

SaaS Software Cloud Update – May 2018

Public Markets and M&A Activity

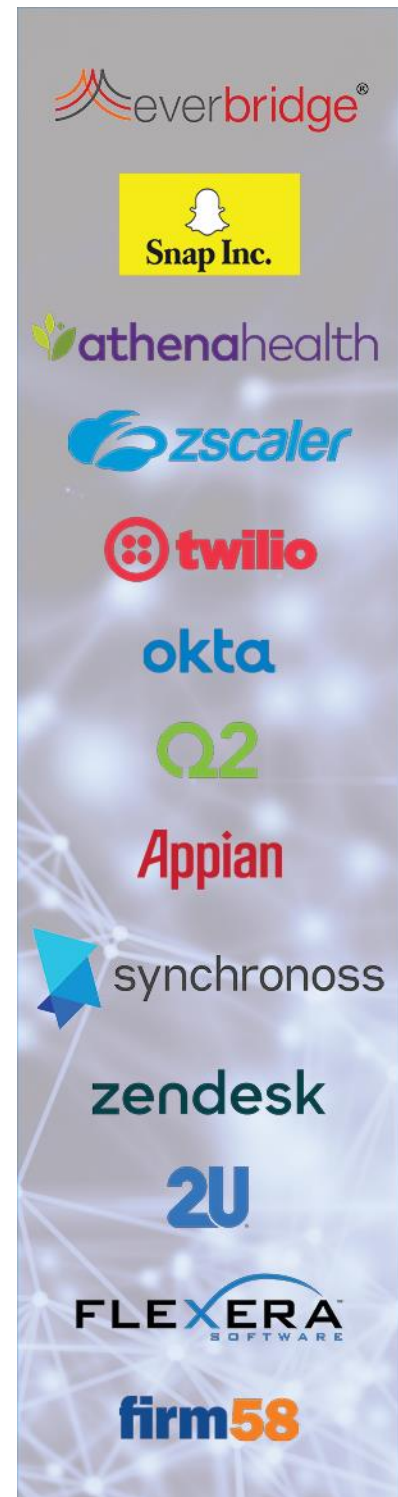
The Navidar SaaS Software Cloud Index advanced +9.3% in April and +26.5% so far in 2018, compared with the NASDAQ's +5.3% and +7.8%, the Russell 2000's +6.1% and +6.6%, and the S&P 500's +2.2% and +1.2%, respectively. Following is a summary of the company-specific issues related to selected stocks in our coverage universe that meaningfully out- or under-performed as well as relevant M&A activity.

Everbridge (NASDAQ: EVBG +23.3%) – the SaaS critical event response provider reported better than expected 1Q18 earnings and exceeded guidance. EVBG revenues increased by 34% Q-o-Q to \$30.5M in 1Q18. Adjusted EBITDA was reported as loss of (\$1.8M), compared to loss of (\$2.3M) in 1Q17. Free cash flow was \$5.3M compared to an outflow of (\$0.3M) in 1Q17. EVBG strong performance was driven by the continued global adoption of Everbridge Mass Notification product, the growing number and size of multi-product deals.

Snap (NYSE: SNAP –20.5%) – the social media providers stock declined over disappointing 1Q18 results and uncertainty over future growth. SNAP revenues grew 54% Y-o-Y to \$230M in 1Q18, but missed street expectations of \$245M. Total active daily user additions also fell short of street expectations, with the company adding 4M users compared to 7M expected. Average revenue per user was down 21% Q-o-Q, although it increased 34% Y-o-Y. SNAP attributed the weak performance to recent product redesign, poor performance on Androids and advertiser concerns. The company expects its next quarter Y-o-Y revenue growth to "decelerate substantially," partially due to advertisement prices.

Athenahealth (NASDAQ: ATHN +22.9%) – Hedge Fund Elliott Management announced plans to take the cloud-based healthcare applications provider private. Elliott Management, which holds 8.9% stake in ATHN, offered to acquire the remaining stake for ~\$6.5B in an all cash deal, representing a 27.0% prior-close premium. Elliott Management believes that ATHN is mismanaging an opportunity to expand and is not providing adequate returns to shareholders. It also believes that the company cannot make the changes needed while it remains a public company.

Zscaler (NASDAQ: ZS –12.1%) – the security software providers stock declined over the resignation of its chief operating officer, Bill Welch. Bill is expected to pursue a more senior executive role at a leading technology company. ZS said the company has strong sales leaders running its Americas and international markets, who will continue to drive its business. ZS went public in mid-March 2018.



Twilio (NYSE: TWLO +27.9%) – the cloud-based voice, messaging and video provider reported strong 1Q18 results, with top line beating guidance and street expectations. TWLO revenues grew 47.8% Y-o-Y to \$129.1M, beating management guidance of \$115-117M. The robust top-line performance was driven by Y-o-Y growth in active customer accounts, with 5,006 accounts added in 1Q18, taking the total to 53,985 accounts. The company reported loss per share of \$0.04, beating street forecast of \$0.07 loss per share. TWLO raised its guidance for the full year, with revenues expected in the range of \$538-544M, up from the previous range of \$506-514M. 2Q18 revenues are estimated to be between \$129-131M.

Okta (NASDAQ: OKTA +31.3%) – the identity management SaaS provider announced a list of partnerships, most recently with Facebook and VMware. OKTA unveiled a new social-media-like sign-in capability and a mobile device partnership with VMware. The company announced a deal to integrate its apps with Facebook Workplace business tools and Microsoft's enterprise software. OKTA is expected to report strong 1Q19 results ending April 30, 2018, on June 6th. The management guided 1Q19 and full year 2019 revenues to be in the range of \$78-79M and \$343-348M, growing Y-o-Y at 49-50% and 33-35%, respectively.

Q2 Holdings (NYSE: QTWO +16.0%) – the SaaS digital banking provider reported impressive 1Q18 results supported by strong bookings, user growth and several large new customer wins. QTWO posted revenues of \$54.8M in 1Q18, beating street estimates of \$53M. Adjusted earnings also beat analyst expectations, with the company reporting adjusted earnings of \$0.04 per share, compared to analyst expectation of loss of \$0.02 per share. Registered users on the Q2 platform grew 22% Y-o-Y to 10.9 million. QTWO provided full year and 2Q18 revenue guidance in the range of \$236.5-238.5M and \$57.9-56.8M, respectively.

Appian (NASDAQ: APPN +17.6%) – the business process management software provider reported 1Q18 results, surpassing street expectations. APPN reported revenues of \$51.7M for 1Q18, growing 35% Y-o-Y and higher than market expectation of \$46.1M. Adjusted earnings came at a loss of \$0.12 per share, better than market estimate of loss of \$0.18 per share. APPN provided full year revenue guidance in the range of \$202-205M, representing Y-o-Y growth of ~15%. 2Q18 revenue is expected in the range of \$50.2-50.4M.

Synchronoss Technologies (NASDAQ: SNCR -48.8%) – the cloud solutions providers shares were suspended from trading on the NASDAQ due to the company's failure to satisfy the exchange listing requirements. SNCR has not filed a quarterly or annual report with the SEC since February 2017 due to an ongoing financial restatement process. The shares are now quoted on the OTC markets under the same trading symbol.

Faster Growth

(2019E growth > 20%, excluding micro-caps)

| Ticker | 5/31 \$Price | May %ch | Ticker | 5/31 \$Price | May %ch |
|--------|-----------------|------------|--------|-----------------|------------|
| AMZN | 1629.62 | 4.1 | PCTY | 59.75 | 9.4 |
| APPF | 59.20 | 23.5 | QTWO | 57.15 | 16.0 |
| AYX | 34.02 | 8.9 | RNG | 75.75 | 13.0 |
| BL | 41.62 | 0.5 | SAIL | 26.09 | 8.3 |
| BOX | 25.68 | 12.3 | SEND | 26.54 | -8.0 |
| CDLX | 20.42 | 45.6 | SHOP | 148.09 | 10.8 |
| COUP | 53.38 | 15.1 | SNAP | 11.39 | -20.5 |
| EVBG | 46.07 | 23.3 | TEAM | 63.79 | 14.0 |
| FB | 191.78 | 11.5 | TWLO | 53.97 | 27.9 |
| HDP | 17.78 | 5.0 | TWOU | 94.80 | 17.8 |
| HUBS | 121.20 | 14.4 | WDAY | 130.96 | 4.9 |
| INST | 43.00 | 6.0 | WIX | 86.95 | 5.7 |
| MB | 39.40 | -0.6 | YEXT | 15.39 | 15.4 |
| NOW | 177.61 | 6.9 | ZEN | 55.89 | 14.6 |
| OKTA | 56.21 | 31.3 | ZS | 26.26 | -12.1 |
| PAYC | 105.47 | -7.7 | | | |

Slower Growth

(2019E growth < 20%, excluding micro-caps)

| Ticker | 5/31 \$Price | May %ch | Ticker | 5/31 \$Price | May %ch |
|--------|-----------------|------------|--------|-----------------|------------|
| AAPL | 186.87 | 13.1 | GWRE | 92.84 | 9.7 |
| ALRM | 44.43 | 10.0 | IBM | 141.31 | -2.5 |
| AMBR | 9.04 | -2.4 | INTU | 201.60 | 9.1 |
| APPN | 31.89 | 17.6 | LOGM | 107.90 | -2.1 |
| APTI | 33.03 | 11.9 | LPSN | 19.35 | 15.2 |
| ASUR | 17.53 | 15.8 | MODN | 17.85 | 4.1 |
| ATHN | 150.47 | 22.9 | MSFT | 98.84 | 5.7 |
| BCOV | 10.25 | 6.2 | ORCL | 46.72 | 2.3 |
| BNFT | 33.55 | 11.1 | PEGA | 61.85 | 1.3 |
| CLDR | 16.22 | 13.8 | PYPL | 82.07 | 10.0 |
| CRM | 129.33 | 6.9 | RST | 16.22 | 16.6 |
| CSCO | 42.71 | -3.6 | RP | 58.75 | 9.8 |
| CSLT | 3.60 | -4.0 | SAP | 112.22 | 1.1 |
| CSOD | 49.48 | 12.1 | SPSC | 74.43 | 8.5 |
| CTXS | 105.62 | 2.6 | SREV | 4.19 | 10.6 |
| DATA | 98.87 | 16.2 | STMP | 250.80 | 10.1 |
| DBX | 29.99 | -0.4 | TWTR | 34.70 | 14.5 |
| EBAY | 37.72 | -0.4 | ULTI | 262.15 | 9.3 |
| ECOM | 14.80 | 11.3 | UPLD | 35.78 | 31.7 |
| EGAN | 12.80 | 48.0 | VEEV | 77.36 | 10.3 |
| ELLI | 106.29 | 9.7 | VRNS | 77.65 | 18.8 |
| ENV | 52.90 | -2.6 | WAGE | 47.45 | 13.9 |
| FNGN | 44.65 | 0.0 | WEB | 19.55 | 5.1 |
| GDDY | 71.59 | 10.9 | WK | 26.00 | 15.6 |
| GOOGL | 1100.00 | 8.0 | | | |

Indexes

(% change in May)

| | | | |
|--------------|------|----------------|------|
| Faster SaaS | 10.8 | NASDAQ | 5.3 |
| Slower SaaS | 9.8 | S&P 500 | 2.2 |
| Others | 3.0 | Russell2000 | 6.1 |
| Overall SaaS | 9.3 | S&P Volatility | -3.1 |

Data source: S&P Capital IQ. 5/31/2018 Prices. 5/1-31/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

Zendesk (NYSE: ZEN +14.6%) – the enterprise software provider reported strong 1Q18 earnings, with revenues continuing to grow at a near 40% rate and the adjusted bottom line swinging into positive territory. ZEN posted revenues of \$129.8M during the quarter, topping street forecasts. Adjusted earnings came at \$0.02 per share, better than market estimate of loss of \$0.03 per share. ZEN dollar-based net expansion rate was 120% during 1Q18, up from 119% in 4Q17. The company improved its full year and 2Q18 revenue guidance to \$565-572M and \$136-138M, respectively.

2U (NASDAQ: TWOU +17.8%) – the online education services provider reported better than expected results, with revenues growing by 42% Y-o-Y to \$64.8M in 1Q18. Adjusted earnings came at a loss of \$0.12 per share, in line with street estimates. TWOU exceeded guidance in 1Q18 on the back of strong demand for graduate programs and short-term courses. The company commenced a proposed public offering of up to \$300M of its common stock, with plans to use the proceeds for working capital and other general corporate purposes.

More M&A

- **Flexera Software** acquired Meta SaaS, for an undisclosed consideration. Meta SaaS develops advanced SaaS spend management solutions. It is being rebranded as Flexera SaaS Manager. The deal enables Flexera to assist customers rein in SaaS spend on more than 32,000 SaaS applications – vastly exceeding the capabilities of any other supplier.
- **Firm58**, a provider of SaaS based technology platform that manages and automates execution fee and commission calculations, profitability analysis and regulatory compliance, within the capital markets industry, was acquired by ESW Capital, for an undisclosed consideration.

Select Horizontal Companies¹

| Ticker | 5/31 \$Price | May %ch | Ticker | 5/31 \$Price | May %ch |
|--------|-----------------|------------|--------|-----------------|------------|
| AAPL | 186.87 | 13.1 | MRIN | 5.85 | -19.3 |
| APPN | 31.89 | 17.6 | MSFT | 98.84 | 5.7 |
| APTI | 33.03 | 11.9 | NOW | 177.61 | 6.9 |
| ASUR | 17.53 | 15.8 | OKTA | 56.21 | 31.3 |
| AYX | 34.02 | 8.9 | ORCL | 46.72 | 2.3 |
| BCOV | 10.25 | 6.2 | PAYC | 105.47 | -7.7 |
| BL | 41.62 | 0.5 | PCTY | 59.75 | 9.4 |
| BNFT | 33.55 | 11.1 | PEGA | 61.85 | 1.3 |
| BOX | 25.68 | 12.3 | PGQW | 0.20 | 152.4 |
| CCUR | 5.22 | 0.4 | PYDS | 1.67 | -2.3 |
| CLDR | 16.22 | 13.8 | PYPL | 82.07 | 10.0 |
| COUP | 53.38 | 15.1 | RNG | 75.75 | 13.0 |
| CRM | 129.33 | 6.9 | SAP | 112.22 | 1.1 |
| CSCO | 42.71 | -3.6 | SEND | 26.54 | -8.0 |
| CSOD | 49.48 | 12.1 | SHSP | 8.05 | 24.4 |
| CTXS | 105.62 | 2.6 | SMSI | 2.06 | 3.5 |
| DATA | 98.87 | 16.2 | SNAP | 11.39 | -20.5 |
| DBX | 29.99 | -0.4 | SPRT | 2.87 | 5.9 |
| EGAN | 12.80 | 48.0 | SREV | 4.19 | 10.6 |
| EVBG | 46.07 | 23.3 | TEAM | 63.79 | 14.0 |
| FNJN | 2.90 | -1.7 | TWLO | 53.97 | 27.9 |
| GDDY | 71.59 | 10.9 | ULTI | 262.15 | 9.3 |
| GOOGL | 1100.00 | 8.0 | UPLD | 35.78 | 31.7 |
| GSB | 3.82 | 2.4 | VRNS | 77.65 | 18.8 |
| HDP | 17.78 | 5.0 | WAGE | 47.45 | 13.9 |
| HUBS | 121.20 | 14.4 | WDAY | 130.96 | 4.9 |
| IBM | 141.31 | -2.5 | WEB | 19.55 | 5.1 |
| INTU | 201.60 | 9.1 | WK | 26.00 | 15.6 |
| LOGM | 107.90 | -2.1 | YEXT | 15.39 | 15.4 |
| LPSN | 19.35 | 15.2 | ZEN | 55.89 | 14.6 |
| LVT | 0.31 | -3.3 | ZS | 26.26 | -12.1 |
| MFON | 1.05 | 6.1 | | | |

Select Vertical Companies²

| Ticker | 5/31 \$Price | May %ch | Ticker | 5/31 \$Price | May %ch |
|--------|-----------------|------------|--------|-----------------|------------|
| ACTA | 0.73 | -3.4 | GWRE | 92.84 | 9.7 |
| AKDS | 0.39 | 21.4 | INST | 43.00 | 6.0 |
| ALRM | 44.43 | 10.0 | INUV | 0.74 | -21.9 |
| AMBR | 9.04 | -2.4 | IPAS | 0.44 | 42.9 |
| AMZN | 1629.62 | 4.1 | MB | 39.40 | -0.6 |
| APPF | 59.20 | 23.5 | MODN | 17.85 | 4.1 |
| ATHN | 150.47 | 22.9 | QWTO | 57.15 | 16.0 |
| CDLX | 20.42 | 45.6 | RP | 58.75 | 9.8 |
| COYN | 0.05 | 53.3 | RST | 16.22 | 16.6 |
| CSLT | 3.60 | -4.0 | SAIL | 26.09 | 8.3 |
| CSTI | 8.50 | 6.3 | SCIL | 0.85 | 23.2 |
| CXDO | 2.80 | 12.0 | SHOP | 148.09 | 10.8 |
| EBAY | 37.72 | -0.4 | SPSC | 74.43 | 8.5 |
| ECOM | 14.80 | 11.3 | STMP | 250.80 | 10.1 |
| ELLI | 106.29 | 9.7 | SVVC | 12.08 | 10.2 |
| ENV | 52.90 | -2.6 | TWOU | 94.80 | 17.8 |
| EVOL | 3.30 | -13.2 | TWTR | 34.70 | 14.5 |
| FB | 191.78 | 11.5 | VEEV | 77.36 | 10.3 |
| FNGN | 44.65 | 0.0 | WIX | 86.95 | 5.7 |
| GSVC | 6.72 | -0.3 | WSTL | 2.91 | -5.2 |

Indexes

(% change in May)

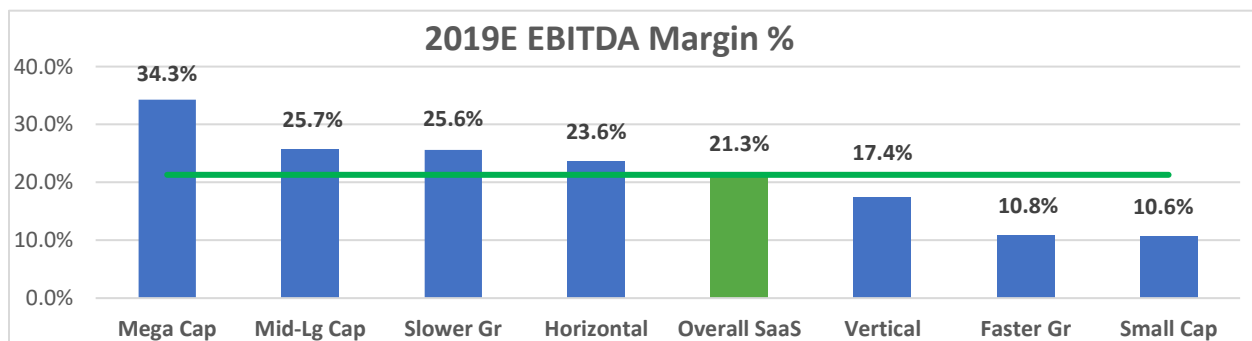
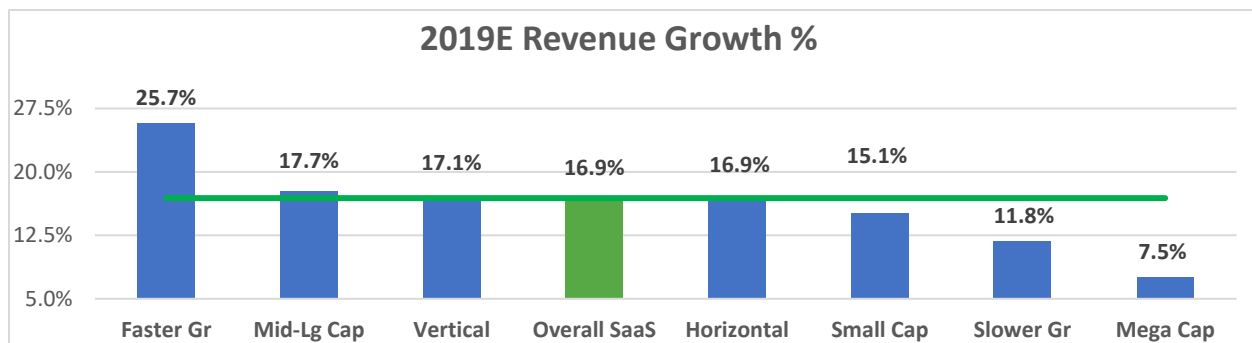
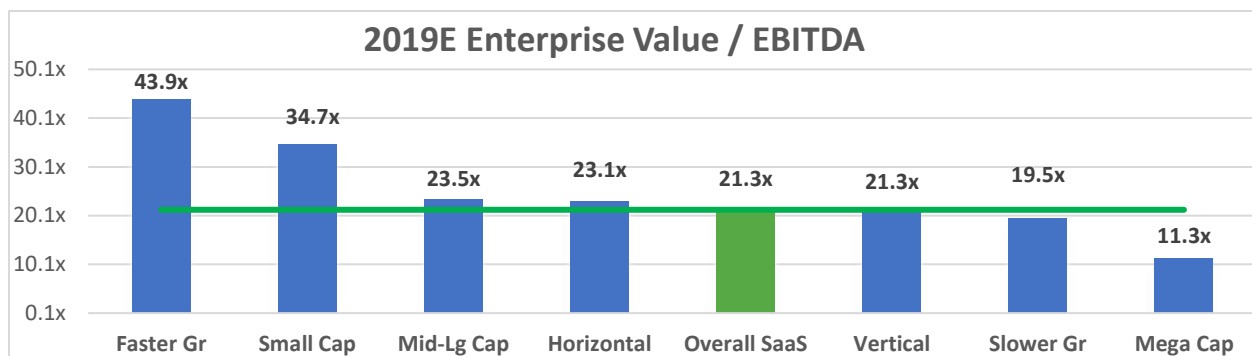
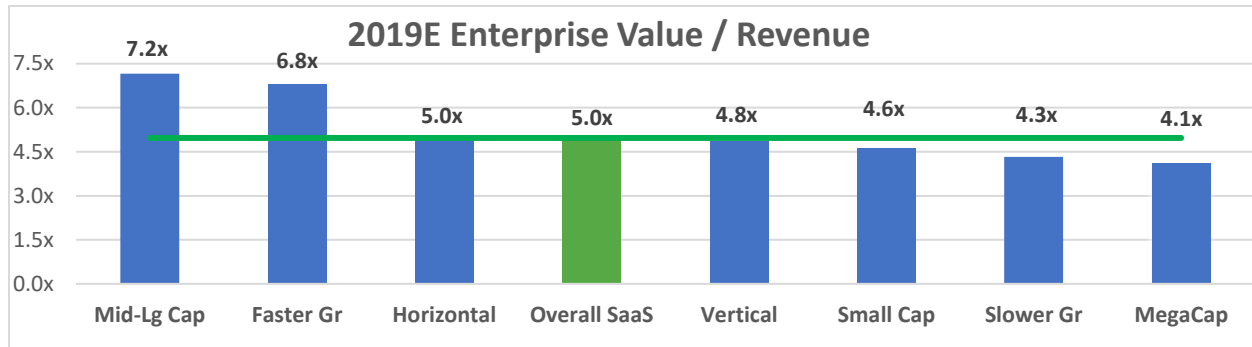
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|-----------------|-----|----------------|------|
| Horizontal SaaS | 9.1 | NASDAQ | 5.3 |
| Vertical SaaS | 9.8 | S&P 500 | 2.2 |
| Overall SaaS | 9.3 | Russell2000 | 6.1 |
| | | S&P Volatility | -3.1 |

¹ Horizontal companies provide software that can be used in almost all industries

² Vertical companies provide software for specific industries

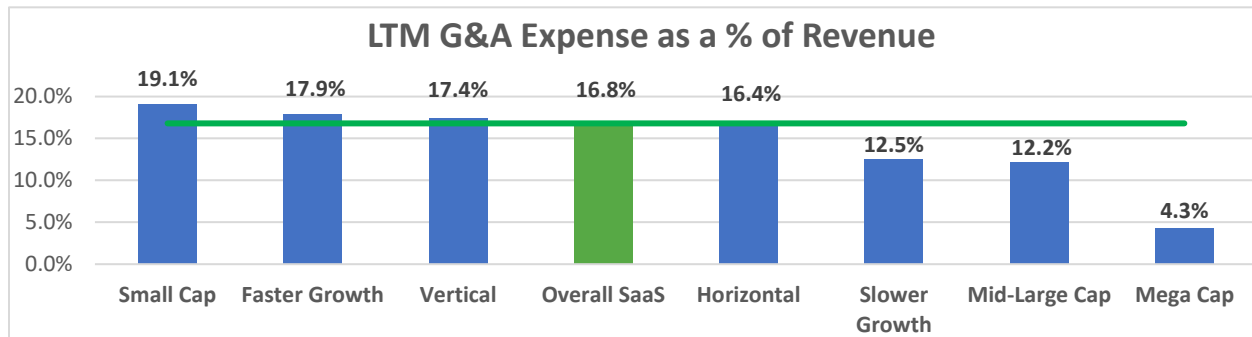
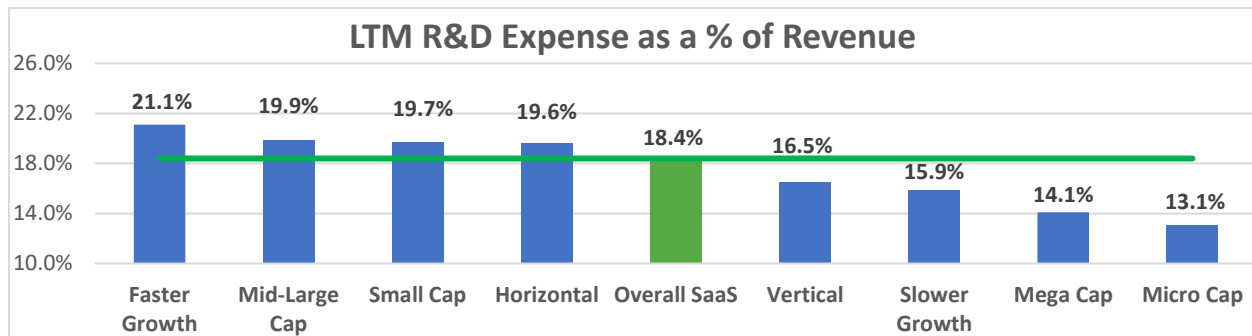
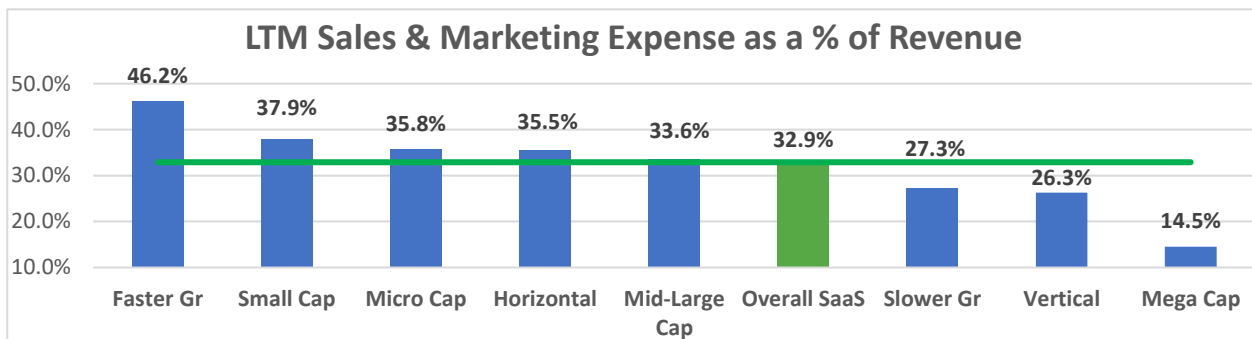
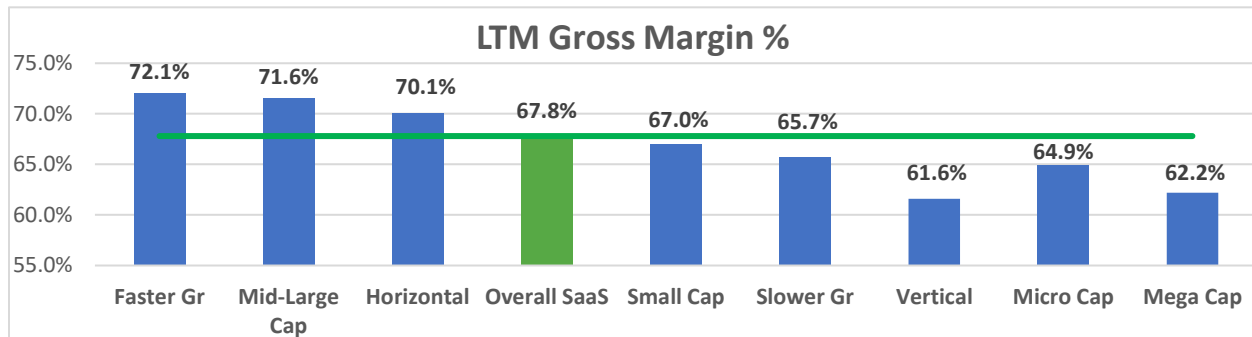
Data source: S&P Capital IQ. 5/31/2018 Prices. 5/1-31/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

Public Comparisons - Calendar Year (CY) 2019E Metrics - SaaS Software Cloud



Data Source: S&P Capital IQ | **Mega Cap** = \$100B+ mcap | **Mid-Large Cap** = \$3B-\$100B mcap | **Small Cap** = \$150M-3B mcap | **Micro Cap** = <\$150M mcap | **Fast Growth** = 2019E rev gr >20% | **Slow Growth** = 2019E rev gr <20% | **Horizontal** = Industry-neutral | **Vertical** = Industry-specific | **Overall SaaS** = median | **EBITDA** = earnings before int., tax, depr., amort.

Public Comparisons - Last Twelve Months (LTM) Metrics - SaaS Software Cloud



Data Source: S&P Capital IQ | **Mega Cap** = \$100B+ mcap | **Mid-Large Cap** = \$3B-\$100B mcap | **Small Cap** = \$150M-3B mcap
Micro Cap = <\$150M mcap | **Fast Gr** = 2019E rev gr >20% | **Slow Gr** = 2019E rev gr <20% | **Horizontal** = Industry-neutral solution | **Vertical** = Industry-specific solution | **Overall SaaS** = Group median

Selected Fast Growth – SaaS Software Cloud Public Company Valuation Metrics

| Ticker | Company Name | 5/31/18 Price | Market Cap | Enterprise Value (EV) | 2019E Street | | EBITDA margin | 2020E Growth | EV/Sales | | EV/FCF | | Price % Change From | | | 60D avg \$Volume | Short as % of Float | Insider Owners hip |
|--|--------------|---------------|------------|-----------------------|--------------|--------|---------------|--------------|----------|-------|--------|-------|---------------------|------|------|------------------|---------------------|--------------------|
| | | | | | Sales | Growth | | | CY19E | CY20E | CY19E | CY20E | 1M | 3M | 12M | | | |
| Fast Growth (2019E Revenue Growth > 20%, excluding Micro Caps) | | | | | | | | | | | | | | | | | | |
| AMZN | Amazon | \$1,629.62 | \$790,735 | \$810,259 | \$290,348 | 22% | 13.5% | 20% | 2.8x | 2.3x | 32.9x | 23.8x | 4% | 8% | 64% | 7,637.74 | 1.3% | 16% |
| APPF | AppFolio | 59.20 | 2,023 | 1,977 | 224 | 23% | 25.4% | 21% | 8.8x | 7.3x | 47.5x | na | 23% | 48% | 107% | 7.81 | 2.8% | 42% |
| AYX | Alteryx | 34.02 | 2,062 | 1,883 | 245 | 32% | na | 33% | 7.7x | 5.8x | 67.4x | 49.5x | 9% | 0% | 80% | 29.60 | 15.8% | 19% |
| BL | BlackLine | 41.62 | 2,224 | 2,110 | 281 | 25% | 6.8% | 26% | 7.5x | 6.0x | na | 86.2x | 1% | -5% | 23% | 18.46 | 4.9% | 17% |
| BOX | Box | 25.68 | 3,595 | 3,468 | 736 | 21% | 6.3% | 13% | 4.7x | 4.2x | 40.4x | na | 12% | 7% | 37% | 126.45 | 7.1% | 5% |
| CDLX | Cardlytics | 20.42 | 414 | 383 | 243 | 57% | 3.5% | 36% | 1.6x | 1.2x | na | 40.4x | 46% | 12% | 0% | 2.97 | 15.0% | 6% |
| COUP | Coupa | 53.38 | 3,023 | 2,773 | 287 | 25% | 2.6% | 27% | 9.7x | 7.6x | 99.4x | na | 15% | 20% | 56% | 32.33 | 6.4% | 1% |
| EVBG | Everbridge | 46.07 | 1,325 | 1,263 | 175 | 26% | 1.5% | 23% | 7.2x | 5.8x | na | na | 23% | 44% | 78% | 13.00 | 8.7% | 12% |
| FB | Facebook | 191.78 | 555,132 | 511,176 | 71,731 | 27% | 60.4% | 23% | 7.1x | 5.8x | 25.4x | 19.2x | 12% | 8% | 27% | 5,132.22 | 1.2% | 17% |
| HDP | Hortonworks | 17.78 | 1,405 | 1,316 | 407 | 23% | na | 24% | 3.2x | 2.6x | 51.2x | na | 5% | -1% | 44% | 18.57 | 6.9% | 2% |
| HUBS | HubSpot | 121.20 | 4,655 | 4,429 | 611 | 24% | 10.8% | 23% | 7.2x | 5.9x | 80.8x | na | 14% | 9% | 68% | 64.40 | 11.0% | 6% |
| INST | Instructure | 43.00 | 1,476 | 1,339 | 261 | 26% | na | 26% | 5.1x | 4.1x | na | na | 6% | -1% | 61% | 9.15 | 4.2% | 10% |
| MB | MINDBODY | 39.40 | 1,870 | 1,667 | 314 | 26% | 5.3% | 25% | 5.3x | 4.3x | na | 58.2x | -1% | 11% | 40% | 20.33 | 14.2% | 4% |
| NOW | ServiceNow | 177.61 | 31,379 | 30,648 | 3,345 | 29% | 27.8% | 27% | 9.2x | 7.2x | 32.9x | 24.9x | 7% | 10% | 70% | 332.55 | 5.5% | 1% |
| OKTA | Okta | 56.21 | 5,986 | 5,756 | 458 | 32% | na | 53% | 12.6x | 8.2x | na | 54.8x | 31% | 46% | 115% | 88.24 | 7.1% | 12% |
| PAYC | Paycom | 105.47 | 6,229 | 6,197 | 673 | 23% | 40.6% | 22% | 9.2x | 7.5x | 39.3x | 27.2x | -8% | 7% | 61% | 76.37 | 13.2% | 16% |
| PCTY | Paylocity | 59.75 | 3,146 | 3,016 | 501 | 22% | 23.7% | na | 6.0x | na | 45.2x | na | 9% | 28% | 28% | 13.95 | 4.9% | 34% |
| QTWO | Q2 Holdings | 57.15 | 2,427 | 2,308 | 293 | 23% | 11.9% | 21% | 7.9x | 6.5x | na | na | 16% | 25% | 44% | 18.09 | 4.4% | 2% |
| RNG | RingCentral | 75.75 | 5,962 | 5,764 | 790 | 23% | 12.5% | 24% | 7.3x | 5.9x | na | 76.5x | 13% | 21% | 122% | 44.79 | 4.1% | 21% |
| SAIL | SailPoint | 26.09 | 2,275 | 2,213 | 280 | 23% | 9.1% | 24% | 7.9x | 6.4x | 75.5x | 53.7x | 8% | 24% | 0% | 33.56 | 9.8% | 10% |
| SEND | SendGrid | 26.54 | 1,175 | 1,023 | 176 | 24% | 11.7% | 24% | 5.8x | 4.7x | na | 55.1x | -8% | 2% | 0% | 13.13 | 3.6% | 7% |
| SHOP | Shopify | 148.09 | 15,653 | 14,073 | 1,392 | 37% | 6.8% | 33% | 10.1x | 7.6x | na | 64.6x | 11% | 7% | 61% | 272.91 | 12.9% | 15% |
| SNAP | Snap | 11.39 | 14,331 | 12,525 | 1,718 | 45% | na | 42% | 7.3x | 5.1x | na | na | -21% | -34% | -46% | 303.46 | 15.3% | 36% |
| TEAM | Atlassian | 63.79 | 14,928 | 14,164 | 1,241 | 26% | 26.0% | na | 11.4x | na | 35.4x | 23.4x | 14% | 17% | 78% | 98.94 | 9.4% | 34% |
| TWLO | Twilio | 53.97 | 5,169 | 4,861 | 670 | 23% | 5.2% | 28% | 7.3x | 5.7x | na | na | 28% | 58% | 122% | 119.21 | 8.2% | 13% |
| TWOU | 2U | 94.80 | 5,426 | 5,267 | 540 | 32% | 5.2% | 34% | 9.7x | 7.3x | na | na | 18% | 15% | 122% | 59.47 | 12.3% | 1% |
| WDAY | Workday | 130.96 | 28,173 | 26,396 | 3,307 | 23% | 20.6% | 21% | 8.0x | 6.6x | 47.5x | 43.1x | 5% | 3% | 31% | 193.60 | 8.9% | 32% |
| WIX | Wix.com | 86.95 | 4,077 | 3,813 | 751 | 26% | 22.3% | 23% | 5.1x | 4.1x | 25.2x | 17.8x | 6% | 16% | 18% | 45.28 | 6.2% | 3% |
| YEXT | Yext | 15.39 | 1,480 | 1,362 | 297 | 32% | na | 28% | 4.6x | 3.6x | na | na | 15% | 21% | 4% | 13.25 | 7.2% | 23% |
| ZEN | Zendesk | 55.89 | 5,844 | 5,545 | 734 | 29% | 9.1% | 29% | 7.6x | 5.8x | 76.5x | 40.2x | 15% | 29% | 115% | 68.79 | 4.1% | 4% |
| ZS | Zscaler | 26.26 | 3,081 | 3,216 | 271 | 33% | 3.1% | 25% | 11.9x | 9.5x | na | na | -12% | 0% | 0% | 15.83 | 6.2% | 54% |
| Select Faster Growth (2019E Rev. Growth >20%) Median | | | | | 501 | 26% | 10.8% | 25% | 6.8x | 5.8x | 46.3x | 43.1x | 11% | 11% | 61% | 44.79 | 7.1% | 12% |

Selected Slower Growth - SaaS Software Cloud Public Company Valuation Metrics

| Ticker | Company Name | 5/31/18 Price | Market Cap | Enterprise Value (EV) | 2019E Street | | EBITDA | 2020E | EV/Sales | | EV/FCF | | Price % Change From | | | 60D avg | Short as | Insider |
|--|-------------------|---------------|------------|-----------------------|--------------|--------|--------|--------|----------|-------|--------|-------|---------------------|------|------|----------|------------|-----------|
| | | | | | Sales | Growth | margin | Growth | CY19E | CY20E | CY19E | CY20E | 1M | 3M | 12M | \$Volume | % of Float | Ownership |
| Slower Growth (2019E Revenue Growth < 20%, excluding Micro Caps) | | | | | | | | | | | | | | | | | | |
| AAPL | Apple | \$186.87 | \$918,492 | 952,392 | \$271,306 | 3% | 31.0% | 1% | 3.5x | 3.5x | 14.8x | 14.1x | 13% | 5% | 22% | 5,592.05 | 1.0% | 0% |
| ALRM | Alarm.Com | 44.43 | 2,101 | 2,074 | 429 | 12% | 22.7% | 12% | 4.8x | 4.3x | 33.0x | 21.8x | 10% | 23% | 36% | 16.19 | 14.7% | 3% |
| AMBR | Amber Road | 9.04 | 247 | 260 | 94 | 10% | 4.0% | na | 2.8x | na | 58.3x | na | -2% | -1% | 25% | 0.72 | 0.9% | 9% |
| APPN | Appian | 31.89 | 1,954 | 1,893 | 240 | 18% | na | 18% | 7.9x | 6.7x | na | na | 18% | 18% | 81% | 11.60 | 12.0% | 0% |
| APTI | Apptio | 33.03 | 1,443 | 1,304 | 267 | 17% | 6.2% | 16% | 4.9x | 4.2x | 55.7x | 23.5x | 12% | 14% | 100% | 18.78 | 7.1% | 20% |
| ASUR | Asure Software | 17.53 | 221 | 312 | 105 | 15% | 23.8% | 10% | 3.0x | 2.7x | 26.4x | na | 16% | 23% | 13% | 3.16 | 27.5% | 8% |
| ATHN | AthenaHealth | 150.47 | 6,080 | 6,208 | 1,489 | 10% | 28.7% | 10% | 4.2x | 3.8x | 38.6x | 24.7x | 23% | 8% | 12% | 87.77 | 5.9% | 1% |
| BCOV | Brightcove | 10.25 | 362 | 336 | 182 | 8% | 4.7% | na | 1.8x | na | 54.6x | na | 6% | 50% | 72% | 3.37 | 0.9% | 2% |
| BNFT | Benefitfocus | 33.55 | 1,066 | 1,134 | 285 | 12% | 7.3% | 14% | 4.0x | 3.5x | na | na | 11% | 39% | 6% | 10.13 | 18.2% | 18% |
| CLDR | Cloudera | 16.22 | 2,403 | 2,032 | 525 | 19% | na | 20% | 3.9x | 3.2x | na | 97.9x | 14% | -15% | -22% | 49.44 | 7.3% | 3% |
| CRM | salesforce.com | 129.33 | 96,081 | 92,910 | 15,727 | 20% | 23.4% | 18% | 5.9x | 5.0x | 28.0x | 22.8x | 7% | 11% | 44% | 606.89 | 2.6% | 5% |
| CSCO | Cisco | 42.71 | 200,860 | 174,567 | 51,570 | 3% | 34.3% | 6% | 3.4x | 3.2x | 11.5x | na | -4% | -5% | 35% | 985.05 | 1.2% | 0% |
| CSLT | Castlight Health | 3.60 | 490 | 421 | 181 | 18% | 4.1% | 18% | 2.3x | 2.0x | 49.6x | 21.4x | -4% | 1% | 3% | 1.15 | 6.0% | 9% |
| CSOD | Cornerstone | 49.48 | 2,855 | 2,774 | 560 | 10% | 23.3% | 14% | 5.0x | 4.4x | 28.0x | 19.9x | 12% | 21% | 32% | 27.71 | 5.2% | 9% |
| CTXS | Citrix | 105.62 | 14,314 | 14,987 | 3,003 | 3% | 32.1% | 5% | 5.0x | 4.7x | 15.9x | 14.8x | 3% | 15% | 28% | 188.98 | 4.7% | 1% |
| DATA | Tableau | 98.87 | 8,062 | 7,197 | 1,116 | 14% | 7.1% | 21% | 6.4x | 5.3x | 35.1x | 31.9x | 16% | 21% | 59% | 90.27 | 4.7% | 17% |
| DBX | DropBox | 29.99 | 12,008 | 11,332 | 1,582 | 17% | 21.5% | 16% | 7.2x | 6.2x | 26.2x | 22.0x | 0% | 0% | 0% | 78.10 | 6.4% | 34% |
| EBAY | eBay | 37.72 | 37,493 | 41,943 | 11,908 | 8% | 33.0% | 9% | 3.5x | 3.2x | 15.9x | 13.8x | 0% | -12% | 10% | 355.30 | 3.2% | 6% |
| ECOM | ChannelAdvisor | 14.80 | 401 | 347 | 140 | 7% | 7.6% | 7% | 2.5x | 2.3x | 39.5x | 20.1x | 11% | 67% | 30% | 1.64 | 1.1% | 5% |
| EGAN | eGain | 12.80 | 352 | 348 | 74 | 13% | 8.0% | na | 4.7x | na | na | na | 48% | 65% | 726% | 2.64 | 1.5% | 37% |
| ELLI | Ellie Mae | 106.29 | 3,651 | 3,419 | 587 | 18% | 28.6% | 17% | 5.8x | 5.0x | 35.1x | 28.9x | 10% | 20% | -3% | 62.62 | 18.6% | 2% |
| ENV | Envestnet | 52.90 | 2,392 | 2,771 | 919 | 12% | 20.0% | 14% | 3.0x | 2.6x | 21.3x | 19.1x | -3% | -4% | 48% | 16.64 | 2.7% | 4% |
| FNGN | Financial Engines | 44.65 | 2,844 | 2,605 | 561 | 9% | 33.9% | 5% | 4.6x | 4.4x | 14.9x | 13.9x | 0% | 33% | 18% | 37.88 | 1.4% | 1% |
| GDDY | GoDaddy | 71.59 | 11,227 | 13,214 | 2,945 | 12% | 27.4% | 11% | 4.5x | 4.0x | 17.8x | 15.0x | 11% | 20% | 74% | 129.62 | 3.4% | 0% |
| GOOGL | Alphabet | 1100.00 | 758,766 | 661,183 | 160,651 | 18% | 36.9% | 17% | 4.1x | 3.5x | 20.2x | 15.9x | 8% | 0% | 11% | 2,206.55 | 0.6% | 12% |
| GWRE | Guidewire | 92.84 | 7,419 | 6,914 | 809 | 17% | 21.1% | na | 8.5x | na | 40.9x | na | 10% | 16% | 40% | 44.63 | 5.6% | 0% |
| IBM | IBM | 141.31 | 129,718 | 163,465 | 80,815 | 0% | 24.3% | 0% | 2.0x | 2.0x | 13.2x | 12.0x | -3% | -9% | -7% | 695.25 | 1.6% | 0% |
| INTU | Intuit | 201.60 | 51,728 | 50,242 | 6,833 | 11% | 36.3% | 11% | 7.4x | 6.6x | 23.0x | na | 9% | 21% | 43% | 290.66 | 1.2% | 4% |
| LOGM | LogMeIn | 107.90 | 5,634 | 5,269 | 1,316 | 8% | 37.9% | 7% | 4.0x | 3.7x | 12.7x | 11.2x | -2% | -7% | -3% | 53.59 | 6.2% | 2% |
| LPSN | LivePerson | 19.35 | 1,175 | 1,117 | 270 | 12% | 10.9% | na | 4.1x | na | na | na | 15% | 34% | 103% | 7.67 | 2.2% | 8% |
| MODN | Model N | 17.85 | 545 | 547 | 156 | 3% | 9.5% | na | 3.5x | na | 37.1x | na | 4% | 4% | 38% | 3.01 | 1.2% | 16% |
| MSFT | Microsoft | 98.84 | 759,407 | 715,755 | 125,181 | 9% | 43.0% | 12% | 5.7x | 5.1x | 17.5x | 16.4x | 6% | 5% | 42% | 2,704.25 | 0.6% | 1% |
| ORCL | Oracle | 46.72 | 190,726 | 181,553 | 41,958 | 4% | 47.1% | 1% | 4.3x | 4.3x | 11.4x | 11.9x | 2% | -8% | 3% | 589.19 | 1.1% | 28% |
| PEGA | Pegasystems | 61.85 | 4,860 | 4,605 | 1,063 | 11% | 16.0% | 21% | 4.3x | 3.6x | 27.6x | 29.8x | 1% | 7% | 6% | 23.36 | 1.9% | 52% |
| PYPL | PayPal Holdings | 82.07 | 97,449 | 87,938 | 17,799 | 16% | 26.7% | 17% | 4.9x | 4.2x | 21.7x | 16.6x | 10% | 3% | 57% | 676.22 | 1.3% | 5% |
| RST | Rosetta Stone | 16.22 | 367 | 330 | 192 | 11% | 4.9% | 6% | 1.7x | 1.6x | na | na | 17% | 18% | 37% | 2.21 | 2.5% | 8% |
| RP | RealPage | 58.75 | 4,743 | 5,291 | 971 | 12% | 27.9% | 10% | 5.4x | 4.9x | 27.8x | 22.8x | 10% | 12% | 70% | 37.24 | 3.9% | 4% |
| SAP | SAP | 112.22 | 133,922 | 133,511 | 30,439 | 7% | 34.2% | 8% | 4.4x | 4.0x | 26.0x | 21.4x | 1% | 6% | 5% | 0.63 | 0.0% | 1% |
| SPSC | SPS Commerce | 74.43 | 1,292 | 1,126 | 267 | 10% | 19.8% | 9% | 4.2x | 3.9x | 31.5x | 32.0x | 9% | 24% | 28% | 10.49 | 1.9% | 1% |
| SREV | ServiceSource | 4.19 | 381 | 343 | 262 | 6% | 10.6% | na | 1.3x | na | 39.6x | na | 11% | 14% | 21% | 1.81 | 1.2% | 4% |
| STMP | Stamps.com | 250.80 | 4,495 | 4,383 | 645 | 17% | 48.3% | na | 6.8x | na | 17.5x | na | 10% | 31% | 82% | 77.61 | 11.2% | 5% |
| TWTR | Twitter | 34.70 | 26,022 | 23,302 | 3,276 | 13% | 40.0% | 9% | 7.1x | 6.5x | 29.7x | 28.2x | 14% | 9% | 89% | 821.19 | 4.5% | 10% |
| ULTI | Ultimate Software | 262.15 | 8,025 | 7,887 | 1,307 | 17% | 25.7% | 18% | 6.0x | 5.1x | 41.4x | 32.0x | 9% | 10% | 19% | 67.33 | 6.3% | 4% |
| UPLD | Upland Software | 35.78 | 770 | 898 | 142 | 5% | 36.6% | na | 6.3x | na | 25.9x | na | 32% | 50% | 61% | 6.31 | 1.0% | 15% |
| VEEV | Veeva Systems | 77.36 | 11,075 | 10,157 | 974 | 17% | 33.5% | 17% | 10.4x | 8.9x | 33.2x | 27.2x | 10% | 11% | 22% | 73.49 | 3.2% | 10% |
| VRNS | Varonis Systems | 77.65 | 2,233 | 2,079 | 316 | 18% | 5.0% | 16% | 6.6x | 5.7x | 74.1x | 51.5x | 19% | 38% | 114% | 22.27 | 1.6% | 2% |
| WAGE | WageWorks | 47.45 | 1,881 | 1,233 | 547 | 6% | 32.7% | 6% | 2.3x | 2.1x | na | na | 14% | -10% | -33% | 20.84 | 6.6% | 1% |
| WEB | Web.com Group | 19.55 | 847 | 1,487 | 766 | 2% | 25.6% | 2% | 1.9x | 1.9x | 11.1x | 10.7x | 5% | 9% | -14% | 10.55 | 4.6% | 5% |
| WK | Workiva | 26.00 | 1,111 | 1,049 | 268 | 13% | na | 13% | 3.9x | 3.5x | na | na | 16% | 14% | 43% | 4.77 | 3.8% | 43% |
| Select Slower Growth (2019E Rev. Growth < 20%) Median | | | | | 766 | 12% | 25.0% | 11% | 4.3x | 4.0x | 27.6x | 21.4x | 10% | 13% | 31% | 37.24 | 3.2% | 5% |

Data Source: S&P Capital IQ | EV = Enterprise value | EBITDA = Earnings before int., tax, depr., amort | FCF = Free cash flow

Selected Micro-Caps – SaaS Software Cloud Public Company Valuation Metrics

| Ticker | Company Name | 5/31/18 Price | Market Cap | Enterprise Value (EV) | 2019E Street | | EBITDA margin | 2020E Growth | EV/Sales | | EV/FCF | | Price % Change From | | | 60D avg \$Volume | Short as % of Float | Insider Ownership |
|--|------------------|------------------|---------------|--------------------------|--------------|--------|------------------|-----------------|----------|-------|--------|-------|---------------------|------|------|---------------------|------------------------|----------------------|
| | | | | | Sales | Growth | | | CY19E | CY20E | CY19E | CY20E | 1M | 3M | 12M | | | |
| Micro Caps and Those with No 2019E Revenue Estimates | | | | | | | | | | | | | | | | | | |
| ACTA | Actua | \$0.73 | \$22 | \$5 | na | na | na | na | na | na | na | na | -3% | -5% | -95% | 0.00 | 0.0% | 4% |
| AKDS | Arkados Group | 0.39 | 11 | 17 | na | na | na | na | na | na | na | na | 21% | -29% | -48% | 0.03 | 0.0% | 12% |
| CCUR | Concurrent | 5.22 | 48 | (13) | na | na | na | na | na | na | na | na | 0% | -2% | -22% | 0.26 | 0.5% | 39% |
| COYN | COPSync | 0.05 | 1 | na | na | na | na | na | na | na | na | na | 53% | 84% | -50% | 0.00 | 0.1% | 0% |
| CSTI | Costar | 8.50 | 13 | 21 | na | na | na | na | na | na | na | na | 6% | -6% | -7% | 0.01 | 0.0% | 0% |
| CXDO | Crexendo | 2.80 | 40 | 39 | na | na | na | na | na | na | na | na | 12% | 7% | 76% | 0.01 | 1.1% | 74% |
| EVOL | Evolving Systems | 3.30 | 40 | 40 | na | na | na | na | na | na | na | na | -13% | -39% | -38% | 0.05 | 0.1% | 33% |
| FNJN | FinJan | 2.90 | 80 | (0) | 71 | -27% | 63.6% | 40% | na | na | na | na | -2% | 1% | -2% | 0.95 | 3.7% | 3% |
| GSB | GlobalSCAPE | 3.82 | 82 | 69 | na | na | na | na | na | na | na | na | 2% | 10% | -15% | 0.08 | 0.1% | 21% |
| GSVC | GSV Capital | 6.72 | 142 | 139 | 1 | 3% | na | na | na | na | na | na | 0% | -17% | 49% | 1.24 | 0.0% | 1% |
| INUV | Inuvo | 0.74 | 24 | 25 | 104 | 15% | 5.8% | na | 0.2x | na | na | na | -22% | -15% | -31% | 0.07 | 3.3% | 16% |
| IPAS | iPass | 0.44 | 32 | 29 | 67 | 25% | 5.0% | na | 0.4x | na | na | na | 43% | 9% | -70% | 0.31 | 2.3% | 2% |
| LVT | LiveTiles | 0.31 | 141 | 136 | 23 | 81% | na | na | 6.0x | na | na | na | -3% | -17% | 75% | 0.12 | 0.0% | 53% |
| MFON | Mobivity | 1.05 | 41 | 42 | na | na | na | na | na | na | na | na | 6% | -7% | 33% | 0.03 | 0.0% | 17% |
| MRIN | Junein Software | 5.85 | 34 | 14 | na | na | na | na | na | na | na | na | -19% | -25% | -36% | 0.12 | 3.1% | 29% |
| PGQW.F | 1-Page | 0.20 | 31 | 11 | na | na | na | na | na | na | na | na | 152% | 152% | 63% | 0.00 | 0.7% | 12% |
| PYDS | Payment Data Sys | 1.67 | 26 | 23 | 28 | 7% | na | na | 0.8x | na | na | na | -2% | 1% | 21% | 0.23 | 5.2% | 45% |
| SCIL | Scientific | 0.85 | 23 | na | na | na | na | na | na | na | na | na | 23% | 21% | 55% | 0.01 | 0.0% | 0% |
| SHSP | SharpSpring | 8.05 | 68 | 64 | 23 | 28% | na | na | 2.8x | na | na | na | 24% | 62% | 85% | 0.21 | 0.8% | 18% |
| SMSI | Smith Micro | 2.06 | 44 | 43 | na | na | na | na | na | na | na | na | 4% | -5% | 93% | 0.51 | 19.5% | 25% |
| SPRT | Support.com | 2.87 | 54 | 6 | na | na | na | na | na | na | na | na | 6% | 5% | 17% | 0.07 | 0.2% | 8% |
| SVVC | First Technology | 12.08 | 88 | 88 | na | na | na | na | na | na | na | na | 10% | 24% | 41% | 0.24 | 0.0% | 4% |
| WSTL | Westell | 2.91 | 45 | 18 | na | na | na | na | na | na | na | na | -5% | -10% | -1% | 0.20 | 0.2% | 32% |
| Select Micro Caps and Those with No Rev. Estimates Med | | | | | 28 | na | na | na | na | na | na | na | 4% | -2% | -1% | 0.08 | 0.2% | 16% |

Data Source: S&P Capital IQ | EV = Enterprise value | EBITDA = Earnings before int, tax, depr., amort | FCF = Free cash flow

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