

SaaS Software Cloud Update – July 2017

Public Markets and M&A Activity

The Navidar SaaS Software Cloud index advanced 1.3% in July and 19.6% year to date, compared with the NASDAQ's +3.4% and +17.9%, respectively, as well as the Russell 2000's +0.3% and +5.0%. 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.

EllieMae (NYSE: ELLI -20.6% in July) – investors are digesting a reduced growth profile (from about 25% to less than 20%) for this SaaS provider of mortgage management solutions. ELLI reported disappointing 2Q17 results on 7/27 as revenue was below expectations and management reduced full-year guidance due to lower-than-expected mortgage refinance volumes (down more than 30% this year) and a longer-than-expected ramping of enterprise clients. While we think that the company provides great value to the mortgage industry, its business is arguably overconcentrated on transactional mortgages.

LogMeIn (NASDAQ: LOGM +11.4%) – the SaaS communication and collaboration provider reported strong 2Q17 results on 7/27, outperforming on the top and bottom lines. This was the first complete quarter with GoTo, which was acquired from Citrix for \$1.8B. The company benefited from early and higher-than-expected realization of cost synergies (about \$90M is expected in the first year).

MuleSoft (NYSE: MULE -12.8%) – the API-centric, enterprise middleware solution provider reported mixed 2Q17 results on 7/27. While revenue exceeded expectation, billings growth was a bit light (38% vs. 40%) as some deals slipped out of the quarter. When companies trade at a high valuation (7x 2018 revenue multiple), investors expect perfection. Revenue retention remains high at 116%. Its customer base increased 24% to 1,170 (39 net new adds).

Upland Software (NASDAQ: UPLD +12.1%) – on 7/13 acquired Waterfall, a SaaS mobile messaging provider that will merge with UPLD's Mobile Commons business, for \$24.4M. Waterfall is expected to deliver \$9M of annual revenue and \$4M of EBITDA (44% margin). The deal deepens UPLD's product suite in the retail industry. This transaction marks UPLD's third deal in 2017 and adheres to its prudent acquisition strategy, which includes EBITDA accretion and 5-8x EBITDA valuation.

Cornerstone OnDemand (NASDAQ: CSOD +12.8%) – the SaaS learning and HR provider's stock spiked due to take-out speculation as CSOD received a letter from an activist group of investors (RGM Capital, Eminence, and Praesidium) urging it to consider strategic options. They believe that the strategy of pursuing a best-of-breed solution limits growth potential due to the growing adoption of suite vendors that wrap talent management around payroll solutions. The activist group collectively owns 15% of the company.

Facebook (NASDAQ: FB +12.1%) – the social platform that connects 2B+ global users to all advertisers reported good 2Q17 results on 7/26 as users, engagement, and advertiser demand remain strong. Ad revenue grew 49% year-over-year (YOY) in constant currencies (CC) and 42% of revenue converted into free cash flow. FB continues to invest in innovation areas, such as augmented reality, virtual reality, video content, Instagram, Messenger, and Whatsapp. Messenger now has 1.2B monthly active users and WhatsApp has 250M.

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
AMZN	987.8	2.0	IBM	144.67	-6.0
CSCO	31.5	0.5	MSFT	72.70	5.5
FB	169.3	12.1	ORCL	49.93	-0.4
GOOGL	945.5	1.7	SAP	105.17	0.4

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
ATHN	138.32	-1.6	NOW	110.45	4.2
CRM	90.80	4.8	PAYC	70.09	2.5
CTXS	78.98	-0.8	PEGA	60.45	3.6
DATA	64.45	5.2	PYPL	58.55	9.1
EBAY	35.73	2.3	SHOP	92.37	6.3
ELLI	87.22	-20.6	TEAM	35.82	1.8
GDDY	42.98	1.3	TWTR	16.09	-10.0
GWRE	72.16	5.0	ULTI	225.71	7.5
INTU	137.21	3.3	VEEV	63.76	4.0
LOGM	116.45	11.4	WDAY	102.11	5.3
MULE	21.74	-12.8	WIX	61.70	-11.4

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
ACTA	13.50	-3.9	INST	32.35	9.7
ALRM	38.03	1.1	LPSN	13.55	23.2
AMBR	9.37	9.3	MB	25.95	-4.6
APPF	34.95	7.2	MODN	13.20	-0.8
APTI	17.75	2.3	OKTA	21.95	-3.7
ASUR	13.12	-10.2	PCTY	45.47	0.6
AYX	20.12	3.1	QTWO	38.90	5.3
BCOV	6.70	8.1	RP	38.75	7.8
BL	38.77	8.5	RST	10.36	-3.9
BNFT	35.75	-1.7	SNCR	16.88	2.6
BOX	18.85	3.3	SPSC	57.80	-9.3
BSFT	44.05	2.3	SREV	3.80	-2.1
BV	4.70	-5.1	STMP	148.10	-4.4
CALD	24.30	0.4	TWLO	29.17	0.2
CLDR	17.25	7.7	TWOU	51.75	10.3
COUP	30.73	6.0	UPLD	24.65	12.1
CSLT	4.30	3.6	VRNS	37.25	0.1
CSOD	40.31	12.8	WAGE	65.20	-3.0
ECOM	10.50	-9.1	WEB	21.95	-13.2
ENV	39.05	-1.4	WK	19.60	2.9
EVBG	23.65	-2.9	XTLY	15.65	0.0
FNGN	38.45	5.1	YEXT	13.00	-2.5
HDP	13.40	4.0	ZEN	29.32	5.5

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

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

Indexes (% change in July)

Mega-cap SaaS	1.1	NASDAQ	3.4
MidLgCap SaaS	3.5	DJIA	2.5
Small-cap SaaS	1.1	S&P 500	1.9
Micro-cap SaaS	-4.9	Russell2000	0.3
Overall SaaS	1.7	S&P Volatility	-8.2

Data source: S&P Capital IQ, 7/31/2017 Prices.
7/1-31/2017 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

LivePerson (NASDAQ: LPSN +23.2% in July) – the SaaS digital communication provider reported excellent 2Q17 results on 7/26, exceeding expectations. LPSN is benefiting from the migration of customer support to digital channels, which can dramatically reduce support costs. Also, two Fortune 100 Financial Institutions have signed up for LivePerson’s communication services and LIVE has established a global partnership with IBM.

Asure Software (NASDAQ: ASUR -10.2% in July) – the SaaS HR, space, and payroll provider’s stock was under pressure this month, though it is still up 54% year-to-date. The stock weakness was caused by the unexpected departure of ASUR’s CFO. Despite this management loss, the company recently added two HR industry experts to run its SMB and consulting businesses. ASUR reports 2Q17 results on 8/14.

Wix.com (NASDAQ: WIX -11.4% in July) – the web development platform reported mixed 2Q17 results on 7/27 as a revenue beat was accompanied by a profitability shortfall. We think that over-hyped expectations following an excellent 1Q17 report also contributed to the stock pressure.

Web.com (NASDAQ: WEB -13.2% in July) – the SaaS website developer and online marketing firm’s stock pressure was caused by a deflation of acquisition speculation as WEB announced that it is not selling itself. The company was publicly considering a leveraged buyout. Management decided that completing its turnaround internally would better enable value realization.

IBM (NYSE: IBM -6.0% in July) – reported disappointing 2Q17 results on 7/18 as revenue of \$19.3B declined 3% YOY in CC, below expectations. Strategic Imperatives (social, mobile, analytics, cloud, and security technologies) revenue grew 7%, below expectations and IBM’s core business (including cognitive solutions, such as Watson) continued to decline. On a positive note, free cash flow of \$2.6B exceeded expectations and cloud-related sales grew 17%.

Twitter (NYSE: TWTR -10.0% in July) – reported disappointing 2Q17 results on 7/26. Despite exceeding revenue and profitability expectations, audience growth slowed—daily average users (DAUs) advanced 12%, down from 14% last quarter. While total revenue declined 5% YOY and advertising fell 9%, data licensing (just 15% of total) grew 26%. Twitter delivered more than 1,200 hours of live premium video (up from 900 hours last period) to 55M unique viewers.

Faster Growth

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
AMZN	987.78	2.0	OKTA	21.95	-3.7
APPF	34.95	7.2	PAYC	70.09	2.5
AYX	20.12	3.1	PCTY	45.47	0.6
BL	38.77	8.5	QTWO	38.90	5.3
BOX	18.85	3.3	SHOP	92.37	6.3
COUP	30.73	6.0	TEAM	35.82	1.8
CSLT	4.30	3.6	TWLO	29.17	0.2
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FB	169.25	12.1	WDAY	102.11	5.3
HDP	13.40	4.0	WIX	61.70	-11.4
INST	32.35	9.7	XTLY	15.65	0.0
MB	25.95	-4.6	YEXT	13.00	-2.5
MULE	21.74	-12.8	ZEN	29.32	5.5
NOW	110.45	4.2			

Slower Growth

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
ACTA	13.50	-3.9	INTU	137.21	3.3
ALRM	38.03	1.1	LOGM	116.45	11.4
AMBR	9.37	9.3	LPSN	13.55	23.2
APTI	17.75	2.3	MODN	13.20	-0.8
ATHN	138.32	-1.6	MSFT	72.70	5.5
BCOV	6.70	8.1	ORCL	49.93	-0.4
BNFT	35.75	-1.7	PEGA	60.45	3.6
BSFT	44.05	2.3	PYPL	58.55	9.1
BV	4.70	-5.1	RP	38.75	7.8
CALD	24.30	0.4	RST	10.36	-3.9
CRM	90.80	4.8	SAP	105.17	0.4
CSCO	31.45	0.5	SNCR	16.88	2.6
CSOD	40.31	12.8	SPSC	57.80	-9.3
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GDDY	42.98	1.3	WAGE	65.20	-3.0
GOOGL	945.50	1.7	WEB	21.95	-13.2
GWRE	72.16	5.0	WK	19.60	2.9
IBM	144.67	-6.0			

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 July)

Faster SaaS	3.3	NASDAQ	3.4
Slower SaaS	1.3	S&P 500	1.9
Others	-4.9	Russell2000	0.3
Overall SaaS	0.6	S&P Volatility	-8.2

Data source: S&P Capital IQ. 7/31/2017 Prices. 7/1-31/2017 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

Additional Noteworthy Acquisitions:

- **HubSpot (NYSE: HUBS +10.0%)** – acquired Kemvi, which provides AI/machine learning that automates sales peoples' manual processes of finding and using customer data to customize customer interactions (e.g., personalized emails), on 7/26. Kemvi's functionality will be integrated into HubSpot CRM. This deal follows other SaaS CRM providers AI initiatives, including salesforce.com's Einstein and Zendesk's Automatic Answers.
- **Baidu (NASDAQ: BIDU-ADR +26.6%)** – the Chinese web search provider acquired kitt.ai on 7/5. Kitt.ai provides an AI/chatbot and voice processing solution for smart devices. It specializes in word detection and natural language understanding. Kitt.ai received funding from Amazon's Alexa.
- **RocketFuel (NASDAQ: FUEL -5.5%)** – the programmatic marketing platform announced on 7/18 that it is being acquired by Sizmek for \$145M (\$2.60 per share). The company also pre-announced somewhat disappointing 2Q17 results. The deal could help accelerate FUEL's transition to a SaaS business.
- **WebMD (NASDAQ: WBMD +13.0%)** – the online health information service on 7/24 announced that it has entered into a definitive agreement to be acquired by Internet Brands (owned by private equity firm KKR) for \$2.8B (\$66.50 per share), representing a 10.4x EBITDA multiple and a 20% premium to the prior trading day's close. WBMD also preannounced strong 2Q17 results, reflecting a rebound in regulatory drugs approvals. The company had announced in February that it would complete a strategic review process.
- **Bankrate (NYSE: RATE +10.3%)** – the online aggregator of personal finance content announced on 7/3 that it is being acquired by Red Ventures for \$1.4B (\$14 per share), representing 2.8x revenue multiple and 11x Ebitda multiple. Red Ventures provides marketing analytics to companies as well as operating consumer facing marketplace websites in the home services, financial services, and healthcare segments.
- **Guidance Software (NASDAQ: GUID +7.0%)** – is being acquired by Open Text (NASDAQ: OTEX +6.2%) for \$240M (\$7.10 per share), a 1.7x revenue multiple. In conjunction with its take-out announcement GUID also pre-released disappointing results with revenue coming in \$2-3M below expectations. GUID provides endpoint cyber security, an adjacent market that Open Text can cross-sell into its existing enterprise information management (EIM) clients.

Select Horizontal Companies¹

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
1PG	0.11	3.3	MFON	0.75	-5.1
APTI	17.75	2.3	MRIN	1.15	-11.5
ASUR	13.12	-10.2	MSFT	72.70	5.5
AYX	20.12	3.1	MULE	21.74	-12.8
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BL	38.77	8.5	OKTA	21.95	-3.7
BNFT	35.75	-1.7	ORCL	49.93	-0.4
BOX	18.85	3.3	PAYC	70.09	2.5
CALD	24.30	0.4	PCTY	45.47	0.6
CCUR	6.74	1.3	PEGA	60.45	3.6
CLDR	17.25	7.7	PYDS	1.34	10.6
COUP	30.73	6.0	PYPL	58.55	9.1
CRM	90.80	4.8	SAP	105.17	0.4
CSCO	31.45	0.5	SHSP	4.20	-7.3
CSOD	40.31	12.8	SMSI	1.05	-28.1
CTXS	78.98	-0.8	SPRT	2.33	0.0
DATA	64.45	5.2	SREV	3.80	-2.1
EGAN	1.85	12.1	TEAM	35.82	1.8
EVBG	23.65	-2.9	TWLO	29.17	0.2
FNJN	3.14	-4.3	ULTI	225.71	7.5
FUEL	2.60	-5.5	UPLD	24.65	12.1
GDDY	42.98	1.3	VRNS	37.25	0.1
GOOGL	945.50	1.7	WAGE	65.20	-3.0
GSB	5.10	-3.6	WDAY	102.11	5.3
HDP	13.40	4.0	WEB	21.95	-13.2
IBM	144.67	-6.0	WK	19.60	2.9
INLX	0.53	-24.6	XTLY	15.65	0.0
INTU	137.21	3.3	YEXT	13.00	-2.5
LPSN	13.55	23.2	ZEN	29.32	5.5
LVT	0.17	-5.1			

Select Vertical Companies²

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
ACTA	13.50	-3.9	GSVC	3.99	-8.1
AKDS	0.71	-17.2	GWRE	72.16	5.0
ALRM	38.03	1.1	INST	32.35	9.7
AMBR	9.37	9.3	INUV	1.08	5.7
AMZN	987.78	2.0	IPAS	1.22	-7.6
APPF	34.95	7.2	MB	25.95	-4.6
ATHN	138.32	-1.6	MODN	13.20	-0.8
BSFT	44.05	2.3	QTWO	38.90	5.3
BV	4.70	-5.1	RP	38.75	7.8
CAFN	2.14	-32.7	RST	10.36	-3.9
COYN	0.15	-18.4	SCIL	0.53	14.4
CSLT	4.30	3.6	SHOP	92.37	6.3
CSTI	11.00	10.0	SNCR	16.88	2.6
CXDO	1.70	-6.6	SPSC	57.80	-9.3
EBAY	35.73	2.3	STMP	148.10	-4.4
ECOM	10.50	-9.1	SVVC	8.03	-4.3
ELLI	87.22	-20.6	TWOU	51.75	10.3
ENV	39.05	-1.4	TWTR	16.09	-10.0
EVOL	4.90	-4.9	VEEV	63.76	4.0
FB	169.25	12.1	WIX	61.70	-11.4
FNGN	38.45	5.1	WSTL	3.49	11.5

Indexes

(% change in July)

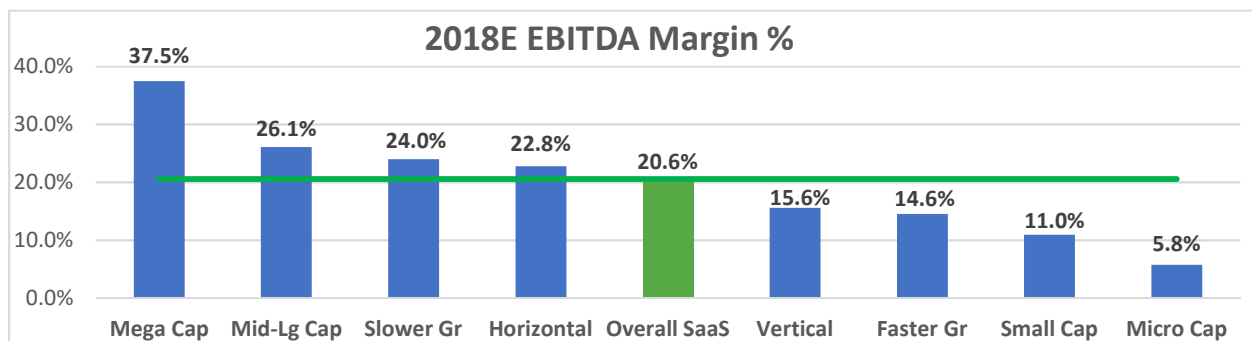
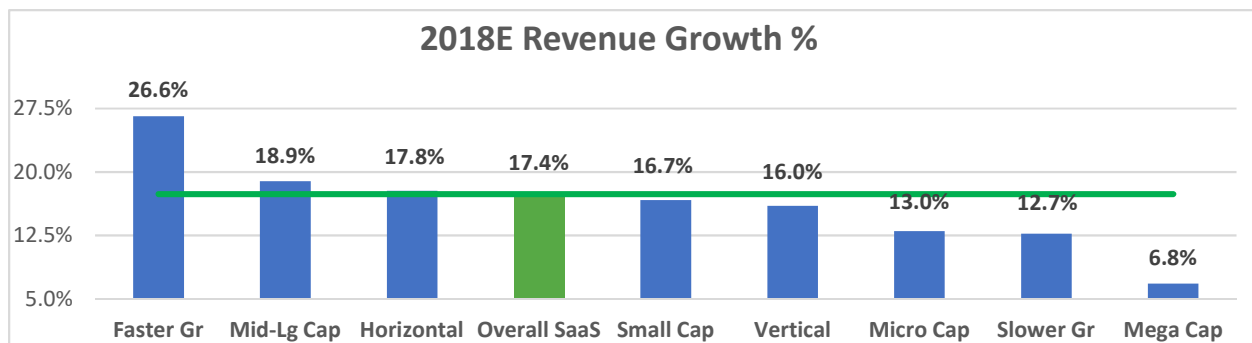
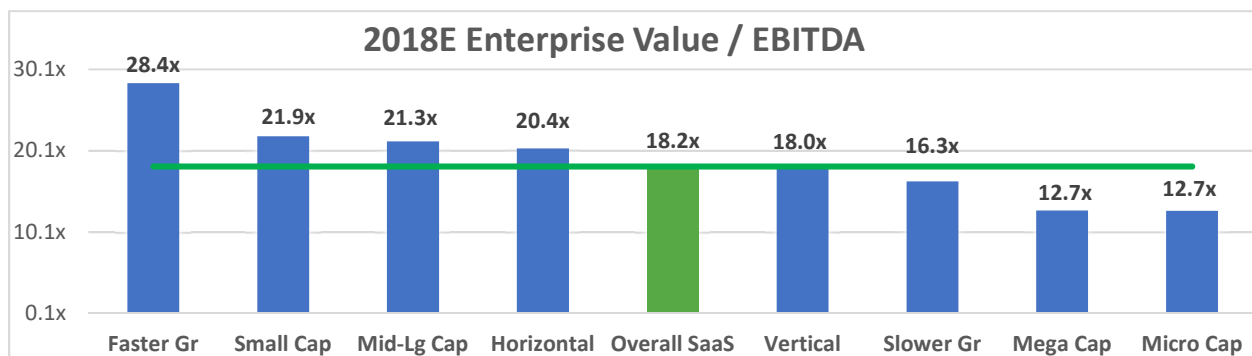
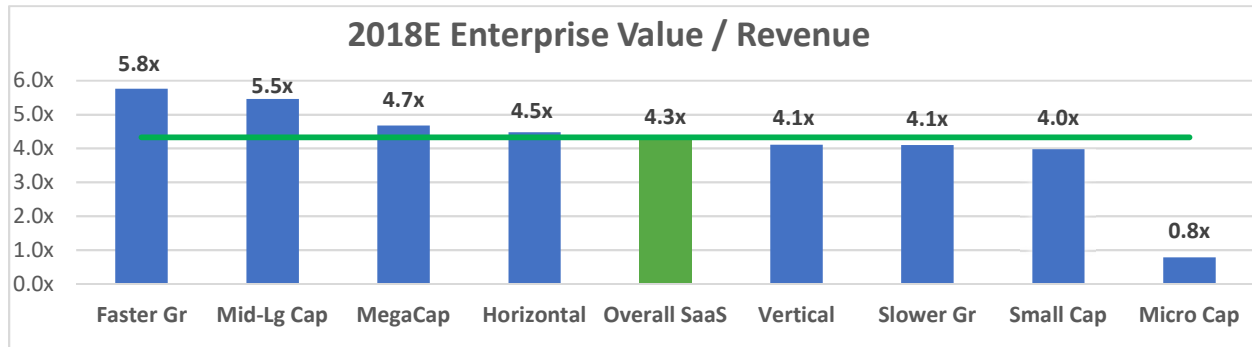
Horizontal SaaS	1.3	NASDAQ	3.4
Vertical SaaS	1.1	S&P 500	1.9
Overall SaaS	1.2	Russell2000	0.3
		S&P Volatility	-8.2

¹ Horizontal companies provide software that

² Vertical companies provide software for

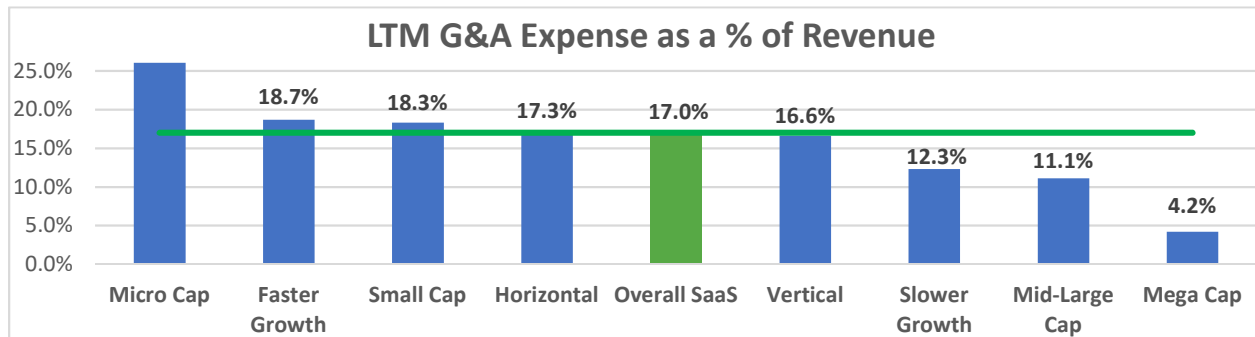
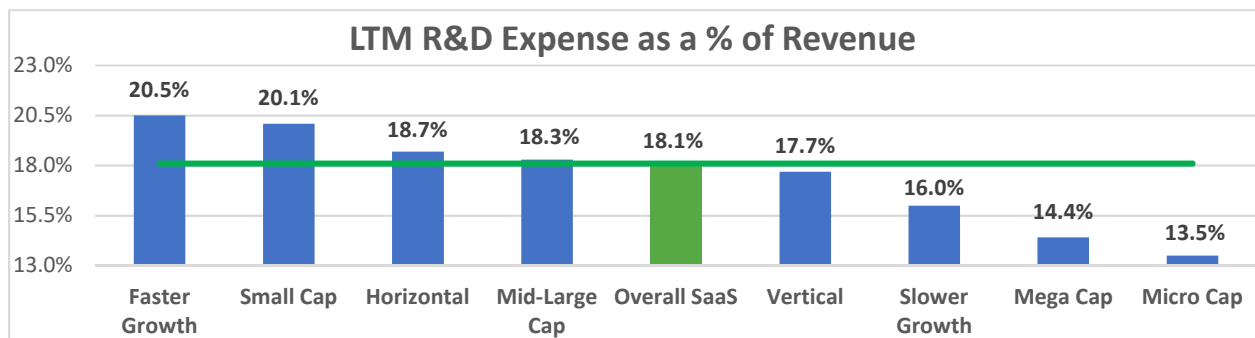
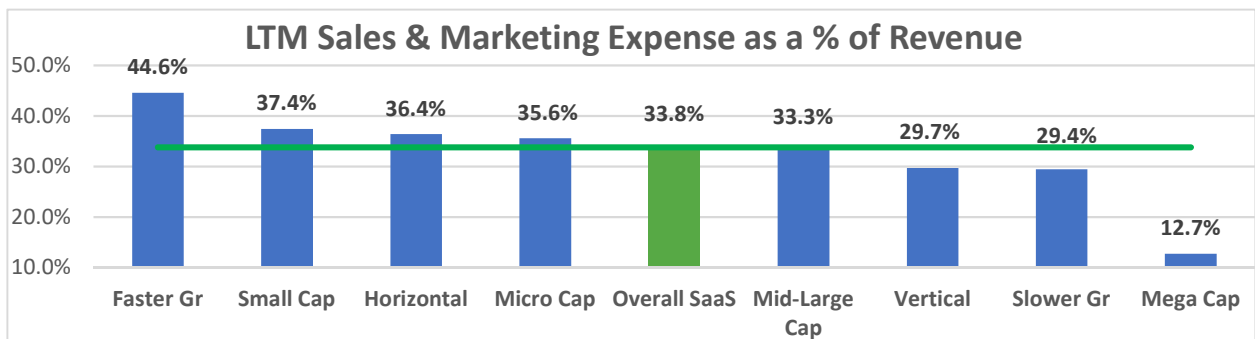
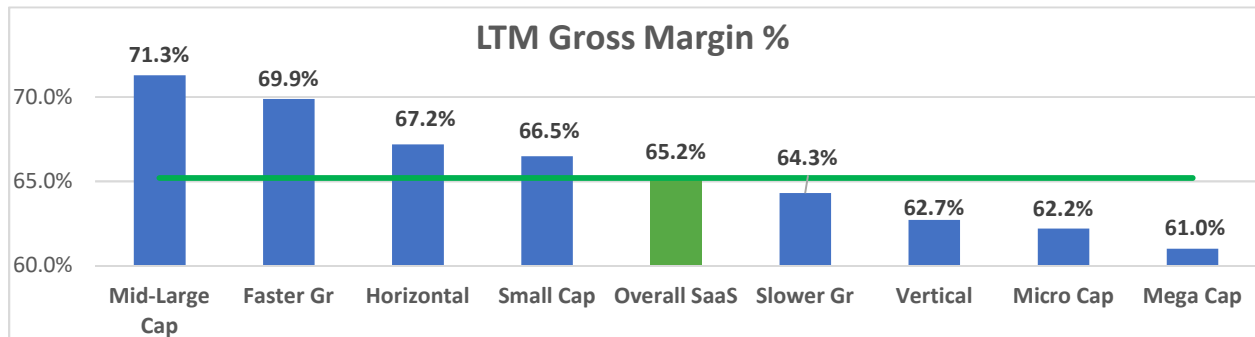
Data source: S&P Capital IQ, 7/31/2017 Prices.

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 7/31/2017

(In \$ million, except per share values)

Ticker	Company Name	7/31/17 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	\$987.78	\$474,509	484,925	\$206,446	22%	11.6%	19%	2.3x	2.0x	26.3x	19.2x	2%	7%	30%	\$4,114.52	1.2%	17%
APPF	AppFolio	34.95	1,183	1,176	174	26%	14.6%	24%	6.8x	5.4x	na	na	7%	32%	117%	3.72	1.6%	45%
AYX	Alteryx	20.12	1,174	1,076	167	36%	na	33%	6.4x	4.8x	na	na	3%	26%	0%	5.48	14.8%	17%
BL	BlackLine	38.77	1,992	1,968	223	30%	0.7%	32%	8.8x	6.7x	na	na	8%	18%	0%	8.17	4.7%	20%
BOX	Box	18.85	2,548	2,444	622	23%	3.1%	20%	3.9x	3.3x	61.6x	21.8x	3%	9%	62%	44.77	7.6%	5%
COUP	Coupa	30.73	1,628	1,390	217	25%	na	25%	6.4x	5.1x	na	88.6x	6%	11%	0%	19.45	7.7%	1%
CSLT	Castlight Health	4.30	561	505	169	26%	na	21%	3.0x	2.5x	na	19.3x	4%	12%	15%	1.65	9.4%	5%
ELLI	Ellie Mae	87.22	2,993	2,780	483	20%	31.6%	24%	5.8x	4.6x	40.3x	29.7x	-21%	-14%	-5%	33.27	5.8%	2%
EVBG	Everbridge	23.65	659	626	127	25%	2.4%	24%	4.9x	4.0x	na	na	-3%	2%	0%	4.36	3.9%	15%
FB	Facebook	169.25	491,535	485,283	50,603	29%	61.2%	24%	9.6x	7.7x	26.3x	21.4x	12%	13%	37%	3,363.50	0.9%	18%
HDP	Hortonworks	13.40	858	802	303	27%	23.6%	26%	2.6x	2.1x	na	9.4x	4%	29%	14%	11.58	6.4%	6%
INST	Instructure	32.35	935	910	199	29%	na	24%	4.6x	3.7x	na	50.3x	10%	35%	49%	10.14	10.0%	11%
MB	MINDBODY	25.95	1,202	994	226	25%	8.2%	27%	4.4x	3.5x	79.3x	40.2x	-5%	-8%	48%	14.80	17.7%	7%
MULE	MuleSoft	21.74	2,800	2,596	377	35%	na	29%	6.9x	5.3x	na	na	-13%	-6%	0%	16.76	2.2%	7%
NOW	ServiceNow	110.45	18,763	18,730	2,491	31%	24.7%	28%	7.5x	5.9x	28.1x	20.2x	4%	17%	47%	237.04	6.3%	1%
OKTA	Okta	21.95	2,092	1,870	321	36%	na	38%	5.8x	4.2x	na	60.9x	-4%	-16%	0%	11.13	4.9%	11%
PAYC	Paycom	70.09	4,165	4,132	535	25%	28.6%	24%	7.7x	6.2x	41.9x	29.6x	2%	16%	48%	39.01	23.0%	23%
PCTY	Paylocity	45.47	2,342	2,239	409	24%	18.3%	23%	5.5x	4.5x	52.2x	na	1%	15%	2%	11.15	7.2%	38%
QTWO	Q2 Holdings	38.90	1,593	1,558	246	27%	8.2%	26%	6.3x	5.0x	na	na	5%	2%	31%	7.12	4.9%	2%
SHOP	Shopify	92.37	9,687	9,487	879	40%	4.4%	34%	10.8x	8.1x	na	na	6%	22%	170%	177.45	5.3%	19%
TEAM	Atlassian	35.82	8,077	7,832	945	31%	27.0%	26%	8.3x	6.6x	27.8x	na	2%	4%	20%	22.59	3.4%	38%
TWLO	Twilio	29.17	2,639	2,547	453	26%	na	38%	5.6x	4.1x	na	na	0%	-12%	-28%	57.97	27.7%	14%
TWOU	2U	51.75	2,460	2,438	357	31%	5.3%	28%	6.8x	5.3x	na	na	10%	14%	48%	17.57	16.9%	1%
ULTI	Ultimate Software	225.71	6,708	6,620	1,178	22%	24.9%	17%	5.6x	4.8x	45.5x	35.7x	7%	11%	8%	61.90	12.9%	5%
WDAY	Workday	102.11	21,137	21,179	2,568	25%	16.4%	24%	8.2x	6.7x	59.9x	43.1x	5%	17%	23%	156.87	10.2%	35%
WIX	Wix.com	61.70	2,805	2,682	556	31%	24.2%	26%	4.8x	3.8x	21.2x	14.4x	-11%	-25%	73%	56.50	2.5%	3%
XTLY	Xactly	15.65	504	498	133	19%	1.0%	16%	3.7x	3.2x	na	na	0%	35%	26%	6.79	1.1%	0%
YEXT	Yext	13.00	1,171	1,037	225	33%	na	35%	4.6x	3.4x	na	na	-2%	-12%	0%	3.91	34.5%	31%
ZEN	Zendesk	29.32	2,902	2,799	546	30%	5.0%	25%	5.1x	4.1x	76.6x	na	6%	2%	-3%	29.44	5.8%	4%
Select Faster Growth (2018E Rev. Growth >20%) Median					377	27%	14.6%	25%	5.8x	4.6x	41.9x	29.6x	3%	11%	31%	17.57	6.3%	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 7/31/2017

(In \$ million, except per share values)

Ticker	Company Name	7/31/17 Price	Market Cap	Enterprise Value (EV)	2018E Street Sales	2018E Street Growth	EBITDA margin	2019E Growth	EV/Sales CY18E	EV/Sales CY19E	EV/FCF CY18E	EV/FCF CY19E	Price % Change From 1M	Price % Change From 3M	Price % Change From 12M	60D avg Volume	Short as % of Float	Insider Ownership
Slower Growth (2018E Revenue Growth < 20%, excluding Micro Caps)																		
ACTA	Actua	13.50	448	380	147	15%	5.0%	na	2.6x	na	na	na	-4%	-4%	35%	1.68	2.7%	11%
ALRM	Alarm.Com	\$38.03	\$1,762	1,765	\$376	15%	21.5%	16%	4.7x	4.1x	65.5x	na	1%	17%	32%	\$12.58	3.9%	3%
AMBR	Amber Road	9.37	254	266	93	13%	3.1%	na	2.9x	na	na	na	9%	14%	6%	0.94	2.7%	9%
APTI	Apptio	17.75	705	665	210	16%	3.5%	11%	3.2x	2.9x	81.7x	14.2x	2%	36%	0%	5.67	5.0%	22%
ATHN	AthenaHealth	138.32	5,523	5,732	1,392	14%	22.9%	15%	4.1x	3.6x	83.3x	14.0x	-2%	41%	8%	87.10	17.0%	1%
BCOV	Brightcove	6.70	230	202	163	6%	4.3%	na	1.2x	na	na	na	8%	-23%	-36%	1.83	3.6%	2%
BNFT	Benefitfocus	35.75	1,110	1,163	315	19%	9.5%	18%	3.7x	3.1x	na	35.5x	-2%	13%	-17%	6.01	18.6%	17%
BSFT	BroadSoft	44.05	1,353	1,440	437	14%	23.8%	15%	3.3x	2.9x	25.2x	8.6x	2%	15%	-2%	17.21	11.0%	1%
BV	Bazaarvoice	4.70	396	376	213	5%	12.2%	4%	1.8x	1.7x	18.3x	7.5x	-5%	0%	13%	2.62	0.9%	3%
CALD	CallidusCloud	24.30	1,576	1,444	291	19%	13.7%	21%	5.0x	4.1x	48.5x	na	0%	15%	18%	9.39	3.6%	2%
CRM	salesforce.com	90.80	64,590	65,100	12,294	19%	22.0%	18%	5.3x	4.5x	25.7x	4.0x	5%	5%	11%	386.51	2.4%	5%
CSCO	Cisco	31.45	157,252	181,606	48,617	2%	35.8%	1%	3.7x	3.7x	13.9x	4.1x	0%	-8%	3%	617.80	0.8%	0%
CSQD	Cornerstone	40.31	2,290	2,427	558	16%	14.9%	17%	4.3x	3.7x	33.0x	6.2x	13%	3%	-7%	26.26	8.0%	9%
CTXS	Citrix	78.98	11,938	12,490	2,940	4%	35.8%	5%	4.2x	4.0x	13.3x	3.0x	-1%	-2%	-11%	99.44	3.5%	0%
DATA	Tableau	64.45	5,026	4,033	954	9%	7.6%	16%	4.2x	3.6x	28.5x	15.1x	5%	20%	14%	55.23	7.5%	22%
EBAY	eBay	35.73	38,242	47,072	10,090	6%	37.0%	6%	4.7x	4.4x	19.1x	3.7x	2%	7%	15%	336.03	1.9%	6%
ECOM	ChannelAdvisor	10.50	276	220	138	12%	7.9%	na	1.6x	na	16.2x	na	-9%	-11%	-33%	0.66	1.4%	9%
ENV	Envestnet	39.05	1,711	1,944	755	14%	20.6%	16%	2.6x	2.2x	19.3x	6.6x	-1%	12%	2%	8.37	5.2%	3%
FNGN	Financial Engines	38.45	2,417	2,247	548	13%	32.9%	7%	4.1x	3.8x	20.1x	4.5x	5%	-10%	46%	12.79	16.2%	1%
GDDY	GoDaddy	42.98	4,524	7,073	2,537	15%	26.4%	12%	2.8x	2.5x	12.0x	3.8x	1%	10%	44%	42.34	7.6%	0%
GOOGL	Alphabet	945.50	649,902	638,146	126,960	17%	40.3%	16%	5.0x	4.3x	19.4x	3.3x	2%	2%	19%	1,936.11	0.5%	12%
GWRE	Guidewire	72.16	5,367	5,187	642	17%	25.3%	na	8.1x	na	39.5x	na	5%	17%	17%	34.88	6.8%	0%
IBM	IBM	144.67	134,824	168,804	77,742	0%	24.2%	0%	2.2x	2.2x	14.5x	6.4x	-6%	-10%	-10%	610.62	2.4%	0%
INTU	Intuit	137.21	35,156	34,306	5,750	8%	39.8%	9%	6.0x	5.5x	23.2x	2.7x	3%	10%	24%	185.32	1.1%	5%
LOGM	LogMeIn	116.45	6,140	5,879	1,171	16%	38.0%	9%	5.0x	4.6x	17.1x	2.9x	11%	3%	36%	82.24	4.9%	2%
LPSN	LivePerson	13.55	798	744	230	7%	11.0%	5%	3.2x	3.1x	95.3x	26.9x	23%	92%	103%	6.51	1.9%	9%
MODN	Model N	13.20	380	385	153	11%	5.3%	na	2.5x	na	na	na	-1%	23%	2%	1.54	5.3%	20%
MSFT	Microsoft	72.70	560,372	641,513	107,739	7%	39.2%	4%	6.0x	5.7x	20.4x	3.1x	5%	6%	28%	1,903.30	0.6%	2%
ORCL	Oracle	49.93	206,545	242,670	40,295	4%	47.0%	4%	6.0x	5.8x	16.7x	2.9x	0%	11%	22%	725.06	1.1%	27%
PEGA	Pegasystems	60.45	4,663	4,542	973	12%	17.7%	18%	4.7x	4.0x	48.1x	7.7x	4%	33%	117%	17.35	2.4%	52%
PYPL	PayPal Holdings	58.55	70,400	64,762	15,190	18%	26.1%	17%	4.3x	3.6x	18.8x	4.4x	9%	23%	57%	550.27	2.2%	6%
RP	RealPage	38.75	3,204	3,275	751	14%	26.7%	19%	4.4x	3.7x	23.9x	5.7x	8%	5%	54%	26.66	4.4%	28%
RST	Rosetta Stone	10.36	230	206	185	1%	7.1%	na	1.1x	na	na	na	-4%	-8%	35%	0.97	1.6%	8%
SAP	SAP	105.17	126,089	128,620	29,810	7%	34.2%	7%	4.3x	4.0x	24.2x	4.8x	0%	5%	21%	0.58	0.0%	7%
SNCR	Synchronoss	16.88	783	869	794	8%	27.8%	8%	1.1x	1.0x	11.4x	16.4x	3%	6%	-55%	24.52	19.1%	8%
SPSC	SPS Commerce	57.80	995	864	253	14%	15.6%	15%	3.4x	3.0x	44.7x	10.6x	-9%	5%	-9%	7.91	3.3%	0%
SREV	ServiceSource	3.80	337	436	256	7%	9.4%	na	1.7x	na	44.9x	na	-2%	1%	-16%	0.77	6.4%	3%
STMP	Stamps.com	148.10	2,509	2,548	495	16%	50.8%	na	5.2x	na	13.5x	na	-4%	40%	95%	53.49	25.0%	7%
TWTR	Twitter	16.09	11,677	12,135	2,540	6%	29.2%	7%	4.8x	4.5x	30.8x	7.0x	-10%	-2%	-3%	300.76	8.0%	12%
UPLD	Upland Software	24.65	500	515	104	11%	34.0%	na	4.9x	na	24.7x	na	12%	24%	222%	4.42	1.3%	16%
VEEV	Veeva Systems	63.76	8,911	8,545	801	20%	32.1%	17%	10.7x	9.1x	40.9x	3.0x	4%	19%	68%	94.94	5.3%	22%
VRNS	Varonis Systems	37.25	1,014	960	238	17%	4.1%	16%	4.0x	3.5x	62.9x	11.3x	0%	19%	45%	10.44	2.2%	4%
WAGE	WageWorks	65.20	2,578	2,048	531	10%	31.5%	7%	3.9x	3.6x	na	na	-3%	-12%	5%	23.73	7.7%	1%
WEB	Web.com Group	21.95	1,016	1,628	789	4%	26.1%	2%	2.1x	2.0x	10.0x	4.9x	-13%	14%	16%	9.28	5.1%	4%
WK	Workiva	19.60	811	771	234	14%	na	14%	3.3x	2.9x	na	46.9x	3%	17%	41%	2.85	5.1%	41%
Select Slower Growth (2018E Rev. Growth < 20%) Median					642	13%	24.0%	12%	4.1x	3.7x	23.9x	5.9x	1%	10%	17%	17.35	3.8%	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 7/31/2017

(In \$ million, except per share values)

Ticker	Company Name	7/31/17 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	987.78	474,509	484,925	206,446	22%	11.6%	19%	2.3x	2.0x	26.3x	19.2x	2%	7%	30%	4,114.52	1.2%	17%
CSCO	Cisco	31.45	157,252	181,606	48,617	2%	35.8%	1%	3.7x	3.7x	13.9x	15.3x	0%	-8%	3%	617.80	0.8%	0%
FB	Facebook	169.25	491,535	485,283	50,603	29%	61.2%	24%	9.6x	7.7x	26.3x	21.4x	12%	13%	37%	3,363.50	0.9%	18%
GOOGL	Alphabet	945.50	649,902	638,146	126,960	17%	40.3%	16%	5.0x	4.3x	19.4x	16.6x	2%	2%	19%	1,936.11	0.5%	12%
IBM	IBM	144.67	134,824	168,804	77,742	0%	24.2%	0%	2.2x	2.2x	14.5x	13.9x	-6%	-10%	-10%	610.62	2.4%	0%
MSFT	Microsoft	72.70	560,372	641,513	107,739	7%	39.2%	4%	6.0x	5.7x	20.4x	18.4x	5%	6%	28%	1,903.30	0.6%	2%
ORCL	Oracle	49.93	206,545	242,670	40,295	4%	47.0%	4%	6.0x	5.8x	16.7x	17.4x	0%	11%	22%	725.06	1.1%	27%
SAP	SAP	105.17	126,089	128,620	29,810	7%	34.2%	7%	4.3x	4.0x	24.2x	20.7x	0%	5%	21%	0.58	0.0%	7%
Select Mega Cap (\$100B+) Median					64,172	7%	37.5%	6%	4.7x	4.2x	19.9x	17.9x	1%	5%	21%	1,314.18	0.9%	10%
Select Mid-Large Cap (\$3B-\$100B mcap)																		
ATHN	AthenaHealth	138.32	5,523	5,732	1,392	14%	22.9%	15%	4.1x	3.6x	83.3x	57.7x	-2%	41%	8%	87.10	17.0%	1%
CRM	salesforce.com	90.80	64,590	65,100	12,294	19%	22.0%	18%	5.3x	4.5x	25.7x	21.2x	5%	5%	11%	386.51	2.4%	5%
CTXS	Citrix	78.98	11,938	12,490	2,940	4%	35.8%	5%	4.2x	4.0x	13.3x	12.7x	-1%	-2%	-11%	99.44	3.5%	0%
DATA	Tableau	64.45	5,026	4,033	954	9%	7.6%	16%	4.2x	3.6x	28.5x	63.9x	5%	20%	14%	55.23	7.5%	22%
EBAY	eBay	35.73	38,242	47,072	10,090	6%	37.0%	6%	4.7x	4.4x	19.1x	17.4x	2%	7%	15%	336.03	1.9%	6%
ELLI	Ellie Mae	87.22	2,993	2,780	483	20%	31.6%	24%	5.8x	4.6x	40.3x	29.7x	-21%	-14%	-5%	33.27	5.8%	2%
GDDY	GoDaddy	42.98	4,524	7,073	2,537	15%	26.4%	12%	2.8x	2.5x	12.0x	10.7x	1%	10%	44%	42.34	7.6%	0%
GWRE	Guidewire	72.16	5,367	5,187	642	17%	25.3%	na	8.1x	na	39.5x	na	5%	17%	17%	34.88	6.8%	0%
INTU	Intuit	137.21	35,156	34,306	5,750	8%	39.8%	9%	6.0x	5.5x	23.2x	15.8x	3%	10%	24%	185.32	1.1%	5%
LOGM	LogMeIn	116.45	6,140	5,879	1,171	16%	38.0%	9%	5.0x	4.6x	17.1x	14.4x	11%	3%	36%	82.24	4.9%	2%
MULE	MuleSoft	21.74	2,800	2,596	377	35%	na	29%	6.9x	5.3x	na	na	-13%	-6%	0%	16.76	2.2%	7%
NOW	ServiceNow	110.45	18,763	18,730	2,491	31%	24.7%	28%	7.5x	5.9x	28.1x	20.2x	4%	17%	47%	237.04	6.3%	1%
PAYC	Paycom	70.09	4,165	4,132	535	25%	28.6%	24%	7.7x	6.2x	41.9x	29.6x	2%	16%	48%	39.01	23.0%	23%
PEGA	Pegasystems	60.45	4,663	4,542	973	12%	17.7%	18%	4.7x	4.0x	48.1x	35.8x	4%	33%	117%	17.35	2.4%	52%
PYPL	PayPal Holdings	58.55	70,400	64,762	15,190	18%	26.1%	17%	4.3x	3.6x	18.8x	18.9x	9%	23%	57%	550.27	2.2%	6%
SHOP	Shopify	92.37	9,687	9,487	879	40%	4.4%	34%	10.8x	8.1x	na	na	6%	22%	170%	177.45	5.3%	19%
TEAM	Atlassian	35.82	8,077	7,832	945	31%	27.0%	26%	8.3x	6.6x	27.8x	na	2%	4%	20%	22.59	3.4%	38%
TWTR	Twitter	16.09	11,677	12,135	2,540	6%	29.2%	7%	4.8x	4.5x	30.8x	33.5x	-10%	-2%	-3%	300.76	8.0%	12%
ULTI	Ultimate Software	225.71	6,708	6,620	1,178	22%	24.9%	17%	5.6x	4.8x	45.5x	35.7x	7%	11%	8%	61.90	12.9%	5%
VEEV	Veeva Systems	63.76	8,911	8,545	801	20%	32.1%	17%	10.7x	9.1x	40.9x	32.5x	4%	19%	68%	94.94	5.3%	22%
WDAY	Workday	102.11	21,137	21,179	2,568	25%	16.4%	24%	8.2x	6.7x	59.9x	43.1x	5%	17%	23%	156.87	10.2%	35%
WIX	Wix.com	61.70	2,805	2,682	556	31%	24.2%	26%	4.8x	3.8x	21.2x	14.4x	-11%	-25%	73%	56.50	2.5%	3%
Select Mid-Large Cap (\$3B-\$100B mcap) Median					1,174	19%	26.1%	17%	5.5x	4.6x	28.3x	25.4x	3%	11%	23%	84.67	5.3%	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 7/31/2017

(In \$ million, except per share values)

Ticker	Company Name	7/31/17 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	13.50	448	380	147	15%	5.0%	na	2.6x	na	na	na	-4%	-4%	35%	1.68	2.7%	11%
ALRM	Alarm.Com	38.03	1,762	1,765	376	15%	21.5%	16%	4.7x	4.1x	65.5x	na	1%	17%	32%	12.58	3.9%	3%
AMBR	Amber Road	9.37	254	266	93	13%	3.1%	na	2.9x	na	na	na	9%	14%	6%	0.94	2.7%	9%
APPF	AppFolio	34.95	1,183	1,176	174	26%	14.6%	24%	6.8x	5.4x	na	na	7%	32%	117%	3.72	1.6%	45%
APTI	Apptio	17.75	705	665	210	16%	3.5%	11%	3.2x	2.9x	81.7x	44.9x	2%	36%	0%	5.67	5.0%	22%
ASUR	Asure Software	13.12	162	191	68	26%	24.2%	na	2.8x	na	34.1x	na	-10%	27%	163%	2.18	9.8%	9%
AYX	Alteryx	20.12	1,174	1,076	167	36%	na	33%	6.4x	4.8x	na	na	3%	26%	0%	5.48	14.8%	17%
BCOV	Brightcove	6.70	230	202	163	6%	4.3%	na	1.2x	na	na	na	8%	-23%	-36%	1.83	3.6%	2%
BL	BlackLine	38.77	1,992	1,968	223	30%	0.7%	32%	8.8x	6.7x	na	na	8%	18%	0%	8.17	4.7%	20%
BNFT	Benefitfocus	35.75	1,110	1,163	315	19%	9.5%	18%	3.7x	3.1x	na	na	-2%	13%	-17%	6.01	18.6%	17%
BOX	Box	18.85	2,548	2,444	622	23%	3.1%	20%	3.9x	3.3x	61.6x	21.8x	3%	9%	62%	44.77	7.6%	5%
BSFT	BroadSoft	44.05	1,353	1,440	437	14%	23.8%	15%	3.3x	2.9x	25.2x	28.2x	2%	15%	-2%	17.21	11.0%	1%
BV	Bazaarvoice	4.70	396	376	213	5%	12.2%	4%	1.8x	1.7x	18.3x	13.2x	-5%	0%	13%	2.62	0.9%	3%
CALD	CallidusCloud	24.30	1,576	1,444	291	19%	13.7%	21%	5.0x	4.1x	48.5x	na	0%	15%	18%	9.39	3.6%	2%
CLDR	Cloudera	17.25	2,262	2,211	439	26%	na	23%	5.0x	4.1x	na	na	8%	-5%	0%	19.07	6.0%	3%
COUP	Coupa	30.73	1,628	1,390	217	25%	na	25%	6.4x	5.1x	na	88.6x	6%	11%	0%	19.45	7.7%	1%
CSLT	Castlight Health	4.30	561	505	169	26%	na	21%	3.0x	2.5x	na	19.3x	4%	12%	15%	1.65	9.4%	5%
CSOD	Cornerstone	40.31	2,290	2,427	558	16%	14.9%	17%	4.3x	3.7x	33.0x	26.8x	13%	3%	-7%	26.26	8.0%	9%
ECOM	ChannelAdvisor	10.50	276	220	138	12%	7.9%	na	1.6x	na	16.2x	na	-9%	-11%	-33%	0.66	1.4%	9%
ENV	Envestnet	39.05	1,711	1,944	755	14%	20.6%	16%	2.6x	2.2x	19.3x	16.9x	-1%	12%	2%	8.37	5.2%	3%
EVBG	Everbridge	23.65	659	626	127	25%	2.4%	24%	4.9x	4.0x	na	na	-3%	2%	0%	4.36	3.9%	15%
FNGN	Financial	38.45	2,417	2,247	548	13%	32.9%	7%	4.1x	3.8x	20.1x	18.6x	5%	-10%	46%	12.79	16.2%	1%
HDP	Hortonworks	13.40	858	802	303	27%	23.6%	26%	2.6x	2.1x	na	9.4x	4%	29%	14%	11.58	6.4%	6%
INST	Instructure	32.35	935	910	199	29%	na	24%	4.6x	3.7x	na	50.3x	10%	35%	49%	10.14	10.0%	11%
LPSN	LivePerson	13.55	798	744	230	7%	11.0%	5%	3.2x	3.1x	95.3x	86.8x	23%	92%	103%	6.51	1.9%	9%
MB	MINDBODY	25.95	1,202	994	226	25%	8.2%	27%	4.4x	3.5x	79.3x	40.2x	-5%	-8%	48%	14.80	17.7%	7%
MODN	Model N	13.20	380	385	153	11%	5.3%	na	2.5x	na	na	na	-1%	23%	2%	1.54	5.3%	20%
OKTA	Okta	21.95	2,092	1,870	321	36%	na	38%	5.8x	4.2x	na	60.9x	-4%	-16%	0%	11.13	4.9%	11%
PCTY	Paylocity	45.47	2,342	2,239	409	24%	18.3%	23%	5.5x	4.5x	52.2x	na	1%	15%	2%	11.15	7.2%	38%
QTOO	Q2 Holdings	38.90	1,593	1,558	246	27%	8.2%	26%	6.3x	5.0x	na	na	5%	2%	31%	7.12	4.9%	2%
RP	RealPage	38.75	3,204	3,275	751	14%	26.7%	19%	4.4x	3.7x	23.9x	24.8x	8%	5%	54%	26.66	4.4%	28%
RST	Rosetta Stone	10.36	230	206	185	1%	7.1%	na	1.1x	na	na	na	-4%	-8%	35%	0.97	1.6%	8%
SNCR	Synchronoss	16.88	783	869	794	8%	27.8%	8%	1.1x	1.0x	11.4x	17.9x	3%	6%	-55%	24.52	19.1%	8%
SPSC	SPS Commerce	57.80	995	864	253	14%	15.6%	15%	3.4x	3.0x	44.7x	36.1x	-9%	5%	-9%	7.91	3.3%	0%
SREV	ServiceSource	3.80	337	436	256	7%	9.4%	na	1.7x	na	44.9x	na	-2%	1%	-16%	0.77	6.4%	3%
STMP	Stamps.com	148.10	2,509	2,548	495	16%	50.8%	na	5.2x	na	13.5x	na	-4%	40%	95%	53.49	25.0%	7%
TWLO	Twilio	29.17	2,639	2,547	453	26%	na	38%	5.6x	4.1x	na	na	0%	-12%	-28%	57.97	27.7%	14%
TWOU	2U	51.75	2,460	2,438	357	31%	5.3%	28%	6.8x	5.3x	na	na	10%	14%	48%	17.57	16.9%	1%
UPLD	Upland Software	24.65	500	515	104	11%	34.0%	na	4.9x	na	24.7x	na	12%	24%	222%	4.42	1.3%	16%
VRNS	Varonis Systems	37.25	1,014	960	238	17%	4.1%	16%	4.0x	3.5x	62.9x	45.7x	0%	19%	45%	10.44	2.2%	4%
WAGE	WageWorks	65.20	2,578	2,048	531	10%	31.5%	7%	3.9x	3.6x	na	na	-3%	-12%	5%	23.73	7.7%	1%
WEB	Web.com Group	21.95	1,016	1,628	789	4%	26.1%	2%	2.1x	2.0x	10.0x	10.1x	-13%	14%	16%	9.28	5.1%	4%
WK	Workiva	19.60	811	771	234	14%	na	14%	3.3x	2.9x	na	na	3%	17%	41%	2.85	5.1%	41%
XTLY	Xactly	15.65	504	498	133	19%	1.0%	16%	3.7x	3.2x	na	na	0%	35%	26%	6.79	1.1%	0%
YEXT	Yext	13.00	1,171	1,037	225	33%	na	35%	4.6x	3.4x	na	na	-2%	-12%	0%	3.91	34.5%	31%
ZEN	Zendesk	29.32	2,902	2,799	546	30%	5.0%	25%	5.1x	4.1x	76.6x	na	6%	2%	-3%	29.44	5.8%	4%
Select Small Cap (\$150M-\$3B mcap) Median					242	17%	11%	20%	4.0x	3.6x	34.1x	26.8x	2%	12%	17%	8.27	5.2%	8%

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 7/31/2017

(In \$ million, except per share values)

Ticker	Company Name	7/31/17 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	9	na	na	na	na	na	na	na	na	3%	8%	-58%	0.00	0.0%	17%
AKDS	Arkados Group	0.71	10	11	na	na	na	na	na	na	na	na	-17%	-45%	-29%	0.01	0.1%	34%
CAFN	Cachet	2.14	21	18	23	70%	12.1%	na	0.8x	na	na	na	-33%	-44%	-82%	0.06	0.4%	33%
CCUR	Concurrent	6.74	66	51	na	na	na	na	na	na	na	na	1%	36%	32%	0.21	0.4%	20%
COYN	COPsync	0.15	2	3	15	56%	na	na	0.2x	na	na	na	-18%	28%	-90%	0.01	0.0%	13%
CSTI	Costar	11.00	16	26	na	na	na	na	na	na	na	na	10%	9%	35%	0.00	0.0%	0%
CXDO	Crexendo	1.70	23	24	na	na	na	na	na	na	na	na	-7%	16%	31%	0.00	1.2%	73%
EGAN	eGain	1.85	50	59	na	na	na	na	na	na	na	na	12%	23%	-25%	0.04	0.6%	37%
EVOL	Evolving Systems	4.90	61	61	na	na	na	na	na	na	na	na	-5%	-2%	-6%	0.09	0.1%	31%
FNJN	FinJan	3.14	84	45	22	-37%	na	na	2.0x	na	na	na	-4%	61%	62%	1.56	1.7%	2%
FUEL	Rocket Fuel	2.60	122	143	365	-5%	0.9%	-31%	0.4x	0.6x	na	na	-5%	-48%	16%	2.03	17.2%	5%
GSB	GlobalSCAPE	5.10	110	100	na	na	na	na	na	na	na	na	-4%	26%	50%	0.24	0.1%	21%
GSVC	GSV Capital	3.99	89	162	1	13%	na	na	na	na	na	na	-8%	-10%	-26%	0.29	0.0%	1%
INLX	Intellinetics	0.53	9	10	na	na	na	na	na	na	na	na	-25%	-38%	-46%	0.00	0.0%	54%
INUV	Inuvo	1.08	31	32	105	18%	2.7%	na	0.3x	na	na	na	6%	-14%	-33%	0.07	1.4%	16%
IPAS	iPass	1.22	80	70	84	22%	6.0%	na	0.8x	na	8.7x	na	-8%	-2%	-19%	0.07	0.3%	3%
LVT	LiveTiles	0.17	19	12	na	na	na	na	na	na	na	na	-5%	-10%	16%	0.02	0.0%	135%
MFON	Mobivity	0.75	27	28	na	na	na	na	na	na	na	na	-5%	7%	-17%	0.01	0.0%	19%
MRIN	Junein Software	1.15	45	16	na	na	na	na	na	na	na	na	-12%	-32%	-54%	0.13	1.0%	15%
PYDS	Payment Data Sy:	1.34	16	12	12	6%	5.8%	na	1.0x	na	na	na	11%	-8%	-19%	0.05	1.6%	46%
SCIL	Scientific Learnin	0.53	13	14	na	na	na	na	na	na	na	na	14%	-7%	13%	0.00	0.0%	1%
SHSP	SharpSpring	4.20	35	28	17	31%	na	na	1.6x	na	na	na	-7%	-5%	-24%	0.08	1.1%	37%
SMSI	Smith Micro Softv	1.05	15	17	na	na	na	na	na	na	na	na	-28%	-7%	-57%	0.04	1.7%	13%
SPRT	Support.com	2.33	43	24	na	na	na	na	na	na	na	na	0%	7%	-10%	0.09	0.2%	2%
SVVC	First Technology	8.03	60	53	na	na	na	na	na	na	na	na	-4%	-5%	9%	0.09	0.0%	8%
WSTL	Westell	3.49	54	30	na	na	na	na	na	na	na	na	12%	31%	59%	0.22	0.3%	32%
Select Micro Cap (<\$150M) Median					22	13%	5.8%	-31%	0.8x	0.6x	8.7x	na	-5%	-3%	-18%	0.07	0.4%	19%

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

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