%
Zscaler	US	950	35.75	NA	NA	39.5%	4,276	3,988	287	25.8x	18.8x	14.3x	NA	NM	NM	37.5%	NA	(4.3%)
Coupa Software	US	833	62.24	109.9%	99.4%	20.5%	3,548	3,283	430	18.1x	13.9x	11.2x	NM	NM	NM	29.7%	71.8%	(0.8%)
Box	US	1,824	24.99	38.4%	18.3%	(8.3%)	3,509	3,382	217	6.7x	5.6x	4.6x	NM	NM	NM	19.8%	74.1%	3.1%
Qualys	US	934	84.30	107.6%	42.0%	9.9%	3,286	2,957	329	12.9x	10.6x	9.0x	35.0x	29.4x	29.4x	21.0%	78.3%	36.2%
Paylocity	US	2,115	58.86	31.7%	24.8%	(1.5%)	3,099	2,970	130	8.9x	7.2x	5.9x	44.9x	33.0x	33.0x	23.5%	NA	21.8%
Zuora	US	933	27.20	NA	NA	31.6%	2,923	2,736	203	16.3x	12.3x	9.7x	NA	NM	NM	32.0%	54.7%	(21.2%)
Cornerstone OnDemand	US	1,829	47.43	31.9%	34.2%	(2.8%)	2,736	2,656	618	5.5x	5.2x	4.7x	40.7x	29.2x	29.2x	5.6%	75.2%	17.8%
MongoDB	US	962	49.63	NA	67.2%	8.5%	2,513	2,242	271	14.7x	10.2x	7.6x	NM	NM	NM	44.5%	72.4%	(31.8%)

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Public Comps – GP Bullhound SaaS Index (Cont'd)

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Mimecast	UK	1,192	41.21	54.3%	43.7%	(6.3%)	2,430	2,366	137	9.9x	7.5x	6.2x	NM	56.7x	56.7x	32.5%	NA	13.2%
Q2 Holdings	US	844	57.05	54.4%	54.8%	(1.0%)	2,423	2,304	294	11.9x	9.7x	7.9x	NM	NM	NM	22.7%	53.2%	9.6%
Blackline	US	771	43.43	19.8%	32.4%	7.6%	2,321	2,207	114	12.6x	9.8x	7.9x	NM	NM	NM	28.5%	80.8%	4.9%
Alteryx	US	629	\$38.16	95.6%	51.0%	16.7%	\$2,313	\$2,134	\$179	16.6x	11.5x	8.7x	NM	NM	NM	44.8%	87.1%	(5.7%)
Appian	US	2,000	36.16	97.1%	14.9%	15.0%	2,215	2,154	61	12.8x	10.6x	9.0x	NM	NM	NM	21.5%	61.9%	(18.0%)
AppFolio	US	672	61.15	88.4%	47.3%	6.4%	2,090	2,044	46	14.4x	11.2x	9.1x	NM	50.0x	50.0x	28.4%	61.8%	22.5%
Cloudera	US	1,648	13.64	(13.0%)	(17.4%)	(14.0%)	2,021	1,592	429	4.4x	3.6x	3.0x	NM	NM	NM	21.7%	74.3%	(18.7%)
Five9	US	873	34.57	63.5%	38.9%	2.1%	1,994	1,961	81	9.9x	8.3x	7.1x	NM	67.5x	67.5x	20.5%	60.4%	12.2%
Yext	US	800	19.34	47.7%	60.8%	31.6%	1,873	1,749	124	10.3x	7.7x	5.9x	NM	NM	NM	33.1%	75.3%	(16.1%)
8x8	US	1,225	20.05	38.8%	42.2%	11.1%	1,865	1,712	152	6.1x	5.1x	4.3x	NM	NM	NM	18.5%	NA	(1.5%)
Talend	FR	913	62.28	81.9%	66.2%	7.1%	1,845	1,751	95	11.8x	8.6x	6.7x	NM	NM	NM	37.1%	78.0%	(4.9%)
MINDBODY	US	1,461	38.60	43.0%	26.8%	(0.8%)	1,832	1,629	218	9.0x	6.5x	5.2x	NM	NM	NM	37.0%	71.6%	0.7%
Carbon Black	US	932	26.00	NA	NA	12.9%	1,756	2,099	34	13.0x	10.3x	8.4x	NA	NM	NM	25.9%	78.4%	(27.2%)
Appfio	US	811	36.20	104.9%	53.9%	13.2%	1,581	1,442	245	7.8x	6.3x	5.4x	NM	NM	NM	22.8%	71.7%	3.4%
Pluralisight	US	890	24.45	NA	NA	13.4%	1,538	2,074	32	12.4x	9.6x	7.4x	NA	NM	NM	29.5%	75.1%	(25.3%)
Instructure	US	1,177	42.55	44.5%	28.5%	1.4%	1,461	1,324	137	8.5x	6.4x	5.1x	NM	NM	NM	32.9%	71.9%	(10.0%)
ForeScout Technologies	US	859	34.26	NA	7.4%	14.5%	1,377	1,175	223	5.4x	4.2x	3.5x	NM	NM	NM	27.7%	74.7%	(11.3%)
Everbridge	US	618	47.42	89.5%	59.6%	4.9%	1,363	1,302	152	12.6x	9.3x	7.4x	NM	NM	NM	34.4%	71.9%	(2.4%)
LivePerson	US	1,045	21.10	91.0%	83.5%	9.0%	1,281	1,224	57	5.6x	5.1x	4.5x	67.2x	54.1x	54.1x	10.8%	76.1%	9.4%
SPS Commerce	US	1,336	73.48	14.7%	51.2%	(1.2%)	1,276	1,110	166	5.0x	4.6x	4.2x	34.8x	25.1x	25.1x	10.6%	67.6%	18.2%
Benefitfocus	US	1,450	33.60	(5.9%)	24.4%	(0.6%)	1,067	1,135	55	4.4x	4.4x	4.0x	59.9x	NM	NM	(0.4%)	51.0%	3.3%
Workiva	US	1,313	24.40	28.4%	14.0%	(5.2%)	1,043	981	81	4.7x	4.1x	3.7x	NM	NM	NM	14.5%	72.1%	(11.2%)
SecureWorks	US	2,555	12.45	34.3%	40.4%	21.6%	1,017	941	77	2.0x	1.8x	1.7x	NM	NM	NM	11.1%	54.9%	(1.0%)
Carbonite	US	954	34.90	59.0%	39.0%	(7.9%)	998	1,130	71	4.6x	3.7x	3.3x	23.9x	13.9x	13.9x	25.0%	76.6%	26.4%
Upland Software	US	375	34.37	56.9%	58.7%	(1.7%)	740	867	33	8.9x	6.3x	5.9x	29.0x	17.7x	17.7x	41.4%	68.7%	35.6%
Caslight Health	US	527	4.25	2.4%	13.3%	14.9%	578	509	75	3.9x	3.3x	2.8x	NM	NM	NM	17.5%	68.1%	(8.8%)
CLX Communications	SE	357	8.53	(45.6%)	(3.4%)	22.4%	457	518	11	1.4x	1.2x	1.1x	13.9x	14.3x	14.3x	13.3%	24.2%	8.8%
MobileIron	US	884	4.45	(25.8%)	14.1%	4.7%	448	349	99	2.0x	1.8x	1.7x	NM	NM	NM	10.1%	85.5%	(2.8%)
ChannelAdvisor	US	737	14.05	22.2%	56.1%	(2.8%)	381	326	55	2.7x	2.5x	2.3x	69.9x	40.6x	40.6x	6.5%	78.8%	6.1%
Brightcove	US	494	9.65	55.6%	35.9%	(5.4%)	341	315	26	2.0x	1.9x	1.7x	NM	NM	NM	8.2%	61.9%	2.5%
Vitec Software Group	SE	600	9.57	13.7%	(9.9%)	11.8%	286	320	7	3.1x	3.0x	3.0x	11.3x	11.1x	11.1x	2.2%	NA	27.5%
Amber Road	US	692	9.41	9.2%	28.2%	3.7%	257	270	9	3.4x	3.2x	2.9x	NM	NM	NM	8.3%	55.1%	3.1%
Average										10.4x	8.0x	6.5x	42.8x	37.0x	37.0x	25.7%	70.2%	7.5%
Median										10.5x	8.2x	6.6x	40.7x	34.8x	34.8x	26.5%	73.4%	6.9%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

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Public Comps – Large-Cap Consolidators

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Microsoft	US	124,000	\$98.61	44.0%	15.3%	0.6%	\$757,640	\$713,988	\$132,273	7.1x	6.2x	5.7x	17.9x	14.9x	13.3x	13.9%	NA	41.6%
Intel	US	102,700	49.71	48.2%	7.7%	(10.1%)	231,649	244,064	16,197	3.9x	3.6x	3.5x	9.5x	8.4x	7.9x	10.1%	62.0%	42.7%
Cisco	US	72,900	43.03	37.0%	12.3%	0.1%	202,365	176,072	54,431	3.7x	3.5x	3.4x	10.2x	10.0x	10.0x	4.5%	NA	35.0%
Oracle	US	137,000	44.06	(12.2%)	(6.8%)	(4.8%)	175,410	169,424	67,261	4.3x	4.2x	4.1x	9.5x	9.0x	8.6x	3.2%	NA	46.8%
SAP	DE	91,120	115.48	11.9%	2.8%	4.8%	137,817	137,405	10,418	4.9x	4.8x	4.5x	14.0x	14.7x	13.4x	0.5%	72.3%	33.0%
IBM	US	366,600	139.70	(9.4%)	(8.9%)	(1.1%)	128,240	161,987	12,842	2.1x	2.0x	2.0x	8.5x	8.6x	8.2x	2.8%	47.0%	23.3%
Salesforce	US	29,000	136.40	57.1%	33.4%	7.5%	101,333	98,162	7,159	9.4x	7.5x	6.2x	43.7x	32.9x	26.4x	25.7%	76.6%	22.7%
Hewlett Packard	US	66,000	14.61	(12.3%)	1.7%	(5.0%)	22,119	29,344	6,986	0.9x	1.0x	0.9x	5.2x	5.5x	5.5x	(6.7%)	NA	17.5%
Average										4.5x	4.1x	3.8x	14.8x	13.0x	11.7x	6.7%	64.5%	32.8%
Median										4.1x	3.9x	3.8x	9.9x	9.5x	9.3x	3.8%	67.1%	34.0%

Public Comps – Advertising Technology

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins		
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA	
Alphabet	US	85,050	\$1,129.19	20.4%	7.2%	5.7%	\$779,553	\$681,970	\$102,885	6.2x	5.1x	4.3x	15.5x	13.7x	11.6x	22.4%	58.1%	36.9%	
Adobe	US	17,973	243.81	72.6%	39.1%	0.7%	119,385	114,935	6,334	15.9x	12.9x	10.8x	37.8x	28.9x	23.7x	23.3%	88.2%	44.5%	
Salesforce	US	29,000	136.40	57.1%	33.4%	7.5%	101,333	98,162	7,159	9.4x	7.5x	6.2x	43.7x	32.9x	26.4x	25.7%	76.6%	22.7%	
Teradata	US	10,615	40.15	34.5%	4.4%	3.8%	4,870	4,455	939	2.1x	2.0x	2.0x	12.0x	12.0x	10.7x	1.5%	50.8%	17.1%	
Hubspot	US	2,283	125.40	92.0%	41.9%	5.4%	4,817	4,590	529	12.4x	9.3x	7.5x	NM	NM	69.3x	32.4%	81.7%	9.3%	
Trade Desk	US	713	93.80	84.5%	105.1%	13.4%	3,951	3,812	139	12.4x	8.8x	6.9x	41.8x	28.3x	21.8x	41.0%	77.7%	31.1%	
Criteo	FR	2,675	32.85	(31.1%)	26.2%	34.6%	2,179	1,718	484	1.9x	1.7x	1.5x	5.9x	5.6x	4.9x	10.0%	87.1%	29.9%	
TechTarget	US	622	28.40	171.0%	104.0%	8.7%	781	780	31	7.2x	6.3x	5.6x	36.0x	25.7x	20.1x	14.3%	75.3%	24.5%	
ChannelAdvisor	US	737	14.05	22.2%	56.1%	(2.8%)	381	326	55	2.7x	2.5x	2.3x	69.9x	40.6x	30.6x	6.5%	78.8%	6.1%	
										Average	7.8x	6.2x	5.2x	32.8x	23.5x	24.4x	19.7%	74.9%	24.7%
										Median	7.2x	6.3x	5.6x	36.9x	27.0x	21.8x	22.4%	77.7%	24.5%

Public Comps – Business Intelligence/Analytics

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins		
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA	
Alphabet	US	85,050	\$1,129.19	20.4%	7.2%	5.7%	\$779,553	\$681,970	\$102,885	6.2x	5.1x	4.3x	15.5x	13.7x	11.6x	22.4%	58.1%	36.9%	
SAP	DE	91,120	115.48	11.9%	2.8%	4.8%	137,817	137,405	10,418	4.9x	4.8x	4.5x	14.0x	14.7x	13.4x	0.5%	72.3%	33.0%	
IBM	US	366,600	139.70	(9.4%)	(8.9%)	(1.1%)	128,240	161,987	12,842	2.1x	2.0x	2.0x	8.5x	8.6x	8.2x	2.8%	47.0%	23.3%	
Adobe	US	17,973	243.81	72.6%	39.1%	0.7%	119,385	114,935	6,334	15.9x	12.9x	10.8x	37.8x	28.9x	23.7x	23.3%	88.2%	44.5%	
NetApp	US	10,300	78.53	95.8%	42.0%	17.3%	20,691	17,220	5,397	3.0x	2.8x	2.7x	13.2x	12.0x	10.5x	7.6%	NA	23.2%	
Splunk	US	3,200	99.11	71.5%	19.6%	(8.6%)	14,371	13,493	950	10.9x	8.2x	6.6x	NM	56.4x	39.7x	32.6%	82.9%	14.5%	
Tableau Software	US	3,489	97.75	58.2%	41.3%	(0.3%)	7,971	7,105	866	8.2x	7.3x	6.3x	NM	NM	NM	12.9%	87.5%	2.0%	
Fair Isaac	US	3,470	193.32	39.9%	26.2%	6.3%	5,769	6,365	108	6.7x	6.1x	5.6x	27.9x	24.1x	20.2x	10.7%	NA	25.2%	
New Relic	US	1,284	100.59	134.5%	74.1%	1.7%	5,631	5,383	248	16.4x	12.5x	9.9x	NM	NM	NM	32.0%	NA	10.5%	
Teradata	US	10,615	40.15	34.5%	4.4%	3.8%	4,870	4,455	939	2.1x	2.0x	2.0x	12.0x	12.0x	10.7x	1.5%	50.8%	17.1%	
Blackbaud	US	3,182	102.45	19.7%	8.4%	4.4%	4,843	5,285	25	6.7x	6.0x	5.5x	27.1x	24.1x	21.6x	11.4%	59.9%	25.0%	
Verint	US	5,500	44.35	10.6%	6.0%	5.6%	2,839	3,233	393	2.8x	2.6x	2.5x	12.5x	11.0x	9.8x	7.8%	65.8%	23.8%	
Alteryx	US	629	38.16	95.6%	51.0%	16.7%	2,313	2,134	179	16.6x	11.5x	8.7x	NM	NM	NM	44.8%	87.1%	(5.7%)	
Cloudera	US	1,648	13.64	(13.0%)	(17.4%)	(14.0%)	2,021	1,592	429	4.4x	3.6x	3.0x	NM	NM	NM	21.7%	74.3%	(18.7%)	
Yext	US	800	19.34	47.7%	60.8%	31.6%	1,873	1,749	124	10.3x	7.7x	5.9x	NM	NM	NM	33.1%	75.3%	(16.1%)	
Talend	FR	913	62.28	81.9%	66.2%	7.1%	1,845	1,751	95	11.8x	8.6x	6.7x	NM	NM	NM	37.1%	78.0%	(4.9%)	
Apptio	US	811	36.20	104.9%	53.9%	13.2%	1,581	1,442	245	7.8x	6.3x	5.4x	NM	NM	NM	22.8%	71.7%	3.4%	
Inovalon	US	2,119	9.93	(24.8%)	(33.8%)	(5.5%)	1,511	1,303	450	2.9x	2.3x	2.0x	11.9x	8.1x	6.7x	25.0%	69.4%	28.5%	
MicroStrategy	US	2,306	127.75	(32.4%)	(2.7%)	(1.2%)	1,462	767	695	1.5x	1.5x	1.5x	7.5x	16.5x	13.5x	2.1%	79.8%	9.1%	
Hortonworks	US	1,240	18.22	40.4%	(9.4%)	1.7%	1,440	1,351	89	5.3x	4.1x	3.3x	NM	NM	NM	28.5%	73.9%	(16.6%)	
LivePerson	US	1,045	21.10	91.0%	83.5%	9.0%	1,281	1,224	57	5.6x	5.1x	4.5x	67.2x	54.1x	41.6x	10.8%	76.1%	9.4%	
Workiva	US	1,313	24.40	28.4%	14.0%	(5.2%)	1,043	981	81	4.7x	4.1x	3.7x	NM	NM	NM	14.5%	72.1%	(11.2%)	
SAS AB	SE	9,990	1.92	(11.5%)	(26.3%)	(14.4%)	747	843	847	0.2x	0.2x	0.2x	1.8x	2.2x	2.1x	(10.0%)	NA	8.0%	
SDL	UK	3,700	5.70	(28.7%)	(3.9%)	(4.5%)	470	440	31	1.1x	1.1x	1.1x	13.1x	10.9x	9.4x	1.1%	53.6%	10.3%	
Affinity	IL	256	11.61	61.3%	66.3%	10.4%	241	212	29	3.4x	2.8x	2.3x	54.8x	28.1x	22.0x	24.3%	85.8%	9.8%	
Gridsum	CN	929	6.96	(16.2%)	(23.9%)	11.0%	215	216	39	2.2x	1.4x	1.0x	NM	11.0x	4.0x	53.0%	NA	13.0%	
Hottolink	JP	87	9.54	78.6%	31.8%	40.5%	124	127	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Datawatch	US	144	9.50	8.6%	0.0%	5.6%	121	116	15	3.1x	2.5x	2.0x	NM	NM	NA	25.4%	NA	(2.2%)	
iSentia	AU	1,300	0.52	(68.0%)	(51.6%)	(21.2%)	104	142	11	1.3x	1.4x	1.4x	5.4x	5.7x	5.3x	(11.0%)	NA	24.9%	
Mattersight	US	281	2.68	4.9%	4.9%	0.9%	89	108	9	2.3x	2.1x	1.9x	NM	62.1x	34.6x	13.1%	71.0%	3.3%	
Expert System	IT	231	1.46	(26.6%)	(15.1%)	7.4%	52	57	19	2.0x	1.6x	1.4x	NM	11.7x	6.6x	19.5%	NA	14.0%	
										Average	5.7x	4.7x	4.0x	20.6x	20.8x	15.8x	17.4%	71.8%	11.2%
										Median	4.6x	3.8x	3.2x	13.1x	12.9x	11.2x	17.0%	73.1%	10.4%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Public Comps – Communication

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Microsoft	US	124,000	\$98.61	44.0%	15.3%	0.6%	\$757,640	\$713,988	\$132,273	7.1x	6.2x	5.7x	17.9x	14.9x	13.3x	13.9%	NA	41.6%
Cisco	US	72,900	43.03	37.0%	12.3%	0.1%	202,365	176,072	54,431	3.7x	3.5x	3.4x	10.2x	10.0x	10.0x	4.5%	NA	35.0%
Atlassian	UK	2,503	62.52	77.7%	37.3%	(0.3%)	14,631	13,867	764	18.9x	14.1x	11.2x	70.8x	52.5x	43.0x	33.9%	NA	26.9%
Citrix	US	7,500	104.84	31.9%	19.1%	(1.1%)	14,208	14,881	1,465	5.3x	5.1x	5.0x	14.7x	14.6x	15.6x	2.9%	86.4%	35.0%
NICE Systems	IL	5,208	103.21	28.6%	13.9%	(4.3%)	6,328	6,310	469	4.7x	4.4x	4.0x	16.6x	14.6x	13.4x	7.8%	69.8%	29.8%
RingCentral	US	1,352	70.35	93.5%	45.4%	(6.0%)	5,537	5,339	555	10.7x	8.3x	6.7x	NM	69.8x	53.9x	29.0%	76.8%	11.9%
Twilio	US	1,027	56.02	93.2%	137.4%	3.8%	5,365	5,057	308	13.0x	9.3x	7.6x	NM	NM	NM	39.7%	54.5%	2.5%
j2 Global	US	2,487	86.61	0.8%	15.4%	1.8%	4,253	4,927	331	4.4x	4.0x	3.7x	10.5x	9.9x	8.9x	9.7%	83.8%	40.4%
Nuance	US	11,600	13.89	(21.0%)	(15.1%)	0.6%	4,102	5,792	622	2.9x	2.8x	2.7x	10.0x	9.7x	9.0x	3.0%	NA	29.1%
8x8	US	1,225	20.05	38.8%	42.2%	11.1%	1,865	1,712	152	6.1x	5.1x	4.3x	NM	NM	NM	18.5%	NA	(1.5%)
Everbridge	US	618	47.42	89.5%	59.6%	4.9%	1,363	1,302	152	12.6x	9.3x	7.4x	NM	NM	NM	34.4%	71.9%	(2.4%)
LivePerson	US	1,045	21.10	91.0%	83.5%	9.0%	1,281	1,224	57	5.6x	5.1x	4.5x	67.2x	54.1x	41.6x	10.8%	76.1%	9.4%
CLX Communications	SE	357	8.53	(45.6%)	(3.4%)	22.4%	457	518	11	1.4x	1.2x	1.1x	13.9x	14.3x	11.3x	13.3%	24.2%	8.8%
Cybozu	JP	586	4.86	5.9%	(1.0%)	(4.6%)	223	212	16	NA	NA	NA	NA	NA	NA	NA	NA	NA
V-cube	JP	450	5.13	(3.4%)	5.7%	(3.8%)	123	150	23	NA	NA	NA	NA	NA	NA	NA	NA	NA
Average										7.4x	6.0x	5.2x	25.8x	26.4x	22.0x	17.0%	67.9%	20.5%
Median										5.6x	5.1x	4.5x	14.7x	14.6x	13.3x	13.3%	74.0%	26.9%

Public Comps – ERP & Enterprise Application

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Oracle	US	137,000	\$44.06	(12.2%)	(6.8%)	(4.8%)	\$175,410	\$169,424	\$67,261	4.3x	4.2x	4.1x	9.5x	9.0x	8.6x	3.2%	NA	46.8%
SAP	DE	91,120	115.48	11.9%	2.8%	4.8%	137,817	137,405	10,418	4.9x	4.8x	4.5x	14.0x	14.7x	13.4x	0.5%	72.3%	33.0%
Salesforce	US	29,000	136.40	57.1%	33.4%	7.5%	101,333	98,162	7,159	9.4x	7.5x	6.2x	43.7x	32.9x	26.4x	25.7%	76.6%	22.7%
Workday	US	8,600	121.12	25.6%	19.0%	(7.1%)	26,162	24,306	3,366	11.4x	9.0x	7.3x	69.9x	48.8x	36.0x	26.5%	74.8%	18.4%
Constellation Software	CA	14,335	775.15	47.3%	27.6%	1.3%	16,427	16,351	348	6.7x	5.3x	4.7x	25.6x	21.0x	18.0x	25.5%	66.8%	25.2%
Shopify	CA	3,000	145.89	68.9%	44.4%	1.8%	15,486	13,906	1,580	21.1x	13.6x	10.0x	NM	NM	NM	54.3%	56.1%	3.9%
Sage Group	UK	13,292	8.29	(6.4%)	(23.1%)	(5.7%)	8,987	9,853	415	4.3x	4.0x	3.8x	14.3x	13.8x	12.7x	5.6%	NA	29.3%
Tyler Technologies	US	4,121	222.10	25.6%	25.4%	(2.2%)	8,504	8,227	276	9.8x	8.7x	7.8x	32.7x	29.4x	25.9x	11.9%	51.2%	29.7%
Guidewire Software	US	2,219	88.78	29.2%	19.6%	(5.5%)	7,126	6,434	994	11.3x	9.1x	7.7x	54.2x	46.9x	35.6x	24.4%	NA	19.5%
Yonyou Networks	CN	14,762	3.70	91.8%	48.1%	(9.8%)	7,034	7,220	524	7.6x	6.0x	5.1x	NM	53.4x	35.6x	27.1%	71.4%	11.3%
Aveva Group	UK	4,400	35.44	NA	NA	16.9%	5,713	5,587	148	17.6x	9.3x	5.6x	NA	28.3x	21.5x	89.1%	NA	32.9%
Zendesk	US	2,230	54.49	97.1%	61.0%	(3.2%)	5,697	5,399	738	12.7x	9.5x	7.4x	NM	NM	NM	33.9%	73.5%	6.9%
RealPage	US	5,700	55.10	52.8%	24.4%	(6.9%)	4,965	5,513	102	8.2x	6.4x	5.7x	34.0x	24.4x	20.3x	28.6%	63.6%	26.1%
Blackbaud	US	3,182	102.45	19.7%	8.4%	4.4%	4,843	5,285	25	6.7x	6.0x	5.5x	27.1x	24.1x	21.6x	11.4%	59.9%	25.0%
Medidata Solutions	US	1,680	80.56	3.0%	27.1%	6.6%	4,769	4,625	523	8.5x	7.2x	6.1x	35.2x	29.9x	23.1x	17.4%	76.6%	24.2%
j2 Global	US	2,487	86.61	0.8%	15.4%	1.8%	4,253	4,927	331	4.4x	4.0x	3.7x	10.5x	9.9x	8.9x	9.7%	83.8%	40.4%
Prosegur	ES	170,350	6.53	1.3%	(17.0%)	(4.4%)	3,907	4,460	1,969	0.9x	0.9x	0.8x	7.1x	7.1x	6.4x	(3.2%)	80.7%	12.6%
Wisefech	AU	900	11.58	114.2%	4.8%	5.4%	3,463	3,421	47	23.9x	18.5x	14.6x	66.7x	51.4x	38.2x	28.9%	NA	36.0%
Appian	US	2,000	36.16	97.1%	14.9%	15.0%	2,215	2,154	61	12.8x	10.6x	9.0x	NM	NM	NM	21.5%	61.9%	(18.0%)
Five9	US	873	34.57	63.5%	38.9%	2.1%	1,994	1,961	81	9.9x	8.3x	7.1x	NM	67.5x	49.4x	20.5%	60.4%	12.2%
Enghouse	CA	1,504	58.37	45.0%	19.0%	16.3%	1,581	1,465	121	5.4x	5.5x	5.0x	19.7x	18.7x	17.0x	(1.0%)	NA	29.4%
Everbridge	US	618	47.42	89.5%	59.6%	4.9%	1,363	1,302	152	12.6x	9.3x	7.4x	NM	NM	NM	34.4%	71.9%	(2.4%)
SPS Commerce	US	1,336	73.48	14.7%	51.2%	(1.2%)	1,276	1,110	166	5.0x	4.6x	4.2x	34.8x	25.1x	21.0x	10.6%	67.6%	18.2%
Workiva	US	1,313	24.40	28.4%	14.0%	(5.2%)	1,043	981	81	4.7x	4.1x	3.7x	NM	NM	NM	14.5%	72.1%	(11.2%)
Technology One	AU	994	3.14	(29.7%)	(18.9%)	(3.4%)	992	949	44	4.4x	4.4x	3.8x	17.5x	17.8x	15.6x	0.1%	NA	24.4%
QAD	US	1,870	50.15	54.8%	29.1%	8.7%	941	811	144	2.7x	2.4x	2.3x	58.4x	44.3x	39.3x	8.9%	51.3%	5.5%
BasWare	FI	1,768	42.00	(3.3%)	(26.4%)	(14.3%)	604	597	67	3.3x	3.6x	3.3x	NM	NM	53.3x	(7.6%)	51.4%	1.2%
Model N	US	864	18.60	40.9%	18.1%	3.9%	568	570	55	4.1x	3.8x	3.6x	NM	65.4x	37.9x	7.8%	NA	5.8%
American Software	US	440	14.57	42.7%	25.3%	7.9%	443	364	79	3.4x	3.0x	2.7x	18.6x	17.3x	13.5x	12.8%	NA	17.5%
ChannelAdvisor	US	737	14.05	22.2%	56.1%	(2.8%)	381	326	55	2.7x	2.5x	2.3x	69.9x	40.6x	30.6x	6.5%	78.8%	6.1%
ServiceSource	US	3,269	3.94	1.0%	27.5%	(7.5%)	358	320	185	1.3x	1.3x	1.2x	20.5x	15.3x	11.3x	4.4%	37.1%	8.4%
Amber Road	US	692	9.41	9.2%	28.2%	3.7%	257	270	9	3.4x	3.2x	2.9x	NM	NM	67.6x	8.3%	55.1%	3.1%
Freelancer	AU	390	0.33	(45.7%)	(14.1%)	1.9%	149	125	25	3.2x	3.2x	2.8x	NM	NM	53.0x	0.2%	88.0%	0.5%
Average										7.7x	6.2x	5.2x	32.6x	30.3x	27.2x	17.0%	66.8%	16.5%
Median										5.4x	5.3x	4.7x	27.1x	25.1x	22.3x	11.9%	69.5%	18.2%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Public Comps – Financial Application

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins		
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA	
Intuit	US	8,200	\$204.31	53.5%	29.5%	3.9%	\$52,422	\$50,936	\$1,936	9.4x	8.3x	7.5x	25.5x	22.7x	20.5x	13.6%	NA	36.3%	
Fidelity National	US	53,000	106.03	25.0%	12.7%	3.6%	35,097	43,564	725	4.8x	5.1x	4.9x	14.2x	13.8x	13.1x	(6.6%)	39.3%	36.8%	
Fiserv	US	24,000	74.09	21.8%	13.0%	3.4%	30,335	34,557	382	6.1x	5.9x	5.6x	17.0x	15.9x	15.3x	3.3%	47.3%	37.1%	
MSCI	US	3,059	165.43	59.0%	30.7%	4.1%	14,727	15,956	850	12.5x	11.1x	10.2x	24.2x	20.3x	18.2x	13.1%	79.7%	54.7%	
SS&C	US	8,287	51.90	36.7%	28.2%	3.7%	12,357	14,269	74	8.5x	4.2x	3.4x	20.6x	13.4x	10.2x	102.9%	51.0%	31.3%	
Temenos	CH	4,980	150.98	72.4%	17.7%	2.8%	10,458	10,703	195	14.7x	12.6x	11.3x	41.7x	33.9x	29.4x	16.2%	82.2%	37.3%	
Jack Henry & Associates	US	5,972	130.36	25.7%	11.5%	6.8%	10,076	10,124	57	6.9x	6.4x	6.1x	19.6x	18.6x	16.3x	7.2%	NA	34.6%	
Black Knight	US	4,430	53.55	NA	21.3%	7.5%	8,001	9,494	10	9.0x	8.5x	7.8x	18.7x	17.5x	15.9x	6.0%	NA	48.4%	
Fair Isaac	US	3,470	193.32	39.9%	26.2%	6.3%	5,769	6,365	108	6.7x	6.1x	5.6x	27.9x	24.1x	20.2x	10.7%	NA	25.2%	
Oracle Financial	IN	9,064	59.33	7.5%	(7.3%)	5.8%	5,070	4,604	489	6.4x	6.6x	6.2x	15.7x	15.8x	14.3x	(3.4%)	NA	42.1%	
Ellie Mae	US	1,500	103.84	(4.3%)	16.2%	(2.9%)	3,567	3,335	231	8.1x	6.7x	5.7x	27.9x	25.5x	20.0x	20.8%	59.5%	26.3%	
SimCorp	DK	1,571	80.95	35.0%	42.1%	(0.3%)	3,189	3,192	34	7.8x	7.1x	6.6x	30.1x	25.2x	23.3x	9.9%	61.4%	28.4%	
Envestnet	US	3,516	54.95	40.5%	10.2%	0.7%	2,485	2,864	44	4.2x	3.5x	3.1x	23.5x	18.7x	15.5x	20.1%	64.3%	18.7%	
Q2 Holdings	US	844	57.05	54.4%	54.8%	(1.0%)	2,423	2,304	294	11.9x	9.7x	7.9x	NM	NM	66.0x	22.7%	53.2%	9.6%	
Ebix	US	4,515	76.25	41.3%	(3.8%)	1.8%	2,399	2,745	130	7.7x	6.0x	5.7x	22.3x	16.3x	14.6x	27.5%	65.1%	37.1%	
Bottomline Technologies	US	1,600	49.83	96.1%	43.7%	3.8%	2,034	2,082	102	5.7x	5.1x	4.7x	25.1x	22.1x	19.1x	11.6%	NA	23.3%	
Fidessa	UK	1,705	51.00	67.0%	49.1%	0.2%	1,966	1,844	125	3.9x	4.0x	3.9x	17.0x	18.3x	16.9x	(3.4%)	NA	21.9%	
Applio	US	811	36.20	104.9%	53.9%	13.2%	1,581	1,442	245	7.8x	6.3x	5.4x	NM	NM	NM	22.8%	71.7%	3.4%	
IRESS	AU	1,881	8.91	(9.8%)	(1.5%)	12.3%	1,524	1,646	22	4.9x	4.8x	4.5x	18.5x	17.5x	15.9x	3.2%	26.7%	27.3%	
MYOB	AU	1,500	2.14	(17.2%)	(24.4%)	(7.4%)	1,261	1,541	43	4.7x	4.6x	4.2x	10.4x	10.9x	10.3x	2.5%	90.8%	42.1%	
Asseco	PL	23,528	10.68	(19.9%)	(15.5%)	(6.6%)	887	2,254	467	1.0x	0.9x	0.9x	8.4x	6.7x	7.3x	6.9%	22.0%	14.1%	
										Average	7.3x	6.4x	5.8x	21.5x	18.8x	19.1x	14.6%	58.1%	30.3%
										Median	6.9x	6.1x	5.6x	20.6x	18.3x	16.1x	10.7%	60.4%	31.3%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Public Comps – Human Capital Management

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins		
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA	
ADP	US	58,000	\$134.14	32.2%	14.5%	3.2%	\$59,092	\$58,800	\$2,294	4.6x	4.3x	4.0x	22.7x	19.3x	17.1x	8.1%	NA	22.1%	
ServiceNow	US	6,675	172.47	63.0%	32.3%	(2.2%)	30,471	29,740	1,886	15.5x	11.4x	8.9x	70.6x	44.4x	32.0x	35.7%	79.6%	25.7%	
Workday	US	8,600	121.12	25.6%	19.0%	(7.1%)	26,162	24,306	3,366	11.4x	9.0x	7.3x	69.9x	48.8x	36.0x	26.5%	74.8%	18.4%	
Ultimate Software	US	4,208	257.31	22.6%	17.9%	(2.0%)	7,877	7,739	148	8.3x	6.9x	5.9x	36.0x	28.0x	23.1x	19.7%	65.2%	24.7%	
Paycom	US	2,548	98.83	46.3%	23.0%	(5.0%)	5,837	5,804	68	13.4x	10.6x	8.6x	43.7x	26.0x	21.2x	26.6%	83.5%	40.8%	
TriNet	US	2,700	55.94	71.0%	26.2%	5.0%	3,932	4,015	330	5.0x	4.7x	4.3x	14.4x	12.8x	11.5x	6.9%	74.0%	36.4%	
Paylocity	US	2,115	58.86	31.7%	24.8%	(1.5%)	3,099	2,970	130	8.9x	7.2x	5.9x	44.9x	33.0x	25.0x	23.5%	NA	21.8%	
Cornerstone OnDemand	US	1,829	47.43	31.9%	34.2%	(2.8%)	2,736	2,656	618	5.5x	5.2x	4.7x	40.7x	29.2x	20.7x	5.6%	75.2%	17.8%	
WageWorks	US	1,958	50.00	(25.8%)	(19.4%)	11.5%	1,982	1,334	892	2.8x	2.6x	2.5x	9.1x	8.2x	7.5x	6.7%	65.1%	31.7%	
Instructure	US	1,177	42.55	44.5%	28.5%	1.4%	1,461	1,324	137	8.5x	6.4x	5.1x	NM	NM	NM	32.9%	71.9%	(10.0%)	
Benefifocus	US	1,450	33.60	(5.9%)	24.4%	(0.6%)	1,067	1,135	55	4.4x	4.4x	4.0x	59.9x	NM	53.7x	(0.4%)	51.0%	3.3%	
Upland Software	US	375	34.37	56.9%	58.7%	(1.7%)	740	867	33	8.9x	6.3x	5.9x	29.0x	17.7x	16.0x	41.4%	68.7%	35.6%	
Solium	CA	713	8.75	14.0%	0.6%	2.6%	489	418	87	4.8x	4.1x	3.4x	38.7x	33.4x	16.5x	17.8%	NA	12.1%	
Freelancer	AU	390	0.33	(45.7%)	(14.1%)	1.9%	149	125	25	3.2x	3.2x	2.8x	NM	NM	53.0x	0.2%	88.0%	0.5%	
										Average	7.5x	6.2x	5.2x	40.0x	27.4x	25.6x	17.9%	72.4%	20.1%
										Median	6.9x	5.8x	4.9x	39.7x	28.0x	21.2x	18.7%	74.0%	22.0%

Public Comps – Infrastructure

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
VMware	US	20,615	\$146.97	68.8%	17.3%	7.7%	\$59,796	\$51,402	\$12,630	6.5x	5.8x	5.4x	17.6x	15.7x	14.8x	11.6%	87.9%	37.1%
ServiceNow	US	6,675	172.47	63.0%	32.3%	(2.2%)	30,471	29,740	1,886	15.5x	11.4x	8.9x	70.6x	44.4x	32.0x	35.7%	79.6%	25.7%
Red Hat	US	11,870	134.37	40.7%	11.9%	(17.5%)	23,833	22,484	2,098	8.1x	6.9x	5.9x	30.0x	25.7x	21.3x	18.5%	NA	26.7%
Atlassian	UK	2,503	62.52	77.7%	37.3%	(0.3%)	14,631	13,867	764	18.9x	14.1x	11.2x	70.8x	52.5x	43.0x	33.9%	NA	26.9%
Splunk	US	3,200	99.11	71.5%	19.6%	(8.6%)	14,371	13,493	950	10.9x	8.2x	6.6x	NM	56.4x	39.7x	32.6%	82.9%	14.5%
Citrix	US	7,500	104.84	31.9%	19.1%	(1.1%)	14,208	14,881	1,465	5.3x	5.1x	5.0x	14.7x	14.6x	15.6x	2.9%	86.4%	35.0%
Symantec	US	13,000	20.65	(26.4%)	(26.4%)	(1.8%)	12,835	15,699	2,162	3.2x	3.3x	3.1x	6.9x	7.5x	6.8x	(3.0%)	NA	43.9%
Akamai Technologies	US	7,454	73.23	45.8%	12.6%	(3.4%)	12,495	12,352	812	5.0x	4.6x	4.2x	13.4x	11.8x	10.6x	8.8%	65.3%	38.5%
F5 Networks	US	4,289	172.45	35.4%	31.4%	(0.2%)	10,539	9,515	1,025	4.5x	4.4x	4.3x	11.6x	11.3x	10.5x	3.9%	NA	38.7%
Juniper Networks	US	9,381	27.42	(1.4%)	(3.8%)	1.1%	9,574	8,779	2,932	1.7x	1.8x	1.8x	6.4x	8.3x	7.8x	(5.1%)	59.4%	22.3%
Nutanix	US	3,709	51.57	158.8%	46.2%	(0.7%)	8,802	8,301	923	8.5x	6.8x	5.5x	NM	NM	57.2x	24.9%	NA	(1.2%)
Trend Micro	JP	5,970	57.02	9.0%	0.5%	1.6%	7,848	6,554	1,351	5.0x	4.5x	4.2x	14.6x	13.8x	12.9x	11.2%	80.7%	32.6%
Micro Focus	UK	16,100	17.46	(45.5%)	(48.8%)	(0.4%)	7,620	11,749	730	4.8x	3.0x	3.1x	NA	8.5x	7.8x	63.1%	NA	34.8%
Proofpoint	US	2,047	115.31	33.7%	29.8%	(3.9%)	5,863	5,947	117	11.7x	8.4x	6.6x	NM	65.1x	43.0x	38.4%	77.0%	12.9%
New Relic	US	1,284	100.59	134.5%	74.1%	1.7%	5,631	5,383	248	16.4x	12.5x	9.9x	NM	NM	NM	32.0%	NA	10.5%
Pure Storage	US	2,300	23.88	83.7%	50.6%	16.7%	5,514	4,846	1,098	4.8x	3.6x	2.8x	NM	40.9x	23.9x	33.7%	66.0%	8.7%
LogMeIn	US	2,676	103.25	(1.9%)	(9.8%)	(4.5%)	5,391	5,026	365	5.0x	4.1x	3.8x	13.6x	11.3x	10.1x	19.9%	83.3%	36.7%
Sophos	UK	3,362	8.43	45.9%	9.4%	10.4%	3,973	4,148	120	7.3x	5.9x	5.2x	NM	50.1x	36.7x	23.7%	NA	11.8%
Software AG	DE	4,610	46.56	NA	(17.2%)	(1.5%)	3,445	3,303	466	3.1x	3.2x	3.1x	9.6x	10.4x	10.0x	(3.3%)	76.4%	30.8%
Qualys	US	934	84.30	107.6%	42.0%	9.9%	3,286	2,957	329	12.9x	10.6x	9.0x	35.0x	29.4x	24.8x	21.0%	78.3%	36.2%
Commvault	US	2,839	65.85	16.2%	25.4%	(3.4%)	2,995	2,533	462	3.7x	3.4x	3.1x	28.9x	25.5x	17.9x	7.8%	NA	13.4%
FireEye	US	2,960	15.39	(0.6%)	8.4%	(6.2%)	2,902	2,805	886	3.8x	3.4x	3.2x	32.1x	26.7x	22.8x	11.2%	74.6%	12.7%
Mimecast	UK	1,192	41.21	54.3%	43.7%	(6.3%)	2,430	2,366	137	9.9x	7.5x	6.2x	NM	56.7x	38.3x	32.5%	NA	13.2%
NetScout Systems	US	3,019	29.70	(15.1%)	(2.5%)	8.8%	2,384	2,536	448	2.3x	2.6x	2.5x	9.6x	13.7x	11.3x	(10.9%)	NA	19.2%
Talend	FR	913	62.28	81.9%	66.2%	7.1%	1,845	1,751	95	11.8x	8.6x	6.7x	NM	NM	NM	37.1%	78.0%	(4.9%)
Progress Software	US	1,470	38.82	26.7%	(8.8%)	3.0%	1,765	1,740	144	4.4x	4.3x	4.3x	9.5x	8.8x	9.2x	1.9%	88.8%	49.0%
Hortonworks	US	1,240	18.22	40.4%	(9.4%)	1.7%	1,440	1,351	89	5.3x	4.1x	3.3x	NM	NM	NM	28.5%	73.9%	(16.6%)
Rapid7	US	1,153	28.22	68.9%	51.2%	(7.3%)	1,305	1,175	129	5.9x	5.0x	4.2x	NM	NM	NM	16.7%	73.1%	(7.8%)
SecureWorks	US	2,555	12.45	34.3%	40.4%	21.6%	1,017	941	77	2.0x	1.8x	1.7x	NM	NM	NM	11.1%	54.9%	(1.0%)
Extreme Networks	US	1,628	7.96	(16.2%)	(36.4%)	(12.0%)	923	996	105	1.3x	0.9x	0.9x	11.3x	6.8x	NA	40.0%	NA	13.5%
A10 Networks	US	837	6.23	(26.4%)	(19.3%)	(0.8%)	441	317	124	1.4x	1.3x	1.2x	28.4x	25.1x	16.0x	3.0%	76.9%	5.2%
Metaps	JP	246	26.75	(4.9%)	0.3%	(13.0%)	360	320	77	2.5x	1.3x	NA	NA	NA	NA	99.5%	NA	0.0%
Brightcove	US	494	9.65	55.6%	35.9%	(5.4%)	341	315	26	2.0x	1.9x	1.7x	NM	NM	36.4x	8.2%	61.9%	2.5%
Average										6.5x	5.3x	4.6x	22.9x	25.6x	22.3x	20.9%	75.3%	18.8%
Median										5.0x	4.4x	4.2x	14.6x	15.7x	16.9x	18.5%	76.9%	14.5%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

Public Comps – IT Security

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Cisco	US	72,900	\$43.03	37.0%	12.3%	0.1%	\$202,365	\$176,072	\$54,431	3.7x	3.5x	3.4x	10.2x	10.0x	10.0x	4.5%	NA	35.0%
Palo Alto Networks	US	5,121	205.47	52.5%	41.8%	(1.1%)	19,084	18,007	1,621	9.1x	7.3x	6.1x	38.2x	28.4x	22.9x	25.7%	NA	25.6%
Verisign	US	952	137.42	47.0%	20.1%	6.6%	16,914	16,972	2,356	14.6x	14.0x	13.4x	21.1x	19.7x	18.8x	4.2%	84.4%	70.8%
Check Point Software	IL	4,576	97.68	(10.9%)	(5.7%)	1.2%	15,535	14,024	1,510	7.6x	7.4x	7.1x	13.5x	13.7x	13.2x	1.9%	89.5%	54.0%
Splunk	US	3,200	99.11	71.5%	19.6%	(8.6%)	14,371	13,493	950	10.9x	8.2x	6.6x	NM	56.4x	39.7x	32.6%	82.9%	14.5%
Symantec	US	13,000	20.65	(26.4%)	(26.4%)	(1.8%)	12,835	15,699	2,162	3.2x	3.3x	3.1x	6.9x	7.5x	6.8x	(3.0%)	NA	43.9%
Fortinet	US	5,275	62.43	65.4%	42.9%	4.2%	10,494	9,190	1,304	6.2x	5.3x	4.7x	29.9x	22.5x	18.7x	16.3%	75.9%	23.6%
Trend Micro	JP	5,970	57.02	9.0%	0.5%	1.6%	7,848	6,554	1,351	5.0x	4.5x	4.2x	14.6x	13.8x	12.9x	11.2%	80.7%	32.6%
Proofpoint	US	2,047	115.31	33.7%	29.8%	(3.9%)	5,863	5,947	117	11.7x	8.4x	6.6x	NM	65.1x	43.0x	38.4%	77.0%	12.9%
Okta	US	1,176	50.37	116.3%	96.7%	(6.1%)	5,370	5,083	547	19.6x	14.3x	10.8x	NM	NM	NM	37.3%	73.3%	(15.1%)
Gemalto	NL	15,000	58.13	(3.2%)	(2.2%)	0.3%	5,257	6,059	385	1.7x	1.7x	1.7x	11.2x	10.8x	9.5x	(3.1%)	38.5%	16.0%
Qualys	US	934	84.30	107.6%	42.0%	9.9%	3,286	2,957	329	12.9x	10.6x	9.0x	35.0x	29.4x	24.8x	21.0%	78.3%	36.2%
FireEye	US	2,960	15.39	(0.6%)	8.4%	(6.2%)	2,902	2,805	886	3.8x	3.4x	3.2x	32.1x	26.7x	22.8x	11.2%	74.6%	12.7%
Verint	US	5,500	44.35	10.6%	6.0%	5.6%	2,839	3,233	393	2.8x	2.6x	2.5x	12.5x	11.0x	9.8x	7.8%	65.8%	23.8%
Mimecast	UK	1,192	41.21	54.3%	43.7%	(6.3%)	2,430	2,366	137	9.9x	7.5x	6.2x	NM	56.7x	38.3x	32.5%	NA	13.2%
CyberArk	IL	1,015	62.96	26.4%	52.1%	5.0%	2,270	1,945	325	7.6x	6.1x	5.2x	34.7x	28.8x	23.4x	23.8%	87.0%	21.3%
Varonis Systems	US	1,318	74.50	103.6%	53.5%	(3.4%)	2,142	1,988	154	9.4x	7.4x	6.3x	NM	NM	NM	26.9%	90.5%	2.6%
Imperva	US	1,020	48.25	0.3%	21.5%	(0.8%)	1,674	1,295	379	4.0x	3.5x	3.0x	29.9x	18.8x	15.1x	15.5%	80.5%	18.6%
Cheetah Mobile	CN	2,465	9.56	(12.4%)	(20.9%)	(29.7%)	1,340	946	533	1.3x	1.3x	1.1x	10.6x	9.3x	10.3x	0.2%	65.0%	13.6%
Rapid7	US	1,153	28.22	68.9%	51.2%	(7.3%)	1,305	1,175	129	5.9x	5.0x	4.2x	NM	NM	NM	16.7%	73.1%	(7.8%)
Secureworks	US	2,555	12.45	34.3%	40.4%	21.6%	1,017	941	77	2.0x	1.8x	1.7x	NM	NM	NM	11.1%	54.9%	(1.0%)
F-Secure	FI	1,145	4.39	(5.8%)	(6.0%)	0.8%	692	589	109	2.9x	2.8x	2.5x	27.1x	26.7x	18.5x	3.5%	83.0%	10.4%
MobileIron	US	884	4.45	(25.8%)	14.1%	4.7%	448	349	99	2.0x	1.8x	1.7x	NM	NM	68.2x	10.1%	85.5%	(2.8%)
Zix	US	233	5.39	(5.9%)	23.1%	(1.6%)	292	263	29	4.0x	3.8x	3.6x	14.4x	12.7x	11.6x	6.1%	80.3%	29.9%
Absolute Software	CA	501	5.27	(13.1%)	(4.0%)	(0.7%)	212	181	32	2.0x	1.9x	1.7x	23.6x	17.6x	13.3x	4.5%	NA	10.6%
Average										6.5x	5.5x	4.8x	21.5x	24.3x	21.5x	14.3%	76.0%	19.8%
Median										5.0x	4.5x	4.2x	21.1x	19.3x	18.5x	11.2%	79.3%	16.0%

Source(s): Capital IQ as of 6/29/2018

Note: Multiples in excess of 75.0x or less than 0.0x are considered not-material ("NM") and not taken into average calculation consideration

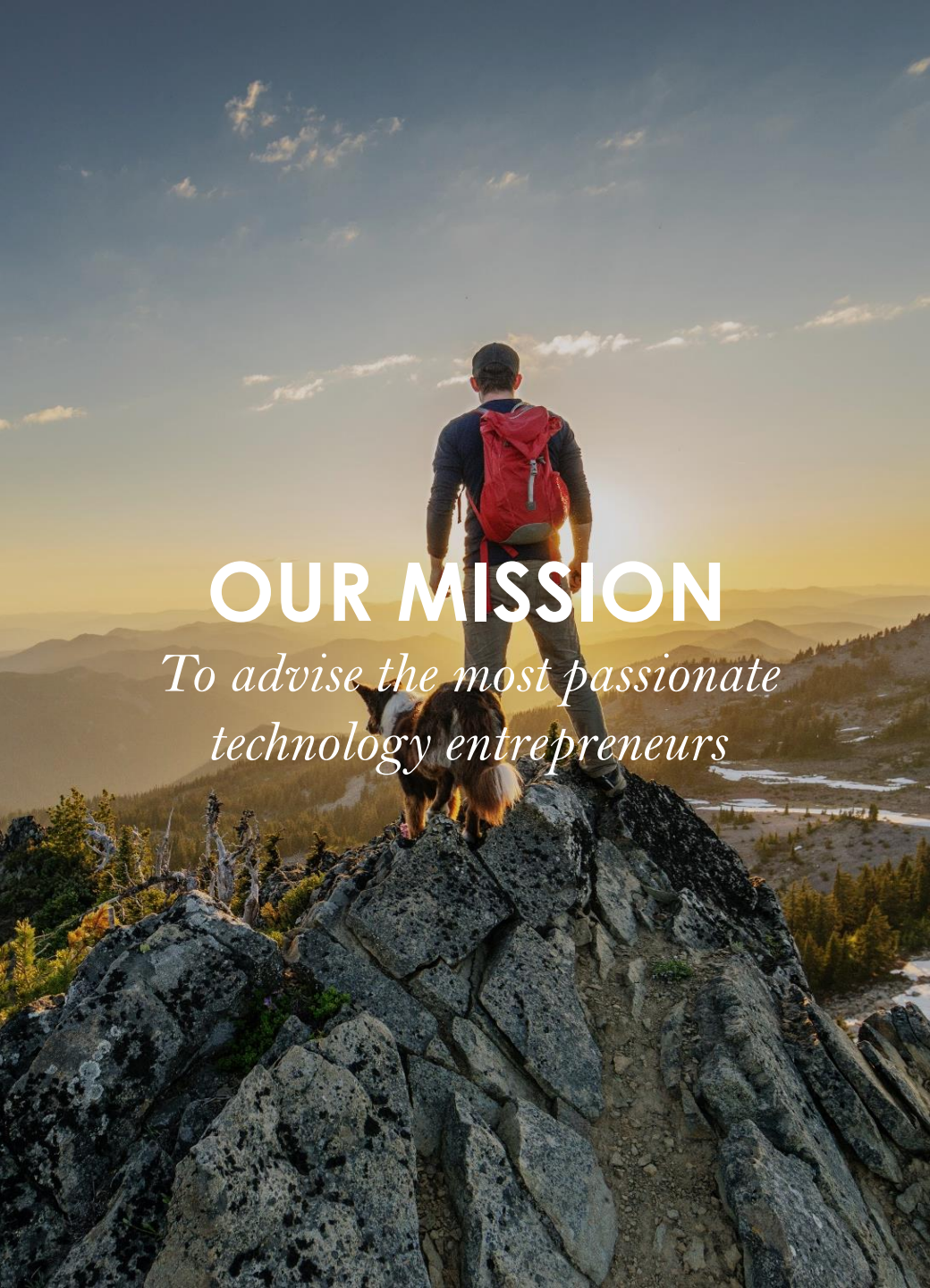
Public Comps – Marketing Application

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
SAP	DE	91,120	\$115.48	11.9%	2.8%	4.8%	\$137,817	\$137,405	\$10,418	4.9x	4.8x	4.5x	14.0x	14.7x	13.4x	0.5%	72.3%	33.0%
Acxiom	US	3,380	29.95	15.1%	8.7%	4.1%	2,309	2,396	142	2.7x	2.5x	2.4x	13.9x	12.9x	12.3x	4.7%	NA	19.7%
Five9	US	873	34.57	63.5%	38.9%	2.1%	1,994	1,961	81	9.9x	8.3x	7.1x	NM	67.5x	49.4x	20.5%	60.4%	12.2%
LivePerson	US	1,045	21.10	91.0%	83.5%	9.0%	1,281	1,224	57	5.6x	5.1x	4.5x	67.2x	54.1x	41.6x	10.8%	76.1%	9.4%
SDL	UK	3,700	5.70	(28.7%)	(3.9%)	(4.5%)	470	440	31	1.1x	1.1x	1.1x	13.1x	10.9x	9.4x	1.1%	53.6%	10.3%
ChannelAdvisor	US	737	14.05	22.2%	56.1%	(2.8%)	381	326	55	2.7x	2.5x	2.3x	69.9x	40.6x	30.6x	6.5%	78.8%	6.1%
Average										4.5x	4.1x	3.6x	35.6x	33.5x	26.1x	7.3%	68.3%	15.1%
Median										3.8x	3.7x	3.4x	14.0x	27.7x	22.0x	5.6%	72.3%	11.3%

Public Comps – Storage

Company Name	HQ	Employee	Share Price 06-29-18	Share Price Performance			Market Cap (m)	EV (m)	Cash (m)	EV/Revenue			EV/EBITDA			CY Revenue Growth 18/17	CY18E Margins	
				LTM	L6M	L1M				CY17A	CY18E	CY19E	CY17A	CY18E	CY19E		Gross	EBITDA
Amazon	US	566,000	\$1,699.80	74.2%	45.3%	5.4%	\$824,789	\$844,313	\$24,963	4.8x	3.6x	2.9x	44.1x	28.3x	21.5x	33.9%	39.2%	12.6%
Alphabet	US	85,050	1,129.19	20.4%	7.2%	5.7%	779,553	681,970	102,885	6.2x	5.1x	4.3x	15.5x	13.7x	11.6x	22.4%	58.1%	36.9%
Microsoft	US	124,000	98.61	44.0%	15.3%	0.6%	757,640	713,988	132,273	7.1x	6.2x	5.7x	17.9x	14.9x	13.3x	13.9%	NA	41.6%
Verizon	US	154,700	50.31	13.3%	(4.9%)	4.4%	207,876	327,443	1,923	2.6x	2.5x	2.5x	7.2x	6.9x	6.8x	3.3%	58.1%	36.7%
Oracle	US	137,000	44.06	(12.2%)	(6.8%)	(4.8%)	175,410	169,424	67,261	4.3x	4.2x	4.1x	9.5x	9.0x	8.6x	3.2%	NA	46.8%
IBM	US	366,600	139.70	(9.4%)	(8.9%)	(1.1%)	128,240	161,987	12,842	2.1x	2.0x	2.0x	8.5x	8.6x	8.2x	2.8%	47.0%	23.3%
Salesforce	US	29,000	136.40	57.1%	33.4%	7.5%	101,333	98,162	7,159	9.4x	7.5x	6.2x	43.7x	32.9x	26.4x	25.7%	76.6%	22.7%
NetApp	US	10,300	78.53	95.8%	42.0%	17.3%	20,691	17,220	5,397	3.0x	2.8x	2.7x	13.2x	12.0x	10.5x	7.6%	NA	23.2%
CenturyLink	US	50,000	18.64	(22.9%)	11.8%	2.3%	20,110	56,986	501	3.2x	2.4x	2.4x	9.2x	6.4x	6.3x	33.7%	56.2%	37.3%
Dropbox	US	1,858	32.42	NA	NA	8.9%	12,981	12,305	846	NA	9.1x	7.8x	NA	42.6x	36.1x	NA	73.8%	21.3%
Iron Mountain	US	24,000	35.01	2.4%	(7.2%)	5.3%	10,010	17,820	442	4.7x	4.2x	4.1x	14.1x	12.3x	11.4x	11.0%	56.5%	34.5%
Nutanix	US	3,709	51.57	158.8%	46.2%	(0.7%)	8,802	8,301	923	8.5x	6.8x	5.5x	NM	NM	57.2x	24.9%	NA	(1.2%)
Box	US	1,824	24.99	38.4%	18.3%	(8.3%)	3,509	3,382	217	6.7x	5.6x	4.6x	NM	NM	73.0x	19.8%	74.1%	3.1%
CommVault	US	2,839	65.85	16.2%	25.4%	(3.4%)	2,995	2,533	462	3.7x	3.4x	3.1x	28.9x	25.5x	17.9x	7.8%	NA	13.4%
Carbonite	US	954	34.90	59.0%	39.0%	(7.9%)	998	1,130	71	4.6x	3.7x	3.3x	23.9x	13.9x	12.1x	25.0%	76.6%	26.4%
Brightcove	US	494	9.65	55.6%	35.9%	(5.4%)	341	315	26	2.0x	1.9x	1.7x	NM	NM	36.4x	8.2%	61.9%	2.5%
Average										4.9x	4.4x	3.9x	19.6x	17.5x	22.3x	16.2%	61.6%	23.8%
Median										4.6x	3.9x	3.7x	14.8x	13.7x	12.7x	13.9%	58.1%	23.3%

- 1 Key Sector Takeaways
- 2 Recent Software Transaction Trends
- 3 Public Market SaaS Analyses
- 4 SaaS CEO Commentary
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- 6 Appendix A: GP Bullhound SaaS Index
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OUR MISSION

*To advise the most passionate
technology entrepreneurs*

Software Market Report Overview

- GP Bullhound is a leading technology advisory and investment firm, providing transaction advice and capital to the best entrepreneurs and founders
- With offices in London, San Francisco, Stockholm, Berlin, Manchester, Paris, Hong Kong, Madrid and New York, GP Bullhound provides advice and deep sector knowledge to the most disruptive and market-changing software companies
- GP Bullhound has established a quarterly market report on the **Software as a Service (“SaaS”)** space to provide **quantitative** insights into public and private market valuations across the transaction spectrum and **qualitative** insights into company business models, technology and customer trends
- The report examines the SaaS public company landscape, M&A, private placement and IPO trends

GP Bullhound Track Record in the Software Space

Strategic Transactions



Financial Sponsor Transactions



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