

## SaaS Software Cloud Update – June 2017

### Public Markets and M&A Activity

SaaS Software Cloud stocks advanced 0.3% in June and 19.7% for the first half of 2017, compared with the NASDAQ's -0.9% and +14.1%, respectively, the Russell 2000's +3.5% and 4.7%, and the DJIA's +1.6% and 8.0%. 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.

**Oracle (NYSE: ORCL +10.5% in June)** – the enterprise software and hardware titan demonstrated solid progress with its cloud transition during fiscal 4Q17 results, reported on June 22nd, driven by a string of \$1B-plus SaaS company acquisitions over the past several years, including NetSuite (11/2016 for \$9.3B), Datalogix (2/2015 for \$1.2B), Responsys (12/2013 for \$1.5B), Taleo (2/2012 for \$1.9B), and RightNow (1/2012 for \$1.5B). The company is adding new cloud customers, not just transitioning legacy clients as 65% of SaaS business in the quarter came from new customers and 35% from its existing base. By adding more than \$2.05B in annualized recurring revenue in FY2018, we expect cloud revenue to surpass new license revenue by the end of 2018. Furthermore, ORCL reiterated its commitment to double-digit EPS growth and improving SaaS gross margin to 80% from 54% this quarter.

**Alphabet (NASDAQ: GOOGL -5.8%)** – the internet search conglomerate's stock was under pressure due to a \$2.7B antitrust fine by the European Union, which accused Google of manipulating search results to prioritize its own shopping comparison solution. With a \$659B market cap, the dollar amount of the fine is negligible but we think it could be a precursor for additional fines in other geographies.

**Okta (NASDAQ: OKTA -12.6%)** – we suspect that a supply-demand imbalance related to the IPO share lockup expiration, a lofty valuation (over 9x CY2018 EV/revenue), and lack of profitability (albeit improving quickly) contributed to the stock pressure in June. This more than offset the identity management SaaS provider's strong fiscal first quarter results, ended April and reported on 6/7, which exceeded revenue and profitability expectations. Subscription revenue grew 75%, dollar-based net retention increased three percentage points YOY to 123%, and OKTA now has 3,350 clients (up 36% YOY) including 493 (up 64% YOY) with ACV over \$100,000.

**Cloudera (NYSE: CLDR -22.8%)** – reported disappointing results in its first report since going public and the stock unsurprisingly followed suit. While revenue and EPS were above expectations, billings fell short (\$75M versus the Street mean of \$81M) and contract duration declined to 18 months from 20 months.

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#### Select Mega Cap (\$100B+ market cap)

Ticker	6/30 \$Price	June %ch	Ticker	6/30 \$Price	June %ch
AMZN	968.0	-2.7	IBM	153.83	0.8
CSCO	31.3	-0.7	MSFT	68.93	-1.3
FB	151.0	-0.3	ORCL	50.14	10.5
GOOGL	929.7	-5.8	SAP	104.78	-2.1

#### Select Mid-Large Cap (\$3B-\$100B market cap)

Ticker	6/30 \$Price	June %ch	Ticker	6/30 \$Price	June %ch
ATHN	140.55	4.9	NOW	106.00	1.3
CRM	86.60	-3.4	PAYC	68.41	4.5
CTXS	79.58	-3.6	PEGA	58.35	-0.2
DATA	61.27	-1.2	PYPL	53.67	2.8
EBAY	34.92	1.8	SHOP	86.90	-5.4
ELLI	109.91	0.3	TEAM	35.18	-1.6
GDDY	42.42	3.1	TWTR	17.87	-2.5
GWRE	68.71	3.4	ULTI	210.06	-4.8
INTU	132.81	-5.6	VEEV	61.31	-3.5
LOGM	104.50	-5.9	WDAY	97.00	-3.0
MULE	24.94	-4.2	WIX	69.60	-5.6

#### Select Small Cap (\$150M-\$3B market cap)

Ticker	6/30 \$Price	June %ch	Ticker	6/30 \$Price	June %ch
ACTA	14.05	0.4	LPSN	11.00	15.2
ALRM	37.63	15.6	MB	27.20	-3.0
AMBR	8.57	18.5	MODN	13.30	2.7
APPF	32.60	13.8	OKTA	22.80	-12.6
APTI	17.35	5.0	PCTY	45.18	-3.6
ASUR	14.61	-5.7	QWTO	36.95	-6.7
AYX	19.52	3.5	RP	35.95	3.9
BCOV	6.20	4.2	RST	10.78	-9.2
BL	35.74	5.9	SALE	0.00	0.0
BNFT	36.35	14.3	SNCR	16.45	28.7
BOX	18.24	-2.5	SPSC	63.76	9.6
BSFT	43.05	7.6	SREV	3.88	12.1
BV	4.95	8.8	STMP	154.88	12.3
CALD	24.20	1.3	TNGO	6.51	0.8
CLDR	16.02	-22.8	TWLO	29.11	19.7
COUP	28.98	-15.3	TWOU	46.92	9.8
CSLT	4.15	18.6	UPLD	21.99	-1.1
CSOD	35.75	-4.3	VRNS	37.20	2.3
ECOM	11.55	1.3	WAGE	67.20	-5.0
ENV	39.60	10.5	WEB	25.30	11.2
EVBG	24.36	-5.8	WK	19.05	4.7
FNGN	36.60	-3.4	XTLY	15.65	-0.3
HDP	12.88	4.2	YEXT	13.33	-9.6
INST	29.50	10.5	ZEN	27.78	6.9
JIVE	0.00	0.0			

#### Select Micro Cap (<\$150M market cap)

Tickers					
1PG	COYN	FNJN	INUV	PYDS	SVVC
AKDS	CSTI	FUEL	IPAS	SCIL	WSTL
CAFN	CXDO	GSB	LVT	SHSP	
CCUR	EGAN	GSVC	MFON	SMSI	
COVS	EVOL	INLX	MRIN	SPRT	

#### Indexes (% change in June)

Mega-cap SaaS	-1.0	NASDAQ	-0.9
MidLgCap SaaS	-2.0	DJIA	1.6
Small-cap SaaS	3.5	S&P 500	0.5
Micro-cap SaaS	0.0	Russell2000	3.5
Overall SaaS	0.3	S&P Volatility	7.4

Data source: S&P Capital IQ. 6/30/2017 Prices.  
6/1-30/2017 %Change. All investing involves risk,  
including the risk of losing the entire investment.  
Prices are subject to change without prior notice.

**Covisint Corporation (NASDAQ:COVS +19.5%)** – announced on 6/5 that it is being acquired by **Open Text (NASDAQ: OTEX)** for \$102.46M (or \$2.45 per share), resulting in a 2017 revenue multiple of about 1.5x. The deal deepens OTEX's IoT (internet of things), EIM (enterprise identity management), and GSX (global service exchange) solutions. It also serves to deepen the company's presence in the auto and healthcare industries. COVS enables over 3,000 companies in various industries to identify, authenticate, and connect users, devices, and applications, supporting \$4B-plus in ecommerce transactions annually. The deal is expected to close in calendar third quarter.

**Tata Technologies, subsidiary of Tata Motors (NYSE:TTM -10.4%)** – private-equity firm Warburg Pincus affiliate is investing \$360M for a 43% stake in Tata Technologies. The Tata Motors subsidiary provides engineering, design, and product lifecycle management (PLM) solutions to manufacturers and suppliers in the automotive, aerospace, and engineering sectors.

**Coupa (NASDAQ: COUP -18.0%)** – the SaaS procurement provider's stock was under pressure due to a deceleration in billings growth (to 23%) when reporting fiscal first quarter 2018 results on 6/5, though revenue and EPS exceeded consensus. Still, cumulative spend under management grew to \$420B as its network now exceeds 3M suppliers and dollar-based expansion improved to 108-110% from 104-107%.

**Instructure (NYSE: INST +10.5%)** – its learning management systems are gaining market share from legacy providers such as Blackboard in the domestic K-12 and higher-education markets. Many investors anticipate that the company will be FCF positive beginning in 2H17. However, assuming continued 40%-plus topline growth, it will likely be several years before achieving breakeven profitability.

**Synchronoss (NASDAQ: SNCR +28.7%)** – on 6/22 the embattled mobility solutions provider received an all-cash take-private offer from Siris Capital Group for about \$840M or \$18.00 per share, representing a 69% premium to its prior day's closing price. Despite a strong stock performance in June, it is still down 57% year-to-date due to the company's ongoing financial restatement process, CEO/CFO changes, guidance reduction, and exposure to one large carrier (Verizon).

**Faster Growth**  
(2018E growth > 20%, excluding micro-caps)

	6/30	June		6/30	June
Ticker	\$Price	%ch	Ticker	\$Price	%ch
AMZN	968.00	-2.7	OKTA	22.80	-12.6
APPF	32.60	13.8	PAYC	68.41	4.5
AYX	19.52	3.5	PCTY	45.18	-3.6
BL	35.74	5.9	QTWO	36.95	-6.7
BOX	18.24	-2.5	SHOP	86.90	-5.4
COUP	28.98	-15.3	TEAM	35.18	-1.6
CSLT	4.15	18.6	TWLO	29.11	19.7
ELLI	109.91	0.3	TWOU	46.92	9.8
EVBG	24.36	-5.8	ULTI	210.06	-4.8
FB	150.98	-0.3	WDAY	97.00	-3.0
HDP	12.88	4.2	WIX	69.60	-5.6
INST	29.50	10.5	XTLY	15.65	-0.3
MB	27.20	-3.0	YEET	13.33	-9.6
MULE	24.94	-4.2	ZEN	27.78	6.9
NOW	106.00	1.3			

**Slower Growth**  
(2018E growth < 20%, excluding micro-caps)

	6/30	June		6/30	June
Ticker	\$Price	%ch	Ticker	\$Price	%ch
ACTA	14.05	0.4	JIVE	0.00	0.0
ALRM	37.63	15.6	LOGM	104.50	-5.9
AMBR	8.57	18.5	LPSN	11.00	15.2
APTI	17.35	5.0	MODN	13.30	2.7
ATHN	140.55	4.9	MSFT	68.93	-1.3
BCOV	6.20	4.2	ORCL	50.14	10.5
BNFT	36.35	14.3	PEGA	58.35	-0.2
BSFT	43.05	7.6	PYPL	53.67	2.8
BV	4.95	8.8	RP	35.95	3.9
CALD	24.20	1.3	RST	10.78	-9.2
CRM	86.60	-3.4	SALE	0.00	0.0
CSCO	31.30	-0.7	SAP	104.78	-2.1
CSOD	35.75	-4.3	SNCR	16.45	28.7
CTXS	79.58	-3.6	SPSC	63.76	9.6
DATA	61.27	-1.2	SREV	3.88	12.1
EBAY	34.92	1.8	STMP	154.88	12.3
ECOM	11.55	1.3	TWTR	17.87	-2.5
ENV	39.60	10.5	UPLD	21.99	-1.1
FNGN	36.60	-3.4	VEEV	61.31	-3.5
GDDY	42.42	3.1	VRNS	37.20	2.3
GOOGL	929.68	-5.8	WAGE	67.20	-5.0
GWRE	68.71	3.4	WEB	25.30	11.2
IBM	153.83	0.8	WK	19.05	4.7
INTU	132.81	-5.6			

**Others**

(Micro-caps and those with no estimates)

Tickers					
1PG	CLDR	EGAN	GSVC	MFON	SMSI
AKDS	COVS	EVOL	INLX	MRIN	SPRT
ASUR	COYN	FNJN	INUV	PYDS	SVVC
CAFN	CSTI	FUEL	IPAS	SCIL	TNGO
CCUR	CXDO	GSB	LVT	SHSP	WSTL

**Indexes**

(% change in June)

Faster SaaS	-1.6	NASDAQ	-0.9
Slower SaaS	1.8	S&P 500	0.5
Others	0.0	Russell2000	3.5
Overall SaaS	0.3	S&P Volatility	7.4

Data source: S&P Capital IQ. 6/30/2017 Prices. 6/1-30/2017 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

#### Additional Noteworthy Acquisitions:

- **RealPage (NASDAQ: RP +3.9%)** – purchased utility and energy management solution Ameircan Utility Management for \$70M to expand its Resident Utility Management Platform.
- **Callidus Software (NASDAQ: CALD +1.3%)** – acquired UK-based Learning Heroes, an e-learning provider. The deal enhances CALD's Litmos mobile learning platform's presence in EMEA.
- **Alibaba (NYSE:BABA +15.1%)** – The Chinese e-commerce giant invested \$1B to increase its stake in Southeast Asian online retailer Lazada from 51% to 83% on 6/28, bringing its overall investment to over \$2B.
- **Wal-Mart Stores (NYSE: WMT -3.7%)** – acquired online men's clothing ecommerce provider Bonobos for \$310M on 6/16.
- **Amazon (NASDAQ: AMZN -2.7%)** – is purchasing Whole Foods Market for \$13.7B furthering the trend of online and offline merging. The deal was announced 6/16.
- **Apple (NASDAQ: AAPL -5.7%)** – on June 26 purchased German computer vision company SensoMotoric Instruments to further its augmented-reality endeavors. Its solutions provide application-specific gaze and eye tracking.
- **Adobe Systems (NASDAQ: ADBE -0.0%)** – acquired Mettler's SkyBox plug-ins for 360-video and virtual reality.
- **Apollo Global Management (NYSE: APO -2.1%)** – along with Ontario Teachers' Pension Plan Board are buying a majority stake in job portal CareerBuilder for \$475M.
- **Snap Inc. (NYSE: SNAP -16.2%)** –acquired Placed, a location-tracking start-up, for \$200M.

#### Select Horizontal Companies<sup>1</sup>

Ticker	6/30 \$Price	June %ch	Ticker	6/30 \$Price	June %ch
1PG	0.11	1.5	LPSN	11.00	15.2
APTI	17.35	5.0	LVT	0.18	1.0
ASUR	14.61	-5.7	MFON	0.79	0.0
AYX	19.52	3.5	MRIN	1.30	0.0
BCOV	6.20	4.2	MSFT	68.93	-1.3
BL	35.74	5.9	MULE	24.94	-4.2
BNFT	36.35	14.3	NOW	106.00	1.3
BOX	18.24	-2.5	OKTA	22.80	-12.6
CALD	24.20	1.3	ORCL	50.14	10.5
CCUR	6.65	-1.0	PAYC	68.41	4.5
CLDR	16.02	-22.8	PCTY	45.18	-3.6
COUP	28.98	-15.3	PEGA	58.35	-0.2
COVS	2.45	19.5	PYDS	1.21	-12.5
CRM	86.60	-3.4	PYPL	53.67	2.8
CSCO	31.30	-0.7	SAP	104.78	-2.1
CSOD	35.75	-4.3	SHSP	4.53	4.1
CTXS	79.58	-3.6	SMSI	1.46	36.4
DATA	61.27	-1.2	SPRT	2.33	-4.9
EGAN	1.65	6.5	SREV	3.88	12.1
EVBG	24.36	-5.8	TEAM	35.18	-1.6
FNJN	3.28	10.8	TWLO	29.11	19.7
FUEL	2.75	-9.2	ULTI	210.06	-4.8
GGDY	42.42	3.1	UPLD	21.99	-1.1
GOOGL	929.68	-5.8	VRNS	37.20	2.3
GSB	5.29	18.1	WAGE	67.20	-5.0
HDP	12.88	4.2	WDAY	97.00	-3.0
IBM	153.83	0.8	WEB	25.30	11.2
INLX	0.70	-22.2	WK	19.05	4.7
INTU	132.81	-5.6	XTLY	15.65	-0.3
JIVE	0.00	0.0	YEXT	13.33	-9.6
LOGM	104.50	-5.9	ZEN	27.78	6.9

#### Select Vertical Companies<sup>2</sup>

Ticker	6/30 \$Price	June %ch	Ticker	6/30 \$Price	June %ch
ACTA	14.05	0.4	GWRE	68.71	3.4
AKDS	0.86	14.5	INST	29.50	10.5
ALRM	37.63	15.6	INUV	1.02	-4.7
AMBR	8.57	18.5	IPAS	1.32	-9.6
AMZN	968.00	-2.7	MB	27.20	-3.0
APPF	32.60	13.8	MODN	13.30	2.7
ATHN	140.55	4.9	QTWO	36.95	-6.7
BSFT	43.05	7.6	RP	35.95	3.9
BV	4.95	8.8	RST	10.78	-9.2
CAFN	3.18	-12.9	SALE	0.00	0.0
COYN	0.19	100.7	SCIL	0.46	-15.6
CSLT	4.15	18.6	SHOP	86.90	-5.4
CSTI	10.00	9.3	SNCR	16.45	28.7
CXDO	1.82	14.5	SPSC	63.76	9.6
EBAY	34.92	1.8	STMP	154.88	12.3
ECOM	11.55	1.3	SVVC	8.39	-2.0
ELLI	109.91	0.3	TNGO	6.51	0.8
ENV	39.60	10.5	TWOU	46.92	9.8
EVOL	5.15	-3.7	TWTR	17.87	-2.5
FB	150.98	-0.3	VEEV	61.31	-3.5
FNGN	36.60	-3.4	WIX	69.60	-5.6
GSVC	4.34	-3.8	WSTL	3.13	6.3

#### Indexes

##### (% change in June)

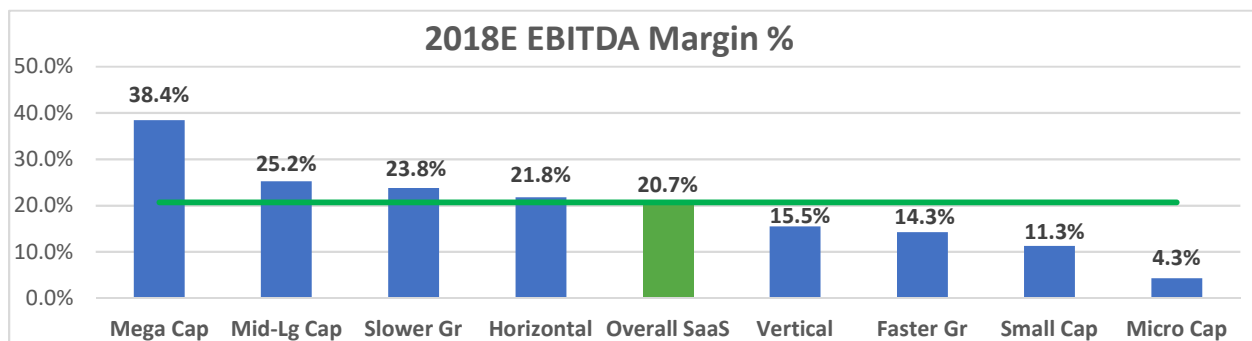
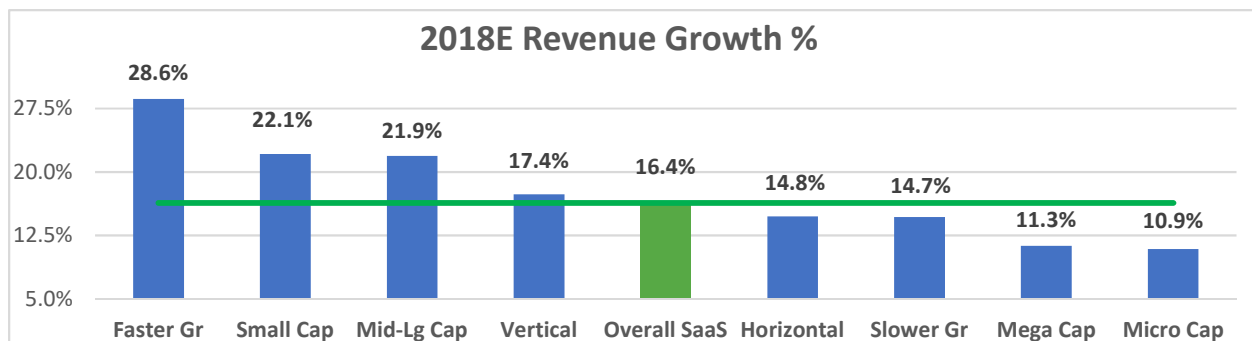
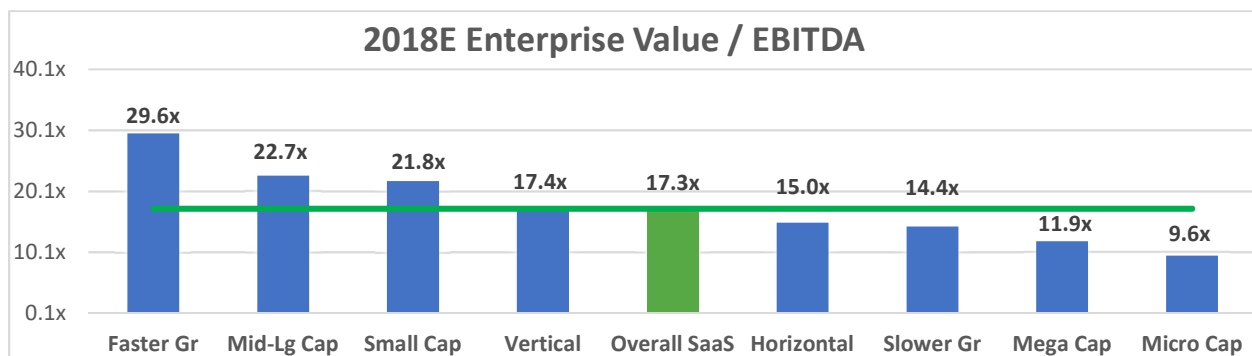
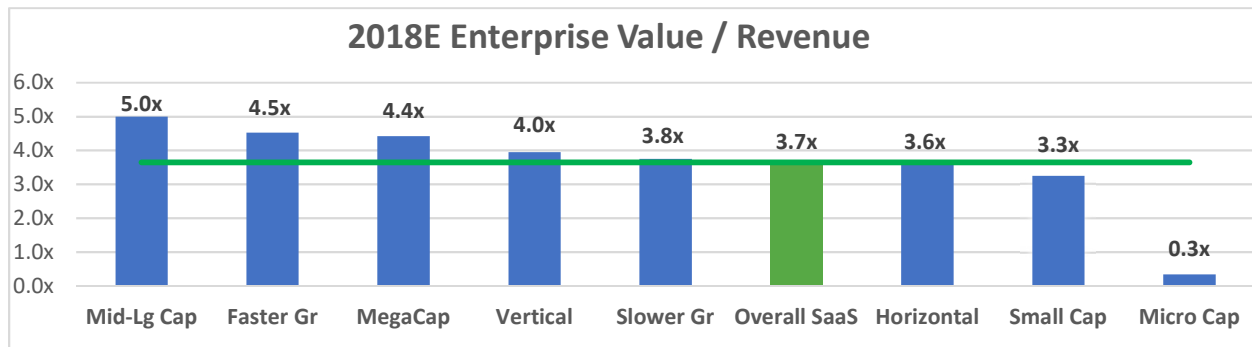
Horizontal SaaS	-0.1	NASDAQ	-0.9
Vertical SaaS	1.6	S&P 500	0.5
Overall SaaS	0.3	Russell2000	3.5
		S&P Volatility	7.4

<sup>1</sup> Horizontal companies provide software that can be used in almost all industries

<sup>2</sup> Vertical companies provide software for specific industries

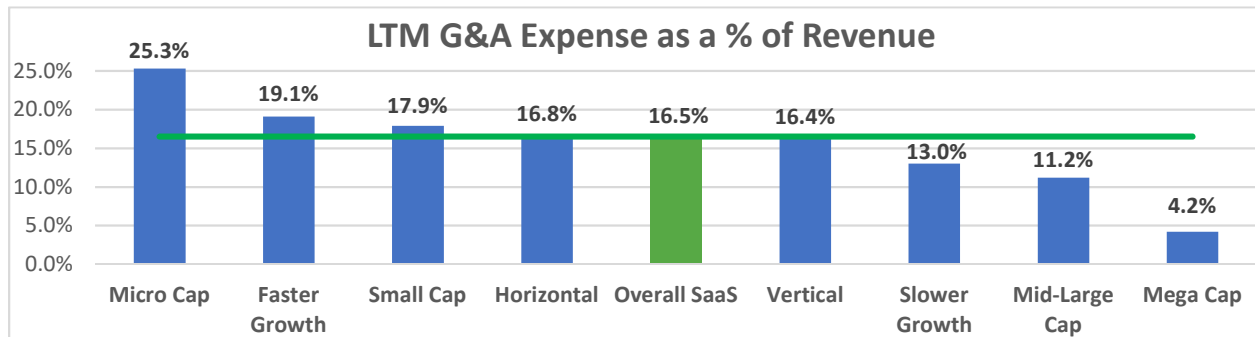
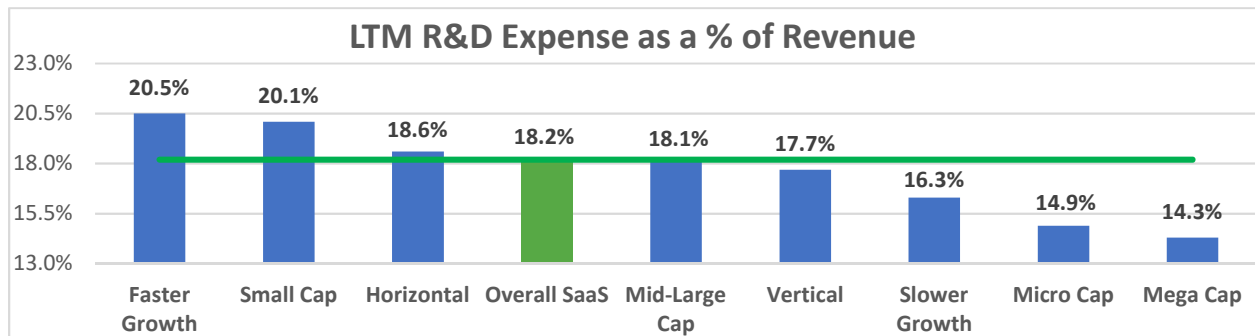
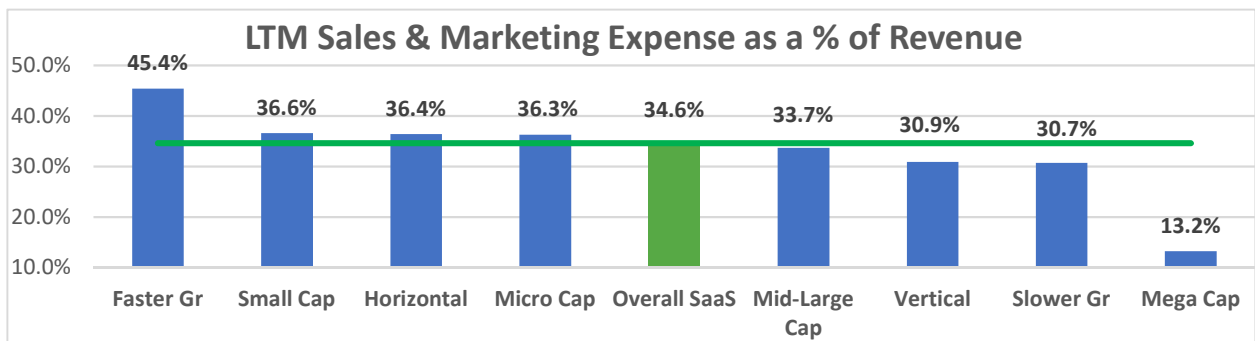
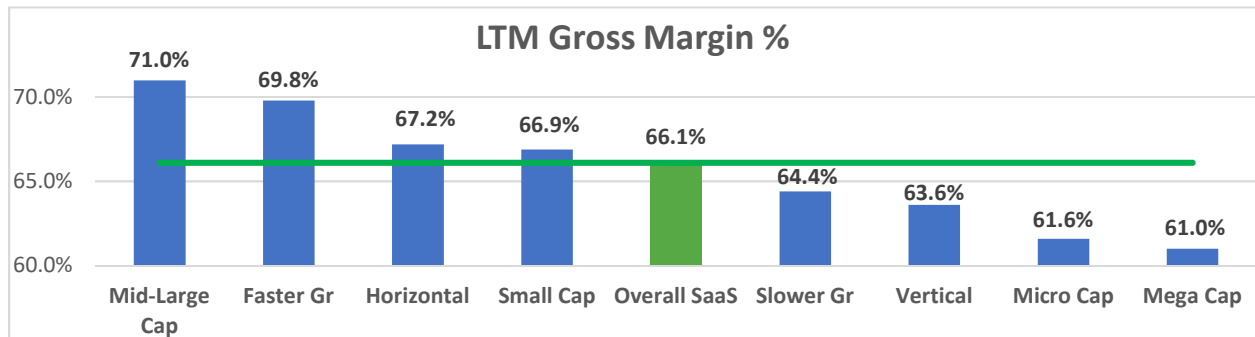
Data source: S&P Capital IQ. 6/30/2017 Prices.  
6/1-30/2017 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

Public Comparisons - Calendar Year (CY) 2018E 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** = 2018E rev gr >20% | **Slow Growth** = 2018E 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** = 2018E rev gr >20% | **Slow Gr** = 2018E 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

Date 6/30/2017

(In \$ million, except per share values)

Ticker	Company Name	6/30/17 Price	Market Cap	Enterprise Value (EV)	2018E Street		EBITDA margin	2019E Growth	EV/Sales		EV/FCF		Price % Change From			60D avg Volume	Short as % of Float	Insider Ownership
					Sales	Growth			CY18E	CY19E	CY18E	CY19E	1M	3M	12M			
Fast Growth (2018E Revenue Growth > 20%, excluding Micro Caps)																		
AMZN	Amazon	\$968.00	\$462,680	\$470,758	\$200,761	21%	12.5%	19%	2.3x	2.0x	24.4x	18.6x	-3%	10%	35%	\$3,791.80	1.2%	17%
APPF	AppFolio	32.60	1,104	1,069	175	26%	14.3%	24%	6.1x	4.9x	na	na	14%	19%	125%	2.80	3.0%	46%
AYX	Alteryx	19.52	1,139	483	168	36%	na	36%	2.9x	2.1x	71.6x	30.6x	5%	30%	0%	5.77	9.1%	17%
BL	BlackLine	35.74	1,836	1,513	222	29%	0.7%	32%	6.8x	5.2x	na	na	5%	21%	0%	10.70	4.2%	21%
BOX	Box	18.24	2,465	2,251	622	23%	3.1%	20%	3.6x	3.0x	56.8x	16.0x	-2%	12%	76%	42.37	7.9%	5%
COUP	Coupa	28.98	1,536	667	218	25%	na	25%	3.1x	2.4x	58.2x	42.5x	-17%	16%	0%	15.80	6.1%	1%
CSLT	Castlight Health	4.15	542	324	169	26%	na	21%	1.9x	1.6x	na	12.4x	15%	11%	5%	1.82	7.5%	6%
ELLI	Ellie Mae	109.91	3,745	3,336	540	23%	35.6%	15%	6.2x	5.3x	35.8x	21.3x	1%	10%	20%	28.33	6.5%	2%
EVBG	Everbridge	24.36	679	457	128	26%	1.9%	23%	3.6x	2.9x	87.9x	na	-7%	21%	0%	5.06	1.4%	15%
FB	Facebook	150.98	437,567	410,783	49,337	28%	61.3%	23%	8.3x	6.8x	24.5x	18.6x	-1%	6%	32%	2,808.30	0.8%	19%
HDP	Hortonworks	12.88	824	685	304	27%	21.5%	21%	2.3x	1.9x	na	19.2x	0%	32%	20%	13.85	8.3%	6%
INST	Instructure	29.50	853	793	198	30%	na	27%	4.0x	3.1x	na	43.8x	11%	30%	55%	9.20	9.5%	12%
MB	MINDBODY	27.20	1,189	1,022	226	25%	8.0%	28%	4.5x	3.5x	na	48.7x	-3%	-1%	69%	18.96	13.5%	6%
MULE	MuleSoft	24.94	3,212	312	370	36%	na	31%	0.8x	0.6x	na	19.9x	-6%	5%	0%	20.78	1.8%	7%
NOW	ServiceNow	106.00	18,007	17,159	2,436	30%	24.6%	28%	7.0x	5.5x	26.0x	18.0x	1%	22%	60%	228.42	6.0%	2%
OKTA	Okta	22.80	2,173	331	321	36%	na	37%	1.0x	0.8x	na	10.8x	-12%	0%	0%	10.79	1.9%	11%
PAYC	Paycom	68.41	4,065	3,975	534	25%	28.8%	23%	7.4x	6.0x	39.7x	29.4x	4%	20%	58%	47.56	23.4%	23%
PCTY	Paylocity	45.18	2,327	2,218	409	24%	18.2%	na	5.4x	na	48.9x	na	-3%	16%	5%	16.51	8.3%	38%
Q TWO	Q2 Holdings	36.95	1,513	1,398	246	27%	8.4%	26%	5.7x	4.5x	na	na	-7%	5%	32%	8.48	5.0%	2%
SHOP	Shopify	86.90	8,492	7,115	877	39%	4.3%	34%	8.1x	6.1x	na	75.1x	-4%	26%	183%	224.17	5.3%	19%
TEAM	Atlassian	35.18	7,932	7,213	913	29%	24.0%	na	7.9x	na	27.0x	na	-1%	18%	36%	27.44	4.1%	38%
TWLO	Twilio	29.11	2,634	1,775	456	27%	na	37%	3.9x	2.8x	na	76.5x	19%	2%	-20%	106.40	27.9%	14%
TWOU	2U	46.92	2,231	2,073	353	30%	5.4%	29%	5.9x	4.5x	na	na	10%	21%	60%	20.11	15.7%	1%
ULTI	Ultimate Software	210.06	6,243	6,334	1,178	22%	24.8%	17%	5.4x	4.6x	43.4x	34.1x	-5%	8%	0%	58.35	12.0%	5%
WDAY	Workday	97.00	20,079	17,878	2,567	25%	16.2%	24%	7.0x	5.6x	50.8x	36.4x	-2%	16%	30%	177.05	10.6%	35%
WIX	Wix.com	69.60	3,164	2,838	558	32%	22.2%	28%	5.1x	4.0x	21.9x	14.9x	-7%	6%	129%	63.18	3.1%	3%
XTLY	Xactly	15.65	504	455	136	21%	1.6%	15%	3.4x	2.9x	na	na	1%	35%	22%	8.76	3.0%	4%
YEXT	Yext	13.33	1,200	312	225	33%	na	35%	1.4x	1.0x	na	na	-5%	0%	0%	4.70	29.3%	31%
ZEN	Zendesk	27.78	2,749	2,389	546	30%	5.0%	26%	4.4x	3.5x	67.9x	na	5%	1%	5%	40.40	5.2%	4%
Select Faster Growth (2018E Rev. Growth >20%) Median					370	27%	14.3%	26%	4.5x	3.5x	43.4x	21.3x	-1%	16%	34%	20.11	6.1%	11%

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



## Selected Slower Growth - SaaS Software Cloud Public Company Valuation Metrics

Date 6/30/2017

(In \$ million, except per share values)

Ticker	Company Name	6/30/17 Price	Market Cap	Enterprise Value (EV)	2018E Street		EBITDA	2019E	EV/Sales		EV/FCF		Price % Change From			60D avg	Short as	Insider
					Sales	Growth	margin	Growth	CY18E	CY19E	CY18E	CY19E	1M	3M	12M	Volume	% of Float	Ownership
Slower Growth (2018E Revenue Growth < 20%, excluding Micro Caps)																		
ACTA	Actua	14.05	466	435	147	15%	5.0%	na	3.0x	na	na	na	0%	0%	56%	2.83	2.8%	10%
ALRM	Alarm.Com	\$37.63	\$1,743	\$1,826	\$376	15%	21.6%	16%	4.9x	4.2x	70.2x	na	15%	25%	47%	\$14.02	1.9%	4%
AMBR	Amber Road	8.57	232	239	93	13%	3.1%	na	2.6x	na	na	na	16%	13%	11%	0.85	2.6%	9%
APTI	Apptio	17.35	689	339	209	15%	3.5%	10%	1.6x	1.5x	35.7x	11.7x	6%	46%	0%	9.00	4.6%	22%
ATHN	AthenaHealth	140.55	5,599	5,843	1,395	14%	22.8%	16%	4.2x	3.6x	89.6x	17.8x	4%	25%	2%	99.51	20.7%	1%
BCOV	Brightcove	6.20	212	179	163	7%	5.2%	na	1.1x	na	83.8x	na	3%	-29%	-30%	2.91	3.0%	2%
BNFT	Benefitfocus	36.35	1,128	1,140	315	19%	9.5%	18%	3.6x	3.1x	na	35.5x	14%	34%	-5%	8.42	19.7%	17%
BSFT	BroadSoft	43.05	1,322	1,196	437	14%	23.8%	15%	2.7x	2.4x	20.9x	8.6x	9%	8%	5%	23.93	12.6%	1%
BV	Bazaarvoice	4.95	417	352	213	5%	12.2%	4%	1.6x	1.6x	17.1x	7.5x	11%	14%	23%	2.78	1.0%	3%
CALD	CallidusCloud	24.20	1,570	1,287	290	18%	13.8%	21%	4.4x	3.7x	42.1x	na	5%	17%	21%	10.59	4.3%	2%
CRM	salesforce.com	86.60	61,602	60,374	12,297	19%	22.1%	18%	4.9x	4.2x	23.9x	4.0x	-5%	5%	9%	447.23	2.4%	5%
CSCO	Cisco	31.30	156,502	122,835	48,649	2%	35.8%	1%	2.5x	2.5x	9.4x	4.1x	-1%	-7%	9%	732.10	0.8%	0%
CSOD	Cornerstone	35.75	2,031	1,954	557	16%	15.0%	17%	3.5x	3.0x	27.5x	6.1x	-2%	-8%	-6%	20.42	7.2%	9%
CTXS	Citrix	79.58	12,028	12,592	2,941	4%	35.7%	5%	4.3x	4.1x	13.5x	3.0x	-3%	-5%	-1%	123.31	3.8%	0%
DATA	Tableau	61.27	4,778	3,706	951	8%	7.6%	17%	3.9x	3.3x	26.5x	15.1x	-2%	25%	25%	83.65	7.1%	22%
EBAY	eBay	34.92	37,795	41,567	9,982	6%	37.4%	5%	4.2x	3.9x	16.8x	3.8x	1%	4%	49%	284.20	1.6%	7%
ECOM	ChannelAdvisor	11.55	304	236	138	12%	7.9%	na	1.7x	na	17.4x	na	1%	4%	-20%	0.85	1.3%	9%
ENV	Envestnet	39.60	1,736	1,950	754	14%	20.7%	15%	2.6x	2.2x	19.6x	6.7x	12%	25%	19%	10.07	5.7%	3%
FNGN	Financial Engines	36.60	2,301	2,184	544	12%	33.7%	2%	4.0x	3.9x	19.7x	4.6x	-5%	-14%	41%	11.95	16.5%	1%
GDDY	GoDaddy	42.42	3,896	4,125	2,537	15%	25.9%	12%	1.6x	1.4x	7.3x	3.9x	2%	14%	36%	67.58	9.6%	0%
GOOGL	Alphabet	929.68	635,840	561,704	124,994	16%	41.1%	15%	4.5x	3.9x	17.7x	3.3x	-7%	9%	32%	1,678.82	0.5%	12%
GWRE	Guidewire	68.71	5,111	4,692	644	18%	25.2%	na	7.3x	na	35.0x	na	3%	22%	11%	33.18	7.0%	0%
IBM	IBM	153.83	144,523	179,055	78,127	0%	24.1%	0%	2.3x	2.3x	15.7x	6.5x	1%	-12%	1%	654.86	2.3%	0%
INTU	Intuit	132.81	34,028	33,504	5,750	8%	39.8%	9%	5.8x	5.4x	22.7x	2.7x	-5%	15%	19%	222.20	1.0%	5%
JIVE	Jive	0.00	na	(119)	208	3%	11.8%	na	na	na	na	na	0%	0%	0%	0.00	0.6%	0%
LOGM	LogMeIn	104.50	5,499	2,859	1,166	15%	37.6%	9%	2.5x	2.2x	9.0x	3.1x	-5%	7%	65%	80.18	4.8%	2%
LPSN	LivePerson	11.00	643	568	219	6%	10.9%	na	2.6x	na	41.8x	na	15%	58%	74%	5.04	2.3%	9%
MODN	Model N	13.30	383	375	153	11%	5.3%	na	2.5x	na	na	na	3%	30%	0%	1.83	5.4%	20%
MSFT	Microsoft	68.93	532,175	506,364	106,564	7%	41.0%	10%	4.8x	4.3x	13.4x	3.1x	-2%	5%	35%	1,796.89	0.6%	2%
ORCL	Oracle	50.14	207,413	203,657	40,292	4%	47.2%	5%	5.1x	4.8x	13.2x	3.0x	10%	12%	23%	692.23	1.2%	27%
PEGA	Pegasystems	58.35	4,501	4,543	973	12%	17.7%	18%	4.7x	4.0x	48.1x	7.7x	1%	33%	117%	25.31	3.4%	53%
PYPL	PayPal Holdings	53.67	64,472	56,321	14,928	17%	25.6%	17%	3.8x	3.2x	17.9x	4.7x	5%	23%	47%	445.06	2.7%	6%
RP	RealPage	35.95	2,972	2,898	747	14%	26.6%	17%	3.9x	3.3x	21.1x	5.7x	2%	3%	61%	27.92	3.6%	29%
RST	Rosetta Stone	10.78	239	200	185	1%	7.1%	na	1.1x	na	na	na	-9%	11%	39%	1.42	2.0%	8%
SALE	RetailMeNot	0.00	na	(166)	na	na	na	na	na	na	na	na	0%	0%	0%	0.00	0.8%	0%
SAP	SAP	104.78	125,588	126,459	29,125	7%	34.9%	8%	4.3x	4.0x	23.9x	4.7x	-2%	7%	39%	0.47	0.0%	7%
SNCR	Synchronoss	16.45	763	840	815	11%	29.7%	6%	1.0x	1.0x	7.4x	31.2x	26%	-33%	-48%	35.06	21.4%	8%
SPSC	SPS Commerce	63.76	1,096	951	254	15%	15.5%	na	3.7x	na	51.6x	na	9%	10%	5%	6.01	3.2%	0%
SREV	ServiceSource	3.88	344	285	256	7%	9.4%	na	1.1x	na	29.3x	na	12%	2%	-4%	0.88	6.9%	3%
STMP	Stamps.com	154.88	2,623	2,840	495	16%	50.8%	na	5.7x	na	15.1x	na	14%	35%	77%	105.03	30.4%	7%
TWTR	Twitter	17.87	12,969	10,458	2,477	6%	28.2%	8%	4.2x	3.9x	28.3x	8.0x	-3%	20%	6%	334.76	8.8%	12%
UPLD	Upland Software	21.99	446	408	97	9%	32.0%	na	4.2x	na	21.2x	na	-1%	42%	189%	3.36	0.7%	16%
VEEV	Veeva Systems	61.31	8,568	8,466	800	20%	32.2%	16%	10.6x	9.1x	42.0x	3.0x	-6%	21%	80%	115.62	7.2%	22%
VRNS	Varonis Systems	37.20	1,012	869	238	17%	4.1%	16%	3.6x	3.1x	56.9x	11.3x	2%	19%	55%	15.33	2.3%	4%
WAGE	WageWorks	67.20	2,657	2,170	530	10%	31.5%	7%	4.1x	3.8x	na	na	-4%	-6%	12%	22.12	5.3%	1%
WEB	Web.com Group	25.30	1,171	1,933	789	4%	26.3%	3%	2.5x	2.4x	11.6x	4.9x	11%	33%	39%	10.13	6.8%	4%
WK	Workiva	19.05	788	734	234	15%	na	14%	3.1x	2.8x	na	46.9x	5%	23%	39%	3.22	5.0%	42%
Select Slower Growth (2018E Rev. Growth < 20%) Median					600	12%	23.8%	12%	3.7x	3.3x	21.2x	5.3x	2%	13%	23%	22.12	3.5%	6%

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

## Selected Mega, Large, and Mid Caps – SaaS Software Cloud Public Company Valuation Metrics

Date 6/30/2017

(In \$ million, except per share values)

Ticker	Company Name	6/30/17 Price	Market Cap	Enterprise Value (EV)	2018E Street		EBITDA margin	2019E Growth	EV/Sales		EV/FCF		Price % Change From			60D avg Volume	Short as % of Float	Insider Ownership
					Sales	Growth			CY18E	CY19E	CY18E	CY19E	1M	3M	12M			
Select Mega Cap (\$100B+ mcap)																		
AMZN	Amazon	968.00	462,680	470,758	200,761	21%	12.5%	19%	2.3x	2.0x	24.4x	18.6x	-3%	10%	35%	3,791.80	1.2%	17%
CSCO	Cisco	31.30	156,502	122,835	48,649	2%	35.8%	1%	2.5x	2.5x	9.4x	10.3x	-1%	-7%	9%	732.10	0.8%	0%
FB	Facebook	150.98	437,567	410,783	49,337	28%	61.3%	23%	8.3x	6.8x	24.5x	18.6x	-1%	6%	32%	2,808.30	0.8%	19%
GOOGL	Alphabet	929.68	635,840	561,704	124,994	16%	41.1%	15%	4.5x	3.9x	17.7x	14.6x	-7%	9%	32%	1,678.82	0.5%	12%
IBM	IBM	153.83	144,523	179,055	78,127	0%	24.1%	0%	2.3x	2.3x	15.7x	15.0x	1%	-12%	1%	654.86	2.3%	0%
MSFT	Microsoft	68.93	532,175	506,364	106,564	7%	41.0%	10%	4.8x	4.3x	13.4x	14.8x	-2%	5%	35%	1,796.89	0.6%	2%
ORCL	Oracle	50.14	207,413	203,657	40,292	4%	47.2%	5%	5.1x	4.8x	13.2x	15.1x	10%	12%	23%	692.23	1.2%	27%
SAP	SAP	104.78	125,588	126,459	29,125	7%	34.9%	8%	4.3x	4.0x	23.9x	20.3x	-2%	7%	39%	0.47	0.0%	7%
Select Mega Cap (\$100B+) Median					63,732	7%	38.4%	9%	4.4x	4.0x	16.7x	15.0x	-1%	6%	32%	1,205.46	0.8%	10%
Select Mid-Large Cap (\$3B-\$100B mcap)																		
ATHN	AthenaHealth	140.55	5,599	5,843	1,395	14%	22.8%	16%	4.2x	3.6x	89.6x	74.7x	4%	25%	2%	99.51	20.7%	1%
CRM	salesforce.com	86.60	61,602	60,374	12,297	19%	22.1%	18%	4.9x	4.2x	23.9x	19.6x	-5%	5%	9%	447.23	2.4%	5%
CTXS	Citrix	79.58	12,028	12,592	2,941	4%	35.7%	5%	4.3x	4.1x	13.5x	12.8x	-3%	-5%	-1%	123.31	3.8%	0%
DATA	Tableau	61.27	4,778	3,706	951	8%	7.6%	17%	3.9x	3.3x	26.5x	58.7x	-2%	25%	25%	83.65	7.1%	22%
EBAY	eBay	34.92	37,795	41,567	9,982	6%	37.4%	5%	4.2x	3.9x	16.8x	15.7x	1%	4%	49%	284.20	1.6%	7%
ELLI	Ellie Mae	109.91	3,745	3,336	540	23%	35.6%	15%	6.2x	5.3x	35.8x	21.3x	1%	10%	20%	28.33	6.5%	2%
GDDY	GoDaddy	42.42	3,896	4,125	2,537	15%	25.9%	12%	1.6x	1.4x	7.3x	6.4x	2%	14%	36%	67.58	9.6%	0%
GWRE	Guidewire	68.71	5,111	4,692	644	18%	25.2%	na	7.3x	na	35.0x	na	3%	22%	11%	33.18	7.0%	0%
INTU	Intuit	132.81	34,028	33,504	5,750	8%	39.8%	9%	5.8x	5.4x	22.7x	15.5x	-5%	15%	19%	222.20	1.0%	5%
LOGM	LogMeIn	104.50	5,499	2,859	1,166	15%	37.6%	9%	2.5x	2.2x	9.0x	7.6x	-5%	7%	65%	80.18	4.8%	2%
MULE	MuleSoft	24.94	3,212	312	370	36%	na	31%	0.8x	0.6x	na	19.9x	-6%	5%	0%	20.78	1.8%	7%
NOW	ServiceNow	106.00	18,007	17,159	2,436	30%	24.6%	28%	7.0x	5.5x	26.0x	18.0x	1%	22%	60%	228.42	6.0%	2%
PAYC	Paycom	68.41	4,065	3,975	534	25%	28.8%	23%	7.4x	6.0x	39.7x	29.4x	4%	20%	58%	47.56	23.4%	23%
PEGA	Pegasystems	58.35	4,501	4,543	973	12%	17.7%	18%	4.7x	4.0x	48.1x	35.8x	1%	33%	117%	25.31	3.4%	53%
PYPL	PayPal Holdings	53.67	64,472	56,321	14,928	17%	25.6%	17%	3.8x	3.2x	17.9x	17.6x	5%	23%	47%	445.06	2.7%	6%
SHOP	Shopify	86.90	8,492	7,115	877	39%	4.3%	34%	8.1x	6.1x	na	75.1x	-4%	26%	183%	224.17	5.3%	19%
TEAM	Atlassian	35.18	7,932	7,213	913	29%	24.0%	na	7.9x	na	27.0x	na	-1%	18%	36%	27.44	4.1%	38%
TWTR	Twitter	17.87	12,969	10,458	2,477	6%	28.2%	8%	4.2x	3.9x	28.3x	33.6x	-3%	20%	6%	334.76	8.8%	12%
ULTI	Ultimate Software	210.06	6,243	6,334	1,178	22%	24.8%	17%	5.4x	4.6x	43.4x	34.1x	-5%	8%	0%	58.35	12.0%	5%
VEEV	Veeva Systems	61.31	8,568	8,466	800	20%	32.2%	16%	10.6x	9.1x	42.0x	32.2x	-6%	21%	80%	115.62	7.2%	22%
WDAY	Workday	97.00	20,079	17,878	2,567	25%	16.2%	24%	7.0x	5.6x	50.8x	36.4x	-2%	16%	30%	177.05	10.6%	35%
WIX	Wix.com	69.60	3,164	2,838	558	32%	22.2%	28%	5.1x	4.0x	21.9x	14.9x	-7%	6%	129%	63.18	3.1%	3%
Select Mid-Large Cap (\$3B-\$100B mcap) Median					1,172	19%	25.2%	17%	5.0x	4.0x	26.7x	20.6x	-2%	17%	36%	91.58	5.6%	6%

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



## Selected Small Caps - SaaS Software Cloud Public Company Valuation Metrics

Date 6/30/2017

(In \$ million, except per share values)

Ticker	Company Name	6/30/17 Price	Market Cap	Enterprise Value (EV)	2018E Street		EBITDA margin	2019E Growth	EV/Sales		EV/FCF		Price % Change From			60D avg Volume	Short as % of Float	Insider Ownership
					Sales	Growth			CY18E	CY19E	CY18E	CY19E	1M	3M	12M			
Select Small Cap (\$150M-\$3B mcap)																		
ACTA	Actua	14.05	466	435	147	15%	5.0%	na	3.0x	na	na	na	0%	0%	56%	2.83	2.8%	10%
ALRM	Alarm.Com	37.63	1,743	1,826	376	15%	21.6%	16%	4.9x	4.2x	70.2x	na	15%	25%	47%	14.02	1.9%	4%
AMBR	Amber Road	8.57	232	239	93	13%	3.1%	na	2.6x	na	na	na	16%	13%	11%	0.85	2.6%	9%
APPF	AppFolio	32.60	1,104	1,069	175	26%	14.3%	24%	6.1x	4.9x	na	na	14%	19%	125%	2.80	3.0%	46%
APTI	Apptio	17.35	689	339	209	15%	3.5%	10%	1.6x	1.5x	35.7x	19.0x	6%	46%	0%	9.00	4.6%	22%
ASUR	Asure Software	14.61	180	133	69	28%	24.2%	na	1.9x	na	13.2x	na	-2%	40%	210%	2.59	4.4%	8%
AYX	Alteryx	19.52	1,139	483	168	36%	na	36%	2.9x	2.1x	71.6x	30.6x	5%	30%	0%	5.77	9.1%	17%
BCOV	Brightcove	6.20	212	179	163	7%	5.2%	na	1.1x	na	83.8x	na	3%	-29%	-30%	2.91	3.0%	2%
BL	BlackLine	35.74	1,836	1,513	222	29%	0.7%	32%	6.8x	5.2x	na	na	5%	21%	0%	10.70	4.2%	21%
BNFT	Benefitfocus	36.35	1,128	1,140	315	19%	9.5%	18%	3.6x	3.1x	na	na	14%	34%	-5%	8.42	19.7%	17%
BOX	Box	18.24	2,465	2,251	622	23%	3.1%	20%	3.6x	3.0x	56.8x	16.0x	-2%	12%	76%	42.37	7.9%	5%
BSFT	BroadSoft	43.05	1,322	1,196	437	14%	23.8%	15%	2.7x	2.4x	20.9x	23.5x	9%	8%	5%	23.93	12.6%	1%
BV	Bazaarvoice	4.95	417	352	213	5%	12.2%	4%	1.6x	1.6x	17.1x	12.4x	11%	14%	23%	2.78	1.0%	3%
CALD	CallidusCloud	24.20	1,570	1,287	290	18%	13.8%	21%	4.4x	3.7x	42.1x	na	5%	17%	21%	10.59	4.3%	2%
CLDR	Cloudera	16.02	2,101	1,029	439	26%	na	23%	2.3x	1.9x	na	na	-26%	0%	0%	19.98	3.9%	3%
COUP	Coupa	28.98	1,536	667	218	25%	na	25%	3.1x	2.4x	58.2x	42.5x	-17%	16%	0%	15.80	6.1%	1%
CSLT	Castlight Health	4.15	542	324	169	26%	na	21%	1.9x	1.6x	na	12.4x	15%	11%	5%	1.82	7.5%	6%
CSOD	Cornerstone	35.75	2,031	1,954	557	16%	15.0%	17%	3.5x	3.0x	27.5x	21.5x	-2%	-8%	-6%	20.42	7.2%	9%
ECOM	ChannelAdvisor	11.55	304	236	138	12%	7.9%	na	1.7x	na	17.4x	na	1%	4%	-20%	0.85	1.3%	9%
ENV	Envestnet	39.60	1,736	1,950	754	14%	20.7%	15%	2.6x	2.2x	19.6x	17.3x	12%	25%	19%	10.07	5.7%	3%
EVBG	Everbridge	24.36	679	457	128	26%	1.9%	23%	3.6x	2.9x	87.9x	na	-7%	21%	0%	5.06	1.4%	15%
FNGN	Financial Engines	36.60	2,301	2,184	544	12%	33.7%	2%	4.0x	3.9x	19.7x	18.4x	-5%	-14%	41%	11.95	16.5%	1%
HDP	Hortonworks	12.88	824	685	304	27%	21.5%	21%	2.3x	1.9x	na	19.2x	0%	32%	20%	13.85	8.3%	6%
INST	Instructure	29.50	853	793	198	30%	na	27%	4.0x	3.1x	na	43.8x	11%	30%	55%	9.20	9.5%	12%
JIVE	Jive	0.00	na	(119)	208	3%	11.8%	na	na	na	na	na	0%	0%	0%	0.00	0.6%	0%
LPSN	LivePerson	11.00	643	568	219	6%	10.9%	na	2.6x	na	41.8x	na	15%	58%	74%	5.04	2.3%	9%
MB	MINDBODY	27.20	1,189	1,022	226	25%	8.0%	28%	4.5x	3.5x	na	48.7x	-3%	-1%	69%	18.96	13.5%	6%
MODN	Model N	13.30	383	375	153	11%	5.3%	na	2.5x	na	na	na	3%	30%	0%	1.83	5.4%	20%
OKTA	Okta	22.80	2,173	331	321	36%	na	37%	1.0x	0.8x	na	10.8x	-12%	0%	0%	10.79	1.9%	11%
PCTY	Paylocity	45.18	2,327	2,218	409	24%	18.2%	na	5.4x	na	48.9x	na	-3%	16%	5%	16.51	8.3%	38%
OTWO	Q2 Holdings	36.95	1,513	1,398	246	27%	8.4%	26%	5.7x	4.5x	na	na	-7%	5%	32%	8.48	5.0%	2%
RP	RealPage	35.95	2,972	2,898	747	14%	26.6%	17%	3.9x	3.3x	21.1x	22.1x	2%	3%	61%	27.92	3.6%	29%
RST	Rosetta Stone	10.78	239	200	185	1%	7.1%	na	1.1x	na	na	na	-9%	11%	39%	1.42	2.0%	8%
SALE	RetailMeNot	0.00	na	(166)	na	na	na	na	na	na	na	na	0%	0%	0%	0.00	0.8%	0%
SNCR	Synchronoss	16.45	763	840	815	11%	29.7%	6%	1.0x	1.0x	7.4x	32.2x	26%	-33%	-48%	35.06	21.4%	8%
SPSC	SPS Commerce	63.76	1,096	951	254	15%	15.5%	na	3.7x	na	51.6x	na	9%	10%	5%	6.01	3.2%	0%
SREV	ServiceSource	3.88	344	285	256	7%	9.4%	na	1.1x	na	29.3x	na	12%	2%	-4%	0.88	6.9%	3%
STMP	Stamps.com	154.88	2,623	2,840	495	16%	50.8%	na	5.7x	na	15.1x	na	14%	35%	77%	105.03	30.4%	7%
TNGO	Tango	6.51	260	(2)	na	na	na	na	na	na	na	na	1%	19%	-16%	2.10	0.3%	5%
TWLO	Twilio	29.11	2,634	1,775	456	27%	na	37%	3.9x	2.8x	na	76.5x	19%	2%	-20%	106.40	27.9%	14%
TWOU	2U	46.92	2,231	2,073	353	30%	5.4%	29%	5.9x	4.5x	na	na	10%	21%	60%	20.11	15.7%	1%
UPLD	Upland Software	21.99	446	408	97	9%	32.0%	na	4.2x	na	21.2x	na	-1%	42%	189%	3.36	0.7%	16%
VRNS	Varonis Systems	37.20	1,012	869	238	17%	4.1%	16%	3.6x	3.1x	56.9x	41.4x	2%	19%	55%	15.33	2.3%	4%
WAGE	WageWorks	67.20	2,657	2,170	530	10%	31.5%	7%	4.1x	3.8x	na	na	-4%	-6%	12%	22.12	5.3%	1%
WEB	Web.com Group	25.30	1,171	1,933	789	4%	26.3%	3%	2.5x	2.4x	11.6x	12.0x	11%	33%	39%	10.13	6.8%	4%
WK	Workiva	19.05	788	734	234	15%	na	14%	3.1x	2.8x	na	na	5%	23%	39%	3.22	5.0%	42%
XTLY	Xactly	15.65	504	455	136	21%	1.6%	15%	3.4x	2.9x	na	na	1%	35%	22%	8.76	3.0%	4%
YEYT	Yext	13.33	1,200	312	225	33%	na	35%	1.4x	1.0x	na	na	-5%	0%	0%	4.70	29.3%	31%
ZEN	Zendesk	27.78	2,749	2,389	546	30%	5.0%	26%	4.4x	3.5x	67.9x	na	5%	1%	5%	40.40	5.2%	4%
Select Small Cap (\$150M-\$3B mcap) Median					238	16%	11%	21%	3.2x	2.9x	32.5x	21.5x	3%	17%	22%	9.20	5.0%	7%

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

Date 6/30/2017

(In \$ million, except per share values)

Ticker	Company Name	6/30/17 Price	Market Cap	Enterprise Value (EV)	2018E Street		EBITDA margin	2019E Growth	EV/Sales		EV/FCF		Price % Change From			60D avg Volume	Short as % of Float	Insider Ownership
					Sales	Growth			CY18E	CY19E	CY18E	CY19E	1M	3M	12M			
Select Micro Cap (<\$150M mcap)																		
1PG	1-PAGE	0.11	17	(6)	na	na	na	na	na	na	na	na	2%	6%	-68%	0.00	0.0%	17%
AKDS	Arkados Group	0.86	12	11	na	na	na	na	na	na	na	na	15%	-48%	-10%	0.01	0.1%	34%
CAFN	Cachet	3.18	31	4	23	70%	12.1%	na	0.2x	na	na	na	-9%	-24%	-72%	0.12	0.1%	33%
CCUR	Concurrent	6.65	66	43	na	na	na	na	na	na	na	na	-2%	36%	27%	0.40	1.4%	20%
COVS	Covisint	2.45	100	67	na	na	na	na	na	na	na	na	20%	23%	12%	0.90	0.5%	2%
COYN	COPsync	0.19	3	2	15	56%	na	na	0.2x	na	na	na	86%	-39%	-86%	0.01	0.0%	13%
CSTI	Costar	10.00	14	26	na	na	na	na	na	na	na	na	9%	-15%	18%	0.01	0.0%	4%
CXDO	Crexendo	1.82	25	25	na	na	na	na	na	na	na	na	14%	26%	34%	0.00	1.2%	73%
EGAN	eGain	1.65	45	54	na	na	na	na	na	na	na	na	6%	14%	-41%	0.04	0.7%	37%
EVOL	Evolving Systems	5.15	64	60	na	na	na	na	na	na	na	na	-4%	7%	0%	0.10	0.2%	31%
FNJN	FinJan	3.28	88	55	22	-37%	na	na	2.5x	na	na	na	12%	101%	80%	2.20	2.1%	2%
FUEL	Rocket Fuel	2.75	128	148	440	4%	2.7%	5%	0.3x	0.3x	na	na	-6%	-47%	24%	2.67	19.4%	5%
GSB	GlobalSCAPE	5.29	114	102	na	na	na	na	na	na	na	na	18%	33%	43%	0.29	0.2%	21%
GSVC	GSV Capital	4.34	96	163	1	13%	na	na	na	na	na	na	-5%	-3%	-14%	0.26	0.0%	1%
INLX	Intellinetics	0.70	12	13	na	na	na	na	na	na	na	na	-22%	-22%	-22%	0.00	0.0%	54%
INUV	Inuvo	1.02	29	26	105	18%	2.7%	na	0.2x	na	na	na	-13%	-22%	-27%	0.08	0.9%	16%
IPAS	iPass	1.32	87	73	85	22%	5.9%	na	0.9x	na	9.0x	na	-8%	13%	6%	0.16	0.4%	3%
LVT	LiveTiles	0.18	20	53	na	na	na	na	na	na	na	na	-3%	15%	10%	0.01	0.0%	206%
MFON	Mobivity	0.79	29	27	na	na	na	na	na	na	na	na	13%	10%	-12%	0.03	0.0%	22%
MRIN	Junein Software	1.30	51	20	na	na	na	na	na	na	na	na	0%	-26%	-45%	0.20	1.3%	15%
PYDS	Payment Data Sys	1.21	14	6	na	na	na	na	na	na	na	na	-8%	-8%	-9%	0.06	1.4%	46%
SCIL	Scientific Learning	0.46	11	13	na	na	na	na	na	na	na	na	-4%	-24%	-3%	0.00	0.0%	1%
SHSP	SharpSpring	4.53	38	29	17	31%	na	na	1.7x	na	na	na	0%	0%	-13%	0.10	1.2%	36%
SMSI	Smith Micro Software	1.46	21	19	na	na	na	na	na	na	na	na	39%	52%	-38%	0.12	2.1%	13%
SPRT	Support.com	2.33	43	(8)	na	na	na	na	na	na	na	na	-6%	4%	-8%	0.13	0.2%	2%
SVVC	First Technology	8.39	62	67	na	na	na	na	na	na	na	na	-1%	5%	13%	0.12	0.0%	8%
WSTL	Westell	3.13	49	26	na	na	na	na	na	na	na	na	-5%	13%	12%	0.18	0.2%	31%
Select Micro Cap (<\$150M) Median					23	15%	4.3%	5%	0.3x	0.3x	9.0x	na	-2%	5%	-8%	0.11	0.4%	17%

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

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