



Cassel Salpeter & Co.
INVESTMENT BANKING

Technology Investment Banking
Q1 2019 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

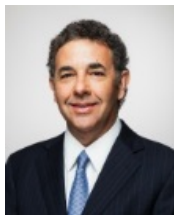
- Financial advisory
- Sales to strategic and private equity buyers
- Divestitures to strategic and private equity buyers
- Buy-side acquisition programs
- Leveraged & management buyouts
- Going private transactions

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



James Cassel
Chairman
jcassel@cs-ib.com
305-438-7701



Scott Salpeter
President
ssalpeter@cs-ib.com
305-438-7702

www.casselsalpeter.com

I **Q1 TECHNOLOGY DEALS**

II **M&A TRANSACTIONS**

III **PUBLIC MARKETS REVIEW**

Q1 2019 SELECTED MERGERS AND ACQUISITIONS

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
28-Mar-19	na	Ipswitch, Inc.	Progress Software Corporation	\$ 225.0	\$ 75.0	na	3.00x	na	na	na
27-Mar-19	na	Quantenna Communications, Inc.	ON Semiconductor Corporation	946.4	220.5	3.5%	4.29x	123.38x	19.3%	29.6%
18-Mar-19	na	Worldpay, Inc.	Fidelity National	44,367.2	3,925.4	39.4%	11.30x	28.67x	13.6%	27.1%
11-Mar-19	1-Apr-19	Voalte, Inc.	Hill-Rom, Inc.	195.0	40.0	na	4.88x	na	na	na
11-Mar-19	na	Mellanox Technologies, Ltd.	NVIDIA Corporation	6,857.8	1,088.7	22.1%	6.00x	25.95x	14.3%	28.7%
10-Mar-19	2-Apr-19	Figure Eight Inc.	Appen Limited	300.0	29.3	-39.8%	10.26x	na	na	na
5-Mar-19	5-Mar-19	Prescribe Wellness, LLC	Tabula Rasa HealthCare, Inc.	150.0	29.0	1.0%	5.17x	na	na	na
4-Mar-19	31-Mar-19	Mist Systems, Inc.	Juniper Networks, Inc.	405.0	na	na	na	na	na	na
28-Feb-19	na	SpeedPay, Inc.	ACI Worldwide, Inc.	750.0	350.0	25.7%	2.14x	8.33x	na	na
13-Feb-19	1-Apr-19	Auris Health, Inc.	Ethicon US, LLC	5,750.0	na	na	na	na	na	na
12-Feb-19	17-Apr-19	Ellie Mae, Inc.	Thoma Bravo	3,380.7	480.3	11.8%	7.04x	59.58x	20.8%	46.3%
7-Feb-19	26-Mar-19	Webroot Inc.	Carbonite, Inc.	618.5	215.0	na	2.88x	na	na	na
4-Feb-19	na	Ultimate Software	Hellman & Friedman	10,822.4	1,140.5	10.8%	9.49x	88.01x	19.3%	32.2%
1-Feb-19	28-Feb-19	MicroPact Inc.	Tyler Technologies, Inc.	195.0	70.0	na	2.79x	na	na	na
23-Jan-19	23-Jan-19	Trendkite, Inc.	Cision Ltd.	221.1	25.4	na	8.70x	na	na	na
18-Jan-19	25-Feb-19	Fulcrum IT Services, LLC	Huntington Ingalls Industries, Inc.	193.0	na	na	na	na	na	na
16-Jan-19	na	First Data Corporation	Fiserv, Inc.	44,250.0	8,679.0	38.0%	5.10x	13.41x	29.6%	38.5%
15-Jan-19	20-Feb-19	AppRiver, LLC	Zix Corporation	275.0	na	na	na	na	na	na
8-Jan-19	7-Jan-19	Dynasty Marketplace, Inc.	AppFolio, Inc.	60.0	na	na	na	na	na	na
2-Jan-19	2-Jan-19	YourCause, LLC	Blackbaud, Inc.	157.0	na	na	na	na	na	na

Sources of information: S&P Capital IQ.

I

2018 NOTABLE TECHNOLOGY DEALS

II

M&A TRANSACTIONS

III

PUBLIC MARKETS REVIEW

Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics		Valuation Benchmarks		Stock Price Premiums	
Annc.	Closed	Target	Acquirer		Target TTM		Implied EV /		Stock Price Premiums	
					Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
Application Software										
23-Jan-19	23-Jan-19	Trendkite, Inc.	Cision Ltd.	\$ 221.1	\$ 25.4	na	8.70x	na	na	na
8-Jan-19	7-Jan-19	Dynasty Marketplace, Inc.	AppFolio, Inc.	60.0	na	na	na	na	na	na
2-Jan-19	2-Jan-19	YourCause, LLC	Blackbaud, Inc.	157.0	na	na	na	na	na	na
11-Nov-18	10-Jan-19	Apptio, Inc.	Vista Equity Partners LLC	1,867.2	224.7	-6.2%	8.31x	na	52.9%	24.9%
11-Nov-18	23-Jan-19	Qualtrics International Inc.	SAP America, Inc.	8,000.0	372.4	3.1%	21.48x	na	na	na
15-Oct-18	1-Feb-19	SendGrid, Inc.	Twilio Inc.	2,676.1	137.2	4.8%	19.51x	na	17.3%	0.5%
20-Sep-18	31-Oct-18	Marketo, Inc.	Adobe Inc.	4,750.0	na	na	na	na	na	na
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	nm	na	na
1-May-17	9-Jun-17	Jive Software, Inc.	Wave Systems Corp.	343.5	203.5	2.4%	1.69x	nm	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 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	nm	5.3%	-1.6%
1-Jun-16	8-Jul-16	Demandware, LLC	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	nm	60.3%	55.5%
18-Apr-16	29-Nov-16	Cvent, Inc.	Vista Equity Partners	1,468.3	219.5	3.5%	6.69x	nm	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%
Mean				\$ 1,690.7	\$ 253.3	1.2%	6.76x	24.27x	30.0%	33.8%
Median				\$ 761.0	\$ 203.5	2.2%	5.86x	25.85x	20.3%	28.5%

Sources of information: S&P Capital IQ.

SOFTWARE (CONTINUED)

Technology Investment Banking

Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics		Valuation Benchmarks		Stock Price Premiums	
					Target TTM		Implied EV /		1-Day	
Annc.	Closed	Target	Acquirer	Value	Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
Vertical Software										
12-Feb-19	17-Apr-19	Ellie Mae, Inc.	Thoma Bravo, LLC, Thoma Bravo Fund VIII LP	\$ 3,380.7	\$ 480.3	11.8%	7.04x	59.58x	20.8%	46.3%
6-Sep-18	16-Nov-18	IntraLinks Holdings, Inc.	SS&C Technologies Holdings, Inc.	1,428.4	325.0	40.6%	4.39x	10.82x	na	na
10-Aug-18	4-Oct-18	TravelClick, Inc.	Amadeus Americas, Inc.	1,520.0	373.0	23.1%	4.08x	17.67x	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
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
21-May-18	18-Jun-18	Magento, Inc.	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%
Mean				\$ 1,320.9	\$ 213.4	17.4%	6.60x	63.49x	27.2%	38.6%
Median				\$ 1,314.2	\$ 180.8	11.8%	6.17x	30.35x	25.5%	34.0%
Healthcare Software										
13-Feb-19	1-Apr-19	Auris Health, Inc.	Ethicon US, LLC	\$ 5,750.0	na	na	na	na	na	na
11-Mar-19	1-Apr-19	Voalte, Inc.	Hill-Rom, Inc.	195.0	40.0	na	4.88x	na	na	na
5-Mar-19	5-Mar-19	Prescribe Wellness, LLC	Tabula Rasa HealthCare, Inc.	150.0	29.0	1.0%	5.17x	na	na	na
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				\$ 1,125.8	\$ 139.7	20.7%	6.15x	30.03x	16.6%	19.3%
Median				\$ 360.3	\$ 113.2	21.3%	5.86x	20.87x	16.6%	19.3%

Sources of information: S&P Capital IQ.

SOFTWARE (CONTINUED)

Technology Investment Banking

Selected Transactions Review

(\$ in millions)

Transaction					Metrics		Valuation Benchmarks				
Date		Target	Acquirer	Enterprise	Target TTM		Implied EV /		Stock Price Premiums		
Annc.	Closed			Value	Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
Infrastructure Software											
1-Feb-19	28-Feb-19	MicroPact Inc.	Tyler Technologies, Inc.	\$ 195.0	\$ 70.0	na	2.79x	na	na	na	
4-Mar-19	31-Mar-19	Mist Systems, Inc.	International Business Machines	405.0	na	na	na	na	na	na	
28-Oct-18	na	Red Hat, Inc.	International Business Machines	33,299.3	3,255.4	19.1%	9.90x	53.60x	62.8%	39.4%	
3-Oct-18	3-Jan-19	Hortonworks, Inc.	Cloudera, Inc.	2,005.4	327.6	-46.3%	6.12x	na	2.6%	-1.2%	
11-Jul-18	5-Nov-18	CA, Inc.	Broadcom Inc.	18,588.0	4,148.0	30.2%	4.64x	16.38x	19.8%	22.3%	
4-Jun-18	25-Oct-18	GitHub, Inc.	Microsoft Corporation	7,500.0	300.0	na	25.00x	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	
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	
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%	
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%	
				Mean	\$ 4,160.9	\$ 786.1	-3.9%	6.96x	28.71x	25.4%	27.2%
				Median	\$ 998.0	\$ 296.0	7.2%	4.73x	28.48x	21.1%	27.5%

Sources of information: S&P Capital IQ.

Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics		Valuation Benchmarks			
					Target TTM		Implied EV /		Stock Price Premiums	
Annc.	Closed	Target	Acquirer	Value	Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
Security										
7-Feb-19	26-Mar-19	Webroot Inc.	Carbonite, Inc.	\$ 618.5	\$ 215.0	na	2.88x	na	na	na
15-Jan-19	20-Feb-19	AppRiver, LLC	Zix Corporation	275.0	na	na	na	na	na	na
16-Nov-18	21-Feb-19	Cylance Inc.	BlackBerry Limited	1,500.0	130.0	na	11.54x	na	na	na
5-Nov-18	31-Dec-18	Veracode, Inc.	Thoma Bravo, LLC	950.0	na	na	na	na	na	na
10-Oct-18	10-Jan-19	Imperva, Inc.	Thoma Bravo, LLC	1,814.7	351.8	1.4%	5.16x	na	29.5%	21.5%
3-Jan-18	31-Jan-18	Spikes Inc.	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
Mean				\$ 847.9	\$ 203.6	2.6%	5.36x	17.14x	22.1%	29.4%
Median				\$ 548.5	\$ 130.6	1.4%	3.82x	17.14x	16.3%	31.6%

Sources of information: S&P Capital IQ.

Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics		Valuation Benchmarks			
Annc.	Closed	Target	Acquirer		Target TTM		Implied EV /		Stock Price Premiums	
					Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
Enterprise Systems										
28-Mar-19	na	Ipswitch, Inc.	Progress Software Corporation	\$ 225.0	\$ 75.0	na	3.00x	na	na	na
27-Mar-19	na	Quantenna Communications, Inc.	ON Semiconductor Corporation	946.4	220.5	3.5%	4.29x	123.38x	19.3%	29.6%
18-Mar-19	na	Worldpay, Inc.	Priority National Information Services, Inc.	44,367.2	3,925.4	39.4%	11.30x	28.67x	13.6%	27.1%
11-Mar-19	na	Mellanox Technologies, Ltd.	NVIDIA Corporation	6,857.8	1,088.7	22.1%	6.00x	25.95x	14.3%	28.7%
28-Feb-19	na	SpeedPay, Inc.	ACI Worldwide, Inc.	750.0	350.0	25.7%	2.14x	8.33x	na	na
4-Feb-19	na	The Ultimate Software Group, Inc.	Hellman & Friedman & Others	10,822.4	1,140.5	10.8%	9.49x	88.01x	19.3%	32.2%
16-Jan-19	na	First Data Corporation	Fiserv, Inc.	44,250.0	8,679.0	38.0%	5.10x	13.41x	29.6%	38.5%
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 Audio 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.	TDK 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.	na	58.5	na	na	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				\$ 6,803.9	\$ 1,869.3	8.6%	3.35x	33.47x	28.8%	37.7%
Median				\$ 908.2	\$ 375.1	8.2%	2.57x	21.00x	19.3%	31.9%

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		
Annc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month	
Internet Content and Search											
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, Inc.	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	
				Mean	\$ 2,881.2	\$ 615.8	11.7%	2.41x	36.04x	49.4%	53.8%
				Median	\$ 464.6	\$ 302.3	12.1%	1.83x	14.67x	33.7%	34.8%
Internet Retail											
24-Dec-18	15-Feb-19	MINDBODY, Inc.	Vista Equity Partners	\$ 1,829.3	\$ 228.9	-8.3%	7.99x	na	68.0%	42.6%	
25-Sep-18	21-Dec-18	XO Group Inc.	WeddingWire, Inc.	804.4	164.7	14.1%	4.88x	34.74x	26.6%	13.8%	
23-Aug-18	na	DHI Group, Inc.	TCS Capital Management, LLC	na	161.6	13.5%	na	na	27.5%	21.4%	
7-Apr-17	5-May-17	eBags, Inc.	Samsonite LLC	105.0	158.5	na	0.66x	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	
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%	
				Mean	\$ 1,287.5	\$ 464.4	3.3%	3.03x	35.05x	32.5%	40.7%
				Median	\$ 804.4	\$ 228.9	5.2%	1.71x	31.28x	27.1%	32.7%

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	
Annc.	Closed				Revenue	EBITDA %	Revenue	EBITDA	1-Day	1-Month
Consulting										
18-Jan-19	25-Feb-19	Fulcrum IT Services, LLC	Huntington Ingalls Industries, Inc.	\$ 193.0	na	na	na	na	na	na
22-Jul-18	9-Oct-18	Atos Syntel	Atos SE	3,541.6	966.2	27.4%	3.67x	13.40x	4.8%	28.1%
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	NCI, 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)	11,574.9	17,787.0	13.6%	0.65x	4.78x	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
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
Mean				\$ 3,178.6	\$ 2,989.4	16.2%	1.85x	11.85x	9.5%	18.2%
Median				\$ 690.0	\$ 983.1	15.1%	1.75x	12.57x	4.7%	20.8%
Infrastructure Outsourcing										
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.	Apollo Global Mgt and Searchlight	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
Mean				\$ 1,160.7	\$ 811.8	15.6%	1.00x	7.14x	5.6%	8.8%
Median				\$ 223.1	\$ 756.5	16.1%	1.12x	7.25x	3.9%	1.6%
Distribution										
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
Mean				\$ 2,533.4	\$ 13,852.0	1.5%	0.22x	12.14x	32.2%	43.3%
Median				\$ 1,737.5	\$ 7,092.3	1.5%	0.23x	12.14x	32.2%	43.3%

Sources of information: S&P Capital IQ.

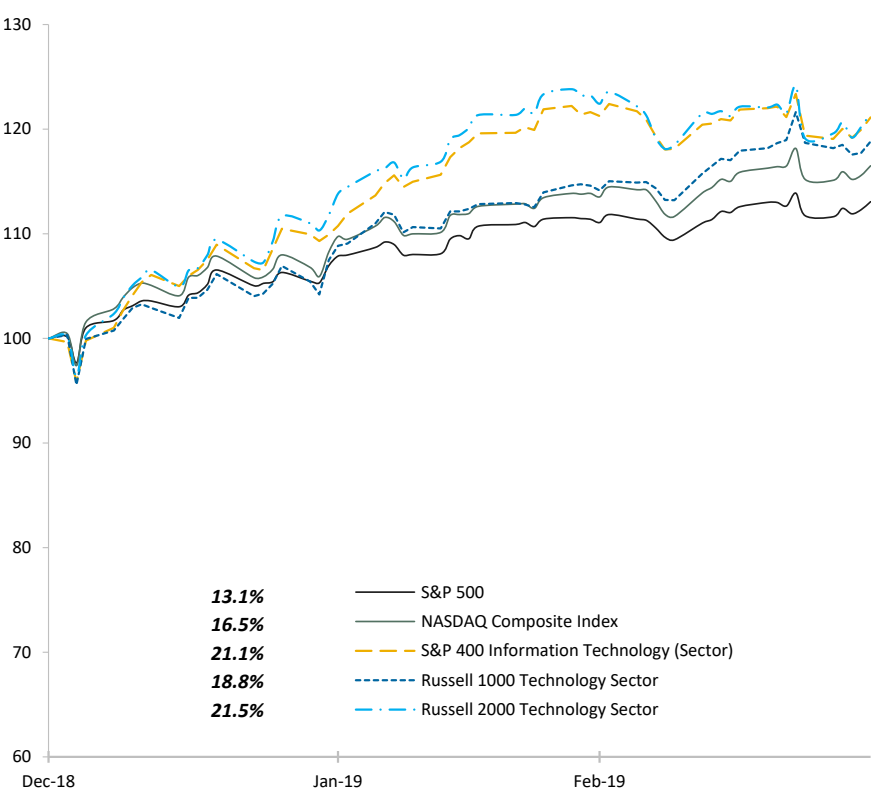
I 2018 NOTABLE TECHNOLOGY DEALS

II M&A TRANSACTIONS

III **PUBLIC MARKETS REVIEW**

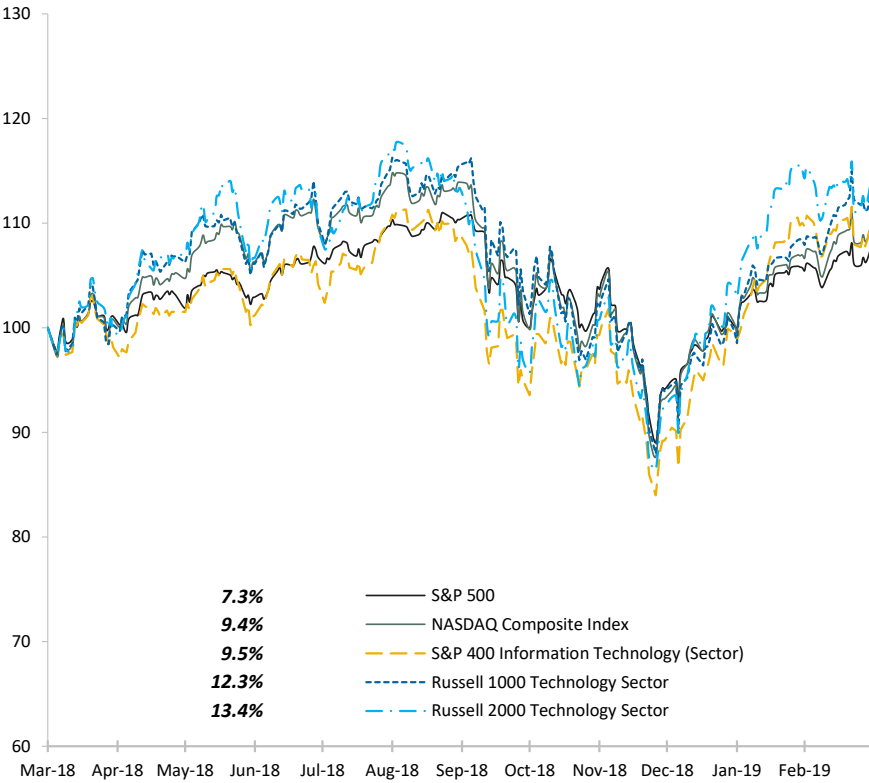
Relative Performance

Quarterly - December 31, 2018 to March 29, 2019



Sources of information: S&P Capital IQ.

Annual - March 29, 2018 to March 29, 2019



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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Large Diversified											
Adobe Inc.	ADBE	\$ 266.49	96.0% - 130.0%	\$ 130,943.7	\$ 9,552.0	17.8%	34.0%	13.71x	11.72x	40.3x	26.0x
Microsoft Corporation	MSFT	\$ 117.94	97.6% - 134.8%	862,670.9	118,459.0	9.9%	41.9%	7.28x	6.64x	17.4x	15.5x
Oracle Corporation	ORCL	\$ 53.71	98.8% - 126.7%	205,174.8	39,831.0	2.3%	41.0%	5.15x	5.17x	12.6x	11.1x
		Mean	97.5% - 130.5%	\$ 399,596.5	\$ 55,947.3	10.0%	39.0%	8.71x	7.84x	23.4x	17.6x
		Median	97.6% - 130.0%	\$ 205,174.8	\$ 39,831.0	9.9%	41.0%	7.28x	6.64x	17.4x	15.5x
Application Software											
Anaplan, Inc.	PLAN	\$ 39.36	94.3% - 193.2%	\$ 5,100.2	\$ 240.6	29.0%	-47.9%	nm	16.30x	na	na
Avalara, Inc.	AVLR	\$ 55.79	93.9% - 198.6%	4,048.3	272.1	21.0%	-19.9%	14.88x	12.18x	na	na
DocuSign, Inc.	DOCU	\$ 51.84	75.8% - 147.9%	9,552.4	701.0	24.1%	-55.8%	13.63x	10.46x	na	nm
Elastic N.V.	ESTC	\$ 79.87	79.5% - 136.4%	6,210.9	240.6	33.9%	-33.9%	nm	18.26x	na	na
Intuit Inc.	INTU	\$ 261.41	99.9% - 157.0%	67,163.4	6,233.0	10.7%	28.5%	10.78x	9.73x	37.8x	27.0x
Manhattan Associates, Inc.	MANH	\$ 55.11	88.3% - 141.3%	3,459.2	559.2	3.2%	25.5%	6.19x	6.07x	24.3x	26.7x
Smartsheet Inc.	SMAR	\$ 40.79	83.2% - 225.9%	4,294.0	177.7	36.3%	-26.7%	nm	16.81x	na	na
SPS Commerce, Inc.	SPSC	\$ 106.06	93.6% - 171.4%	1,737.5	248.2	9.3%	15.9%	7.00x	6.32x	44.1x	27.3x
SVMK Inc.	SVMK	\$ 18.21	91.1% - 181.2%	2,502.5	254.3	18.3%	-39.1%	9.84x	8.52x	na	48.3x
Workiva Inc.	WK	\$ 50.70	98.7% - 230.5%	2,351.9	244.3	15.7%	-14.9%	9.63x	8.29x	na	na
		Mean	89.8% - 178.3%	\$ 10,642.0	\$ 917.1	20.1%	-16.8%	10.28x	11.29x	35.4x	32.3x
		Median	92.3% - 176.3%	\$ 4,171.1	\$ 251.3	19.6%	-23.3%	9.84x	10.09x	37.8x	27.2x
Human Capital Management											
Benefitfocus, Inc.	BNFT	\$ 49.52	81.6% - 217.7%	\$ 1,643.3	\$ 258.7	16.6%	-10.8%	6.35x	5.39x	na	nm
Cornerstone OnDemand, Inc.	CSOD	\$ 54.78	91.0% - 143.2%	3,268.9	537.9	13.7%	2.5%	6.08x	5.80x	nm	27.0x
Paycom Software, Inc.	PAYC	\$ 189.13	99.2% - 196.1%	11,048.1	566.3	22.3%	33.7%	19.51x	15.51x	nm	38.1x
Paylocity Holding Corporation	PCTY	\$ 89.19	96.4% - 188.6%	4,744.1	417.7	20.0%	10.4%	11.36x	9.42x	nm	32.7x
The Ultimate Software Group, Inc.	ULTI	\$ 330.13	90.2% - 150.1%	10,308.7	1,140.5	19.6%	10.8%	9.04x	7.55x	nm	31.9x
Workday, Inc.	WDAY	\$ 192.85	96.4% - 164.5%	43,176.9	2,822.2	22.6%	-8.5%	15.30x	12.15x	na	nm
		Mean	92.5% - 176.7%	\$ 12,365.0	\$ 957.2	19.1%	6.4%	11.27x	9.30x	na	32.4x
		Median	93.7% - 176.5%	\$ 7,526.4	\$ 552.1	19.8%	6.5%	10.20x	8.48x	na	32.3x

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.

SOFTWARE (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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Sales, Marketing, and Customer Service											
HubSpot, Inc.	HUBS	\$ 166.21	92.3% - 163.8%	\$ 6,809.0	\$ 513.0	23.5%	-6.9%	13.27x	10.45x	na	nm
LivePerson, Inc.	LPSN	\$ 29.02	95.8% - 195.9%	1,847.7	249.8	19.0%	1.0%	7.40x	6.41x	nm	nm
salesforce.com, inc.	CRM	\$ 158.37	94.8% - 139.4%	122,440.9	13,282.0	19.6%	11.5%	9.22x	7.62x	nm	30.4x
ServiceSource International, Inc.	SREV	\$ 0.92	20.6% - 108.8%	61.7	238.3	2.9%	-2.3%	0.26x	0.28x	na	nm
Shopify Inc.	SHOP	\$ 206.62	98.6% - 183.7%	20,988.7	1,073.2	31.7%	-6.4%	19.56x	14.08x	na	nm
Yext, Inc.	YEXT	\$ 21.86	80.4% - 179.2%	2,463.2	228.3	29.9%	-30.2%	10.79x	8.24x	na	na
Zendesk, Inc.	ZEN	\$ 85.00	98.7% - 191.4%	9,509.0	598.7	29.6%	-17.3%	15.88x	11.85x	na	nm
		Mean	83.0% - 166.0%	\$ 23,445.7	\$ 2,311.9	22.3%	-7.2%	10.91x	8.42x	na	30.4x
		Median	94.8% - 179.2%	\$ 6,809.0	\$ 513.0	23.5%	-6.4%	10.79x	8.24x	na	30.4x
Business Analytics											
Alteryx, Inc.	AYX	\$ 83.87	97.9% - 275.4%	\$ 5,207.5	\$ 253.6	31.9%	13.5%	nm	14.89x	nm	nm
Cloudera, Inc.	CLDR	\$ 10.94	48.8% - 108.6%	2,560.6	479.9	21.9%	-32.0%	5.34x	3.03x	na	na
MicroStrategy Incorporated	MSTR	\$ 144.25	95.4% - 124.9%	906.3	497.6	6.9%	1.0%	1.82x	1.75x	nm	34.7x
Tableau Software, Inc.	DATA	\$ 127.28	93.0% - 164.6%	10,156.5	1,155.4	19.0%	-4.7%	8.79x	7.43x	na	47.1x
Teradata Corporation	TDC	\$ 43.65	88.3% - 128.2%	4,969.6	2,164.0	2.1%	5.7%	2.30x	2.44x	40.4x	13.1x
		Mean	84.7% - 160.3%	\$ 4,760.1	\$ 910.1	16.3%	-3.3%	4.56x	5.91x	40.4x	31.6x
		Median	93.0% - 128.2%	\$ 4,969.6	\$ 497.6	19.0%	1.0%	3.82x	3.03x	40.4x	34.7x
Design and Engineering											
ANSYS, Inc.	ANSS	\$ 182.71	95.9% - 133.6%	\$ 14,694.3	\$ 1,293.6	10.3%	41.7%	11.36x	10.18x	27.2x	22.4x
Autodesk, Inc.	ADSK	\$ 155.82	92.2% - 132.4%	35,360.6	2,569.8	21.7%	4.7%	13.76x	10.77x	nm	39.8x
Cadence Design Systems, Inc.	CDNS	\$ 63.51	99.9% - 179.0%	17,954.9	2,138.0	6.3%	24.6%	8.40x	7.84x	34.1x	22.7x
PTC Inc.	PTC	\$ 92.18	85.8% - 123.3%	11,411.0	1,269.9	15.5%	12.9%	8.99x	8.49x	nm	29.2x
Synopsys, Inc.	SNPS	\$ 115.15	100.0% - 145.5%	17,430.1	3,172.0	6.6%	17.6%	5.49x	5.18x	31.3x	19.4x
		Mean	94.8% - 142.7%	\$ 19,370.2	\$ 2,088.7	12.1%	20.3%	9.60x	8.49x	30.9x	26.7x
		Median	95.9% - 133.6%	\$ 17,430.1	\$ 2,138.0	10.3%	17.6%	8.99x	8.49x	31.3x	22.7x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Infrastructure											
Appian Corporation	APPN	\$ 34.43	78.9% - 235.8%	\$ 2,214.7	\$ 226.7	18.0%	-19.7%	9.77x	8.49x	na	na
Carrefour SA	CA	\$ 18.69	91.6% - 128.5%	27,481.0	88,679.9	2.8%	4.4%	0.31x	0.32x	7.0x	6.7x
Carbonite, Inc.	CARB	\$ 24.81	56.9% - 113.6%	782.3	296.4	17.8%	10.1%	2.64x	1.60x	26.1x	6.0x
Citrix Systems, Inc.	CTXS	\$ 99.66	85.3% - 110.3%	14,365.3	2,973.9	4.5%	28.1%	4.83x	4.66x	17.2x	13.1x
Commvault Systems, Inc.	CVLT	\$ 64.74	89.1% - 125.6%	2,550.4	714.4	8.5%	6.3%	3.57x	3.35x	nm	16.7x
Domo, Inc.	DOMO	\$ 40.33	85.7% - 303.7%	1,023.8	142.5	23.3%	-95.0%	7.19x	5.89x	na	na
MongoDB, Inc.	MDB	\$ 147.02	95.0% - 597.2%	8,490.8	267.0	31.5%	-34.4%	nm	nm	na	na
Progress Software Corporation	PRGS	\$ 44.37	93.2% - 146.8%	1,987.5	391.3	3.5%	33.8%	5.08x	4.70x	15.0x	9.5x
Pivotal Software, Inc.	PVTL	\$ 20.85	66.7% - 144.5%	5,225.8	657.5	22.8%	-19.3%	7.95x	6.51x	na	na
SolarWinds Corporation	SWI	\$ 19.52	92.0% - 159.3%	7,604.0	833.1	11.1%	23.6%	9.13x	8.19x	38.7x	16.8x
Splunk Inc.	SPLK	\$ 124.60	86.7% - 148.9%	17,682.1	1,803.0	21.6%	-10.7%	9.81x	7.97x	na	47.9x
Twilio Inc.	TWLO	\$ 129.18	95.0% - 358.1%	16,195.2	650.1	32.9%	-14.1%	nm	15.07x	na	nm
Varonis Systems, Inc.	VRNS	\$ 59.63	71.8% - 122.5%	1,658.1	270.3	12.6%	-9.2%	6.13x	5.52x	na	nm
VMware, Inc.	VMW	\$ 180.51	95.8% - 153.5%	75,617.2	8,974.0	9.8%	27.1%	8.43x	7.53x	31.1x	19.2x
		Mean	84.5% - 203.5%	\$ 13,062.7	\$ 7,634.3	15.8%	-4.9%	6.24x	6.14x	22.5x	17.0x
		Median	87.9% - 147.8%	\$ 6,414.9	\$ 653.8	15.2%	-2.4%	6.66x	5.89x	21.6x	14.9x
Collaboration											
Box, Inc.	BOX	\$ 19.31	64.8% - 123.5%	\$ 2,778.0	\$ 608.4	16.0%	-14.5%	4.57x	3.96x	na	nm
Dropbox, Inc.	DBX	\$ 21.80	50.1% - 117.8%	8,052.0	1,391.7	14.8%	-23.5%	5.79x	4.91x	na	22.0x
LogMeIn, Inc.	LOGM	\$ 80.10	65.1% - 107.0%	4,123.6	1,204.0	5.1%	29.4%	3.42x	3.28x	11.7x	10.1x
RingCentral, Inc.	RNG	\$ 107.80	96.5% - 175.1%	8,558.5	673.6	23.4%	1.4%	12.71x	10.01x	nm	nm
Workiva Inc.	WK	\$ 50.70	98.7% - 230.5%	2,351.9	244.3	15.7%	-14.9%	9.63x	8.29x	na	na
		Mean	75.1% - 150.8%	\$ 5,172.8	\$ 824.4	15.0%	-4.4%	7.22x	6.09x	11.7x	16.0x
		Median	65.1% - 123.5%	\$ 4,123.6	\$ 673.6	15.7%	-14.5%	5.79x	4.91x	11.7x	16.0x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Healthcare											
Cerner Corporation	CERN	\$ 57.21	84.7% - 117.3%	\$ 18,364.3	\$ 5,366.3	7.2%	22.5%	3.42x	3.20x	15.2x	10.9x
Computer Programs and Systems, Inc.	CPSI	\$ 29.69	85.7% - 124.7%	536.8	280.4	3.0%	12.2%	1.91x	1.86x	15.7x	10.2x
HealthStream, Inc.	HSTM	\$ 28.06	88.1% - 121.7%	738.7	231.6	0.8%	13.0%	3.19x	2.91x	24.5x	19.2x
Inovalon Holdings, Inc.	INOV	\$ 12.43	79.8% - 139.7%	2,754.4	527.7	7.5%	22.3%	5.22x	4.35x	23.5x	13.6x
Medidata Solutions, Inc.	MDSO	\$ 73.24	82.4% - 121.9%	4,329.1	635.7	15.1%	13.5%	6.81x	5.86x	nm	23.9x
NantHealth, Inc.	NH	\$ 0.92	24.9% - 190.1%	282.9	89.5	29.3%	-47.6%	3.16x	2.72x	na	na
NextGen Healthcare, Inc.	NXGN	\$ 16.83	70.9% - 127.8%	1,087.8	530.2	6.7%	7.3%	2.05x	1.99x	28.0x	12.3x
Veeva Systems Inc.	VEEV	\$ 126.86	98.5% - 186.3%	18,266.2	862.2	18.2%	27.5%	nm	17.72x	nm	47.5x
		Mean	76.9% - 141.2%	\$ 5,795.0	\$ 1,065.4	11.0%	8.8%	3.68x	5.08x	21.4x	19.7x
		Median	83.5% - 126.2%	\$ 1,921.1	\$ 528.9	7.4%	13.3%	3.19x	3.05x	23.5x	13.6x
Other Vertical											
AppFolio, Inc.	APPF	\$ 79.40	86.8% - 204.1%	\$ 2,724.2	\$ 190.1	23.6%	12.9%	14.33x	10.79x	nm	nm
Blackbaud, Inc.	BLKB	\$ 79.73	66.2% - 136.9%	4,131.6	848.6	5.6%	15.7%	4.87x	4.64x	31.0x	23.2x
CDK Global, Inc.	CDK	\$ 58.82	86.5% - 133.7%	9,993.0	2,290.7	4.1%	34.5%	4.36x	4.18x	12.6x	10.9x
Ebix, Inc.	EBIX	\$ 49.37	55.4% - 125.7%	2,134.1	497.8	21.8%	32.7%	4.29x	3.53x	13.1x	10.5x
Guidewire Software, Inc.	GWRE	\$ 97.16	90.1% - 131.6%	7,169.2	738.1	16.9%	8.8%	9.71x	9.28x	nm	38.9x
Instructure, Inc.	INST	\$ 47.12	95.8% - 159.8%	1,571.0	209.5	21.4%	-18.6%	7.50x	6.11x	na	na
Q2 Holdings, Inc.	QTWO	\$ 69.26	96.2% - 159.5%	3,129.8	241.1	22.6%	-6.7%	12.98x	10.17x	na	nm
Square, Inc.	SQ	\$ 74.92	74.1% - 171.4%	33,278.4	3,298.2	34.6%	0.6%	10.09x	14.76x	nm	nm
SS&C Technologies Holdings, Inc.	SSNC	\$ 63.69	99.0% - 155.5%	24,807.7	3,421.1	4.4%	32.2%	7.25x	5.23x	22.5x	13.3x
Tyler Technologies, Inc.	TYL	\$ 204.40	81.0% - 118.0%	7,893.6	935.3	11.1%	20.5%	8.44x	7.24x	41.1x	25.1x
Zuora, Inc.	ZUO	\$ 20.03	53.0% - 128.7%	2,248.5	235.2	24.9%	-28.5%	9.56x	7.70x	na	na
		Mean	80.4% - 147.7%	\$ 9,007.4	\$ 1,173.2	17.4%	9.5%	8.49x	7.60x	24.1x	20.3x
		Median	86.5% - 136.9%	\$ 4,131.6	\$ 738.1	21.4%	12.9%	8.44x	7.24x	22.5x	18.2x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Cyber Security											
Check Point Software Technologies Ltd.	CHKP	\$ 126.49	98.7% - 134.9%	\$ 18,483.9	\$ 1,916.5	3.3%	48.6%	9.64x	9.26x	19.8x	17.8x
Carbon Black, Inc.	CBLK	\$ 13.95	39.9% - 118.2%	939.9	209.7	18.3%	-30.2%	4.48x	3.87x	na	na
FireEye, Inc.	FEYE	\$ 16.79	81.5% - 118.2%	3,214.3	831.0	7.4%	-12.8%	3.87x	3.63x	na	25.5x
Forescout Technologies, Inc.	FSCT	\$ 41.91	90.3% - 190.4%	1,910.2	297.7	20.3%	-21.2%	6.42x	5.17x	na	na
Fortinet, Inc.	FTNT	\$ 83.97	89.0% - 161.4%	12,766.8	1,801.2	13.3%	15.9%	7.09x	6.11x	44.5x	23.4x
MobileIron, Inc.	MOBL	\$ 5.47	95.8% - 137.4%	482.4	193.2	9.2%	-20.0%	2.50x	2.28x	na	nm
Okta, Inc.	OKTA	\$ 82.73	94.3% - 218.6%	9,727.2	399.3	30.6%	-29.1%	24.36x	18.20x	na	na
OneSpan Inc.	OSPN	\$ 19.22	75.5% - 168.4%	668.7	212.3	10.8%	4.5%	3.15x	2.86x	nm	26.9x
Palo Alto Networks, Inc.	PANW	\$ 242.88	93.2% - 151.7%	21,629.6	2,592.9	18.0%	3.2%	8.34x	6.93x	nm	25.7x
Proofpoint, Inc.	PFPT	\$ 121.43	93.2% - 159.9%	6,600.9	717.0	21.0%	-3.9%	9.21x	7.56x	na	49.9x
Qualys, Inc.	QLYS	\$ 82.74	84.2% - 125.5%	3,112.0	278.9	16.5%	28.4%	11.16x	9.67x	39.3x	25.1x
Rapid7, Inc.	RPD	\$ 50.61	96.2% - 218.7%	2,453.7	244.1	21.6%	-16.8%	10.05x	7.95x	na	nm
SailPoint Technologies Holdings, Inc.	SAIL	\$ 28.72	83.0% - 224.0%	2,493.4	248.9	18.6%	8.7%	10.02x	8.40x	nm	nm
SecureWorks Corp.	SCWX	\$ 18.40	73.9% - 235.0%	1,371.2	518.7	9.0%	-1.5%	2.64x	2.41x	na	nm
Symantec Corporation	SYMC	\$ 22.99	78.7% - 131.9%	17,292.7	4,752.0	4.9%	20.9%	3.64x	3.52x	17.4x	8.3x
Tenable Holdings, Inc.	TENB	\$ 31.66	80.4% - 158.3%	2,898.0	267.4	24.7%	-25.1%	10.84x	8.48x	na	na
Zscaler, Inc.	ZS	\$ 70.93	97.6% - 286.5%	8,735.1	242.9	31.6%	-6.1%	35.96x	25.96x	na	nm
		Mean	85.0% - 172.9%	\$ 6,751.8	\$ 924.9	16.4%	-2.1%	9.61x	7.78x	30.3x	25.3x
		Median	89.0% - 159.9%	\$ 3,112.0	\$ 297.7	18.0%	-3.9%	8.34x	6.93x	29.5x	25.3x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Large Diversified											
Apple Inc.	AAPL	\$ 189.95	81.4% - 133.8%	\$ 923,970.4	\$ 261,612.0	6.2%	30.4%	3.53x	3.60x	11.6x	12.3x
Hewlett Packard Enterprise Company	HPE	\$ 15.43	86.3% - 127.7%	30,041.9	30,731.0	-0.1%	16.1%	0.98x	0.97x	6.1x	5.8x
HP Inc.	HPQ	\$ 19.43	71.8% - 105.3%	31,047.0	58,665.0	0.9%	8.3%	0.53x	0.53x	6.4x	6.4x
International Business Machines Corporation	IBM	\$ 141.10	87.1% - 133.2%	159,580.1	79,591.0	0.2%	21.0%	2.01x	2.04x	9.5x	8.6x
Oracle Corporation	ORCL	\$ 53.71	98.8% - 126.7%	205,174.8	39,831.0	2.3%	41.0%	5.15x	5.17x	12.6x	11.1x
		Mean	85.1% - 125.3%	\$ 269,962.9	\$ 94,086.0	1.9%	23.4%	2.44x	2.46x	9.2x	8.8x
		Median	86.3% - 127.7%	\$ 159,580.1	\$ 58,665.0	0.9%	21.0%	2.01x	2.04x	9.5x	8.6x
Networking											
A10 Networks, Inc.	ATEN	\$ 7.09	95.0% - 128.7%	\$ 414.2	\$ 232.2	9.3%	-8.5%	1.78x	1.73x	na	nm
Arista Networks, Inc.	ANET	\$ 314.46	99.3% - 168.1%	22,692.1	2,151.4	20.4%	32.8%	10.55x	8.56x	32.2x	23.0x
Cisco Systems, Inc.	CSCO	\$ 53.65	98.9% - 133.5%	222,940.5	50,825.0	3.7%	30.0%	4.39x	4.24x	14.6x	11.9x
Extreme Networks, Inc.	EXTR	\$ 7.49	63.7% - 155.7%	923.7	1,032.9	4.9%	7.8%	0.89x	0.89x	11.5x	8.2x
F5 Networks, Inc.	FFIV	\$ 156.93	78.6% - 113.2%	8,195.6	2,182.0	3.5%	31.0%	3.76x	3.66x	12.1x	9.4x
Juniper Networks, Inc.	JNPR	\$ 26.47	85.9% - 112.1%	7,838.2	4,647.5	3.5%	17.1%	1.69x	1.75x	9.9x	8.1x
NETGEAR, Inc.	NTGR	\$ 33.12	42.3% - 104.2%	784.6	1,058.8	4.9%	5.7%	0.74x	0.71x	12.9x	6.5x
NetScout Systems, Inc.	NTCT	\$ 28.07	88.3% - 130.1%	2,309.9	910.1	3.1%	11.2%	2.54x	2.47x	22.6x	na
		Mean	81.5% - 130.7%	\$ 33,262.4	\$ 7,880.0	6.7%	15.9%	3.29x	3.00x	16.5x	11.2x
		Median	87.1% - 129.4%	\$ 5,074.1	\$ 1,605.1	4.3%	14.2%	2.16x	2.11x	12.9x	8.8x
Storage											
NetApp, Inc.	NTAP	\$ 68.96	78.3% - 126.5%	\$ 14,814.4	\$ 6,190.0	3.7%	21.1%	2.39x	2.34x	11.3x	9.0x
Pure Storage, Inc.	PSTG	\$ 21.79	74.8% - 155.8%	4,989.1	1,359.8	23.5%	-7.4%	3.67x	2.82x	na	27.0x
Quantum Health Group Limited	QTM	\$ 0.02	65.8% - 178.6%	27.6	49.2	na	13.7%	0.56x	na	4.1x	na
		Mean	73.0% - 153.6%	\$ 6,610.4	\$ 2,533.0	13.6%	9.1%	2.21x	2.58x	7.7x	18.0x
		Median	74.8% - 155.8%	\$ 4,989.1	\$ 1,359.8	13.6%	13.7%	2.39x	2.58x	7.7x	18.0x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Internet Retail											
Amazon.com, Inc.	AMZN	\$ 1,780.75	86.8% - 136.2%	\$ 882,748.5	\$ 232,887.0	18.2%	11.9%	3.79x	3.21x	31.8x	20.9x
Blue Apron Holdings, Inc.	APRN	\$ 0.98	23.6% - 150.8%	249.8	667.6	5.3%	-11.6%	0.37x	0.43x	na	nm
Booking Holdings Inc.	BKNG	\$ 1,744.91	79.2% - 108.6%	80,969.8	14,527.0	10.1%	39.8%	5.57x	5.20x	14.0x	13.5x
CarGurus, Inc.	CARG	\$ 40.06	70.0% - 137.3%	4,346.5	454.1	21.9%	6.2%	9.57x	7.68x	nm	nm
eBay Inc.	EBAY	\$ 37.14	86.4% - 142.8%	38,304.7	10,746.0	6.5%	28.0%	3.56x	3.53x	12.8x	10.2x
Etsy, Inc.	ETSY	\$ 67.22	91.6% - 250.7%	7,854.9	603.7	22.7%	16.2%	13.01x	9.91x	nm	40.1x
Eventbrite, Inc.	EB	\$ 19.17	47.6% - 100.7%	1,332.8	291.6	20.6%	-5.5%	4.57x	3.93x	na	37.1x
EverQuote, Inc.	EVER	\$ 7.44	33.7% - 183.7%	156.1	163.3	18.0%	-7.7%	0.96x	0.81x	na	na
Expedia Group, Inc.	EXPE	\$ 119.00	85.1% - 113.2%	20,600.5	11,223.0	10.2%	11.3%	1.84x	1.67x	16.3x	9.2x
Groupon, Inc.	GRPN	\$ 3.55	64.3% - 126.8%	1,416.7	2,636.7	1.3%	5.7%	0.54x	0.58x	9.4x	5.3x
Grubhub Inc.	GRUB	\$ 69.47	46.5% - 106.0%	6,512.7	1,007.3	26.0%	16.0%	6.47x	4.76x	40.3x	26.1x
Match Group, Inc.	MTCH	\$ 56.61	92.9% - 170.0%	17,313.1	1,729.9	15.2%	33.9%	10.01x	8.66x	29.5x	22.6x
Netflix, Inc.	NFLX	\$ 356.56	84.3% - 154.2%	167,706.1	15,794.3	24.2%	10.7%	10.62x	8.28x	nm	nm
Overstock.com, Inc.	OSTK	\$ 16.62	34.6% - 134.8%	476.5	1,821.6	19.5%	-10.5%	0.26x	0.29x	na	na
Shutterfly, Inc.	SFLY	\$ 40.64	40.5% - 115.9%	2,038.6	1,961.8	2.4%	13.9%	1.04x	0.95x	7.5x	6.3x
Stitch Fix, Inc.	SFIX	\$ 28.23	53.8% - 195.0%	2,601.8	1,371.6	27.4%	4.1%	1.90x	1.51x	46.2x	nm
TripAdvisor, Inc.	TRIP	\$ 51.45	74.6% - 140.0%	6,520.1	1,615.0	9.1%	14.7%	4.04x	3.75x	27.5x	13.8x
Wayfair Inc.	W	\$ 148.45	85.5% - 245.3%	13,494.2	6,779.2	28.1%	-6.0%	1.99x	1.48x	na	na
		Mean	65.6% - 150.7%	\$ 69,702.4	\$ 17,015.6	15.9%	9.5%	4.45x	3.70x	23.5x	18.6x
		Median	72.3% - 138.6%	\$ 6,516.4	\$ 1,775.7	18.1%	11.0%	3.68x	3.37x	21.9x	13.8x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Internet Content and Search											
Alphabet Inc.	GOOG.L	\$ 1,176.89	91.1% - 120.4%	\$ 711,779.5	\$ 136,819.0	17.6%	29.5%	5.20x	4.35x	17.6x	12.1x
AutoWeb, Inc.	AUTO	\$ 3.78	75.6% - 198.9%	36.5	125.6	7.8%	-10.4%	0.29x	0.29x	na	na
Care.com, Inc.	CRCM	\$ 19.76	76.6% - 130.5%	590.6	192.3	12.8%	7.2%	3.07x	2.70x	42.7x	17.5x
CoStar Group, Inc.	CSGP	\$ 466.42	96.2% - 147.7%	15,957.3	1,191.8	14.7%	29.6%	13.39x	11.56x	45.2x	31.7x
Facebook, Inc.	FB	\$ 166.69	76.2% - 135.5%	435,291.5	55,838.0	20.9%	52.3%	7.80x	6.31x	14.9x	11.9x
Snap Inc.	SNAP	\$ 11.02	69.1% - 228.6%	13,295.6	1,180.4	29.1%	-97.1%	11.26x	8.60x	na	na
TechTarget, Inc.	TTGT	\$ 16.27	47.2% - 146.3%	442.9	121.3	9.8%	17.4%	3.65x	3.32x	20.9x	12.2x
TripAdvisor, Inc.	TRIP	\$ 51.45	74.6% - 140.0%	6,520.1	1,615.0	9.1%	14.7%	4.04x	3.75x	27.5x	13.8x
Twitter, Inc.	TWTR	\$ 32.88	68.8% - 125.5%	21,741.8	3,042.4	14.2%	25.4%	7.15x	6.24x	28.2x	17.1x
Yelp Inc.	YELP	\$ 34.50	65.7% - 117.6%	2,144.5	942.8	12.3%	5.3%	2.27x	2.10x	43.1x	9.6x
Yext, Inc.	YEXT	\$ 21.86	80.4% - 179.2%	2,463.2	228.3	29.9%	-30.2%	10.79x	8.24x	na	na
Zillow Group, Inc.	ZG	\$ 34.20	52.3% - 130.5%	6,446.9	1,333.6	32.1%	1.9%	4.83x	3.20x	nm	nm
		Mean	72.8% - 150.1%	\$ 101,392.5	\$ 16,885.9	17.5%	3.8%	6.15x	5.06x	30.0x	15.7x
		Median	75.1% - 137.7%	\$ 6,483.5	\$ 1,186.1	14.5%	10.9%	5.02x	4.05x	27.8x	13.0x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Large Diversified											
International Business Machines Corporation	IBM	\$ 141.10	87.1% - 133.2%	\$ 159,580.1	\$ 79,591.0	0.2%	21.0%	2.01x	2.04x	9.5x	8.6x
Consulting											
CACI International Inc	CACI	\$ 182.02	90.6% - 131.5%	\$ 5,509.9	\$ 4,641.7	6.9%	9.8%	1.19x	1.06x	12.1x	11.4x
Cognizant Technology Solutions Corporation	CTSH	\$ 72.45	86.9% - 121.8%	37,899.9	16,125.0	8.2%	20.6%	2.35x	2.18x	11.4x	10.1x
DXC Technology Company	DXC	\$ 64.31	61.2% - 130.7%	22,756.4	23,880.0	2.0%	23.1%	0.95x	1.10x	4.1x	4.7x
EPAM Systems, Inc.	EPAM	\$ 169.13	97.4% - 161.4%	8,841.0	1,842.9	21.5%	15.3%	4.80x	3.92x	31.3x	22.1x
ManTech International Corporation	MANT	\$ 54.02	79.3% - 112.0%	2,156.5	1,958.6	6.6%	8.4%	1.10x	1.02x	13.0x	12.2x
Perficient, Inc.	PRFT	\$ 27.39	88.1% - 130.9%	983.7	498.4	5.0%	12.1%	1.97x	1.85x	16.4x	11.8x
Presidio, Inc.	PSDO	\$ 14.80	83.1% - 123.6%	2,201.3	2,995.3	3.0%	7.2%	0.73x	0.74x	10.2x	9.2x
Science Applications International Corporation	SAIC	\$ 76.95	82.5% - 132.3%	6,468.9	4,659.0	2.9%	7.6%	1.39x	0.98x	18.2x	11.9x
Unisys Corporation	UIS	\$ 11.67	55.7% - 120.3%	733.8	2,825.0	2.7%	9.6%	0.26x	0.26x	2.7x	1.7x
Virtusa Corporation	VRTU	\$ 53.45	91.2% - 141.4%	1,814.2	1,201.6	12.8%	7.7%	1.51x	1.34x	19.7x	14.0x
		Mean	81.6% - 130.6%	\$ 8,936.6	\$ 6,062.7	7.2%	12.1%	1.63x	1.44x	13.9x	10.9x
		Median	85.0% - 130.8%	\$ 3,855.6	\$ 2,910.2	5.8%	9.7%	1.29x	1.08x	12.6x	11.6x
Infrastructure Outsourcing											
Akamai Technologies, Inc.	AKAM	\$ 71.71	86.3% - 125.4%	\$ 11,376.6	\$ 2,714.5	7.0%	26.5%	4.19x	4.00x	15.8x	9.8x
Limelight Networks, Inc.	LLNW	\$ 3.23	58.5% - 146.2%	328.2	195.7	13.6%	8.5%	1.68x	1.54x	19.7x	9.9x
		Mean	72.4% - 135.8%	\$ 5,852.4	\$ 1,455.1	10.3%	17.5%	2.93x	2.77x	17.7x	9.8x
		Median	72.4% - 135.8%	\$ 5,852.4	\$ 1,455.1	10.3%	17.5%	2.93x	2.77x	17.7x	9.8x

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.

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	
		29-Mar-19	High-Low	Value	LTM	2020 E	Margin	LTM	2019 E	LTM	2019 E
Solution Providers											
CDW Corporation	CDW	\$ 96.37	97.1% - 142.9%	\$ 17,671.1	\$ 16,240.5	5.5%	7.7%	1.09x	1.02x	14.1x	12.7x
ePlus inc.	PLUS	\$ 88.54	82.6% - 135.1%	1,311.9	1,369.3	2.8%	7.6%	0.96x	0.88x	12.6x	11.9x
Insight Enterprises, Inc.	NSIT	\$ 55.06	94.4% - 166.3%	2,313.2	7,080.1	2.5%	3.9%	0.33x	0.31x	8.4x	7.7x
PC Connection, Inc.	CNXN	\$ 36.67	85.2% - 146.6%	876.2	2,699.5	3.8%	3.7%	0.32x	0.31x	8.7x	8.4x
PCM, Inc.	PCMI	\$ 36.63	95.4% - 485.2%	586.6	2,164.0	2.6%	2.5%	0.27x	0.27x	10.7x	9.1x
		Mean	90.9% - 215.2%	\$ 4,551.8	\$ 5,910.7	3.4%	5.1%	0.59x	0.56x	10.9x	10.0x
		Median	94.4% - 146.6%	\$ 1,311.9	\$ 2,699.5	2.8%	3.9%	0.33x	0.31x	10.7x	9.1x
Distribution											
Anixter International Inc.	AXE	\$ 56.11	70.0% - 112.1%	\$ 3,051.8	\$ 8,400.2	3.7%	4.7%	0.36x	0.35x	7.8x	7.0x
Arrow Electronics, Inc.	ARW	\$ 77.06	92.8% - 122.9%	9,610.0	29,676.8	2.2%	4.6%	0.32x	0.32x	7.1x	6.8x
Avnet, Inc.	AVT	\$ 43.37	87.8% - 129.3%	6,190.4	19,993.2	2.8%	3.9%	0.31x	0.32x	8.0x	7.5x
ScanSource, Inc.	SCSC	\$ 35.82	80.9% - 111.9%	1,270.9	3,908.4	na	3.7%	0.33x	0.31x	8.9x	8.2x
SYNNEX Corporation	SNX	\$ 95.39	81.9% - 132.8%	8,132.4	20,809.9	2.4%	4.3%	0.39x	0.37x	9.0x	7.5x
Tech Data Corporation	TECD	\$ 102.41	94.6% - 153.0%	4,390.8	37,239.0	2.5%	2.0%	0.12x	0.12x	6.0x	5.2x
		Mean	84.7% - 127.0%	\$ 5,441.0	\$ 20,004.6	2.7%	3.9%	0.31x	0.30x	7.8x	7.0x
		Median	84.8% - 126.1%	\$ 5,290.6	\$ 20,401.5	2.5%	4.1%	0.32x	0.32x	7.9x	7.2x

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.