



Cassel Salpeter & Co.  
INVESTMENT BANKING

Technology Investment Banking  
Q3 2018 Update

Cassel Salpeter & Co. is a boutique investment banking firm focused on providing independent and objective advice to middle market and emerging growth companies. Finding the right financial partner in the fragmented technology market requires solid industry positioning and broad industry relationships. We can help.

Our experience and services include:

### Mergers & Acquisitions

- Financial advisory
- Sales to strategic and private equity buyers
- Divestitures to strategic and private equity buyers
- Buy-side acquisition programs
- Leveraged & management buyouts
- Going private transactions

### Capital Raising

- Financial advisory
- Equity and debt private placements
- Growth capital
- PIPEs
- Recapitalizations

### Other Services

- Fairness opinions
- Solvency opinions
- Valuations
- Restructuring, refinancing, and distressed M&A transactions
  - Debtor and creditor representations
  - 363 sales & plans of reorganization



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**Q3 YTD NOTABLE TECHNOLOGY DEALS**

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PUBLIC MARKETS REVIEW

# Q3-2018 YTD INITIAL PUBLIC OFFERINGS

Technology Investment Banking

## Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks				
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA		
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E	
<b>2018 IPOs</b>												
Arlo Technologies, Inc.	ARLO	\$ 14.51	61.0% - 108.9%	\$ 1,077.2	\$ 441.2	25.1%	2.2%	2.44x	1.73x	nm	nm	
Avalara, Inc.	AVLR	\$ 34.93	58.8% - 108.8%	2,344.2	238.4	19.8%	-19.1%	9.83x	7.60x	na	na	
Carbon Black, Inc.	CBLK	\$ 21.18	60.5% - 107.2%	1,442.6	186.8	24.2%	-30.2%	7.72x	5.68x	na	na	
Cardlytics, Inc.	CDLX	\$ 25.04	88.5% - 225.6%	545.6	139.0	38.7%	-16.5%	3.93x	2.52x	na	nm	
Ceridian HCM Holding Inc.	CDAY	\$ 42.03	93.4% - 146.7%	6,471.4	792.3	13.8%	13.1%	8.17x	8.07x	nm	36.5x	
DocuSign, Inc.	DOCU	\$ 52.57	76.9% - 142.1%	7,424.6	602.3	19.6%	-48.5%	12.33x	8.83x	na	nm	
Domo, Inc.	DOMO	\$ 21.45	74.3% - 135.8%	425.6	124.6	24.8%	-132.8%	3.42x	2.57x	na	na	
Dropbox, Inc.	DBX	\$ 26.83	61.7% - 108.3%	10,057.1	1,247.7	14.4%	-29.1%	8.06x	6.32x	na	28.7x	
Eventbrite, Inc.	EB	\$ 37.97	94.3% - 117.2%	3,432.4	255.5	na	-4.5%	13.43x	na	na	na	
EverQuote, Inc.	EVER	\$ 14.86	67.3% - 123.7%	463.5	146.3	18.7%	-2.5%	3.17x	2.41x	na	na	
EVO Payments, Inc.	EVOP	\$ 23.90	85.8% - 125.8%	916.1	540.4	9.9%	21.7%	1.70x	1.50x	7.8x	5.6x	
GreenSky, Inc.	GSKY	\$ 18.00	66.6% - 124.2%	1,239.5	369.2	25.9%	43.7%	3.36x	2.10x	7.7x	4.7x	
i3 Verticals, Inc.	IIIV	\$ 22.98	95.8% - 166.7%	344.6	311.2	na	7.7%	1.11x	2.73x	14.3x	9.9x	
Inspire Medical Systems, Inc.	INSP	\$ 42.08	72.7% - 187.0%	850.8	38.2	35.2%	-47.0%	22.27x	14.36x	na	na	
nLIGHT, Inc.	LASR	\$ 22.21	50.9% - 101.8%	752.2	168.2	22.3%	15.0%	4.47x	3.24x	29.9x	18.2x	
Pivotal Software, Inc.	PVTL	\$ 19.58	62.7% - 129.6%	4,686.7	582.4	24.6%	-22.1%	8.05x	5.83x	na	na	
Pluralsight, Inc.	PS	\$ 32.00	83.4% - 166.2%	1,932.6	193.9	30.8%	-43.7%	9.97x	6.45x	na	na	
Smartsheet Inc.	SMAR	\$ 31.26	92.0% - 173.1%	3,163.7	141.1	34.6%	-27.8%	22.43x	13.47x	na	na	
SVMK Inc.	SVMK	\$ 16.03	80.2% - 133.6%	2,379.0	233.5	na	0.6%	10.19x	na	nm	na	
Tenable Holdings, Inc.	TENB	\$ 38.88	99.2% - 133.6%	4,077.3	225.8	24.3%	-22.0%	18.06x	12.33x	na	na	
Zscaler, Inc.	ZS	\$ 40.78	84.5% - 164.7%	4,788.2	190.2	36.4%	-10.3%	25.18x	16.29x	na	nm	
Zuora, Inc.	ZUO	\$ 23.11	61.2% - 123.3%	2,620.2	205.7	23.9%	-26.3%	12.74x	9.05x	na	na	
		<i>Mean</i>	76.0% - 138.8%	\$ 2,792.5	\$ 335.2	24.6%	-17.2%	9.64x	6.65x	14.9x	17.3x	
		<i>Median</i>	75.6% - 131.6%	\$ 2,138.4	\$ 229.7	24.3%	-17.8%	8.11x	6.08x	11.1x	14.0x	

Market value equals price per share times number of diluted shares outstanding. Enterprise value equals market value plus debt, preferred stock, and non controlling interests, less cash.

Sources of information: S&P Capital IQ.

# Q3-2018 YTD MERGERS AND ACQUISITIONS

Technology Investment Banking

## Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise	Metrics		Valuation Benchmarks				
Annnc.	Closed	Target	Acquirer	Value	Target TTM		Implied EV /		Stock Price Premiums		
					Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>2018 Announced M&amp;A Transactions</b>											
25-Sep-18	na	XO Group Inc.	WeddingWire, Inc.	\$ 810.7	\$ 162.3	13.9%	5.00x	35.88x	26.6%	13.8%	
25-Sep-18	na	Tapingo, Inc.	GrubHub Inc.	150.0	na	na	na	na	na	na	
24-Sep-18	na	Pandora Media, Inc.	Sirius XM Holdings Inc.	3,318.0	1,478.0	-18.4%	2.24x	na	10.6%	24.6%	
20-Sep-18	na	Marketo, Inc.	Adobe Systems Incorporated	4,750.0	380.0	na	12.50x	na	na	na	
6-Sep-18	na	IntraLinks Holdings, Inc.	SS&C Technologies Holdings, Inc.	1,499.0	325.0	40.6%	4.61x	11.36x	na	na	
4-Sep-18	1-Oct-18	OpsGenie	Atlassian Corporation Plc	297.5	na	na	na	na	na	na	
29-Aug-18	na	Opcity Inc.	Move, Inc.	210.0	na	na	na	na	na	na	
27-Aug-18	na	CloudHealth Technologies, Inc.	VMware, Inc.	500.0	na	na	na	na	na	na	
23-Aug-18	na	DHI Group, Inc.	TCS Capital Management, LLC	156.8	188.0	14.3%	0.83x	5.83x	25.0%	19.0%	
10-Aug-18	4-Oct-18	TravelClick, Inc.	Amadeus Americas, Inc.	1,520.0	373.0	23.1%	4.08x	17.67x	na	na	
2-Aug-18	24-Aug-18	FRAME, Inc.	Nutanix, Inc.	115.9	na	na	na	na	na	na	
2-Aug-18	1-Oct-18	Duo Security, Inc.	Cisco Systems, Inc.	2,350.0	na	na	na	na	na	na	
1-Aug-18	1-Oct-18	Mendix Inc.	Siemens Aktiengesellschaft	694.4	na	na	na	na	na	na	
1-Aug-18	1-Aug-18	Cardinal Solution Group. Inc.	Insight Enterprises, Inc.	79.0	na	na	na	na	na	na	
31-Jul-18	1-Oct-18	Eze Software Group LLC	SS&C Technologies Holdings, Inc.	1,450.0	280.0	37.5%	5.18x	13.81x	na	na	
31-Jul-18	4-Sep-18	SpringCM Inc.	DocuSign, Inc.	220.0	na	na	na	na	na	na	
31-Jul-18	6-Sep-18	Accruent	Fortive Corporation	2,000.0	na	na	na	na	na	na	
26-Jul-18	9-Aug-18	Prevoty, Inc.	Imperva, Inc.	140.6	na	na	na	na	na	na	
25-Jul-18	13-Sep-18	LevelUp (SCVNGR, Inc.)	GrubHub Holdings Inc.	390.0	na	na	na	na	na	na	
22-Jul-18	na	Syntel, Inc.	Atos SE	3,541.6	966.2	27.4%	3.67x	13.40x	4.8%	28.1%	
20-Jul-18	1-Oct-18	Charles River Systems, Inc.	State Street Bank and Trust Co.	2,600.0	311.2	na	8.35x	na	na	na	
16-Jul-18	20-Aug-18	Datorama Inc.	salesforce.com, inc.	757.9	na	na	na	na	na	na	
11-Jul-18	na	CA, Inc.	Broadcom Inc.	18,448.0	4,148.0	30.2%	4.45x	14.71x	19.8%	22.3%	
2-Jul-18	na	The Gordian Group, Inc.	Fortive Corporation	775.0	na	na	na	na	na	na	
				Mean	\$ 1,948.9	\$ 861.2	21.1%	5.09x	16.09x	17.4%	21.6%
				Median	\$ 766.4	\$ 349.0	25.2%	4.53x	13.81x	19.8%	22.3%

Sources of information: S&P Capital IQ.

# Q3-2018 YTD MERGERS AND ACQUISITIONS (CONTINUED)

Technology Investment Banking

## Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks				
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums		
Annc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>2018 Announced M&amp;A Transactions</b>											
21-Jun-18	na	Web.com Group, Inc.	Siris Capital Group, LLC	\$ 2,034.7	\$ 750.8	18.9%	2.71x	14.33x	20.7%	51.8%	
7-May-18	na	athenahealth, Inc.	Elliott Management Corporation	6,747.5	1,286.5	18.8%	5.24x	27.82x	26.9%	15.3%	
11-Jun-18	1-Aug-18	Adaptive Insights, Inc.	Workday, Inc.	1,500.0	114.3	-32.6%	13.12x	na	na	na	
4-Jun-18	na	GitHub, Inc.	Microsoft Corporation	8,392.9	300.0	na	27.98x	na	na	na	
21-May-18	19-Jun-18	Magento, Inc.	Adobe Systems Incorporated	1,680.0	150.0	na	11.20x	na	na	na	
7-May-18	na	athenahealth, Inc.	Elliott Management Corporation	6,747.5	1,286.5	18.8%	5.24x	27.82x	26.9%	15.3%	
26-Apr-18	20-Aug-18	Mattersight Corporation	NICE Systems Inc.	111.2	50.4	-8.2%	2.21x	na	25.6%	28.6%	
24-Apr-18	31-May-18	PeopleFluent, Inc.	Learning Technologies Group plc	150.0	106.6	12.6%	1.41x	11.19x	na	na	
23-Apr-18	2-Jul-18	Viewpoint, Inc.	Trimble Inc.	1,200.0	155.2	1.1%	7.73x	na	na	na	
12-Apr-18	17-Jul-18	Actian Corporation	HCL Tech; Sumeru	330.0	107.1	35.9%	3.08x	8.57x	na	na	
9-Apr-18	20-Aug-18	VeriFone Systems, Inc.	Francisco Partners and other	3,423.9	1,818.6	12.1%	1.88x	15.57x	51.9%	24.7%	
28-Mar-18	2-Jul-18	Polycom, Inc.	Plantronics, Inc.	2,122.4	1,197.8	11.2%	1.86x	na	na	na	
20-Mar-18	1-May-18	MuleSoft, Inc.	salesforce.com, inc.	6,569.5	296.5	-25.6%	22.16x	na	35.9%	45.7%	
7-Mar-18	2-Apr-18	ABILITY Network Inc.	Inovalon Holdings, Inc.	1,200.0	140.0	51.5%	8.57x	16.64x	na	na	
6-Mar-18	21-May-18	CommerceHub, Inc.	GTCR and Sycamore Partners	1,044.7	112.8	30.5%	9.26x	30.35x	30.2%	21.8%	
26-Feb-18	8-May-18	Intermedix Corporation	R1 RCM Inc.	460.0	193.0	24.9%	2.38x	9.58x	na	na	
14-Feb-18	21-Feb-18	Dealer Inspire & Launch Digital Mktg	Cars.com Inc.	205.0	41.0	9.8%	5.00x	51.25x	na	na	
12-Feb-18	2-Apr-18	CSRA Inc.	General Dynamics Corporation	9,871.1	5,064.0	16.6%	1.95x	11.73x	33.8%	28.6%	
5-Feb-18	7-Mar-18	LiquidHub, Inc.	Capgemini SE	500.0	247.7	na	2.02x	na	na	na	
2-Feb-18	2-Feb-18	e-Builder, Inc.	Trimble Inc.	500.0	53.0	na	9.43x	na	na	na	
30-Jan-18	5-Apr-18	Callidus Software Inc.	SAP America, Inc.	2,425.9	253.1	-2.2%	9.59x	na	10.1%	25.7%	
3-Jan-18	31-Jan-18	Cyberinc	KPMG LLP	34.2	27.1	na	1.27x	na	na	na	
				<i>Mean</i>	\$ 2,602.3	\$ 625.1	11.4%	7.06x	20.44x	29.1%	28.6%
				<i>Median</i>	\$ 1,350.0	\$ 174.1	12.6%	5.12x	15.57x	26.9%	25.7%

Sources of information: S&P Capital IQ.

I Q3 YTD NOTABLE TECHNOLOGY DEALS

**II M&A TRANSACTIONS**

III PUBLIC MARKETS REVIEW

### Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise	Metrics		Valuation Benchmarks				
Ann.	Closed	Target	Acquirer	Value	Target TTM		Implied EV /		Stock Price Premiums		
					Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>Application Software</b>											
11-Jun-18	1-Aug-18	Adaptive Insights, Inc.	Workday, Inc.	\$ 1,500.0	\$ 114.3	-32.6%	13.12x	na	na	na	
26-Apr-18	20-Aug-18	Mattersight Corporation	NICE Systems Inc.	111.2	50.4	-8.2%	2.21x	na	25.6%	28.6%	
24-Apr-18	31-May-18	PeopleFluent, Inc.	Learning Technologies Group plc	150.0	106.6	12.6%	1.41x	11.19x	na	na	
30-Jan-18	5-Apr-18	Callidus Software Inc.	SAP America, Inc.	2,425.9	253.1	-2.2%	9.59x	na	10.1%	25.7%	
25-Jul-17	3-Aug-17	Intacct Corporation	The Sage Group plc	850.0	88.0	na	9.66x	na	na	na	
30-May-17	31-Jul-17	Xactly Corporation	Vista Equity Partners	530.6	96.8	-12.6%	5.48x	na	16.8%	34.9%	
26-May-17	25-May-17	iSystems, LLC	Asure Software, Inc.	76.7	12.9	6.2%	5.96x	96.61x	na	na	
1-May-17	9-Jun-17	Jive Software, Inc.	Wave Systems Corp.	343.5	203.5	2.4%	1.69x	69.06x	4.0%	22.1%	
28-Apr-17	12-Sep-17	Guavus, Inc.	Thales S.A.	215.0	30.0	na	7.17x	na	na	na	
31-Jan-17	27-Jan-17	IDV Solutions, LLC	Everbridge, Inc.	27.3	10.2	7.4%	2.67x	36.11x	na	na	
14-Nov-16	30-Mar-17	Mentor Graphics Corporation	Siemens Industry, Inc.	4,389.9	1,282.5	20.7%	3.42x	16.54x	21.4%	35.4%	
9-Nov-16	19-Dec-16	TubeMogul, Inc.	Adobe Systems Incorporated (nka:Adobe Inc.)	544.6	212.0	-9.8%	2.57x	na	82.1%	56.3%	
31-Aug-16	1-Dec-16	Interactive Intelligence Group, Inc.	Genesys Telecommunications	1,399.0	426.2	-0.3%	3.28x	na	6.8%	17.1%	
28-Jul-16	4-Nov-16	NetSuite Inc.	Oracle Corporation	8,708.6	897.5	-5.4%	9.70x	na	19.0%	57.9%	
2-Jun-16	22-Aug-16	Qlik Technologies, Inc.	Thoma Bravo, LLC	2,616.8	665.3	2.0%	3.93x	196.32x	5.3%	-1.6%	
1-Jun-16	8-Jul-16	Demandware, Inc.	salesforce.com, inc.	2,837.6	254.1	-13.3%	10.38x	na	56.3%	61.6%	
31-May-16	16-Aug-16	Marketo, Inc.	Vista Equity Partners	1,706.5	241.4	-21.0%	7.07x	na	9.5%	60.3%	
31-May-16	28-Jul-16	JAGGAER, Inc.	Accel-KKR LLC	375.6	106.3	8.9%	3.53x	39.89x	33.8%	28.4%	
23-May-16	19-Aug-16	Xura, Inc. (nka:Mavenir Systems)	Siris Capital; Cohesive Capital	671.9	292.7	0.1%	2.30x	na	19.2%	14.3%	
18-May-16	14-Nov-16	inContact, Inc.	NICE Systems Ltd. (nka:NICE Ltd.)	918.0	254.7	3.1%	3.60x	117.77x	60.3%	55.5%	
18-Apr-16	29-Nov-16	Cvent, Inc.	Vista Equity Partners	1,468.3	219.5	3.5%	6.69x	190.76x	69.0%	66.1%	
22-Mar-16	2-May-16	Serena Software, Inc.	Micro Focus International plc	540.0	162.0	49.4%	3.33x	6.75x	na	na	
15-Feb-16	14-Apr-16	Diligent Corporation	Insight Venture Partners LLC	581.9	99.3	16.7%	5.86x	35.16x	30.7%	20.4%	
11-Feb-16	9-Mar-16	Yodle, Inc.	Web.com Group, Inc.	417.6	172.4	-1.6%	2.01x	na	na	na	
25-Jan-16	30-Apr-16	CD-adapco Group, Inc.	Siemens	970.0	200.0	na	4.85x	na	na	na	
5-Nov-15	9-Dec-15	MarketShare Partners LLC	Neustar, Inc.	450.0	51.2	na	8.79x	na	na	na	
2-Nov-15	9-Feb-16	Constant Contact, Inc.	Endurance International	910.4	361.9	12.6%	2.48x	19.63x	27.6%	33.5%	
				Mean	\$ 1,323.6	\$ 254.3	1.7%	5.29x	69.65x	29.2%	36.3%
				Median	\$ 671.9	\$ 200.0	2.0%	3.93x	38.00x	21.4%	33.5%

Sources of information: S&P Capital IQ.



# SOFTWARE (CONTINUED)

## Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks				
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums		
Ann.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>Vertical Software</b>											
21-May-18	19-Jun-18	Magento, Inc.	Adobe Systems Incorporated (nka:Adobe Inc.)	\$ 1,680.0	\$ 150.0	na	11.20x	na	na	na	
23-Apr-18	2-Jul-18	Viewpoint, Inc.	Trimble Inc.	1,200.0	155.2	1.1%	7.73x	na	na	na	
6-Mar-18	21-May-18	CommerceHub, Inc.	GTCR, Sycamore Partners	1,044.7	112.8	30.5%	9.26x	30.35x	30.2%	21.8%	
14-Feb-18	21-Feb-18	Dealer Inspire & Launch Digital Mktg	Cars.com Inc.	205.0	41.0	9.8%	5.00x	51.25x	na	na	
2-Feb-18	2-Feb-18	e-Builder, Inc.	Trimble Inc.	500.0	53.0	na	9.43x	na	na	na	
27-Nov-17	1-Feb-18	Bazaarvoice, Inc.	Marlin Equity Partners	456.0	206.3	0.4%	2.21x	na	14.6%	13.4%	
28-Sep-17	17-Nov-17	Exa Corporation	Dassault Systèmes Simulia Corp.	385.9	72.7	2.0%	5.31x	260.93x	43.0%	73.0%	
27-Jul-16	30-Sep-16	Epiq Systems, Inc.	DTI	1,023.2	529.8	16.5%	1.93x	11.74x	14.4%	17.3%	
2-May-16	14-Jun-16	OPOWER, Inc.	Oracle Corporation	563.4	152.0	-27.6%	3.71x	na	30.4%	53.3%	
28-Apr-16	9-Jun-16	Textura Corporation	Oracle Corporation	616.0	92.2	-6.9%	6.68x	na	30.7%	37.8%	
1-Oct-15	16-Nov-15	New World Systems Corporation	Tyler Technologies, Inc.	651.0	121.8	24.4%	5.34x	21.88x	na	na	
				Mean	\$ 756.8	\$ 153.3	5.6%	6.16x	75.23x	27.2%	36.1%
				Median	\$ 616.0	\$ 121.8	2.0%	5.34x	30.35x	30.3%	29.8%
<b>Healthcare Software</b>											
7-Mar-18	2-Apr-18	ABILITY Network Inc.	Inovalon Holdings, Inc.	\$ 1,200.0	\$ 140.0	51.5%	8.57x	16.64x	na	na	
26-Feb-18	8-May-18	Intermedix Corporation	R1 RCM Inc.	460.0	193.0	24.9%	2.38x	9.58x	na	na	
9-Aug-16	21-Oct-16	Press Ganey Holdings, Inc.	EQT Partners AB	2,392.6	344.3	30.5%	6.95x	22.80x	0.4%	1.1%	
13-Jul-16	16-Sep-16	Imprivata, Inc.	Thoma Bravo	496.9	131.1	-14.1%	3.79x	na	32.8%	37.5%	
30-Jun-16	1-Jul-16	HY Holdings, Inc.	Teladoc, Inc. (nka:Teladoc Health, Inc.)	155.8	10.0	na	15.58x	na	na	na	
22-Feb-16	4-Apr-16	Brightree LLC	ResMed Corp.	800.0	113.2	37.3%	7.07x	18.93x	na	na	
18-Feb-16	7-Apr-16	Truven Holding Corp.	IBM Watson Health	3,578.6	610.7	16.7%	5.86x	34.99x	na	na	
25-Nov-15	8-Jan-16	Healthland, Inc.	Computer Programs and System	260.6	113.7	na	2.29x	na	na	na	
30-Oct-15	4-Jan-16	HealthFusion Holdings, Inc.	Quality Systems, Inc.	196.9	25.0	17.7%	6.02x	77.22x	na	na	
1-Oct-15	1-Oct-15	20/20 Healthcare LLC	Konica Minolta Medical Imaging	75.0	61.3	na	1.22x	na	na	na	
11-Aug-15	6-Aug-15	Tea Leaves Health, LLC	Everyday Health, Inc.	50.1	4.9	na	10.18x	na	na	na	
				Mean	\$ 878.8	\$ 158.8	23.5%	6.36x	30.03x	16.6%	19.3%
				Median	\$ 460.0	\$ 113.7	24.9%	6.02x	20.87x	16.6%	19.3%

Sources of information: S&P Capital IQ.

### Selected Transactions Review

(\$ in millions)

Transaction				Enterprise Value	Metrics		Valuation Benchmarks			
Date		Target	Acquirer		Target TTM		Implied EV /		Stock Price Premiums	
Annnc.	Closed					Revenue	EBITDA %	Revenue	EBITDA	1-Day
<b>Infrastructure Software</b>										
4-Jun-18	na	GitHub, Inc.	Microsoft Corporation	\$ 7,899.6	\$ 300.0	na	26.33x	na	na	na
12-Apr-18	17-Jul-18	Actian Corporation	HCL Tech; Sumeru Equity	330.0	107.1	35.9%	3.08x	8.57x	na	na
20-Mar-18	1-May-18	MuleSoft, Inc.	salesforce.com, inc.	6,569.5	296.5	-25.6%	22.16x	na	35.9%	45.7%
17-Oct-17	14-Nov-17	IntraLinks Holdings, Inc.	Siris Capital Group, LLC	1,020.8	295.5	7.5%	3.45x	46.06x	na	na
5-Jun-17	26-Jul-17	Covisint Corporation	Open Text Corporation	69.2	70.2	-14.0%	0.99x	na	22.5%	28.9%
31-Jan-17	31-Jan-17	Double-Take Software, Inc.	Carbonite, Inc.	67.3	84.0	16.5%	1.65x	43.39x	na	na
24-Jan-17	22-Mar-17	AppDynamics LLC	Cisco Systems, Inc.	3,902.9	206.2	-51.1%	18.93x	na	na	na
9-Jan-17	24-Jan-17	Trello, Inc.	Atlassian, Inc.	425.0	na	na	na	na	na	na
6-Dec-16	19-Jan-17	IntraLinks Holdings, Inc.	Synchronoss Technologies, Inc.	831.5	290.4	6.9%	2.81x	37.52x	15.4%	33.5%
12-Sep-16	23-Jan-17	EMC Enterprise Content Division	Open Text Corporation	1,620.0	599.0	na	na	na	na	na
8-Sep-16	10-Nov-16	Apigee Corporation	Google Inc. (nka:Google LLC)	561.8	92.0	-42.9%	6.10x	na	6.5%	20.3%
7-Sep-16	1-Sep-17	HPE, Software	Micro Focus International plc	9,049.3	3,172.0	20.7%	na	11.40x	na	na
26-Jul-16	31-Jan-17	Citrix GoTo Family Of Products	LogMeIn, Inc.	2,896.8	600.0	na	4.83x	na	na	na
20-Jun-16	31-Oct-16	Dell SW, Quest and SonicWALL	Francisco Partners; Elliott Mgt	2,400.0	na	na	na	na	na	na
15-Jan-16	5-Jan-16	Jungle Disk, LLC	Porthcawl Holdings, LLC	27.0	12.0	na	2.25x	na	na	na
21-Oct-15	5-Feb-16	SolarWinds Corporation	Silver Lake; Thoma Bravo, LLC	4,446.3	485.9	30.9%	9.15x	29.64x	19.7%	44.1%
9-Oct-15	15-Oct-15	Marvasol, Inc.	LogMeIn, Inc.	115.7	11.2	-23.7%	10.30x	na	na	na
5-Oct-15	6-Nov-15	Cleversafe, Inc.	International Business Machines	1,309.0	na	na	na	na	na	na
10-Sep-15	8-Dec-15	Premiere Global Services, Inc.	Siris Capital Group	975.1	566.8	13.0%	1.72x	13.23x	25.9%	27.5%
11-Aug-15	29-Jan-16	Veritas Technologies LLC	The Carlyle Group; GIC Pte. Ltd.	7,000.0	2,600.0	na	2.69x	na	na	na
27-May-15	8-Jul-15	Rally Software Development Corp.	CA, Inc.	471.2	92.5	-30.6%	5.09x	na	42.9%	27.5%
26-May-15	9-Jul-15	Virtustream Inc.	EMC Corporation (nka:Dell EMC)	1,219.0	na	na	na	na	na	na
4-May-15	3-Aug-15	Cyan, Inc.	Ciena Corporation	521.5	117.5	-35.8%	4.44x	na	44.4%	24.0%
7-Apr-15	6-Aug-15	Informatica LLC	Microsoft, Permira, and others	5,290.9	1,066.5	18.2%	4.96x	27.31x	6.4%	14.0%
			<i>Mean</i>	\$ 2,459.1	\$ 553.3	-4.9%	7.27x	27.14x	24.4%	29.5%
			<i>Median</i>	\$ 1,119.9	\$ 293.0	6.9%	4.63x	28.48x	22.5%	27.5%

Sources of information: S&P Capital IQ.

### Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks				
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums		
Annnc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>Security</b>											
3-Jan-18	31-Jan-18	Cyberinc	KPMG LLP	\$ 34.2	\$ 27.1	na	1.27x	na	na	na	
27-Nov-17	12-Feb-18	Barracuda Networks, Inc.	Thoma Bravo	1,433.9	372.5	8.6%	3.85x	nm	16.3%	17.6%	
7-Nov-17	21-Nov-17	Cloudmark Inc.	Proofpoint, Inc.	110.0	na	na	na	na	na	na	
6-Mar-17	3-Apr-17	Veracode, Inc.	CA, Inc.	614.0	na	na	na	na	na	na	
8-Feb-17	22-Mar-17	Invincea, Inc.	Sophos Group plc	120.0	9.8	na	12.24x	na	na	na	
20-Nov-16	9-Feb-17	LifeLock, Inc.	Symantec Corporation	2,362.1	650.2	7.3%	3.63x	nm	15.7%	38.7%	
19-Sep-16	4-Nov-16	Infoblox Inc.	Vista Equity Partners	1,250.0	358.3	0.5%	3.49x	na	16.1%	31.6%	
13-Jul-16	16-Sep-16	Imprivata, Inc.	Thoma Bravo	496.9	131.1	-14.1%	3.79x	na	32.8%	37.5%	
12-Jun-16	1-Aug-16	Blue Coat, Inc.	Symantec Corporation	4,726.7	598.3	1.5%	7.24x	nm	na	na	
1-Jun-16	30-Jun-16	Ping Identity Corporation	Vista Equity Partners	600.0	na	na	na	na	na	na	
18-Apr-16	15-Aug-16	CSIdentity Corporation	Experian Information Solutions, Inc.	360.0	103.0	20.4%	3.50x	17.14x	na	na	
20-Jan-16	14-Jan-16	iSight Security, Inc.	FireEye, Inc.	271.1	40.0	na	6.78x	na	na	na	
11-Dec-15	11-Dec-15	Cyveillance, Inc.	LookingGlass Cyber Solutions Inc.	35.0	18.0	na	1.94x	na	na	na	
9-Nov-15	closed	Elastica, Inc.	Blue Coat Systems Inc.	280.0	na	na	na	na	na	na	
27-Oct-15	21-Dec-15	Lancope, Inc.	Cisco Systems, Inc.	452.5	na	na	na	na	na	na	
21-Oct-15	9-Mar-16	TippingPoint Technologies, Inc.	Trend Micro Incorporated	300.0	169.0	na	1.78x	na	na	na	
19-Oct-15	17-Mar-16	Vormetric, Inc.	Thales e-Security, Inc.	421.0	53.5	na	7.87x	na	na	na	
8-Sep-15	8-Sep-15	Adallom, Inc.	Microsoft Corporation	320.0	na	na	na	na	na	na	
7-Apr-15	1-Sep-15	TrustWave Holdings, Inc.	Singapore Telecommunications	785.7	216.0	na	3.64x	na	na	na	
10-Mar-15	26-May-15	Blue Coat Systems Inc.	Bain Capital Private Equity, LP	2,400.0	na	na	na	na	na	na	
9-Jul-15	9-Jul-15	Caspida, Inc.	Splunk Inc.	190.0	na	na	na	na	na	na	
2-Mar-15	6-Mar-15	Emerging Threats Pro, Inc.	Proofpoint, Inc.	32.3	na	na	na	na	na	na	
9-Dec-14	2-Jan-15	Tripwire, Inc.	Belden Inc.	710.0	118.5	na	5.99x	na	na	na	
8-Aug-14	7-Jan-15	SafeNet, Inc.	Gemalto N.V.	957.0	na	na	na	na	na	na	
2-Jan-14	30-Dec-13	Mandiant, LLC	FireEye, Inc.	1,016.8	102.0	-5.1%	9.97x	na	na	na	
<i>Mean</i>				\$ 811.2	\$ 197.8	2.7%	5.13x	17.14x	20.2%	31.4%	
<i>Median</i>				\$ 452.5	\$ 118.5	1.5%	3.79x	17.14x	16.2%	34.6%	

Sources of information: S&P Capital IQ.

### Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks				
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums		
Annnc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
<b>Enterprise Systems</b>											
28-Mar-18	2-Jul-18	Polycom, Inc.	Plantronics, Inc.	\$ 2,122.4	\$ 1,142.8	8.3%	1.86x	21.00x	na	na	
26-Oct-17	27-Dec-17	Gigamon Inc.	Elliott, Qatar Investment Authority	1,329.1	302.9	1.4%	4.39x	na	6.2%	-7.3%	
18-Sep-17	5-Jan-18	Silver Spring Networks, Inc.	Itron, Inc.	830.4	425.7	-8.2%	1.95x	na	25.0%	28.2%	
7-Mar-17	13-Apr-17	Nimble Storage, Inc.	Hewlett Packard Enterprise Company	1,065.1	402.6	-33.3%	2.65x	na	45.3%	45.9%	
13-Oct-16	13-Oct-16	VXi Corporation	GN Netcom A/S	35.0	32.0	12.5%	1.09x	8.75x	na	na	
19-Sep-16	4-Nov-16	Infoblox Inc.	Vista Equity Partners	1,250.0	358.3	0.5%	3.49x	na	16.1%	31.6%	
11-Aug-16	1-Nov-16	Silicon Graphics International Corp.	Hewlett Packard Enterprise Company	268.4	532.9	1.0%	0.50x	48.58x	40.9%	47.3%	
13-May-16	27-Sep-16	Polycom, Inc.	Siris Capital Group, LLC	1,231.7	1,197.8	11.2%	1.03x	9.19x	11.0%	5.8%	
19-Apr-16	29-Nov-16	Lexmark International, Inc.	Legend Capital; PAG Asia; Apex Tech.	3,645.2	3,481.5	9.1%	1.05x	11.46x	18.0%	29.6%	
7-Apr-16	3-Jun-16	Alliance Fiber Optic Products Inc.	Corning Incorporated	265.9	72.0	22.3%	3.69x	16.58x	24.0%	45.1%	
4-Apr-16	27-May-16	Ruckus Wireless, Inc.	Brocade Communications	1,114.4	391.9	4.5%	2.84x	63.51x	44.3%	47.4%	
4-Feb-16	29-Jan-16	Pakedge Device & Software, Inc.	Control4 Corporation	31.8	18.6	3.9%	1.71x	43.95x	na	na	
21-Dec-15	2-Feb-16	SolidFire	NetApp, Inc.	870.0	na	na	na	na	na	na	
2-Nov-15	5-Oct-16	Hutchinson Technology Inc.	Headway Technologies, Inc.	233.4	234.6	8.1%	0.99x	12.28x	128.6%	135.3%	
21-Oct-15	12-May-16	SanDisk LLC	Western Digital Technologies, Inc.	13,510.4	5,598.4	24.4%	2.41x	9.90x	13.5%	61.4%	
12-Oct-15	7-Sep-16	EMC Corporation (nka:Dell EMC)	Dell, Inc.	63,296.5	24,586.0	20.4%	2.57x	12.61x	19.0%	34.8%	
2-Sep-15	1-Oct-15	iBiquity Digital Corporation	DTS, Inc.	612.4	48.3	17.3%	12.68x	73.08x	na	na	
18-Aug-15	6-Oct-15	Dot Hill Systems Corp.	Seagate Technology plc	645.4	243.9	7.7%	2.65x	34.31x	79.2%	51.9%	
27-May-15	7-Jul-15	Meru Networks, Inc.	Fortinet, Inc.	34.6	87.7	-16.9%	0.39x	na	18.1%	31.5%	
22-Apr-15	4-Jun-15	Procera Networks, Inc.	Francisco Partners Management LLC	133.2	81.4	-6.4%	1.64x	na	21.7%	19.1%	
16-Apr-15	17-Apr-15	Motion Computing, Inc.	Xplore Technologies	130.1	78.8	-5.7%	1.65x	na	na	na	
24-Mar-15	18-Nov-15	PSI Systems, Inc.	Stamps.com Inc.	215.0	58.5	na	3.67x	na	na	na	
2-Mar-15	18-May-15	Aruba	Hewlett-Packard	2,689.8	812.4	9.9%	3.31x	33.29x	-0.6%	48.8%	
25-Feb-15	5-May-15	Emulex Corporation	Avago Technologies	553.5	411.0	8.1%	1.35x	16.56x	26.4%	16.1%	
				Mean	\$ 4,004.7	\$ 1,765.2	4.6%	2.59x	27.67x	31.6%	39.5%
				Median	\$ 737.9	\$ 358.3	7.9%	1.95x	16.58x	21.7%	34.8%

Sources of information: S&P Capital IQ.

### Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks			
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums	
Annnc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
<b>Internet Content and Search</b>										
24-Jul-17	14-Sep-17	WebMD Health Corp.	KKR	\$ 2,641.2	\$ 709.0	26.0%	3.73x	14.31x	20.5%	12.3%
3-Jul-17	8-Nov-17	Baton Holding, LLC	Red Ventures Holdco, LP	1,434.7	477.0	21.2%	3.01x	14.18x	8.9%	31.5%
1-May-17	29-Sep-17	Angie's List, Inc.	HomeAdvisor, Inc.	580.3	302.3	1.2%	1.92x	161.23x	44.6%	49.1%
10-Apr-17	22-May-17	RetailMeNot, Inc.	Harland Clarke Holdings Corp.	463.9	295.4	10.4%	1.57x	15.12x	49.7%	38.1%
21-Oct-16	2-Dec-16	Everyday Health, Inc.	Ziff Davis, LLC	465.3	253.9	12.2%	1.83x	15.03x	11.7%	30.9%
9-Aug-16	28-Oct-16	Monster Worldwide, Inc.	Randstad North America, LP	371.1	635.0	11.9%	0.61x	6.80x	22.7%	30.3%
27-Jun-16	8-Aug-16	ReachLocal, Inc.	Gannett Co., Inc.	155.6	361.7	-2.5%	0.45x	na	187.5%	184.0%
13-Jun-16	8-Dec-16	LinkedIn Corporation	Microsoft Corporation	25,984.4	3,615.0	13.2%	7.19x	54.43x	49.5%	54.3%
5-May-16	17-Jun-16	NextAdvisor, Inc.	Baton Holding, LLC	106.7	70.3	na	1.52x	7.25x	na	na
12-Apr-16	12-Apr-16	Cracked Entertainment, Inc.	Scripps Media, Inc.	39.0	10.9	na	3.58x	na	na	na
2-Nov-15	31-Dec-15	Vetstreet Inc.	Butler Schein Animal Health	48.0	43.0	na	1.12x	na	na	na
28-Oct-15	29-Jan-16	The Weather Company	International Business Machines	2,284.0	na	na	na	na	na	na
<i>Mean</i>				\$ 2,881.2	\$ 615.8	11.7%	2.41x	36.04x	49.4%	53.8%
<i>Median</i>				\$ 464.6	\$ 302.3	12.1%	1.83x	14.67x	33.7%	34.8%
<b>Internet Retail</b>										
7-Apr-17	5-May-17	eBags, Inc.	Samsonite LLC	\$ 105.0	\$ 158.5	na	0.66x	na	na	na
5-Jan-17	30-Dec-16	Shoebuy.com, Inc.	Jet.com, Inc.	70.0	na	na	na	na	na	na
7-Nov-16	17-Feb-17	Blue Nile, Inc.	Bain Capital Private Equity	456.2	471.9	3.5%	0.97x	27.82x	33.9%	15.1%
8-Aug-16	19-Sep-16	Jet.com, Inc.	Wal-Mart Stores, Inc.	3,300.0	na	na	na	na	na	na
17-Feb-16	4-Mar-16	Ebuys, Inc.	DSW Shoe Warehouse, Inc.	117.5	na	na	na	na	na	na
7-Jan-16	1-Feb-16	Gilt Groupe, Inc.	Hudson's Bay Company	250.0	na	na	na	na	na	na
4-Nov-15	14-Dec-15	HomeAway, Inc.	Expedia, Inc. (nka:Expedia Group, Inc.)	3,057.6	485.3	12.6%	6.30x	49.81x	24.3%	41.8%
7-Oct-15	31-Oct-15	Ticketfly, Inc.	Pandora Media, Inc.	321.9	65.9	-17.0%	4.88x	na	na	na
17-Aug-15	30-Sep-15	zulily, Inc.	QVC, Inc.	2,180.0	1,281.4	2.2%	1.70x	77.32x	49.2%	34.6%
29-May-15	17-Jul-15	Geeknet, Inc.	GameStop Corp.	102.7	137.1	-6.0%	0.75x	na	5.5%	125.5%
27-May-15	13-Jul-15	Orchard Brands Corporation	Bluestem Brands, Inc.	410.0	1,020.0	6.9%	0.40x	5.80x	na	na
12-Feb-15	17-Sep-15	Orbitz Worldwide, Inc.	Expedia, Inc. (nka:Expedia Group, Inc.)	1,595.1	933.5	11.5%	1.71x	14.81x	24.7%	30.7%
<i>Mean</i>				\$ 997.2	\$ 569.2	2.0%	2.17x	35.11x	27.5%	49.5%
<i>Median</i>				\$ 366.0	\$ 478.6	3.5%	1.33x	27.82x	24.7%	34.6%

Sources of information: S&P Capital IQ.

# PROFESSIONAL SERVICES AND DISTRIBUTION

Technology Investment Banking

## Selected Transactions Review

(\$ in millions)

Transaction				Metrics			Valuation Benchmarks			
Date		Target	Acquirer	Enterprise Value	Target TTM		Implied EV /		Stock Price Premiums	
Annnc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
<b>Consulting</b>										
12-Feb-18	2-Apr-18	CSRA Inc.	General Dynamics Corporation	\$ 9,871.1	\$ 5,064.0	16.6%	1.95x	11.73x	33.8%	28.6%
5-Feb-18	7-Mar-18	LiquidHub, Inc.	Capgemini SE	500.0	247.7	na	2.02x	na	na	na
3-Jul-17	15-Aug-17	NCL, Inc.	H.I.G. Capital	285.1	325.4	9.1%	0.88x	9.61x	-5.2%	2.6%
27-Jan-17	28-Apr-17	Harris Corpo, Gov (nka:Peraton)	Veritas Capital	690.0	1,000.0	na	0.69x	na	na	na
20-Oct-16	23-Nov-16	Appirio Inc.	Wipro Limited	500.0	196.0	na	2.55x	na	na	na
24-May-16	31-Mar-17	HP Services	Computer Sciences Corp (nka:DXC)	6,927.0	17,787.0	13.6%	0.39x	2.86x	na	na
28-Mar-16	2-Nov-16	Dell Services	NTT DATA Italia S.p.A.	3,055.0	2,826.0	na	1.08x	na	na	na
18-Jan-16	25-Feb-16	Magnet 360, LLC	Mindtree Limited	50.0	25.0	na	2.00x	na	na	na
27-Apr-15	1-Jul-15	iGATE Corporation	Capgemini North America, Inc.	4,453.6	1,288.1	19.3%	3.46x	17.90x	4.7%	13.5%
9-Mar-15	1-Apr-15	Acentia, LLC	MAXIMUS Federal Services, Inc.	300.7	193.2	11.4%	1.56x	13.67x	na	na
			<i>Mean</i>	\$ 2,663.2	\$ 2,895.2	14.0%	1.66x	11.16x	11.1%	14.9%
			<i>Median</i>	\$ 595.0	\$ 662.7	13.6%	1.75x	11.73x	4.7%	13.5%
<b>Infrastructure Outsourcing</b>										
7-Nov-16	27-Feb-17	EarthLink Holdings Corp.	Windstream Holdings, Inc.	\$ 1,070.3	\$ 959.9	20.6%	1.12x	5.40x	-4.8%	-5.7%
7-Nov-16	6-Jan-17	Datalink Corporation	Insight Enterprises, Inc.	223.1	756.5	2.5%	0.29x	11.72x	19.3%	5.9%
26-Aug-16	3-Nov-16	Rackspace Hosting, Inc.	Inception Parent, Inc.	4,314.1	2,073.4	28.4%	2.07x	7.25x	6.0%	37.8%
4-May-16	1-Jul-16	United Online, Inc.	B. Riley Financial, Inc.	43.8	145.3	10.4%	0.31x	3.71x	1.9%	-2.7%
19-Feb-15	1-Apr-15	MegaPath Managed Services	Global Telecom & Tech Americas	152.4	124.0	16.1%	1.23x	7.62x	na	na
			<i>Mean</i>	\$ 1,160.7	\$ 811.8	15.6%	1.00x	7.14x	5.6%	8.8%
			<i>Median</i>	\$ 223.1	\$ 756.5	16.1%	1.12x	7.25x	3.9%	1.6%
<b>Distribution</b>										
6-Jun-17	1-Sep-17	Westcon Group, Inc.	SYNNEX Corporation	\$ 830.0	\$ 4,532.1	1.2%	0.18x	15.79x	na	na
19-Sep-16	27-Feb-17	Avnet Technology Solutions	Tech Data Corporation	2,645.0	9,652.5	na	0.27x	na	na	na
17-Feb-16	5-Dec-16	Ingram Micro Inc.	Tianjin Tianhai (nka:HNA Tech)	6,597.2	40,998.3	1.9%	0.16x	8.49x	32.2%	43.3%
18-Aug-15	4-Sep-15	KBZ Communications, Inc.	ScanSource, Inc.	61.5	225.0	na	0.27x	na	na	na
			<i>Mean</i>	\$ 2,533.4	\$ 13,852.0	1.5%	0.22x	12.14x	32.2%	43.3%
			<i>Median</i>	\$ 1,737.5	\$ 7,092.3	1.5%	0.23x	12.14x	32.2%	43.3%

Sources of information: S&P Capital IQ.

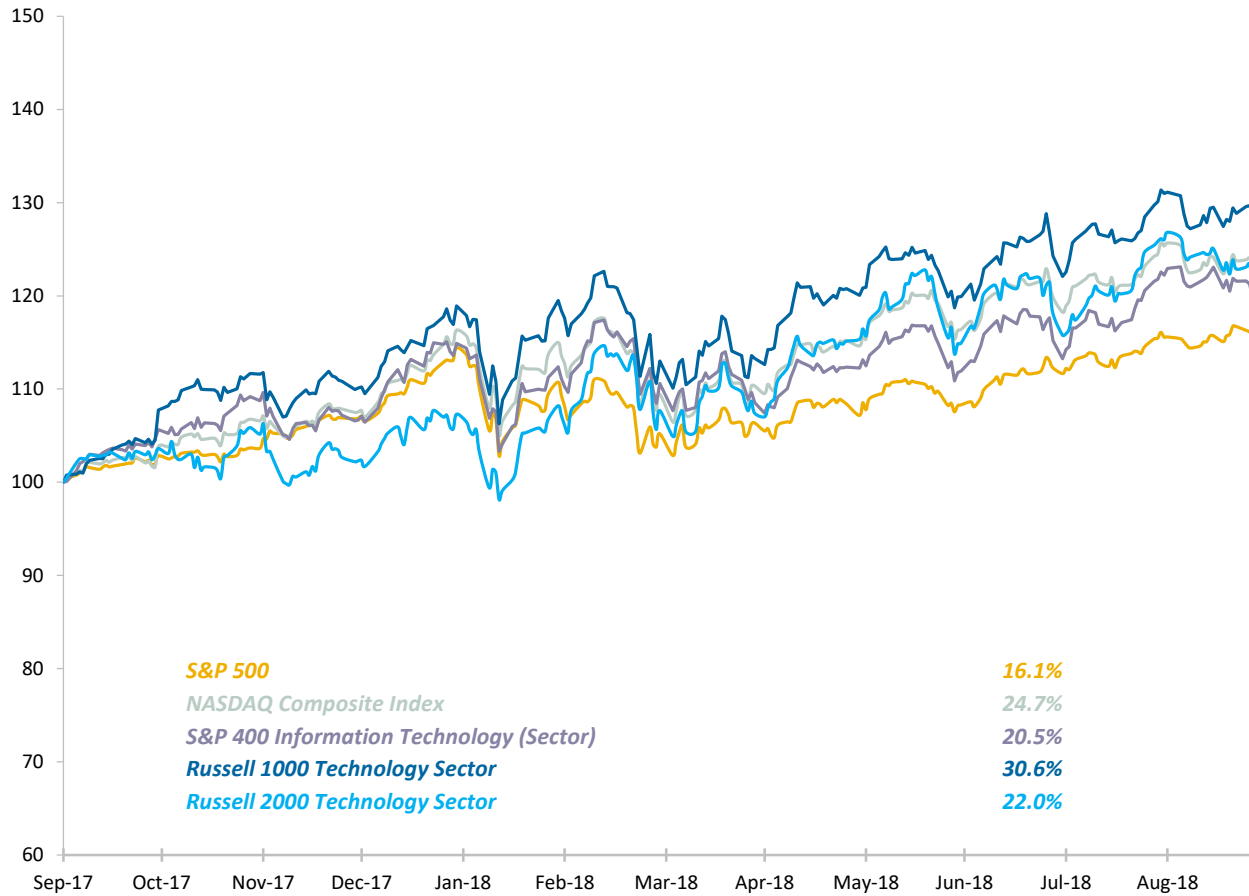
I Q3 YTD NOTABLE TECHNOLOGY DEALS

II M&A TRANSACTIONS

**III PUBLIC MARKETS REVIEW**

September 28, 2017 to September 28, 2018

Relative Performance



Sources of information: S&P Capital IQ.



### Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Large Diversified</b>											
Adobe Inc.	ADBE	\$ 269.95	97.2% - 184.1%	\$ 128,712.1	\$ 8,572.0	16.1%	36.0%	15.02x	11.99x	41.7x	26.1x
International Business Machines Corporation	IBM	\$ 151.21	88.4% - 110.0%	172,021.7	80,771.0	0.4%	21.1%	2.13x	2.15x	10.1x	8.6x
Oracle Corporation	ORCL	\$ 51.56	96.4% - 121.1%	198,365.7	39,920.0	2.1%	40.5%	4.97x	4.86x	12.3x	10.3x
		<i>Mean</i>	<i>94.0% - 138.4%</i>	<i>\$ 166,366.5</i>	<i>\$ 43,087.7</i>	<i>6.2%</i>	<i>32.5%</i>	<i>7.37x</i>	<i>6.34x</i>	<i>21.3x</i>	<i>15.0x</i>
		<i>Median</i>	<i>96.4% - 121.1%</i>	<i>\$ 172,021.7</i>	<i>\$ 39,920.0</i>	<i>2.1%</i>	<i>36.0%</i>	<i>4.97x</i>	<i>4.86x</i>	<i>12.3x</i>	<i>10.3x</i>
<b>Application Software</b>											
Avalara, Inc.	AVLR	\$ 34.93	58.8% - 108.8%	\$ 2,344.2	\$ 238.4	19.8%	-19.1%	9.83x	7.60x	na	na
DocuSign, Inc.	DOCU	\$ 52.57	76.9% - 142.1%	7,424.6	602.3	19.6%	-48.5%	12.33x	8.83x	na	nm
Intuit Inc.	INTU	\$ 226.91	98.7% - 161.8%	57,913.5	5,964.0	13.1%	29.1%	9.71x	8.41x	33.4x	22.8x
Manhattan Associates, Inc.	MANH	\$ 54.60	87.5% - 139.6%	3,507.1	569.4	0.7%	29.3%	6.16x	6.43x	21.0x	28.4x
Smartsheet Inc.	SMAR	\$ 31.26	92.0% - 173.1%	3,163.7	141.1	34.6%	-27.8%	nm	13.47x	na	na
SPS Commerce, Inc.	SPSC	\$ 99.24	98.6% - 220.4%	1,599.9	234.8	9.8%	10.5%	6.81x	5.98x	nm	28.1x
SVMK Inc.	SVMK	\$ 16.03	80.2% -	2,379.0	233.5	na	0.6%	10.19x	na	nm	na
Upland Software, Inc.	UPLD	\$ 32.31	84.4% - 174.5%	848.7	121.5	0.0%	21.0%	6.99x	5.58x	33.3x	15.4x
Workiva Inc.	WK	\$ 39.50	97.2% - 192.7%	1,791.3	225.6	13.8%	-24.1%	7.94x	6.50x	na	na
		<i>Mean</i>	<i>86.0% - 164.1%</i>	<i>\$ 8,996.9</i>	<i>\$ 925.6</i>	<i>13.9%</i>	<i>-3.2%</i>	<i>8.74x</i>	<i>7.85x</i>	<i>29.2x</i>	<i>23.7x</i>
		<i>Median</i>	<i>87.5% - 167.5%</i>	<i>\$ 2,379.0</i>	<i>\$ 234.8</i>	<i>13.5%</i>	<i>0.6%</i>	<i>8.83x</i>	<i>7.05x</i>	<i>33.3x</i>	<i>25.5x</i>
<b>Human Capital Management</b>											
Benefitfocus, Inc.	BNFT	\$ 40.45	90.5% - 186.0%	\$ 1,373.1	\$ 267.0	14.6%	0.2%	5.14x	4.79x	nm	nm
Cornerstone OnDemand, Inc.	CSOD	\$ 56.75	95.9% - 169.0%	3,338.8	519.4	15.5%	-2.3%	6.43x	5.88x	na	25.2x
Paycom Software, Inc.	PAYC	\$ 155.41	94.7% - 211.1%	9,091.5	498.0	20.4%	23.6%	18.26x	13.23x	nm	32.0x
Paylocity Holding Corporation	PCTY	\$ 80.32	90.8% - 195.2%	4,228.7	377.5	21.2%	8.5%	11.20x	8.50x	nm	29.4x
The Ultimate Software Group, Inc.	ULTI	\$ 322.19	96.9% - 173.7%	9,871.8	1,035.5	17.4%	10.3%	9.53x	7.29x	nm	29.4x
Workday, Inc.	WDAY	\$ 145.98	92.9% - 153.1%	30,696.4	2,428.2	22.2%	-7.0%	12.64x	8.87x	na	48.1x
		<i>Mean</i>	<i>93.6% - 181.4%</i>	<i>\$ 9,766.7</i>	<i>\$ 854.3</i>	<i>18.6%</i>	<i>5.6%</i>	<i>10.53x</i>	<i>8.09x</i>	<i>na</i>	<i>32.8x</i>
		<i>Median</i>	<i>93.8% - 179.8%</i>	<i>\$ 6,660.1</i>	<i>\$ 508.7</i>	<i>18.9%</i>	<i>4.3%</i>	<i>10.37x</i>	<i>7.89x</i>	<i>na</i>	<i>29.4x</i>

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		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Sales, Marketing, and Customer Service</b>											
HubSpot, Inc.	HUBS	\$ 150.95	93.1% - 206.4%	\$ 5,885.4	\$ 441.4	22.5%	-8.0%	13.33x	9.47x	na	nm
LivePerson, Inc.	LPSN	\$ 25.95	94.7% - 240.3%	1,604.3	233.8	12.6%	3.6%	6.86x	5.82x	nm	nm
salesforce.com, inc.	CRM	\$ 159.03	98.7% - 171.7%	122,591.1	11,793.0	19.3%	9.4%	10.40x	7.73x	nm	31.6x
ServiceSource International, Inc.	SREV	\$ 2.85	63.8% - 109.2%	229.0	243.9	8.5%	-5.1%	0.94x	0.87x	na	8.1x
Shopify Inc.	SHOP	\$ 164.46	93.1% - 184.1%	16,600.1	853.6	31.6%	-5.6%	19.45x	11.57x	na	nm
Yext, Inc.	YEXT	\$ 23.70	87.2% - 224.0%	2,452.8	198.5	31.2%	-34.2%	12.35x	8.17x	na	na
Zendesk, Inc.	ZEN	\$ 71.00	98.3% - 251.9%	7,469.7	506.2	31.1%	-19.6%	14.76x	9.78x	na	nm
		<i>Mean</i>	<i>89.8% - 198.2%</i>	<i>\$ 22,404.6</i>	<i>\$ 2,038.6</i>	<i>22.4%</i>	<i>-8.5%</i>	<i>11.16x</i>	<i>7.63x</i>	<i>na</i>	<i>19.8x</i>
		<i>Median</i>	<i>93.1% - 206.4%</i>	<i>\$ 5,885.4</i>	<i>\$ 441.4</i>	<i>22.5%</i>	<i>-5.6%</i>	<i>12.35x</i>	<i>8.17x</i>	<i>na</i>	<i>19.8x</i>
<b>Business Analytics</b>											
Alteryx, Inc.	AYX	\$ 57.21	90.6% - 286.3%	\$ 3,484.2	\$ 162.4	29.8%	-8.6%	nm	13.53x	na	na
Cloudera, Inc.	CLDR	\$ 17.65	78.7% - 140.4%	2,518.2	411.1	18.8%	-42.9%	6.13x	4.70x	na	na
MicroStrategy Incorporated	MSTR	\$ 140.62	93.0% - 115.1%	913.0	506.7	na	8.0%	1.80x	1.74x	22.4x	na
Tableau Software, Inc.	DATA	\$ 111.74	94.6% - 163.4%	8,568.8	992.8	21.5%	-12.5%	8.63x	7.55x	na	nm
Teradata Corporation	TDC	\$ 37.71	85.2% - 118.7%	4,106.3	2,202.0	2.3%	6.7%	1.86x	1.87x	27.9x	10.2x
		<i>Mean</i>	<i>88.4% - 164.8%</i>	<i>\$ 3,918.1</i>	<i>\$ 855.0</i>	<i>18.1%</i>	<i>-9.9%</i>	<i>4.61x</i>	<i>5.88x</i>	<i>25.2x</i>	<i>10.2x</i>
		<i>Median</i>	<i>90.6% - 140.4%</i>	<i>\$ 3,484.2</i>	<i>\$ 506.7</i>	<i>20.1%</i>	<i>-8.6%</i>	<i>4.00x</i>	<i>4.70x</i>	<i>25.2x</i>	<i>10.2x</i>
<b>Design and Engineering</b>											
ANSYS, Inc.	ANSS	\$ 186.68	98.0% - 153.8%	\$ 15,294.5	\$ 1,166.7	9.7%	40.2%	13.11x	11.31x	32.6x	24.8x
Autodesk, Inc.	ADSK	\$ 156.11	97.6% - 153.7%	34,570.9	2,240.7	22.9%	-6.6%	15.43x	10.91x	na	35.9x
Cadence Design Systems, Inc.	CDNS	\$ 45.32	95.6% - 127.7%	12,766.0	2,022.8	5.9%	23.1%	6.31x	5.76x	27.4x	17.6x
PTC Inc.	PTC	\$ 106.19	98.9% - 190.5%	12,916.5	1,235.7	17.7%	11.4%	10.45x	9.15x	nm	30.4x
Synopsys, Inc.	SNPS	\$ 98.61	95.4% - 123.7%	14,730.0	3,022.6	2.6%	17.0%	4.87x	4.43x	28.7x	17.2x
		<i>Mean</i>	<i>97.1% - 149.9%</i>	<i>\$ 18,055.6</i>	<i>\$ 1,937.7</i>	<i>11.7%</i>	<i>17.0%</i>	<i>10.03x</i>	<i>8.31x</i>	<i>29.5x</i>	<i>25.2x</i>
		<i>Median</i>	<i>97.6% - 153.7%</i>	<i>\$ 14,730.0</i>	<i>\$ 2,022.8</i>	<i>9.7%</i>	<i>17.0%</i>	<i>10.45x</i>	<i>9.15x</i>	<i>28.7x</i>	<i>24.8x</i>

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		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA		
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E	
<b>Infrastructure</b>												
Appian Corporation	APPN	\$ 33.10	75.9% - 226.7%	\$ 2,118.6	\$ 206.8	19.5%	-14.8%	10.25x	8.56x	na	na	
CA, Inc.	CA	\$ 44.15	99.8% - 140.4%	18,092.2	4,148.0	na	30.2%	4.36x	4.19x	14.4x	10.9x	
Carbonite, Inc.	CARB	\$ 35.65	81.7% - 173.9%	1,339.3	265.1	3.6%	10.1%	5.05x	3.90x	49.8x	11.6x	
Citrix Systems, Inc.	CTXS	\$ 111.16	95.2% - 145.4%	15,718.2	2,908.3	5.8%	30.6%	5.40x	5.15x	17.6x	14.3x	
Commvault Systems, Inc.	CVLT	\$ 70.00	96.4% - 144.8%	2,813.1	709.6	7.7%	2.3%	3.96x	3.54x	nm	19.7x	
Domo, Inc.	DOMO	\$ 21.45	74.3% - 135.8%	425.6	124.6	24.8%	-132.8%	3.42x	2.57x	na	na	
MongoDB, Inc.	MDB	\$ 81.55	95.7% - 331.2%	4,391.8	192.2	33.7%	-56.5%	nm	14.07x	na	na	
Progress Software Corporation	PRGS	\$ 35.29	65.8% - 101.6%	1,571.3	401.9	1.6%	36.5%	3.91x	3.94x	10.7x	9.8x	
Pivotal Software, Inc.	PVTL	\$ 19.58	62.7% - 129.6%	4,686.7	582.4	24.6%	-22.1%	8.05x	5.83x	na	na	
Red Hat, Inc.	RHT	\$ 136.28	76.7% - 124.4%	23,587.7	3,156.6	14.1%	19.1%	7.47x	6.29x	39.2x	22.8x	
Splunk Inc.	SPLK	\$ 120.91	93.0% - 193.8%	16,953.4	1,463.7	24.1%	-16.6%	11.58x	8.09x	na	48.6x	
Twilio Inc.	TWLO	\$ 86.28	97.1% - 371.1%	8,411.0	492.6	29.5%	-15.8%	17.07x	11.22x	na	nm	
Varonis Systems, Inc.	VRNS	\$ 73.25	88.1% - 176.5%	2,025.1	244.1	18.0%	-7.7%	8.30x	6.43x	na	nm	
VMware, Inc.	VMW	\$ 156.06	94.6% - 143.9%	54,809.1	8,407.0	7.1%	26.9%	6.52x	5.74x	24.2x	15.4x	
		<i>Mean</i>	85.5% - 181.4%	\$ 11,210.2	\$ 1,664.5	16.5%	-7.9%	7.33x	6.40x	26.0x	19.1x	
		<i>Median</i>	90.6% - 145.1%	\$ 4,539.2	\$ 537.5	18.0%	-2.7%	6.52x	5.78x	20.9x	14.8x	
<b>Collaboration</b>												
Box, Inc.	BOX	\$ 23.91	80.3% - 136.4%	\$ 3,409.6	\$ 554.7	17.5%	-18.8%	6.15x	4.63x	na	nm	
Dropbox, Inc.	DBX	\$ 26.83	61.7% - 108.3%	10,057.1	1,247.7	14.4%	-29.1%	8.06x	6.32x	na	28.7x	
LogMeIn, Inc.	LOGM	\$ 89.10	66.1% - 115.6%	4,622.6	1,130.2	6.6%	30.2%	4.09x	3.68x	13.6x	9.8x	
RingCentral, Inc.	RNG	\$ 93.05	94.8% - 231.5%	7,201.6	580.5	22.9%	-1.5%	12.40x	8.93x	na	nm	
Workiva Inc.	WK	\$ 39.50	97.2% - 192.7%	1,791.3	225.6	13.8%	-24.1%	7.94x	6.50x	na	na	
		<i>Mean</i>	80.0% - 156.9%	\$ 5,416.4	\$ 747.7	15.0%	-8.7%	7.73x	6.01x	13.6x	19.3x	
		<i>Median</i>	80.3% - 136.4%	\$ 4,622.6	\$ 580.5	14.4%	-18.8%	7.94x	6.32x	13.6x	19.3x	

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		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Healthcare</b>											
Cerner Corporation	CERN	\$ 64.41	87.2% - 123.7%	\$ 21,000.1	\$ 5,148.9	9.7%	25.1%	4.08x	3.59x	16.3x	11.9x
Computer Programs and Systems, Inc.	CPSI	\$ 26.85	77.5% - 106.8%	502.8	284.0	8.5%	12.3%	1.77x	1.69x	14.4x	9.9x
HealthStream, Inc.	HSTM	\$ 31.01	97.3% - 146.6%	845.7	254.6	6.4%	11.4%	3.32x	3.52x	29.2x	19.4x
Inovalon Holdings, Inc.	INOV	\$ 10.05	56.8% - 112.9%	2,422.0	476.0	6.5%	16.5%	5.09x	3.74x	30.9x	12.0x
Medidata Solutions, Inc.	MDSO	\$ 73.31	82.5% - 123.0%	4,407.4	587.0	16.1%	15.5%	7.51x	5.82x	48.6x	22.8x
NantHealth, Inc.	NH	\$ 1.57	29.8% - 120.8%	340.2	88.4	55.7%	-58.2%	3.85x	2.66x	na	nm
NextGen Healthcare, Inc.	NXGN	\$ 20.08	84.6% - 164.1%	1,311.8	533.3	7.0%	8.1%	2.46x	2.34x	30.5x	14.6x
Veeva Systems Inc.	VEEV	\$ 108.87	99.8% - 208.7%	15,390.5	763.2	16.4%	24.2%	nm	15.44x	nm	43.7x
		<i>Mean</i>	<i>77.0% - 138.3%</i>	<i>\$ 5,777.6</i>	<i>\$ 1,016.9</i>	<i>15.8%</i>	<i>6.9%</i>	<i>4.01x</i>	<i>4.85x</i>	<i>28.3x</i>	<i>19.2x</i>
		<i>Median</i>	<i>83.6% - 123.4%</i>	<i>\$ 1,866.9</i>	<i>\$ 504.7</i>	<i>9.1%</i>	<i>13.9%</i>	<i>3.85x</i>	<i>3.55x</i>	<i>29.8x</i>	<i>14.6x</i>
<b>Other Vertical</b>											
AppFolio, Inc.	APPF	\$ 78.40	85.7% - 208.8%	\$ 2,689.4	\$ 165.4	24.3%	12.8%	16.26x	11.71x	nm	41.9x
Blackbaud, Inc.	BLKB	\$ 101.48	84.3% - 117.2%	5,269.8	829.5	8.4%	17.1%	6.35x	5.52x	37.1x	22.2x
CDK Global, Inc.	CDK	\$ 62.56	82.3% - 104.5%	9,946.5	2,273.2	4.5%	31.6%	4.38x	4.30x	13.9x	10.6x
Ebix, Inc.	EBIX	\$ 79.15	88.8% - 124.5%	3,021.3	430.3	14.4%	33.4%	7.02x	5.12x	21.0x	15.0x
Guidewire Software, Inc.	GWRE	\$ 101.01	93.7% - 144.2%	7,414.8	661.1	16.3%	5.0%	11.22x	9.36x	nm	47.9x
Instructure, Inc.	INST	\$ 35.40	72.0% - 110.6%	1,144.7	183.8	24.1%	-26.6%	6.23x	4.39x	na	na
Q2 Holdings, Inc.	QTWO	\$ 60.55	90.2% - 167.0%	2,608.4	215.2	21.8%	-5.6%	12.12x	8.83x	na	nm
Square, Inc.	SQ	\$ 99.01	98.6% - 350.2%	43,431.3	2,684.7	32.4%	-0.5%	16.18x	nm	na	nm
SS&C Technologies Holdings, Inc.	SSNC	\$ 56.83	93.2% - 145.2%	20,164.5	2,174.3	5.6%	32.8%	9.27x	4.79x	28.3x	13.9x
Tyler Technologies, Inc.	TYL	\$ 245.06	97.1% - 145.8%	9,711.7	889.4	10.1%	22.4%	10.92x	9.25x	48.8x	30.0x
Zuora, Inc.	ZUO	\$ 23.11	61.2% - 123.3%	2,620.2	205.7	23.9%	-26.3%	12.74x	9.05x	na	na
		<i>Mean</i>	<i>86.1% - 158.3%</i>	<i>\$ 9,820.2</i>	<i>\$ 973.9</i>	<i>16.9%</i>	<i>8.7%</i>	<i>10.24x</i>	<i>7.23x</i>	<i>29.8x</i>	<i>25.9x</i>
		<i>Median</i>	<i>88.8% - 144.2%</i>	<i>\$ 5,269.8</i>	<i>\$ 661.1</i>	<i>16.3%</i>	<i>12.8%</i>	<i>10.92x</i>	<i>7.17x</i>	<i>28.3x</i>	<i>22.2x</i>

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		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Cyber Security</b>											
Check Point Software Technologies Ltd.	CHKP	\$ 117.67	97.4% - 125.5%	\$ 17,106.1	\$ 1,880.7	4.5%	50.3%	9.10x	8.64x	18.1x	16.1x
Carbon Black, Inc.	CBLK	\$ 21.18	60.5% - 107.2%	1,442.6	186.8	24.2%	-30.2%	7.72x	5.68x	na	na
FireEye, Inc.	FEYE	\$ 17.00	87.8% - 126.9%	3,138.8	776.4	6.2%	-18.7%	4.04x	3.54x	na	28.4x
ForeScout Technologies, Inc.	FSCT	\$ 37.76	92.2% - 175.1%	1,515.5	256.0	20.8%	-33.6%	5.92x	4.45x	na	na
Fortinet, Inc.	FTNT	\$ 92.27	99.9% - 260.4%	14,288.4	1,631.2	12.2%	13.2%	8.76x	7.03x	nm	26.7x
Imperva, Inc.	IMPV	\$ 46.45	80.6% - 125.0%	1,233.6	344.0	10.5%	0.6%	3.59x	3.15x	nm	23.5x
MobileIron, Inc.	MOBL	\$ 5.30	92.8% - 165.6%	456.2	181.1	4.8%	-25.9%	2.52x	2.14x	na	nm
Okta, Inc.	OKTA	\$ 70.36	93.2% - 284.7%	8,036.7	325.6	28.8%	-37.0%	24.68x	16.26x	na	na
OneSpan Inc.	OSPN	\$ 19.05	74.9% - 164.9%	659.2	200.6	8.9%	5.8%	3.29x	2.83x	nm	21.2x
Palo Alto Networks, Inc.	PANW	\$ 225.26	94.1% - 165.8%	19,884.4	2,273.1	17.8%	0.3%	8.75x	6.58x	nm	24.9x
Proofpoint, Inc.	PFPT	\$ 106.33	81.6% - 128.7%	5,815.6	611.5	26.4%	-5.9%	9.51x	6.44x	na	41.8x
Qualys, Inc.	QLYS	\$ 89.10	90.6% - 178.2%	3,348.0	255.4	19.3%	26.2%	13.11x	10.14x	nm	27.1x
Rapid7, Inc.	RPD	\$ 36.92	93.7% - 216.2%	1,685.3	221.2	22.6%	-21.3%	7.62x	5.90x	na	nm
SailPoint Technologies Holdings, Inc.	SAIL	\$ 34.02	98.3% - 265.4%	2,938.6	215.6	24.0%	7.1%	13.63x	10.14x	nm	nm
SecureWorks Corp.	SCWX	\$ 14.65	92.3% - 187.1%	1,096.5	492.9	9.5%	-7.7%	2.22x	1.93x	na	nm
Symantec Corporation	SYMC	\$ 21.28	62.7% - 119.5%	16,121.1	4,827.0	2.6%	25.6%	3.34x	3.30x	13.1x	7.7x
Tenable Holdings, Inc.	TENB	\$ 38.88	99.2% - 133.6%	4,077.3	225.8	24.3%	-22.0%	18.06x	12.33x	na	na
Zscaler, Inc.	ZS	\$ 40.78	84.5% - 164.7%	4,788.2	190.2	36.4%	-10.3%	25.18x	16.29x	na	nm
		<i>Mean</i>	87.6% - 171.9%	\$ 5,979.6	\$ 838.6	16.9%	-4.6%	9.50x	7.04x	15.6x	24.2x
		<i>Median</i>	92.2% - 165.3%	\$ 3,243.4	\$ 290.8	18.6%	-6.8%	8.23x	6.17x	15.6x	24.9x

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Sources of information: S&P Capital IQ.

### Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Large Diversified</b>											
Apple Inc.	AAPL	\$ 225.74	98.3% - 150.3%	\$ 1,133,938.4	\$ 255,274.0	2.1%	30.8%	4.44x	4.01x	14.4x	13.7x
Hewlett Packard Enterprise Company	HPE	\$ 16.31	83.7% - 127.3%	31,648.2	30,566.0	1.9%	9.9%	1.04x	1.01x	10.4x	5.8x
HP Inc.	HPQ	\$ 25.77	98.3% - 133.5%	40,981.8	57,033.0	3.2%	8.3%	0.72x	0.69x	8.6x	8.0x
International Business Machines Corporation	IBM	\$ 151.21	88.4% - 110.0%	172,021.7	80,771.0	0.4%	21.1%	2.13x	2.15x	10.1x	8.6x
Oracle Corporation	ORCL	\$ 51.56	96.4% - 121.1%	198,365.7	39,920.0	2.1%	40.5%	4.97x	4.86x	12.3x	10.3x
		<i>Mean</i>	93.0% - 128.4%	\$ 315,391.2	\$ 92,712.8	2.0%	22.1%	2.66x	2.55x	11.2x	9.3x
		<i>Median</i>	96.4% - 127.3%	\$ 172,021.7	\$ 57,033.0	2.1%	21.1%	2.13x	2.15x	10.4x	8.6x
<b>Networking</b>											
A10 Networks, Inc.	ATEN	\$ 6.08	73.7% - 108.0%	\$ 319.6	\$ 227.4	na	-7.2%	1.41x	1.33x	na	27.6x
Arista Networks, Inc.	ANET	\$ 265.86	84.8% - 149.4%	18,755.7	1,897.8	19.0%	31.9%	9.88x	7.19x	30.9x	20.2x
Cisco Systems, Inc.	CSCO	\$ 48.32	98.5% - 145.7%	201,655.6	49,330.0	4.6%	29.9%	4.09x	3.85x	13.7x	10.8x
Extreme Networks, Inc.	EXTR	\$ 5.48	35.2% - 104.4%	726.0	983.1	5.6%	8.2%	0.74x	0.70x	9.0x	5.5x
F5 Networks, Inc.	FFIV	\$ 199.42	99.9% - 174.0%	11,044.1	2,136.7	2.9%	30.4%	5.17x	4.91x	17.0x	12.2x
Juniper Networks, Inc.	JNPR	\$ 29.97	99.3% - 126.9%	9,349.8	4,784.0	3.3%	19.2%	1.95x	1.92x	10.2x	8.6x
NETGEAR, Inc.	NTGR	\$ 62.85	80.3% - 142.2%	1,682.0	1,464.3	24.9%	6.4%	1.15x	1.13x	17.9x	14.2x
NetScout Systems, Inc.	NTCT	\$ 25.25	75.4% - 109.1%	2,174.5	966.1	0.6%	15.4%	2.25x	2.21x	14.6x	na
		<i>Mean</i>	80.9% - 132.5%	\$ 30,713.4	\$ 7,723.7	8.7%	16.8%	3.33x	2.91x	16.2x	14.2x
		<i>Median</i>	82.6% - 134.6%	\$ 5,762.2	\$ 1,681.1	4.6%	17.3%	2.10x	2.07x	14.6x	12.2x
<b>Storage</b>											
NetApp, Inc.	NTAP	\$ 85.49	97.1% - 198.9%	\$ 19,247.2	\$ 6,064.0	3.0%	19.8%	3.17x	2.96x	16.1x	11.3x
Pure Storage, Inc.	PSTG	\$ 25.95	89.1% - 171.3%	5,990.9	1,180.5	20.1%	-10.1%	5.07x	3.44x	na	29.4x
Quantum Corporation	QTM	\$ 2.40	36.6% - 151.9%	201.4	478.2	na	1.8%	0.42x	na	23.1x	na
		<i>Mean</i>	74.2% - 174.0%	\$ 8,479.8	\$ 2,574.3	11.5%	3.8%	2.89x	3.20x	19.6x	20.3x
		<i>Median</i>	89.1% - 171.3%	\$ 5,990.9	\$ 1,180.5	11.5%	1.8%	3.17x	3.20x	19.6x	20.3x

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### Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Internet Retail</b>											
Amazon.com, Inc.	AMZN	\$ 2,003.00	97.7% - 210.8%	\$ 995,684.6	\$ 208,125.0	19.5%	9.9%	4.78x	3.47x	48.3x	23.4x
Blue Apron Holdings, Inc.	APRN	\$ 1.72	30.8% - 104.9%	344.9	774.5	16.8%	-15.5%	0.45x	0.45x	na	na
Booking Holdings Inc.	BKNG	\$ 1,984.00	89.0% - 121.7%	95,659.3	13,702.4	11.5%	39.9%	6.98x	5.96x	17.5x	15.0x
CarGurus, Inc.	CARG	\$ 55.69	97.3% - 215.4%	6,172.0	382.6	22.9%	3.4%	16.13x	11.33x	nm	nm
eBay Inc.	EBAY	\$ 33.02	70.3% - 101.3%	37,908.9	10,065.0	10.0%	29.8%	3.77x	3.25x	12.6x	9.8x
Etsy, Inc.	ETSY	\$ 51.38	96.5% - 336.5%	5,976.6	495.9	21.8%	15.3%	12.05x	7.82x	nm	32.2x
Eventbrite, Inc.	EB	\$ 37.97	94.3% - 117.2%	3,432.4	255.5	na	-4.5%	13.43x	na	na	na
EverQuote, Inc.	EVER	\$ 14.86	67.3% - 123.7%	463.5	146.3	18.7%	-2.5%	3.17x	2.41x	na	na
Expedia Group, Inc.	EXPE	\$ 130.48	84.6% - 132.4%	21,103.0	10,672.8	10.1%	10.8%	1.98x	1.68x	18.2x	9.7x
Groupon, Inc.	GRPN	\$ 3.77	62.9% - 103.3%	1,705.0	2,751.6	2.1%	4.7%	0.62x	0.64x	13.3x	5.5x
GrubHub Inc.	GRUB	\$ 138.62	92.8% - 276.6%	12,343.6	840.5	26.1%	20.9%	14.69x	9.89x	nm	35.0x
Match Group, Inc.	MTCH	\$ 57.91	95.0% - 250.0%	17,355.7	1,550.9	14.6%	33.2%	11.19x	8.70x	33.7x	22.4x
Netflix, Inc.	NFLX	\$ 374.13	88.4% - 211.9%	173,535.3	13,878.7	21.4%	10.4%	12.50x	8.81x	nm	nm
Overstock.com, Inc.	OSTK	\$ 27.70	30.8% - 111.9%	732.1	1,808.8	6.7%	-7.7%	0.40x	0.37x	na	na
Shutterstock, Inc.	SFLY	\$ 65.89	65.7% - 165.7%	3,231.8	1,432.3	5.5%	14.5%	2.26x	1.42x	15.6x	7.5x
Stitch Fix, Inc.	SFIX	\$ 43.77	83.5% - 302.3%	4,107.3	1,166.5	20.3%	3.8%	3.52x	2.55x	nm	nm
TripAdvisor, Inc.	TRIP	\$ 51.07	81.9% - 173.1%	6,346.5	1,571.0	10.0%	10.8%	4.04x	3.58x	37.6x	15.5x
Wayfair Inc.	W	\$ 147.67	97.7% - 266.9%	13,165.1	5,696.7	24.5%	-4.6%	2.31x	1.52x	na	na
		<i>Mean</i>	<i>79.2% - 184.8%</i>	<i>\$ 77,737.1</i>	<i>\$ 15,295.4</i>	<i>15.4%</i>	<i>9.6%</i>	<i>6.35x</i>	<i>4.34x</i>	<i>24.6x</i>	<i>17.6x</i>
		<i>Median</i>	<i>86.5% - 169.4%</i>	<i>\$ 6,259.3</i>	<i>\$ 1,560.9</i>	<i>16.8%</i>	<i>10.1%</i>	<i>3.90x</i>	<i>3.25x</i>	<i>17.9x</i>	<i>15.2x</i>

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Sources of information: S&P Capital IQ.

### Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Internet Content and Search</b>											
Alphabet Inc.	GOOG.L	\$ 1,207.08	93.5% - 125.5%	\$ 736,703.8	\$ 123,898.0	18.6%	30.8%	5.95x	4.59x	19.3x	12.0x
AutoWeb, Inc.	AUTO	\$ 2.96	29.9% - 111.7%	20.8	131.8	-2.0%	-2.5%	0.16x	0.17x	na	na
Care.com, Inc.	CRCM	\$ 22.11	96.3% - 153.9%	665.7	182.0	11.7%	7.3%	3.66x	3.05x	nm	17.7x
CoStar Group, Inc.	CSGP	\$ 420.84	93.9% - 164.8%	14,429.2	1,072.3	16.2%	26.7%	13.46x	10.41x	nm	28.8x
Facebook, Inc.	FB	\$ 164.46	75.2% - 110.4%	432,975.8	48,497.0	21.6%	56.5%	8.93x	6.24x	15.8x	10.9x
Snap Inc.	SNAP	\$ 8.48	40.0% - 101.0%	9,278.3	986.6	35.7%	-146.9%	9.40x	5.88x	na	na
TechTarget, Inc.	TTGT	\$ 19.42	56.3% - 167.3%	530.8	117.1	13.1%	18.5%	4.53x	3.80x	24.4x	13.1x
TripAdvisor, Inc.	TRIP	\$ 51.07	81.9% - 173.1%	6,346.5	1,571.0	10.0%	10.8%	4.04x	3.58x	37.6x	15.5x
Twitter, Inc.	TWTR	\$ 28.46	59.6% - 169.9%	18,594.2	2,696.6	12.6%	21.7%	6.90x	5.65x	31.7x	14.9x
Yelp Inc.	YELP	\$ 49.20	93.7% - 135.1%	3,469.5	896.6	14.3%	4.4%	3.87x	3.07x	nm	14.3x
Yext, Inc.	YEXT	\$ 23.70	87.2% - 224.0%	2,452.8	198.5	31.2%	-34.2%	12.35x	8.17x	na	na
Zillow Group, Inc.	ZG	\$ 44.20	67.6% - 114.0%	8,655.1	1,189.3	52.3%	6.6%	7.28x	4.45x	nm	27.2x
		<i>Mean</i>	<i>72.9% - 145.9%</i>	<i>\$ 102,843.5</i>	<i>\$ 15,119.7</i>	<i>19.6%</i>	<i>0.0%</i>	<i>6.71x</i>	<i>4.92x</i>	<i>25.8x</i>	<i>17.1x</i>
		<i>Median</i>	<i>78.6% - 144.5%</i>	<i>\$ 7,500.8</i>	<i>\$ 1,029.4</i>	<i>15.3%</i>	<i>9.0%</i>	<i>6.42x</i>	<i>4.52x</i>	<i>24.4x</i>	<i>14.9x</i>

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Sources of information: S&P Capital IQ.



# PROFESSIONAL SERVICES AND DISTRIBUTION

Technology Investment Banking

## Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Large Diversified</b>											
International Business Machines Corporation	IBM	\$ 151.21	88.4% - 110.0%	\$ 172,021.7	\$ 80,771.0	0.4%	21.1%	2.13x	2.15x	10.1x	8.6x
<b>Consulting</b>											
CACI International Inc	CACI	\$ 184.15	91.7% - 151.4%	\$ 5,545.1	\$ 4,467.9	3.6%	9.1%	1.24x	1.12x	13.6x	12.3x
Cognizant Technology Solutions Corporation	CTSH	\$ 77.15	90.7% - 110.7%	41,304.7	15,512.0	7.7%	20.6%	2.66x	2.35x	12.9x	10.7x
DXC Technology Company	DXC	\$ 93.52	86.7% - 120.0%	31,302.8	24,602.0	2.7%	22.0%	1.27x	1.44x	5.8x	6.4x
EPAM Systems, Inc.	EPAM	\$ 137.70	95.5% - 162.0%	7,242.8	1,646.6	21.9%	14.8%	4.40x	3.25x	29.6x	17.9x
ManTech International Corporation	MANT	\$ 63.30	92.9% - 146.0%	2,540.2	1,849.2	10.5%	8.1%	1.37x	1.21x	17.0x	13.6x
Perficient, Inc.	PRFT	\$ 26.65	85.7% - 151.0%	973.3	487.6	6.4%	11.7%	2.00x	1.84x	17.1x	11.5x
Presidio, Inc.	PSDO	\$ 15.25	77.3% - 127.4%	2,133.6	2,858.0	4.2%	7.5%	0.75x	0.73x	9.9x	9.0x
Science Applications International Corporation	SAIC	\$ 80.25	86.0% - 121.5%	4,375.0	4,563.0	4.0%	7.2%	0.96x	0.92x	13.3x	12.3x
Unisys Corporation	UIS	\$ 20.40	97.4% - 283.3%	1,343.4	2,786.9	na	9.7%	0.48x	0.48x	5.0x	3.3x
Virtusa Corporation	VRTU	\$ 53.71	91.7% - 154.4%	1,818.8	1,093.4	9.7%	7.5%	1.66x	1.33x	22.0x	13.5x
		<i>Mean</i>	<i>89.6% - 152.8%</i>	<i>\$ 9,858.0</i>	<i>\$ 5,986.7</i>	<i>7.9%</i>	<i>11.8%</i>	<i>1.68x</i>	<i>1.47x</i>	<i>14.6x</i>	<i>11.1x</i>
		<i>Median</i>	<i>91.2% - 148.5%</i>	<i>\$ 3,457.6</i>	<i>\$ 2,822.5</i>	<i>6.4%</i>	<i>9.4%</i>	<i>1.32x</i>	<i>1.27x</i>	<i>13.4x</i>	<i>11.9x</i>
<b>Infrastructure Outsourcing</b>											
Akamai Technologies, Inc.	AKAM	\$ 73.15	88.0% - 153.7%	\$ 12,084.8	\$ 2,628.4	8.0%	25.5%	4.60x	4.13x	18.0x	10.3x
Limelight Networks, Inc.	LLNW	\$ 5.02	83.0% - 136.0%	546.1	196.6	12.1%	11.6%	2.78x	2.45x	23.8x	12.1x
		<i>Mean</i>	<i>85.5% - 144.9%</i>	<i>\$ 6,315.4</i>	<i>\$ 1,412.5</i>	<i>10.1%</i>	<i>18.6%</i>	<i>3.69x</i>	<i>3.29x</i>	<i>20.9x</i>	<i>11.2x</i>
		<i>Median</i>	<i>85.5% - 144.9%</i>	<i>\$ 6,315.4</i>	<i>\$ 1,412.5</i>	<i>10.1%</i>	<i>18.6%</i>	<i>3.69x</i>	<i>3.29x</i>	<i>20.9x</i>	<i>11.2x</i>

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Sources of information: S&P Capital IQ.

# PROFESSIONAL SERVICES AND DISTRIBUTION (CONTINUED) Technology Investment Banking

## Selected Companies Review

(\$ in millions, except per security)

Company	Ticker	Market Statistics			Metrics			Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	Rev. Growth	LTM EBITDA	EV / Revenue		EV / EBITDA	
		28-Sep-18	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
<b>Solution Providers</b>											
CDW Corporation	CDW	\$ 88.92	98.3% - 135.6%	\$ 17,136.0	\$ 15,836.4	5.3%	7.6%	1.08x	1.01x	14.3x	12.6x
ePlus inc.	PLUS	\$ 92.70	86.4% - 137.0%	1,398.6	1,394.2	na	7.4%	1.00x	0.93x	13.6x	11.9x
Insight Enterprises, Inc.	NSIT	\$ 54.09	95.1% - 168.5%	2,135.8	7,141.9	na	3.6%	0.30x	0.28x	8.2x	7.1x
PC Connection, Inc.	CNXN	\$ 38.89	90.3% - 171.6%	977.5	2,823.0	na	3.4%	0.35x	0.34x	10.1x	8.6x
PCM, Inc.	PCMI	\$ 19.55	77.5% - 283.3%	414.8	2,203.9	na	1.7%	0.19x	0.18x	10.8x	6.8x
		<i>Mean</i>	89.5% - 179.2%	\$ 4,412.5	\$ 5,879.9	5.3%	4.8%	0.58x	0.55x	11.4x	9.4x
		<i>Median</i>	90.3% - 168.5%	\$ 1,398.6	\$ 2,823.0	5.3%	3.6%	0.35x	0.34x	10.8x	8.6x
<b>Distribution</b>											
Anixter International Inc.	AXE	\$ 70.30	79.1% - 125.0%	\$ 3,587.1	\$ 8,132.3	na	4.7%	0.44x	0.41x	9.3x	7.8x
Arrow Electronics, Inc.	ARW	\$ 73.72	84.5% - 101.9%	9,981.6	28,921.6	0.1%	4.5%	0.35x	0.33x	7.7x	6.9x
Avnet, Inc.	AVT	\$ 44.77	90.6% - 117.4%	6,224.0	19,036.9	1.7%	3.8%	0.33x	0.30x	8.6x	6.6x
ScanSource, Inc.	SCSC	\$ 39.90	88.0% - 127.1%	1,245.4	3,846.3	na	3.6%	0.32x	0.30x	8.9x	8.0x
SYNNEX Corporation	SNX	\$ 84.33	59.4% - 99.9%	4,822.2	19,113.5	na	3.7%	0.25x	0.24x	6.8x	6.2x
Tech Data Corporation	TECD	\$ 71.57	65.9% - 101.9%	3,471.0	39,093.5	na	1.6%	0.09x	0.09x	5.5x	4.4x
		<i>Mean</i>	77.9% - 112.2%	\$ 4,888.6	\$ 19,690.7	0.9%	3.7%	0.30x	0.28x	7.8x	6.6x
		<i>Median</i>	81.8% - 109.7%	\$ 4,204.7	\$ 19,075.2	0.9%	3.8%	0.33x	0.30x	8.1x	6.8x

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