



Cassel Salpeter & Co.
INVESTMENT BANKING

**Technology Investment Banking
2018 Year in Review**

U.S. technology had a mixed year with stocks ending down after a volatile year. There are headwinds going into 2019, including increased supply cost (e.g. tariffs on Chinese goods), increased government export regulation, and weaker global demand (e.g. China).

Nevertheless, technology mergers and acquisitions (M&A) activity remained robust, driven by private equity buyers flush with cash and strategic buyers needing to innovate. The rate of technology change shows no signs of slowing, driven by cloud and IoT (internet of everything). New technology results in a proliferation of data and interconnectedness that will yield productivity gains and cyber security risks.

In 2019 we expect continued solid M&A activity in the technology space. Should the economy slow in 2019, we think deals will continue to get done, albeit with lower valuations.

25 technology companies had an initial public offering (IPO) in 2018, 3 of which went public in the fourth quarter. That compares to 23 technology companies going public in 2017, with 11 going public in the fourth quarter of 2017. There appears to be a good pipeline of companies that are rumored to go public in 2019, but with a bumpy stock market, we believe that M&A will continue to be the path to liquidity for private technology investors.

Continuing our view from 2017, we remain bullish on the technology services market. In a world focused on advances in artificial intelligence (AI) and smart devices, we think the

demand for technology services will continue to be strong, especially in cyber security, big data, and AI. In cyber security, when an organization is breached, humans fix the problems. To get the benefits from big data and AI, organizations will need to organize the data from disparate systems, which requires professional services.

In the lower middle market, we think there is a disconnect between investor interest in services and the number of services companies that would benefit from a private equity investor. We see many private equity firms chasing too few recurring revenue software companies. These private equity firms might look at technology services companies where there are clear efficiencies and consolidation synergies to be gained.

Our advice to companies looking towards a transaction remains the same. To maximize a successful exit, we recommend that companies form alliances with potential acquirers early and keep a list of joint customers to validate the value to the potential acquirer. We also recommend that CEOs take the time to speak with investors. CEOs should return inbound investor calls with a short update on the business. By speaking to investors, the CEO will have a sense of market interest in the company when the time is right for a capital raise or sale.

The remaining pages provide details of 2018 IPOs and notable acquisitions, along with our on-going comparable M&A transaction and comparable public company reviews.

Sources of information: S&P Capital IQ.

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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I 2018 NOTABLE TECHNOLOGY DEALS

II M&A TRANSACTIONS

III PUBLIC MARKETS REVIEW

2018 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 | | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E | |
| 2018 IPOs | | | | | | | | | | | | |
| Anaplan, Inc. | PLAN | \$ 26.54 | 89.4% - 130.3% | \$ 2,946.3 | \$ 217.7 | 28.0% | -42.4% | 13.53x | 9.80x | na | na | |
| Arlo Technologies, Inc. | ARLO | \$ 9.98 | 42.0% - 113.9% | 574.7 | 467.5 | 23.7% | -0.7% | 1.23x | 0.89x | na | na | |
| Avalara, Inc. | AVLR | \$ 31.15 | 52.4% - 110.9% | 2,075.9 | 252.6 | 20.9% | -19.6% | 8.22x | 6.53x | na | na | |
| Carbon Black, Inc. | CBLK | \$ 13.42 | 38.3% - 113.7% | 854.8 | 198.7 | 23.2% | -30.5% | 4.30x | 3.34x | na | na | |
| Cardlytics, Inc. | CDLX | \$ 10.83 | 38.3% - 110.5% | 230.9 | 142.1 | 40.9% | -20.5% | 1.62x | 1.17x | na | na | |
| Ceridian HCM Holding Inc. | CDAY | \$ 34.49 | 76.7% - 120.4% | 5,245.3 | 808.4 | 13.3% | 13.7% | 6.49x | 6.49x | 47.3x | 29.6x | |
| DocuSign, Inc. | DOCU | \$ 40.08 | 58.6% - 114.3% | 6,395.2 | 650.1 | 21.5% | -51.7% | 9.84x | 7.47x | na | nm | |
| Domo, Inc. | DOMO | \$ 19.63 | 68.0% - 147.8% | 409.2 | 133.1 | 24.0% | -113.9% | 3.07x | 2.41x | na | na | |
| Dropbox, Inc. | DBX | \$ 20.43 | 47.0% - 110.4% | 7,458.2 | 1,321.3 | 14.3% | -26.9% | 5.64x | 4.65x | na | 20.0x | |
| Elastic N.V. | ESTC | \$ 71.48 | 85.3% - 122.1% | 5,339.8 | 211.5 | 28.5% | -33.2% | 25.25x | 16.46x | na | na | |
| Eventbrite, Inc. | EB | \$ 27.81 | 69.1% - 112.7% | 2,020.6 | 278.4 | 22.8% | -4.5% | 7.26x | 5.56x | na | 42.1x | |
| EverQuote, Inc. | EVER | \$ 4.18 | 18.9% - 103.2% | 65.9 | 155.9 | 18.3% | -4.2% | 0.42x | 0.34x | na | na | |
| EVO Payments, Inc. | EVOP | \$ 24.67 | 81.0% - 129.8% | 1,239.9 | 552.5 | 9.5% | 21.4% | 2.24x | 2.01x | 10.5x | 7.5x | |
| GreenSky, Inc. | GSKY | \$ 9.57 | 35.4% - 115.3% | 659.2 | 394.8 | 23.9% | 44.5% | 1.67x | 1.26x | 3.8x | 3.1x | |
| i3 Verticals, Inc. | IIIV | \$ 24.10 | 94.5% - 174.8% | 352.1 | 323.5 | na | 8.5% | 1.09x | 2.76x | 12.7x | 9.7x | |
| Inspire Medical Systems, Inc. | INSP | \$ 42.25 | 73.0% - 187.8% | 941.0 | 44.0 | 37.7% | -43.0% | 21.39x | 14.70x | na | na | |
| nLIGHT, Inc. | LASR | \$ 17.78 | 40.8% - 109.4% | 549.3 | 182.7 | 21.4% | 14.2% | 3.01x | 2.51x | 21.2x | 14.5x | |
| Pivotal Software, Inc. | PVTL | \$ 16.35 | 52.3% - 113.3% | 3,866.8 | 621.5 | 23.5% | -20.8% | 6.22x | 4.75x | na | na | |
| Pluralsight, Inc. | PS | \$ 23.55 | 61.4% - 131.7% | 1,385.3 | 212.2 | 31.4% | -40.1% | 6.53x | 4.52x | na | na | |
| Smartsheet Inc. | SMAR | \$ 24.86 | 73.2% - 137.7% | 2,501.1 | 158.5 | 33.4% | -27.9% | 15.78x | 10.29x | na | na | |
| SolarWinds Corporation | SWI | \$ 13.83 | 72.6% - 112.9% | 6,252.7 | 810.2 | 11.3% | 26.4% | 7.72x | 6.76x | 29.2x | 12.7x | |
| SVMK Inc. | SVMK | \$ 12.27 | 61.4% - 122.1% | 1,686.7 | 243.4 | 17.2% | -35.4% | 6.93x | 5.87x | na | 31.0x | |
| Tenable Holdings, Inc. | TENB | \$ 22.19 | 56.3% - 111.0% | 1,910.2 | 246.3 | 24.9% | -24.1% | 7.76x | 5.68x | na | na | |
| Zscaler, Inc. | ZS | \$ 39.21 | 81.3% - 158.4% | 4,620.4 | 213.6 | 31.4% | -7.8% | 21.63x | 14.85x | na | nm | |
| Zuora, Inc. | ZUO | \$ 18.14 | 48.0% - 116.6% | 2,017.2 | 221.0 | 23.8% | -28.3% | 9.13x | 6.85x | na | na | |
| | | <i>Mean</i> | 60.6% - 125.2% | \$ 2,463.9 | \$ 362.5 | 23.7% | -17.9% | 7.92x | 5.92x | 20.8x | 18.9x | |
| | | <i>Median</i> | 61.4% - 115.3% | \$ 1,910.2 | \$ 243.4 | 23.6% | -20.8% | 6.53x | 5.56x | 16.9x | 14.5x | |

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.

2018 NOTABLE MERGERS AND ACQUISITIONS

Technology Investment Banking

Selected Transactions Review

(\$ in millions)

| Transaction | | | | Enterprise Value | Metrics | | Valuation Benchmarks | | | |
|--|-----------|--------------------------------|----------------------------------|------------------|------------|---------|----------------------|---------|----------------------|-------|
| Date | | Target | Acquirer | | Target TTM | | Implied EV / | | Stock Price Premiums | |
| Ann. | Closed | | | | | Revenue | EBITDA % | Revenue | EBITDA | 1-Day |
| 2018 Announced M&A Transactions | | | | | | | | | | |
| 24-Dec-18 | na | MINDBODY, Inc. | Vista Equity Partners | \$ 1,829.3 | \$ 228.9 | -8.3% | 7.99x | na | 68.0% | 42.6% |
| 16-Nov-18 | na | Cylance Inc. | BlackBerry Limited | 1,500.0 | 130.0 | na | 11.54x | na | na | na |
| 12-Nov-18 | na | athenahealth, Inc. | Veritas Capital; Evergreen Coast | 5,638.5 | 1,311.4 | 20.2% | 4.30x | 21.29x | 12.2% | 6.6% |
| 11-Nov-18 | 10-Jan-19 | Apptio, Inc. | Vista Equity Partners | 1,867.2 | 224.7 | -6.2% | 8.31x | na | 52.9% | 24.9% |
| 11-Nov-18 | na | Qualtrics International Inc. | SAP America, Inc. | 8,000.0 | 372.4 | 3.1% | 21.48x | na | na | na |
| 9-Nov-18 | na | Finisar Corporation | II-VI Incorporated | 2,476.8 | 1,285.2 | 4.9% | 1.93x | 39.68x | 37.7% | 57.6% |
| 5-Nov-18 | 31-Dec-18 | Veracode, Inc. | Thoma Bravo, LLC | 950.0 | na | na | na | na | na | na |
| 28-Oct-18 | na | Red Hat, Inc. | International Business Machines | 33,764.4 | 3,255.4 | 19.1% | 10.37x | 54.38x | 62.8% | 39.4% |
| 15-Oct-18 | na | SendGrid, Inc. | Twilio Inc. | 2,361.5 | 137.2 | 4.8% | 17.22x | na | 17.3% | 0.5% |
| 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-Oct-18 | 3-Jan-19 | Hortonworks, Inc. | Cloudera, Inc. | 2,005.4 | 327.6 | -46.3% | 6.12x | na | 2.6% | -1.2% |
| 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% |
| 24-Sep-18 | na | Pandora Media, Inc. | Sirius XM Holdings Inc. | 3,040.8 | 1,517.0 | -16.6% | 2.00x | na | 10.6% | 24.6% |
| 20-Sep-18 | 31-Oct-18 | Marketo, Inc. | Adobe Systems, Inc. | 4,750.0 | na | na | na | na | na | na |
| 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 |
| 27-Aug-18 | 4-Oct-18 | CloudHealth Technologies, Inc. | VMware, Inc. | 500.0 | na | na | na | na | na | na |
| 23-Aug-18 | na | DHI Group, Inc. | TCS Capital Management, LLC | 159.7 | 174.5 | 13.6% | 0.92x | 6.75x | 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 | 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 |
| 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 | 6-Sep-18 | Athena SuperHoldCo, Inc. | 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 |
| 22-Jul-18 | 9-Oct-18 | Syntel, Inc. | Atos SE | 3,541.6 | 966.2 | 27.4% | 3.67x | 13.40x | 4.8% | 28.1% |

Sources of information: S&P Capital IQ.

2018 NOTABLE 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 | | |
| Annnc. | Closed | | | | Revenue | EBITDA % | Revenue | EBITDA | 1-Day | 1-Month | |
| 2018 Announced M&A Transactions | | | | | | | | | | | |
| 20-Jul-18 | 1-Oct-18 | Charles River Systems, Inc. | State Street Bank | \$ 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 | 5-Nov-18 | CA, Inc. | Broadcom Inc. | 18,588.0 | 4,148.0 | 30.2% | 4.64x | 16.38x | 19.8% | 22.3% | |
| 2-Jul-18 | na | The Gordian Group, Inc. | Fortive Corporation | 775.0 | na | na | na | na | na | na | |
| 21-Jun-18 | 11-Oct-18 | Web.com Group, Inc. | Siris Capital Group, LLC | 2,034.7 | 750.8 | 18.9% | 2.71x | 14.33x | 20.7% | 51.8% | |
| 11-Jun-18 | 1-Aug-18 | Adaptive Insights, Inc. | Workday, Inc. | na | 114.3 | -32.6% | na | na | na | na | |
| 4-Jun-18 | 25-Oct-18 | GitHub, Inc. | Microsoft Corporation | 7,500.0 | na | na | na | na | na | na | |
| 21-May-18 | 19-Jun-18 | Magento, Inc. | Adobe Systems Inc. | 1,680.0 | 150.0 | na | 11.20x | 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 | |
| 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 | Spikes Inc. | KPMG LLP | 34.2 | 27.1 | na | 1.27x | na | na | na | |
| | | | | <i>Mean</i> | \$ 3,163.2 | \$ 704.3 | 10.0% | 6.38x | 20.96x | 28.9% | 26.3% |
| | | | | <i>Median</i> | \$ 1,680.0 | \$ 250.4 | 12.3% | 4.88x | 15.57x | 26.1% | 24.8% |

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 | |
|-----------------------------|-----------|--------------------------------------|-----------------------------------|------------------|----------|----------|----------------------|--------|----------------------|---------|
| Ann. | Closed | Target | Acquirer | | Revenue | EBITDA % | Revenue | EBITDA | 1-Day | 1-Month |
| Application Software | | | | | | | | | | |
| 11-Nov-18 | na | Apptio, Inc. | Vista Equity Partners LLC | \$ 1,867.2 | \$ 224.7 | -6.2% | 8.31x | na | 52.9% | 24.9% |
| 11-Nov-18 | na | Qualtrics International Inc. | SAP America, Inc. | 8,000.0 | 372.4 | 3.1% | 21.48x | na | na | na |
| 15-Oct-18 | na | SendGrid, Inc. | Twilio Inc. | 2,357.8 | 137.2 | 4.8% | 17.19x | 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% |
| <i>Mean</i> | | | | \$ 1,850.5 | \$ 262.1 | 1.2% | 6.60x | 24.27x | 30.0% | 33.8% |
| <i>Median</i> | | | | \$ 918.0 | \$ 207.8 | 2.2% | 5.67x | 25.85x | 20.3% | 28.5% |

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 Value | Target TTM | | Implied EV / | | Stock Price Premiums | | |
| Ann. | Closed | | | | Revenue | EBITDA % | Revenue | EBITDA | 1-Day | 1-Month | |
| Vertical Software | | | | | | | | | | | |
| 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 | 19-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 | \$ 1,133.6 | \$ 189.1 | 18.1% | 6.56x | 64.14x | 29.3% | 36.1% |
| | | | | Median | \$ 1,200.0 | \$ 155.2 | 16.4% | 5.31x | 24.01x | 30.2% | 21.8% |
| Healthcare Software | | | | | | | | | | | |
| 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.

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 |
| Infrastructure Software | | | | | | | | | | |
| 28-Oct-18 | na | Red Hat, Inc. | International Business Machines Corp | \$ 33,764.4 | \$ 3,255.4 | 19.1% | 10.37x | 54.38x | 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 | LogMeln, 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. | LogMeln, 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% |
| <i>Mean</i> | | | | \$ 4,502.1 | \$ 817.2 | -3.9% | 7.18x | 28.79x | 25.4% | 27.2% |
| <i>Median</i> | | | | \$ 1,320.4 | \$ 296.5 | 7.2% | 4.83x | 28.48x | 21.1% | 27.5% |

Sources of information: S&P Capital IQ.

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 |
| Security | | | | | | | | | | |
| 16-Nov-18 | na | 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 | na | 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 |
| | | | <i>Mean</i> | \$ 876.6 | \$ 202.9 | 2.6% | 5.51x | 17.14x | 22.1% | 29.4% |
| | | | <i>Median</i> | \$ 548.5 | \$ 130.0 | 1.4% | 3.85x | 17.14x | 16.3% | 31.6% |

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 | |
| Annuc. | Closed | | | | Revenue | EBITDA % | Revenue | EBITDA | 1-Day | 1-Month |
| Enterprise Systems | | | | | | | | | | |
| 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. | 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. | 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% |
| <i>Mean</i> | | | | \$ 4,004.7 | \$ 1,765.2 | 4.6% | 2.59x | 27.67x | 31.6% | 39.5% |
| <i>Median</i> | | | | \$ 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 | |
| Ann. | 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 |
| | | | <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% |
| Internet Retail | | | | | | | | | | |
| 24-Dec-18 | na | MINDBODY, Inc. | Vista Equity Partners | \$ 1,830.0 | \$ 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 | 159.7 | 174.5 | 13.6% | 0.92x | 6.75x | 25.0% | 19.0% |
| 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% |
| | | | <i>Mean</i> | \$ 1,193.6 | \$ 465.6 | 3.3% | 2.83x | 31.01x | 32.2% | 40.4% |
| | | | <i>Median</i> | \$ 630.3 | \$ 228.9 | 5.2% | 1.70x | 27.82x | 25.8% | 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 | | | | | | | | | | |
| 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) | 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 |
| 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> | \$ 3,012.4 | \$ 2,989.4 | 16.2% | 1.82x | 11.53x | 9.5% | 18.2% |
| | | | <i>Median</i> | \$ 1,872.5 | \$ 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 |
| | | | <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% |
| 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 |
| | | | <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.

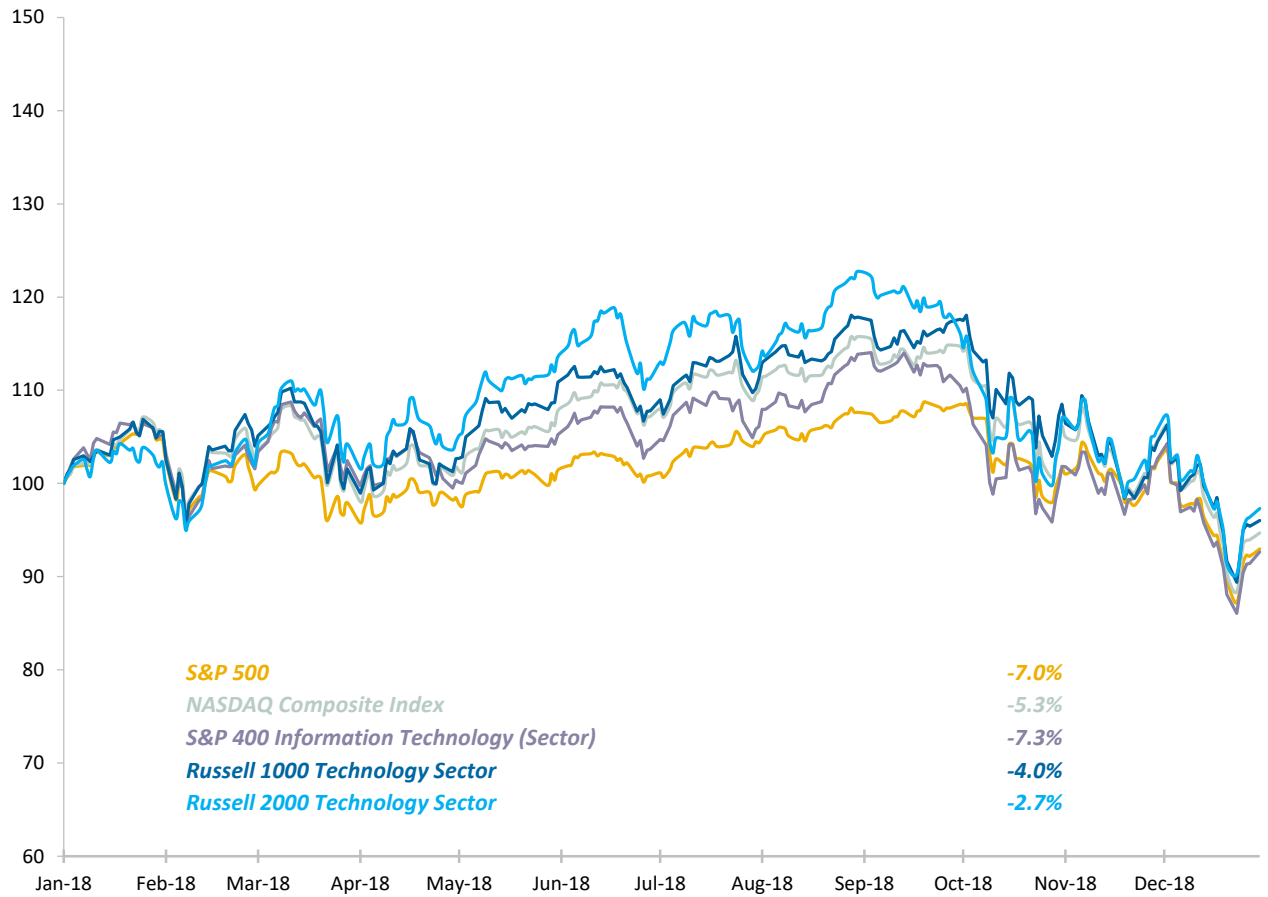
I 2018 NOTABLE TECHNOLOGY DEALS

II M&A TRANSACTIONS

III **PUBLIC MARKETS REVIEW**

January 2, 2018 to December 31, 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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Large Diversified | | | | | | | | | | | |
| Adobe Inc. | ADBE | \$ 226.24 | 81.5% - 129.1% | \$ 111,331.2 | \$ 9,030.0 | 17.9% | 35.0% | 12.33x | 9.98x | 35.2x | 22.6x |
| Microsoft Corporation | MSFT | \$ 101.57 | 87.4% - 121.2% | 731,961.9 | 114,906.0 | 9.8% | 41.4% | 6.37x | 5.61x | 15.4x | 13.2x |
| Oracle Corporation | ORCL | \$ 45.15 | 84.4% - 106.5% | 174,457.8 | 39,893.0 | 2.6% | 39.9% | 4.37x | 4.36x | 11.0x | 9.4x |
| | | <i>Mean</i> | 84.4% - 118.9% | \$ 339,250.3 | \$ 54,609.7 | 10.1% | 38.7% | 7.69x | 6.65x | 20.5x | 15.1x |
| | | <i>Median</i> | 84.4% - 121.2% | \$ 174,457.8 | \$ 39,893.0 | 9.8% | 39.9% | 6.37x | 5.61x | 15.4x | 13.2x |
| Application Software | | | | | | | | | | | |
| Anaplan, Inc. | PLAN | \$ 26.54 | 89.4% - 130.3% | \$ 2,946.3 | \$ 217.7 | 28.0% | -42.4% | 13.53x | 9.80x | na | na |
| Avalara, Inc. | AVLR | \$ 31.15 | 52.4% - 110.9% | 2,075.9 | 252.6 | 20.9% | -19.6% | 8.22x | 6.53x | na | na |
| DocuSign, Inc. | DOCU | \$ 40.08 | 58.6% - 114.3% | 6,395.2 | 650.1 | 21.5% | -51.7% | 9.84x | 7.47x | na | nm |
| Elastic N.V. | ESTC | \$ 71.48 | 85.3% - 122.1% | 5,339.8 | 211.5 | 28.5% | -33.2% | nm | 16.46x | na | na |
| Intuit Inc. | INTU | \$ 196.40 | 84.7% - 130.6% | 50,395.2 | 6,070.0 | 10.9% | 28.8% | 8.30x | 7.32x | 28.8x | 20.4x |
| Manhattan Associates, Inc. | MANH | \$ 42.37 | 67.9% - 108.6% | 2,676.2 | 558.9 | 1.8% | 27.2% | 4.79x | 4.74x | 17.6x | 20.9x |
| Smartsheet Inc. | SMAR | \$ 24.86 | 73.2% - 137.7% | 2,501.1 | 158.5 | 33.4% | -27.9% | 15.78x | 10.29x | na | na |
| SPS Commerce, Inc. | SPSC | \$ 82.38 | 81.8% - 170.0% | 1,285.7 | 241.6 | 9.8% | 12.3% | 5.32x | 4.69x | 43.3x | 20.6x |
| SVMK Inc. | SVMK | \$ 12.27 | 61.4% - 122.1% | 1,686.7 | 243.4 | 17.2% | -35.4% | 6.93x | 5.87x | na | 31.0x |
| Workiva Inc. | WK | \$ 35.89 | 87.9% - 175.1% | 1,608.8 | 234.4 | 15.0% | -17.7% | 6.86x | 5.77x | na | na |
| | | <i>Mean</i> | 74.3% - 132.2% | \$ 7,691.1 | \$ 883.9 | 18.7% | -15.9% | 8.84x | 7.89x | 29.9x | 23.2x |
| | | <i>Median</i> | 77.5% - 126.2% | \$ 2,588.6 | \$ 242.5 | 19.0% | -23.7% | 8.22x | 6.93x | 28.8x | 20.7x |
| Human Capital Management | | | | | | | | | | | |
| Benefitfocus, Inc. | BNFT | \$ 45.72 | 82.5% - 210.2% | \$ 1,549.8 | \$ 271.7 | 16.4% | 1.1% | 5.70x | 5.21x | nm | nm |
| Cornerstone OnDemand, Inc. | CSOD | \$ 50.43 | 85.2% - 144.2% | 2,926.6 | 531.6 | 14.4% | 0.1% | 5.51x | 5.16x | nm | 22.6x |
| Paycom Software, Inc. | PAYC | \$ 122.45 | 74.6% - 154.6% | 7,126.9 | 530.0 | 20.8% | 25.5% | 13.45x | 10.24x | nm | 24.6x |
| Paylocity Holding Corporation | PCTY | \$ 60.21 | 68.1% - 146.3% | 3,175.8 | 396.5 | 20.4% | 9.1% | 8.01x | 6.37x | nm | 22.1x |
| The Ultimate Software Group, Inc. | ULTI | \$ 244.87 | 73.7% - 118.3% | 7,533.4 | 1,087.2 | 19.0% | 10.7% | 6.93x | 5.53x | nm | 23.2x |
| Workday, Inc. | WDAY | \$ 159.68 | 92.5% - 159.3% | 35,613.5 | 2,616.0 | 22.5% | -8.6% | 13.61x | 10.14x | na | nm |
| | | <i>Mean</i> | 79.4% - 155.5% | \$ 9,654.3 | \$ 905.5 | 18.9% | 6.3% | 8.87x | 7.11x | na | 23.1x |
| | | <i>Median</i> | 78.5% - 150.5% | \$ 5,151.4 | \$ 530.8 | 19.7% | 5.1% | 7.47x | 5.95x | na | 22.9x |

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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Sales, Marketing, and Customer Service | | | | | | | | | | | |
| HubSpot, Inc. | HUBS | \$ 125.73 | 77.5% - 146.8% | \$ 4,907.3 | \$ 475.5 | 22.1% | -7.8% | 10.32x | 7.73x | na | nm |
| LivePerson, Inc. | LPSN | \$ 18.86 | 68.8% - 174.6% | 1,155.2 | 241.5 | 12.8% | 1.9% | 4.78x | 4.07x | nm | 48.2x |
| salesforce.com, inc. | CRM | \$ 136.97 | 85.0% - 133.9% | 106,755.1 | 12,484.0 | 19.1% | 9.4% | 8.55x | 6.68x | nm | 27.0x |
| ServiceSource International, Inc. | SREV | \$ 1.08 | 24.2% - 117.3% | 71.2 | 242.9 | na | -3.4% | 0.29x | 0.31x | na | 4.8x |
| Shopify Inc. | SHOP | \$ 138.45 | 78.4% - 137.1% | 14,191.8 | 952.2 | 31.6% | -7.0% | 14.90x | 9.64x | na | nm |
| Yext, Inc. | YEXT | \$ 14.85 | 54.6% - 140.4% | 1,519.8 | 213.0 | 30.1% | -35.3% | 7.14x | 5.10x | na | na |
| Zendesk, Inc. | ZEN | \$ 58.37 | 80.2% - 174.6% | 6,393.2 | 548.7 | 30.1% | -19.4% | 11.65x | 8.20x | na | nm |
| | | <i>Mean</i> | 67.0% - 146.4% | \$ 19,284.8 | \$ 2,165.4 | 24.3% | -8.8% | 8.23x | 5.96x | na | 26.7x |
| | | <i>Median</i> | 77.5% - 140.4% | \$ 4,907.3 | \$ 475.5 | 26.1% | -7.0% | 8.55x | 6.68x | na | 27.0x |
| Business Analytics | | | | | | | | | | | |
| Alteryx, Inc. | AYX | \$ 59.47 | 88.2% - 243.1% | \$ 3,664.4 | \$ 182.4 | 30.8% | -6.8% | nm | 13.47x | na | nm |
| Cloudera, Inc. | CLDR | \$ 11.06 | 49.3% - 109.8% | 1,423.7 | 434.7 | 19.1% | -32.3% | 3.28x | 2.64x | na | na |
| MicroStrategy Incorporated | MSTR | \$ 127.75 | 84.5% - 110.6% | 765.8 | 502.8 | -0.8% | 4.9% | 1.52x | 1.50x | 31.3x | 24.5x |
| Tableau Software, Inc. | DATA | \$ 120.00 | 91.0% - 172.0% | 9,289.9 | 1,068.4 | 18.8% | -8.6% | 8.69x | 6.88x | na | 43.5x |
| Teradata Corporation | TDC | \$ 38.36 | 86.7% - 114.1% | 4,263.2 | 2,202.0 | 1.5% | 7.0% | 1.94x | 1.98x | 27.7x | 10.9x |
| | | <i>Mean</i> | 79.9% - 149.9% | \$ 3,881.4 | \$ 878.1 | 13.9% | -7.2% | 3.86x | 5.29x | 29.5x | 26.3x |
| | | <i>Median</i> | 86.7% - 114.1% | \$ 3,664.4 | \$ 502.8 | 18.8% | -6.8% | 2.61x | 2.64x | 29.5x | 24.5x |
| Design and Engineering | | | | | | | | | | | |
| ANSYS, Inc. | ANSS | \$ 142.94 | 75.1% - 104.5% | \$ 11,384.2 | \$ 1,180.5 | 9.7% | 38.5% | 9.64x | 8.31x | 25.0x | 17.9x |
| Autodesk, Inc. | ADSK | \$ 128.61 | 80.4% - 126.6% | 28,695.6 | 2,386.3 | 23.4% | -1.3% | 12.03x | 8.78x | na | 30.7x |
| Cadence Design Systems, Inc. | CDNS | \$ 43.48 | 91.7% - 122.5% | 12,184.8 | 2,069.9 | 7.5% | 23.7% | 5.89x | 5.39x | 24.8x | 16.2x |
| PTC Inc. | PTC | \$ 82.90 | 77.2% - 137.1% | 10,195.7 | 1,241.8 | 14.1% | 10.9% | 8.21x | 7.44x | nm | 26.2x |
| Synopsys, Inc. | SNPS | \$ 84.24 | 81.5% - 106.4% | 12,482.0 | 3,121.1 | 5.1% | 16.9% | 4.00x | 3.69x | 23.7x | 14.1x |
| | | <i>Mean</i> | 81.2% - 119.4% | \$ 14,988.5 | \$ 1,999.9 | 12.0% | 17.7% | 7.95x | 6.72x | 24.5x | 21.0x |
| | | <i>Median</i> | 80.4% - 122.5% | \$ 12,184.8 | \$ 2,069.9 | 9.7% | 16.9% | 8.21x | 7.44x | 24.8x | 17.9x |

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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Infrastructure | | | | | | | | | | | |
| Appian Corporation | APPN | \$ 26.71 | 61.2% - 182.9% | \$ 1,672.8 | \$ 217.1 | 20.2% | -17.8% | 7.71x | 6.57x | na | na |
| Carrefour SA | CA | \$ 17.07 | 86.5% - 131.8% | 28,940.9 | 92,454.8 | 2.4% | 4.4% | 0.31x | 0.32x | 7.1x | 6.8x |
| Carbonite, Inc. | CARB | \$ 25.26 | 57.9% - 123.2% | 798.3 | 281.1 | 5.8% | 9.8% | 2.84x | 2.39x | 28.8x | 8.1x |
| Citrix Systems, Inc. | CTXS | \$ 102.46 | 87.7% - 122.4% | 14,728.7 | 2,949.9 | 5.4% | 30.9% | 4.99x | 4.77x | 16.1x | 13.2x |
| Commvault Systems, Inc. | CVLT | \$ 59.09 | 81.3% - 122.2% | 2,278.7 | 710.5 | 9.2% | 4.2% | 3.21x | 3.00x | nm | 15.4x |
| Domo, Inc. | DOMO | \$ 19.63 | 68.0% - 147.8% | 409.2 | 133.1 | 24.0% | -113.9% | 3.07x | 2.41x | na | na |
| MongoDB, Inc. | MDB | \$ 83.74 | 89.8% - 340.1% | 4,593.5 | 215.7 | 32.7% | -52.1% | nm | 13.26x | na | na |
| Progress Software Corporation | PRGS | \$ 35.49 | 66.2% - 117.4% | 1,576.3 | 401.9 | 1.6% | 36.5% | 3.92x | 3.96x | 10.7x | 9.8x |
| Pivotal Software, Inc. | PVTL | \$ 16.35 | 52.3% - 113.3% | 3,866.8 | 621.5 | 23.5% | -20.8% | 6.22x | 4.75x | na | na |
| SolarWinds Corporation | SWI | \$ 13.83 | 72.6% - 112.9% | 6,252.7 | 810.2 | 11.3% | 26.4% | 7.72x | 6.76x | 29.2x | 12.7x |
| Splunk Inc. | SPLK | \$ 104.85 | 80.7% - 126.9% | 14,542.4 | 1,602.2 | 22.1% | -15.9% | 9.08x | 6.72x | na | 41.5x |
| Twilio Inc. | TWLO | \$ 89.30 | 88.9% - 384.1% | 8,881.7 | 561.0 | 29.3% | -13.5% | 15.83x | 10.68x | na | nm |
| Varonis Systems, Inc. | VRNS | \$ 52.90 | 63.7% - 110.6% | 1,426.4 | 257.7 | 17.8% | -8.6% | 5.53x | 4.48x | na | nm |
| VMware, Inc. | VMW | \$ 137.13 | 81.0% - 126.4% | 46,986.2 | 8,669.0 | 8.3% | 27.2% | 5.42x | 4.75x | 19.9x | 12.6x |
| | | <i>Mean</i> | <i>74.1% - 161.6%</i> | <i>\$ 9,782.5</i> | <i>\$ 7,849.0</i> | <i>15.3%</i> | <i>-7.4%</i> | <i>5.83x</i> | <i>5.34x</i> | <i>18.7x</i> | <i>15.0x</i> |
| | | <i>Median</i> | <i>76.6% - 124.8%</i> | <i>\$ 4,230.2</i> | <i>\$ 591.3</i> | <i>14.5%</i> | <i>-2.2%</i> | <i>5.42x</i> | <i>4.75x</i> | <i>18.0x</i> | <i>12.7x</i> |
| Collaboration | | | | | | | | | | | |
| Box, Inc. | BOX | \$ 16.88 | 56.7% - 107.9% | \$ 2,395.5 | \$ 581.3 | 18.9% | -17.1% | 4.12x | 3.27x | na | 45.6x |
| Dropbox, Inc. | DBX | \$ 20.43 | 47.0% - 110.4% | 7,458.2 | 1,321.3 | 14.3% | -26.9% | 5.64x | 4.65x | na | 20.0x |
| LogMeIn, Inc. | LOGM | \$ 81.57 | 60.5% - 108.9% | 4,205.7 | 1,169.8 | 6.2% | 29.3% | 3.60x | 3.35x | 12.3x | 8.9x |
| RingCentral, Inc. | RNG | \$ 82.44 | 84.0% - 177.9% | 6,410.8 | 624.1 | 22.9% | -1.9% | 10.27x | 7.79x | na | nm |
| Workiva Inc. | WK | \$ 35.89 | 87.9% - 175.1% | 1,608.8 | 234.4 | 15.0% | -17.7% | 6.86x | 5.77x | na | na |
| | | <i>Mean</i> | <i>67.2% - 136.0%</i> | <i>\$ 4,415.8</i> | <i>\$ 786.2</i> | <i>15.5%</i> | <i>-6.8%</i> | <i>6.10x</i> | <i>4.97x</i> | <i>12.3x</i> | <i>24.8x</i> |
| | | <i>Median</i> | <i>60.5% - 110.4%</i> | <i>\$ 4,205.7</i> | <i>\$ 624.1</i> | <i>15.0%</i> | <i>-17.1%</i> | <i>5.64x</i> | <i>4.65x</i> | <i>12.3x</i> | <i>20.0x</i> |

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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Healthcare | | | | | | | | | | | |
| Cerner Corporation | CERN | \$ 52.44 | 71.4% - 107.5% | \$ 17,000.0 | \$ 5,213.0 | 8.7% | 24.1% | 3.26x | 2.93x | 13.5x | 9.9x |
| Computer Programs and Systems, Inc. | CPSI | \$ 25.10 | 72.4% - 105.4% | 473.8 | 286.1 | 4.9% | 12.1% | 1.66x | 1.63x | 13.7x | 9.3x |
| HealthStream, Inc. | HSTM | \$ 24.15 | 75.8% - 114.2% | 612.6 | 259.8 | 2.7% | 11.9% | 2.36x | 2.57x | 19.8x | 14.5x |
| Inovalon Holdings, Inc. | INOV | \$ 14.18 | 93.3% - 159.3% | 3,020.1 | 506.0 | 9.1% | 20.1% | 5.97x | 4.78x | 29.6x | 14.9x |
| Medidata Solutions, Inc. | MDSO | \$ 67.42 | 75.9% - 113.1% | 4,074.2 | 611.4 | 16.3% | 14.6% | 6.66x | 5.42x | 45.6x | 21.8x |
| NantHealth, Inc. | NH | \$ 0.54 | 13.4% - 112.5% | 235.9 | 88.9 | 31.7% | -55.1% | 2.65x | 2.14x | na | na |
| NextGen Healthcare, Inc. | NXGN | \$ 15.15 | 63.8% - 123.8% | 990.6 | 531.0 | 6.3% | 7.1% | 1.87x | 1.80x | 26.4x | 11.5x |
| Veeva Systems Inc. | VEEV | \$ 89.32 | 81.9% - 171.2% | 12,475.8 | 810.9 | 17.5% | 25.3% | 15.39x | 12.24x | nm | 34.3x |
| | | <i>Mean</i> | 68.5% - 125.9% | \$ 4,860.4 | \$ 1,038.4 | 12.1% | 7.5% | 4.98x | 4.19x | 24.8x | 16.6x |
| | | <i>Median</i> | 74.1% - 113.7% | \$ 2,005.4 | \$ 518.5 | 8.9% | 13.3% | 2.96x | 2.75x | 23.1x | 14.5x |
| Other Vertical | | | | | | | | | | | |
| AppFolio, Inc. | APPF | \$ 59.22 | 64.7% - 157.7% | \$ 2,025.9 | \$ 177.6 | 21.6% | 13.7% | 11.41x | 8.53x | nm | 31.8x |
| Blackbaud, Inc. | BLKB | \$ 62.90 | 52.3% - 108.0% | 3,385.1 | 844.6 | 6.1% | 16.2% | 4.01x | 3.82x | 24.7x | 18.5x |
| CDK Global, Inc. | CDK | \$ 47.88 | 63.0% - 108.8% | 8,566.6 | 2,262.0 | 4.5% | 33.2% | 3.79x | 3.60x | 11.4x | 9.4x |
| Ebix, Inc. | EBIX | \$ 42.56 | 47.8% - 108.4% | 1,875.7 | 466.2 | 33.2% | 33.2% | 4.02x | 3.12x | 12.1x | 9.6x |
| Guidewire Software, Inc. | GWRE | \$ 80.23 | 74.4% - 110.6% | 5,743.7 | 732.6 | 14.9% | 9.5% | 7.84x | 7.52x | nm | 41.3x |
| Instructure, Inc. | INST | \$ 37.51 | 76.3% - 127.2% | 1,171.7 | 195.9 | 23.6% | -24.7% | 5.98x | 4.53x | na | na |
| Q2 Holdings, Inc. | QTWO | \$ 49.55 | 73.8% - 134.0% | 2,119.7 | 225.6 | 22.6% | -5.3% | 9.39x | 6.92x | na | nm |
| Square, Inc. | SQ | \$ 56.09 | 55.5% - 161.7% | 24,657.3 | 2,981.7 | 35.2% | 0.0% | 8.27x | 10.93x | na | nm |
| SS&C Technologies Holdings, Inc. | SSNC | \$ 45.11 | 74.0% - 112.3% | 17,530.6 | 2,748.5 | 4.5% | 32.1% | 6.38x | 3.70x | 19.9x | 9.8x |
| Tyler Technologies, Inc. | TYL | \$ 185.82 | 73.6% - 107.2% | 7,195.3 | 910.8 | 10.5% | 21.3% | 7.90x | 6.93x | 37.1x | 22.5x |
| Zuora, Inc. | ZUO | \$ 18.14 | 48.0% - 116.6% | 2,017.2 | 221.0 | 23.8% | -28.3% | 9.13x | 6.85x | na | na |
| | | <i>Mean</i> | 63.9% - 123.0% | \$ 6,935.4 | \$ 1,069.7 | 18.2% | 9.2% | 7.10x | 6.04x | 21.0x | 20.4x |
| | | <i>Median</i> | 64.7% - 112.3% | \$ 3,385.1 | \$ 732.6 | 21.6% | 13.7% | 7.84x | 6.85x | 19.9x | 18.5x |

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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Cyber Security | | | | | | | | | | | |
| Check Point Software Technologies Ltd. | CHKP | \$ 102.65 | 85.0% - 109.5% | \$ 14,552.3 | \$ 1,896.9 | 2.9% | 49.9% | 7.67x | 7.31x | 15.4x | 13.7x |
| Carbon Black, Inc. | CBLK | \$ 13.42 | 38.3% - 113.7% | 854.8 | 198.7 | 23.2% | -30.5% | 4.30x | 3.34x | na | na |
| FireEye, Inc. | FEYE | \$ 16.21 | 78.7% - 119.2% | 3,014.5 | 790.7 | 6.7% | -16.2% | 3.81x | 3.39x | na | 24.6x |
| ForeScout Technologies, Inc. | FSCT | \$ 25.99 | 63.5% - 118.1% | 993.6 | 272.3 | 20.9% | -34.3% | 3.65x | 2.85x | na | na |
| Fortinet, Inc. | FTNT | \$ 70.43 | 74.6% - 164.4% | 10,441.5 | 1,710.8 | 13.5% | 14.3% | 6.10x | 5.08x | 42.6x | 19.9x |
| MobileIron, Inc. | MOBL | \$ 4.59 | 80.4% - 120.8% | 382.2 | 184.9 | 3.2% | -22.2% | 2.07x | 1.79x | na | 28.9x |
| Okta, Inc. | OKTA | \$ 63.80 | 84.5% - 253.9% | 7,334.4 | 364.3 | 30.0% | -31.6% | 20.13x | 14.16x | na | na |
| OneSpan Inc. | OSPN | \$ 12.95 | 50.9% - 113.5% | 425.5 | 202.0 | 8.7% | 1.4% | 2.11x | 1.83x | nm | 17.9x |
| Palo Alto Networks, Inc. | PANW | \$ 188.35 | 78.6% - 129.8% | 16,449.0 | 2,427.3 | 17.6% | 1.0% | 6.78x | 5.36x | nm | 20.1x |
| Proofpoint, Inc. | PFPT | \$ 83.81 | 64.3% - 110.4% | 4,506.3 | 661.0 | 18.6% | -5.9% | 6.82x | 5.14x | na | 34.6x |
| Qualys, Inc. | QLYS | \$ 74.74 | 76.0% - 130.7% | 2,740.1 | 267.6 | 20.4% | 28.3% | 10.24x | 8.27x | 36.2x | 21.8x |
| Rapid7, Inc. | RPD | \$ 31.16 | 79.1% - 168.4% | 1,432.9 | 233.1 | 20.2% | -19.2% | 6.15x | 4.92x | na | nm |
| SailPoint Technologies Holdings, Inc. | SAIL | \$ 23.49 | 67.9% - 183.2% | 2,006.1 | 238.5 | 21.6% | 8.2% | 8.41x | 6.76x | nm | nm |
| SecureWorks Corp. | SCWX | \$ 16.89 | 89.0% - 215.7% | 1,267.0 | 508.9 | 9.2% | -5.9% | 2.49x | 2.22x | na | nm |
| Symantec Corporation | SYMC | \$ 18.90 | 63.6% - 108.4% | 14,769.1 | 4,750.0 | 5.1% | 20.3% | 3.11x | 3.02x | 15.3x | 7.0x |
| Tenable Holdings, Inc. | TENB | \$ 22.19 | 56.3% - 111.0% | 1,910.2 | 246.3 | 24.9% | -24.1% | 7.76x | 5.68x | na | na |
| Zscaler, Inc. | ZS | \$ 39.21 | 81.3% - 158.4% | 4,620.4 | 213.6 | 31.4% | -7.8% | 21.63x | 14.85x | na | nm |
| | | <i>Mean</i> | <i>71.3% - 142.9%</i> | <i>\$ 5,158.8</i> | <i>\$ 892.2</i> | <i>16.4%</i> | <i>-4.4%</i> | <i>7.25x</i> | <i>5.65x</i> | <i>27.4x</i> | <i>20.9x</i> |
| | | <i>Median</i> | <i>76.0% - 120.8%</i> | <i>\$ 2,740.1</i> | <i>\$ 272.3</i> | <i>18.6%</i> | <i>-5.9%</i> | <i>6.15x</i> | <i>5.08x</i> | <i>25.8x</i> | <i>20.1x</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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Large Diversified | | | | | | | | | | | |
| Apple Inc. | AAPL | \$ 157.74 | 67.6% - 107.6% | \$ 796,721.1 | \$ 265,595.0 | 4.5% | 30.8% | 3.00x | 2.84x | 9.7x | 9.6x |
| Hewlett Packard Enterprise Company | HPE | \$ 13.21 | 67.8% - 109.3% | 25,827.5 | 30,852.0 | 1.1% | 12.0% | 0.84x | 0.83x | 7.0x | 4.9x |
| HP Inc. | HPQ | \$ 20.46 | 75.6% - 106.5% | 31,950.3 | 58,472.0 | 2.3% | 8.3% | 0.55x | 0.53x | 6.6x | 6.4x |
| International Business Machines Corporation | IBM | \$ 113.67 | 66.4% - 107.3% | 136,018.6 | 80,373.0 | 0.4% | 21.1% | 1.69x | 1.72x | 8.0x | 6.9x |
| Oracle Corporation | ORCL | \$ 45.15 | 84.4% - 106.5% | 174,457.8 | 39,893.0 | 2.6% | 39.9% | 4.37x | 4.36x | 11.0x | 9.4x |
| | | <i>Mean</i> | 72.4% - 107.4% | \$ 232,995.1 | \$ 95,037.0 | 2.2% | 22.4% | 2.09x | 2.06x | 8.5x | 7.4x |
| | | <i>Median</i> | 67.8% - 107.3% | \$ 136,018.6 | \$ 58,472.0 | 2.3% | 21.1% | 1.69x | 1.72x | 8.0x | 6.9x |
| Networking | | | | | | | | | | | |
| A10 Networks, Inc. | ATEN | \$ 6.24 | 79.8% - 113.2% | \$ 343.4 | \$ 225.9 | 9.3% | -7.1% | 1.52x | 1.43x | na | 32.4x |
| Arista Networks, Inc. | ANET | \$ 210.70 | 67.2% - 112.6% | 14,781.6 | 2,023.5 | 20.0% | 32.0% | 7.30x | 5.61x | 22.8x | 15.5x |
| Cisco Systems, Inc. | CSCO | \$ 43.00 | 86.9% - 115.1% | 177,862.0 | 50,266.0 | 4.2% | 30.0% | 3.54x | 3.40x | 11.8x | 9.6x |
| Extreme Networks, Inc. | EXTR | \$ 6.10 | 39.2% - 126.8% | 770.4 | 1,011.3 | 4.6% | 7.6% | 0.76x | 0.74x | 10.0x | 6.0x |
| F5 Networks, Inc. | FFIV | \$ 162.03 | 81.1% - 123.4% | 8,784.0 | 2,161.4 | 2.9% | 30.6% | 4.06x | 3.89x | 13.3x | 9.9x |
| Juniper Networks, Inc. | JNPR | \$ 26.91 | 87.4% - 114.0% | 8,037.9 | 4,706.0 | 2.7% | 17.9% | 1.71x | 1.68x | 9.6x | 7.4x |
| NETGEAR, Inc. | NTGR | \$ 32.27 | 41.2% - 70.6% | 1,162.0 | 1,509.4 | 24.5% | 5.6% | 0.77x | 0.77x | 13.6x | 10.0x |
| NetScout Systems, Inc. | NTCT | \$ 23.63 | 74.4% - 109.5% | 1,984.0 | 933.1 | 3.3% | 14.5% | 2.13x | 2.06x | 14.6x | na |
| | | <i>Mean</i> | 69.7% - 110.7% | \$ 26,715.7 | \$ 7,854.6 | 8.9% | 16.4% | 2.72x | 2.45x | 13.7x | 13.0x |
| | | <i>Median</i> | 77.1% - 113.6% | \$ 5,011.0 | \$ 1,766.5 | 4.4% | 16.2% | 1.92x | 1.87x | 13.3x | 9.9x |
| Storage | | | | | | | | | | | |
| NetApp, Inc. | NTAP | \$ 59.27 | 67.3% - 114.0% | \$ 12,544.5 | \$ 6,166.0 | 4.2% | 20.5% | 2.03x | 1.93x | 9.9x | 7.5x |
| Pure Storage, Inc. | PSTG | \$ 16.08 | 55.2% - 114.9% | 3,439.1 | 1,275.7 | 21.1% | -9.0% | 2.70x | 1.95x | na | 17.0x |
| Quantum Corporation | QTM | \$ 2.00 | 30.5% - 190.5% | 189.3 | 478.2 | na | 1.8% | 0.40x | na | 21.7x | na |
| | | <i>Mean</i> | 51.0% - 139.8% | \$ 5,391.0 | \$ 2,640.0 | 12.6% | 4.4% | 1.71x | 1.94x | 15.8x | 12.3x |
| | | <i>Median</i> | 55.2% - 114.9% | \$ 3,439.1 | \$ 1,275.7 | 12.6% | 1.8% | 2.03x | 1.94x | 15.8x | 12.3x |

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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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Internet Retail | | | | | | | | | | | |
| Amazon.com, Inc. | AMZN | \$ 1,501.97 | 73.2% - 128.3% | \$ 751,870.2 | \$ 220,957.0 | 18.3% | 11.3% | 3.40x | 2.68x | 30.2x | 17.9x |
| Blue Apron Holdings, Inc. | APRN | \$ 1.02 | 24.3% - 156.9% | 230.6 | 714.5 | 2.1% | -12.5% | 0.32x | 0.38x | na | na |
| Booking Holdings Inc. | BKNG | \$ 1,722.42 | 77.3% - 107.2% | 81,413.2 | 14,117.5 | 11.1% | 39.9% | 5.77x | 5.04x | 14.5x | 12.9x |
| CarGurus, Inc. | CARG | \$ 33.73 | 58.9% - 118.3% | 3,695.5 | 418.7 | 22.4% | 3.3% | 8.83x | 6.56x | nm | nm |
| eBay Inc. | EBAY | \$ 28.07 | 59.7% - 107.9% | 31,436.6 | 10,216.0 | 8.2% | 29.2% | 3.08x | 2.79x | 10.5x | 8.2x |
| Etsy, Inc. | ETSY | \$ 47.57 | 81.6% - 284.5% | 5,530.2 | 539.9 | 21.0% | 15.9% | 10.24x | 7.12x | nm | 28.5x |
| Eventbrite, Inc. | EB | \$ 27.81 | 69.1% - 112.7% | 2,020.6 | 278.4 | 22.8% | -4.5% | 7.26x | 5.56x | na | 42.1x |
| EverQuote, Inc. | EVER | \$ 4.18 | 18.9% - 103.2% | 65.9 | 155.9 | 18.3% | -4.2% | 0.42x | 0.34x | na | na |
| Expedia Group, Inc. | EXPE | \$ 112.65 | 80.6% - 114.3% | 18,915.3 | 10,982.8 | 10.3% | 11.7% | 1.72x | 1.53x | 14.7x | 8.7x |
| Groupon, Inc. | GRPN | \$ 3.20 | 56.6% - 114.3% | 1,487.3 | 2,710.0 | 1.5% | 5.2% | 0.55x | 0.57x | 10.5x | 5.0x |
| GrubHub Inc. | GRUB | \$ 76.81 | 51.4% - 116.3% | 7,029.8 | 924.6 | 28.2% | 20.3% | 7.60x | 5.27x | 37.5x | 22.2x |
| Match Group, Inc. | MTCH | \$ 42.77 | 70.2% - 138.7% | 12,995.4 | 1,651.4 | 15.0% | 34.2% | 7.87x | 6.52x | 23.0x | 17.3x |
| Netflix, Inc. | NFLX | \$ 267.66 | 63.2% - 137.0% | 125,794.4 | 14,893.3 | 22.7% | 11.5% | 8.45x | 6.33x | nm | 41.8x |
| Overstock.com, Inc. | OSTK | \$ 13.58 | 15.1% - 110.1% | 345.9 | 1,825.3 | 6.7% | -9.4% | 0.19x | 0.17x | na | na |
| Shutterstock, Inc. | SFLY | \$ 40.26 | 40.1% - 114.8% | 2,365.2 | 1,605.6 | 4.3% | 10.9% | 1.47x | 1.07x | 13.5x | 5.7x |
| Stitch Fix, Inc. | SFIX | \$ 17.09 | 32.6% - 118.0% | 1,473.0 | 1,297.2 | 17.7% | 4.3% | 1.14x | 0.89x | 26.4x | 36.8x |
| TripAdvisor, Inc. | TRIP | \$ 53.94 | 78.2% - 158.3% | 6,762.7 | 1,590.0 | 9.9% | 13.6% | 4.25x | 3.86x | 31.3x | 14.6x |
| Wayfair Inc. | W | \$ 90.08 | 59.6% - 148.8% | 8,158.1 | 6,204.2 | 24.7% | -5.4% | 1.31x | 0.92x | na | na |
| | | <i>Mean</i> | 56.2% - 132.8% | \$ 58,977.2 | \$ 16,171.2 | 14.7% | 9.7% | 4.10x | 3.20x | 21.2x | 20.1x |
| | | <i>Median</i> | 59.7% - 117.1% | \$ 6,146.4 | \$ 1,628.5 | 16.3% | 11.1% | 3.24x | 2.73x | 18.9x | 17.3x |

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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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Internet Content and Search | | | | | | | | | | | |
| Alphabet Inc. | GOOG.L | \$ 1,044.96 | 80.9% - 106.9% | \$ 621,035.2 | \$ 129,866.0 | 17.9% | 30.3% | 4.78x | 3.87x | 15.8x | 10.4x |
| AutoWeb, Inc. | AUTO | \$ 3.05 | 30.9% - 160.5% | 24.4 | 126.7 | -0.9% | -8.1% | 0.19x | 0.20x | na | na |
| Care.com, Inc. | CRCM | \$ 19.31 | 84.1% - 127.5% | 576.2 | 186.7 | 12.2% | 7.1% | 3.09x | 2.63x | 43.7x | 15.3x |
| CoStar Group, Inc. | CSGP | \$ 337.34 | 75.2% - 114.2% | 11,271.5 | 1,130.3 | 15.5% | 27.0% | 9.97x | 8.17x | 37.0x | 22.9x |
| Facebook, Inc. | FB | \$ 131.09 | 60.0% - 106.6% | 335,789.4 | 51,896.0 | 21.2% | 54.7% | 6.47x | 4.88x | 11.8x | 9.1x |
| Snap Inc. | SNAP | \$ 5.51 | 26.0% - 114.3% | 5,720.6 | 1,076.3 | 29.9% | -118.3% | 5.31x | 3.70x | na | na |
| TechTarget, Inc. | TTGT | \$ 12.21 | 35.4% - 109.8% | 335.1 | 119.8 | 14.7% | 18.6% | 2.80x | 2.48x | 15.1x | 9.3x |
| TripAdvisor, Inc. | TRIP | \$ 53.94 | 78.2% - 158.3% | 6,762.7 | 1,590.0 | 9.9% | 13.6% | 4.25x | 3.86x | 31.3x | 14.6x |
| Twitter, Inc. | TWTR | \$ 28.74 | 60.1% - 130.4% | 18,632.1 | 2,865.1 | 13.2% | 23.5% | 6.50x | 5.47x | 27.6x | 14.3x |
| Yelp Inc. | YELP | \$ 34.99 | 66.6% - 119.3% | 2,143.2 | 914.4 | 11.3% | 4.7% | 2.34x | 2.05x | nm | 9.8x |
| Yext, Inc. | YEXT | \$ 14.85 | 54.6% - 140.4% | 1,519.8 | 213.0 | 30.1% | -35.3% | 7.14x | 5.10x | na | na |
| Zillow Group, Inc. | ZG | \$ 31.43 | 48.0% - 120.0% | 5,516.3 | 1,250.5 | 51.3% | 5.1% | 4.41x | 2.90x | nm | 23.9x |
| | | <i>Mean</i> | 58.3% - 125.7% | \$ 84,110.6 | \$ 15,936.2 | 18.9% | 1.9% | 4.77x | 3.78x | 26.0x | 14.4x |
| | | <i>Median</i> | 60.1% - 119.6% | \$ 5,618.5 | \$ 1,103.3 | 15.1% | 10.3% | 4.60x | 3.78x | 27.6x | 14.3x |

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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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Large Diversified | | | | | | | | | | | |
| International Business Machines Corporation | IBM | \$ 113.67 | 66.4% - 107.3% | \$ 136,018.6 | \$ 80,373.0 | 0.4% | 21.1% | 1.69x | 1.72x | 8.0x | 6.9x |
| Consulting | | | | | | | | | | | |
| CACI International Inc | CACI | \$ 144.03 | 71.7% - 108.3% | \$ 4,599.4 | \$ 4,547.9 | 4.5% | 9.7% | 1.01x | 0.93x | 10.4x | 10.2x |
| Cognizant Technology Solutions Corporation | CTSH | \$ 63.48 | 74.6% - 106.7% | 32,745.8 | 15,824.0 | 7.8% | 20.9% | 2.07x | 1.89x | 9.9x | 8.7x |
| DXC Technology Company | DXC | \$ 53.17 | 49.3% - 108.1% | 19,536.0 | 24,162.0 | 2.1% | 22.6% | 0.81x | 0.94x | 3.6x | 4.2x |
| EPAM Systems, Inc. | EPAM | \$ 116.01 | 80.5% - 113.7% | 5,865.9 | 1,737.3 | 21.2% | 15.1% | 3.38x | 2.62x | 22.4x | 14.2x |
| ManTech International Corporation | MANT | \$ 52.30 | 76.8% - 113.7% | 2,067.6 | 1,923.8 | 6.5% | 8.4% | 1.07x | 0.98x | 12.8x | 11.1x |
| Perficient, Inc. | PRFT | \$ 22.26 | 71.6% - 122.1% | 812.7 | 487.8 | 5.1% | 11.7% | 1.67x | 1.55x | 14.3x | 9.6x |
| Presidio, Inc. | PSDO | \$ 13.05 | 66.1% - 109.0% | 2,102.7 | 2,876.7 | 4.0% | 7.2% | 0.73x | 0.72x | 10.1x | 8.9x |
| Science Applications International Corporation | SAIC | \$ 63.70 | 68.3% - 109.5% | 3,583.8 | 4,595.0 | 2.5% | 7.5% | 0.78x | 0.76x | 10.4x | 10.0x |
| Unisys Corporation | UIS | \$ 11.63 | 55.5% - 148.2% | 796.3 | 2,808.9 | 0.9% | 10.3% | 0.28x | 0.28x | 2.8x | 1.9x |
| Virtusa Corporation | VRTU | \$ 42.59 | 72.7% - 112.7% | 1,507.8 | 1,150.7 | 10.9% | 7.5% | 1.31x | 1.11x | 17.4x | 11.2x |
| | | | <i>Mean</i> | \$ 7,361.8 | \$ 6,011.4 | 6.6% | 12.1% | 1.31x | 1.18x | 11.4x | 9.0x |
| | | | <i>Median</i> | \$ 2,843.2 | \$ 2,842.8 | 4.8% | 10.0% | 1.04x | 0.96x | 10.4x | 9.8x |
| Infrastructure Outsourcing | | | | | | | | | | | |
| Akamai Technologies, Inc. | AKAM | \$ 61.08 | 73.5% - 104.7% | \$ 9,699.8 | \$ 2,673.5 | 8.2% | 26.1% | 3.63x | 3.32x | 13.9x | 8.1x |
| Limelight Networks, Inc. | LLNW | \$ 2.34 | 42.4% - 105.9% | 213.0 | 199.9 | 11.9% | 11.5% | 1.07x | 0.98x | 9.3x | 6.0x |
| | | | <i>Mean</i> | \$ 4,956.4 | \$ 1,436.7 | 10.0% | 18.8% | 2.35x | 2.15x | 11.6x | 7.0x |
| | | | <i>Median</i> | \$ 4,956.4 | \$ 1,436.7 | 10.0% | 18.8% | 2.35x | 2.15x | 11.6x | 7.0x |

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 | |
| | | 31-Dec-18 | High-Low | Value | LTM | 2020 E | Margin | LTM | 2019 E | LTM | 2019 E |
| Solution Providers | | | | | | | | | | | |
| CDW Corporation | CDW | \$ 81.05 | 83.8% - 121.2% | \$ 15,659.0 | \$ 16,276.4 | 4.9% | 7.6% | 0.96x | 0.91x | 12.7x | 11.3x |
| ePlus inc. | PLUS | \$ 71.17 | 66.4% - 108.6% | 1,085.8 | 1,367.9 | 1.5% | 7.3% | 0.79x | 0.77x | 10.8x | 9.7x |
| Insight Enterprises, Inc. | NSIT | \$ 40.75 | 71.7% - 126.9% | 1,841.0 | 7,115.2 | na | 3.7% | 0.26x | 0.25x | 7.0x | 6.4x |
| PC Connection, Inc. | CNXN | \$ 29.73 | 69.1% - 131.2% | 692.4 | 2,752.2 | 5.7% | 3.4% | 0.25x | 0.25x | 7.3x | 6.7x |
| PCM, Inc. | PCMI | \$ 17.61 | 69.8% - 255.2% | 381.0 | 2,171.2 | na | 2.2% | 0.18x | 0.18x | 8.1x | 6.1x |
| | | <i>Mean</i> | <i>72.1% - 148.6%</i> | <i>\$ 3,931.8</i> | <i>\$ 5,936.6</i> | <i>4.0%</i> | <i>4.8%</i> | <i>0.49x</i> | <i>0.47x</i> | <i>9.2x</i> | <i>8.0x</i> |
| | | <i>Median</i> | <i>69.8% - 126.9%</i> | <i>\$ 1,085.8</i> | <i>\$ 2,752.2</i> | <i>4.9%</i> | <i>3.7%</i> | <i>0.26x</i> | <i>0.25x</i> | <i>8.1x</i> | <i>6.7x</i> |
| Distribution | | | | | | | | | | | |
| Anixter International Inc. | AXE | \$ 54.31 | 61.1% - 108.5% | \$ 3,015.1 | \$ 8,294.9 | 3.0% | 4.8% | 0.36x | 0.34x | 7.6x | 6.8x |
| Arrow Electronics, Inc. | ARW | \$ 68.95 | 79.0% - 110.0% | 9,109.9 | 29,556.0 | 0.6% | 4.6% | 0.31x | 0.30x | 6.7x | 6.4x |
| Avnet, Inc. | AVT | \$ 36.10 | 73.1% - 107.6% | 5,215.2 | 19,465.8 | 1.6% | 3.9% | 0.27x | 0.25x | 6.9x | 5.9x |
| ScanSource, Inc. | SCSC | \$ 34.38 | 77.6% - 109.5% | 1,143.8 | 3,894.6 | na | 3.7% | 0.29x | 0.28x | 8.0x | 7.4x |
| SYNNEX Corporation | SNX | \$ 80.84 | 57.0% - 112.6% | 5,761.9 | 19,743.4 | 6.9% | 3.7% | 0.29x | 0.27x | 7.8x | 5.4x |
| Tech Data Corporation | TECD | \$ 81.81 | 75.3% - 122.2% | 3,818.4 | 39,985.0 | na | 1.7% | 0.10x | 0.10x | 5.6x | 4.6x |
| | | <i>Mean</i> | <i>70.5% - 111.7%</i> | <i>\$ 4,677.4</i> | <i>\$ 20,156.6</i> | <i>3.0%</i> | <i>3.7%</i> | <i>0.27x</i> | <i>0.26x</i> | <i>7.1x</i> | <i>6.1x</i> |
| | | <i>Median</i> | <i>74.2% - 109.7%</i> | <i>\$ 4,516.8</i> | <i>\$ 19,604.6</i> | <i>2.3%</i> | <i>3.8%</i> | <i>0.29x</i> | <i>0.28x</i> | <i>7.3x</i> | <i>6.1x</i> |

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.