

SaaS Software Cloud Update – July 2018

Public Markets and M&A Activity

The Navidar SaaS Software Cloud Index declined marginally by -1.5% in July and advanced 17.9% so far in 2018, compared with the NASDAQ's +2.2% and +11.1%, the Russell 2000's +1.4% and +8.9%, and the S&P 500's +3.6% and +5.3%, 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.

Alphabet (NASDAQ: GOOGL +8.7%) – the technology giant reported strong 2Q18 results, beating analyst expectations. GOOGL revenues increased by 25.6% Y-o-Y to \$32.7B in 2Q18, surpassing the consensus estimate of \$32.2B. Without accounting for European Union's fine of \$5B, the Company reported net income of \$8.3B for the quarter, compared to \$3.5B reported a year ago, exceeding analyst expectations of \$6.7B. The Company attributed strong results on three major domains: machine learning and artificial intelligence becoming a crucial component across all its products; investments in computing, video, cloud and advertising platforms; and investments in new businesses and emerging markets.

Facebook (NASDAQ: FB -11.2%) – the social network giant reported mixed results in 2Q18, with revenues of \$13.2B missing consensus estimate of \$13.4B. Although, revenues increased by ~42% Y-o-Y, but were lower than analyst estimates and previous growth rates. FB reported its slowest user growth during the quarter, with 22M active users added in 2Q18, compared to 49M added in 1Q18, representing sequential growth of 1.7%. The Company reported net income of \$5.1B, or \$1.74 per share, an increase from \$3.9B or \$1.32 per share in the year-ago period. The bottom-line beat was above analysts' average estimate of \$1.71 per share. FB provided weak guidance with CFO David Wehner highlighting that the Company expects revenue-growth rates to decline by high-single-digit percentages from prior quarters sequentially in both 3Q18 and 4Q18. The Company also indicated that its operating margin would fall from 44.0% in 2Q18 to the mid-30.0% range, going forward.

Twitter (NYSE: TWTR -27.0%) – the social media platform provider's stock declined over lower-than-expected 2Q18 monthly active user (MAU) numbers and weak guidance. Revenues for 2Q18 increased 24% to \$711M, topping the analyst average estimate of \$697M. Adjusted earnings were \$0.17 per share, compared to analyst estimate of \$0.16 per share. TWTR monthly users dropped by 1M sequentially to 335M in 2Q18, with predictions of further decline in monthly users as the company continues to fight against spam, fake accounts and malicious rhetoric on its network. The Company issued weak guidance for 3Q18, with adjusted EBITDA ranging between \$215-235M. The full year projections declined compared to last quarter's estimates. TWTR also increased its capital expenditures rates for the year to \$450-500M.



Atlassian (NASDAQ: TEAM +15.8%) – the team collaboration and productivity software provider announced selling of its corporate chat software products, HipChat and Stride, to Slack Technologies (ST). TEAM will make an equity investment in ST, which will pay an undisclosed amount over the next 3 years for the acquisition. The deal allows TEAM to exit a business that failed to generate as much demand as expected. The Company believes the impact of lost revenue will be largely offset by ST’s payments over the next 3 years. TEAM reported strong 4Q18 earnings, with revenues increasing by 40% Y-o-Y to \$244M, surpassing analyst estimate of \$233M. Loss per share came at \$0.11 per share, compared to analyst estimate of loss of \$0.12 per share.

DropBox (NASDAQ: DBX –17.4%) – the cloud storage provider’s stock declined ahead of reporting its 2Q18 earnings on August 9. DBX announced increasing of its storage plans to up to 3TB. The Company will offer a 2TB plan to individual users for the first time, DBX Professional moves from 1TB to 2TB, with the same pricing of \$16.58/month. DBX Plus stays at 1TB for \$8.25/month. DBX Business Standard for teams jumps from 2TB to 3TB for the same \$12.50/month pricing, whereas the unlimited Business Advanced costs \$20 per user per month.

LogMeIn (NASDAQ: LOGM –21.5%) – the cloud connectivity provider reported modest beat in 2Q18, however, provided weak outlook for 3Q18 and revised its full-year estimates downward due to poor renewal rates. LOGM revenues for 2Q18 were \$306M, beating consensus estimate of \$305M. Net income came in at \$70M, or \$1.32 per share, beating consensus estimate of \$1.25 per share. The Company guided revenues to be in the range of \$301-303M for 3Q18, with earnings per share of \$1.33-1.35. For the full-year 2018, revenue guidance was \$1.18B, with earnings in the range of \$5.17-5.26 per share. LOGM witnessed churn issues in the quarter, stemming from the acquisition of GoTo’s assets, which led to investor concerns over the Company’s ability to succeed in acquiring and integrating new businesses.

Varonis Systems (NASDAQ: VRNS –19.8%) – the data security and analytics provider reported disappointing 2Q18 earnings. The revenues grew by 26% Y-o-Y to \$62.2M, in line with average analyst estimates, however, the bottom line fell short of analyst estimates. VRNS earnings for 2Q18 came in at a loss of \$0.08 per share, down from a loss of \$0.01 per share Y-o-Y and \$0.03 per share, lower than analyst estimates. The Company expects revenue growth to slow further in 3Q18, with revenues to be in the range of \$64-65M, and ~20-22% Y-o-Y growth. Full-year revenues expected between \$265-269M, with Y-o-Y growth of ~ 23-25%.

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
AMZN	1777.44	4.6	OKTA	49.65	-1.4
APPF	72.20	18.1	PAYC	106.25	7.5
AYX	38.99	2.2	PCTY	58.00	-1.5
BL	42.70	-1.7	QTWO	59.15	3.7
BOX	23.96	-4.1	RNG	73.75	4.8
CDLX	18.82	-13.5	SAIL	24.09	-1.8
CRM	137.15	0.5	SEND	25.53	-3.7
COUP	61.31	-1.5	SHOP	138.21	-5.3
DOMO	16.61	-39.2	SNAP	12.50	-4.5
EVBG	44.98	-5.1	TEAM	72.41	15.8
FB	172.58	-11.2	TWLO	57.89	3.3
HDP	17.42	-4.4	TWOU	75.66	-9.5
HUBS	124.10	-1.0	WDAY	124.02	2.4
INST	38.70	-9.0	WIX	95.00	-5.3
LVT	0.48	35.1	YEXT	21.14	9.3
MB	37.35	-3.2	ZEN	54.47	0.0
NOW	175.96	2.0	ZS	35.31	-1.2

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

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
AAPL	190.29	2.8	IBM	144.93	3.7
ALRM	42.87	6.2	INTU	204.24	0.0
AMBR	8.50	-9.7	LOGM	81.05	-21.5
APPN	31.08	-14.0	LPSN	23.20	10.0
APTI	33.57	-7.3	MODN	18.65	0.3
ASUR	14.09	-11.7	MSFT	106.08	7.6
ATHN	150.71	-5.3	ORCL	47.68	8.2
BCOV	8.55	-11.4	PEGA	55.60	1.5
BNFT	30.10	-10.4	PYPL	82.14	-1.4
CLDR	13.39	-1.8	RST	14.70	-8.3
CSCO	42.29	-1.7	RP	55.10	0.0
CSLT	3.30	-22.4	SAP	116.68	1.0
CSOD	49.40	4.2	SPSC	85.79	16.8
CTXS	109.97	4.9	SREV	3.50	-11.2
DATA	103.07	5.4	STMP	261.00	3.1
DBX	26.77	-17.4	TWTR	31.87	-27.0
EBAY	33.45	-7.7	ULTI	276.89	7.6
ECOM	13.90	-1.1	UPLD	31.32	-8.9
EGAN	13.00	-13.9	VEEV	75.63	-1.6
ELLI	99.22	-4.4	VRNS	59.78	-19.8
ENV	58.60	6.6	WAGE	52.80	5.6
GDDY	73.62	4.3	WEB	25.15	-2.7
GOOGL	1227.22	8.7	WK	25.25	3.5
GWRE	86.20	-2.9			

Indexes
 (% change in July)

Faster SaaS	-1.4	NASDAQ	2.2
Slower SaaS	-1.4	S&P 500	3.6
Others	-1.9	Russell2000	1.4
Overall SaaS	-1.4	S&P Volatility	-20.3

Data source: S&P Capital IQ. 7/31/2018 Prices. 7/1-31/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

AppFolio (NASDAQ: APPF +18.1%) – the property management software maker reported strong 2Q18 financial results and raised its full year guidance. APPF revenues increased by 31% Y-o-Y to \$47.2M in 2Q18. The Company reported earnings growth of 163% Y-o-Y to \$0.21 per share, beating consensus estimate of \$0.19 per share. APPF reported double-digit growth in its customer count and higher spending rates among those already using the platform. The Company raised its full year revenue guidance to be in the range of \$183-185M.

SPS Commerce (NASDAQ: SPSC +16.8%) – the retail cloud services provider reported strong 2Q18 earnings with revenues increasing by 13% Y-o-Y to \$61.1M. Adjusted EBITDA for 2Q18 increased 53% Y-o-Y to \$12.1M. Net income was \$5.4M or \$0.31 per share in 2Q18, compared to \$2.0M, or \$0.11 per share, in 2Q17. The Company forecasts revenues for 3Q18 and 2018 to be in the range of \$61.2-61.7M and \$243.7-245.1M, respectively. SPSC expects to make significant progress towards its 2020 goals and long-term financial targets.

Castlight Health (NYSE: CSLT – 22.4%) – the health benefits platform provider announced a restructuring program due to unexpected loss of a large customer, with certain expenses expected to be recorded in the next quarter, 3Q18. CSLT also reported 2Q18 earnings, with net loss widening to \$14.0M, or \$0.10 per share, from \$12.4M, or \$0.09 per share, in the same period last year. Revenues grew by 16% Y-o-Y to \$37.8M, matching consensus estimate.

More M&A

- **Treasure Data** announced plans to be acquired by ARM Holdings for ~\$600M. Treasure Data offers enterprise customer data platform (CDP) – which helps marketers understand customer behavior across devices, locations and time. The proposed deal will boost ARM in multiple markets – including IoT (Internet of Things), automotive, entertainment and retail data analytics.
- **DocuSign (NASDAQ: DOCU)** announced plans to acquire SpringCM for ~\$220M. SpringCM operates as a cloud-based document generation and contract lifecycle management software company. The proposed deal allows DOCU to broaden its solutions beyond e-signature to the rest of the agreement process—from preparing to signing, acting-on, and managing agreements.

Select Horizontal Companies¹

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
AAPL	190.29	2.8	MFON	1.15	10.6
APPN	31.08	-14.0	MRIN	5.55	-4.3
APTI	33.57	-7.3	MSFT	106.08	7.6
ASUR	14.09	-11.7	NOW	175.96	2.0
AYX	38.99	2.2	OKTA	49.65	-1.4
BCOV	8.55	-11.4	ORCL	47.68	8.2
BL	42.70	-1.7	PAYC	106.25	7.5
BNFT	30.10	-10.4	PCTY	58.00	-1.5
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CCUR	5.13	-3.6	PYDS	1.71	3.6
CLDR	13.39	-1.8	PYPL	82.14	-1.4
COUP	61.31	-1.5	RNG	73.75	4.8
CRM	137.15	0.5	SAP	116.68	1.0
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CSOD	49.40	4.2	SHSP	10.45	19.6
CTXS	109.97	4.9	SMSI	2.57	12.2
DATA	103.07	5.4	SNAP	12.50	-4.5
DBX	26.77	-17.4	SPRT	2.76	-3.2
DOMO	16.61	-39.2	SREV	3.50	-11.2
EGAN	13.00	-13.9	TEAM	72.41	15.8
EVBG	44.98	-5.1	TWLO	57.89	3.3
FNJN	4.00	17.6	ULTI	276.89	7.6
GDDY	73.62	4.3	UPLD	31.32	-8.9
GOOGL	1227.22	8.7	VRNS	59.78	-19.8
GSB	3.67	-5.2	WAGE	52.80	5.6
HDP	17.42	-4.4	WDAY	124.02	2.4
HUBS	124.10	-1.0	WEB	25.15	-2.7
IBM	144.93	3.7	WK	25.25	3.5
INTU	204.24	0.0	YEXT	21.14	9.3
LOGM	81.05	-21.5	ZEN	54.47	0.0
LPSN	23.20	10.0	ZS	35.31	-1.2
LVT	0.48	35.1			

Select Vertical Companies²

Ticker	7/31 \$Price	July %ch	Ticker	7/31 \$Price	July %ch
ACTA	0.73	0.3	INST	38.70	-9.0
AKDS	0.55	44.7	INUV	0.66	-14.6
ALRM	42.87	6.2	IPAS	0.34	-2.8
AMBR	8.50	-9.7	MB	37.35	-3.2
AMZN	1777.44	4.6	MODN	18.65	0.3
APPF	72.20	18.1	QTWO	59.15	3.7
ATHN	150.71	-5.3	RP	55.10	0.0
CDLX	18.82	-13.5	RST	14.70	-8.3
CSLT	3.30	-22.4	SAIL	24.09	-1.8
CSTI	10.15	10.3	SCIL	0.52	-27.0
CXDO	2.55	-1.9	SHOP	138.21	-5.3
EBAY	33.45	-7.7	SPSC	85.79	16.8
ECOM	13.90	-1.1	STMP	261.00	3.1
ELLI	99.22	-4.4	SVVC	12.88	-9.1
ENV	58.60	6.6	TWOU	75.66	-9.5
EVOL	2.60	-8.8	TWTR	31.87	-27.0
FB	172.58	-11.2	VEEV	75.63	-1.6
GSVC	6.90	0.6	WIX	95.00	-5.3
GWRE	86.20	-2.9	WSTL	2.75	-3.5

Indexes

(% change in July)

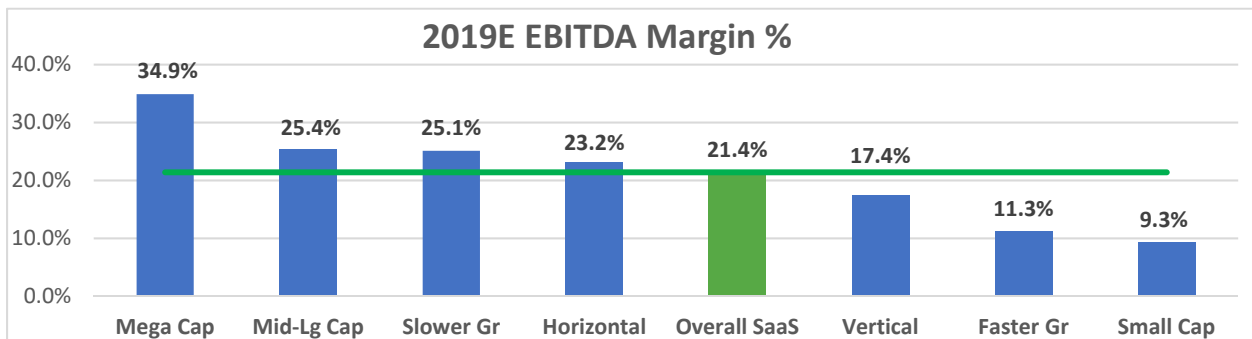
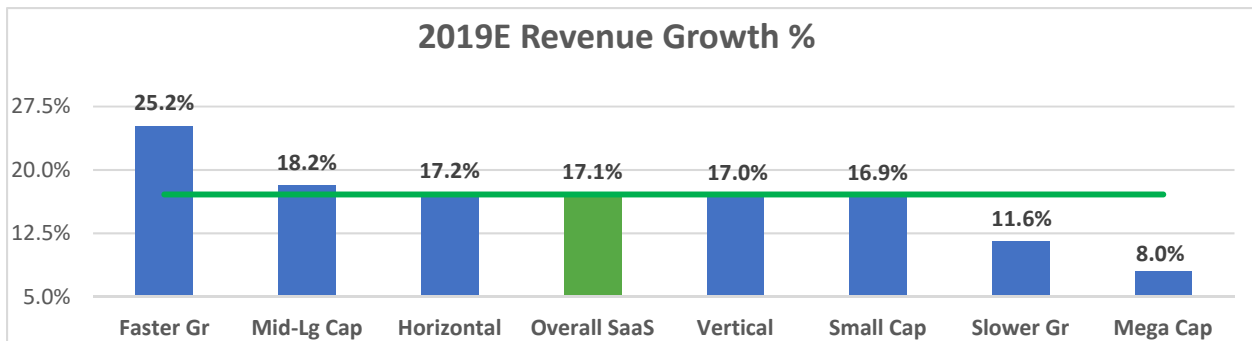
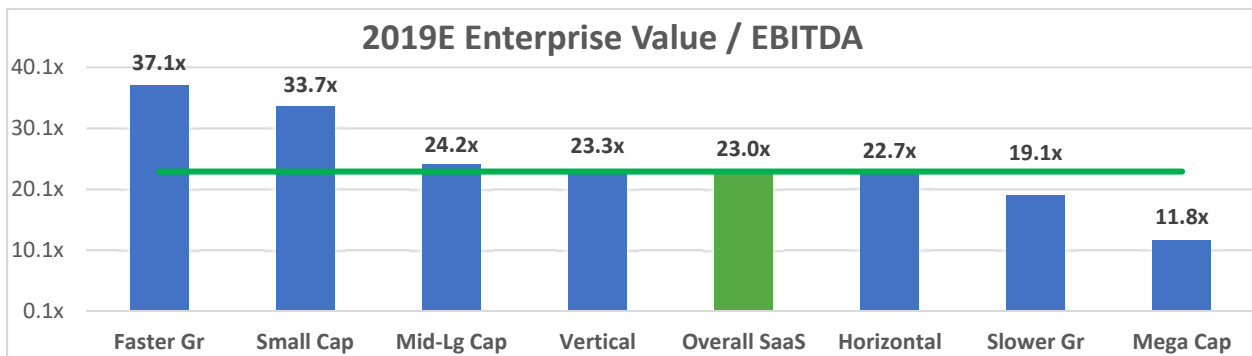
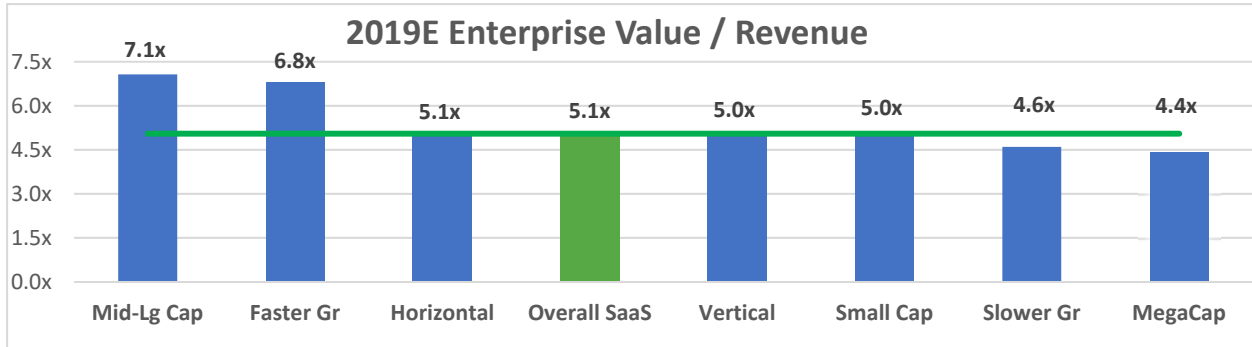
Horizontal SaaS	0.0	NASDAQ	2.2
Vertical SaaS	-3.1	S&P 500	3.6
Overall SaaS	-1.5	Russell2000	1.4
		S&P Volatility	-20.3

Data source: S&P Capital IQ. 7/31/2018 Prices. 7/1-31/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

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

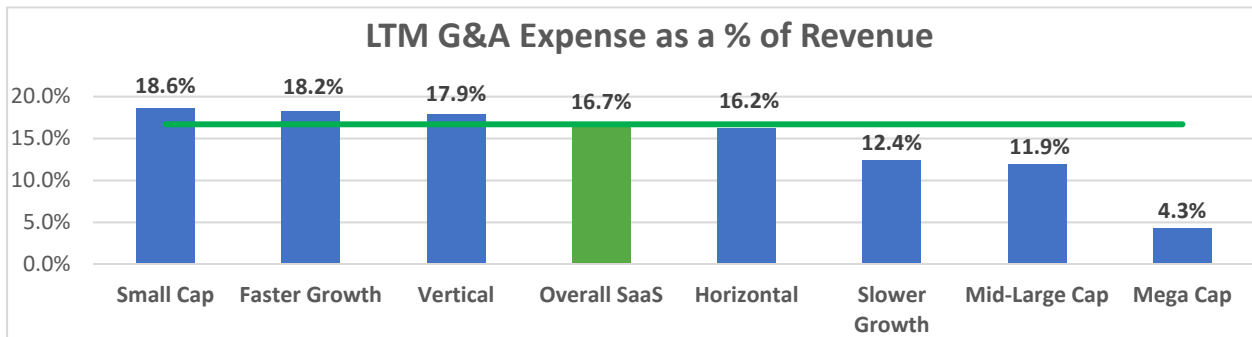
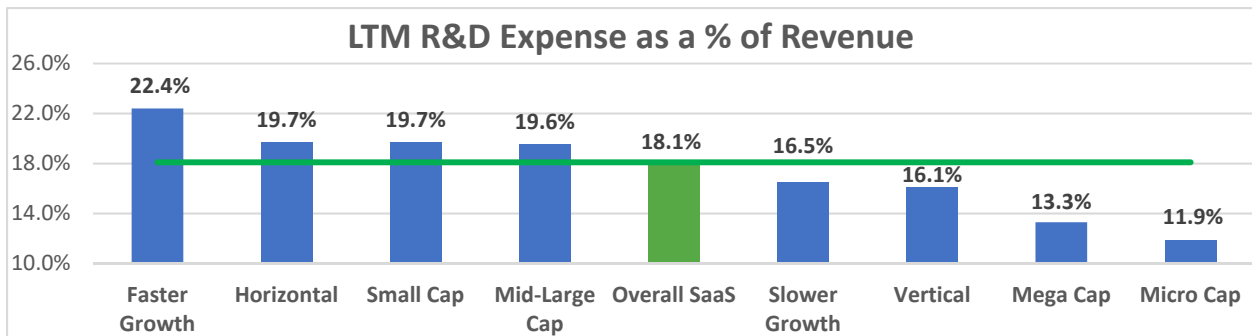
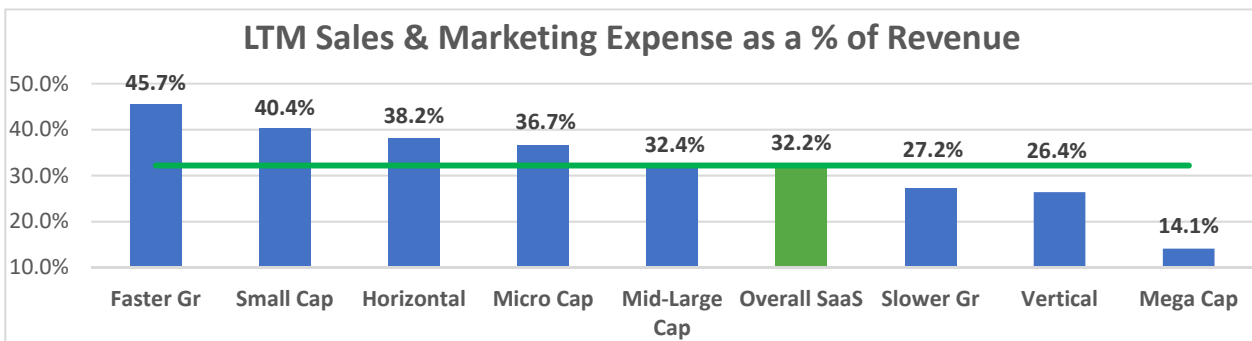
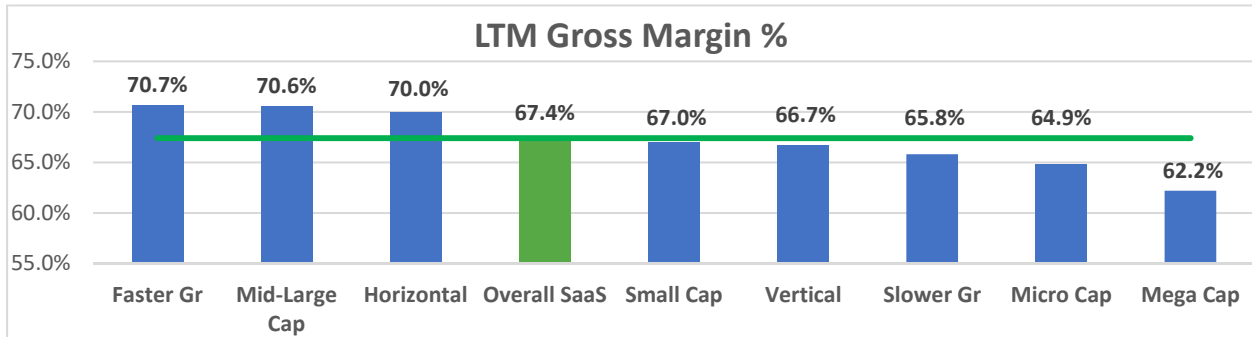
² Vertical companies provide software for specific industries

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

(In \$ million, except per share values)

Ticker	Company Name	7/31/18 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			
Fast Growth (2019E Revenue Growth > 20%, excluding Micro Caps)																		
AMZN	Amazon	\$1,777.44	\$866,931	\$885,670	\$286,658	22%	14.8%	20%	3.1x	2.6x	33.8x	23.5x	5%	13%	80%	7,768.75	1.0%	16%
A PPF	A ppFolio	72.20	2,471	2,418	230	24%	28.0%	24%	10.5x	8.5x	54.4x	na	18%	51%	107%	11.28	4.9%	42%
AYX	Alteryx	38.99	2,363	2,184	246	32%	na	29%	8.9x	6.9x	79.8x	48.7x	2%	25%	94%	31.78	27.1%	19%
BL	BlackLine	42.70	2,282	2,168	281	25%	6.8%	26%	7.7x	6.1x	na	88.5x	-2%	3%	10%	14.68	4.9%	17%
BOX	Box	23.96	3,364	3,237	736	21%	7.0%	13%	4.4x	3.9x	39.9x	na	-4%	5%	27%	100.32	7.5%	5%
CDLX	Cardlytics	18.82	381	350	242	56%	4.0%	37%	1.4x	1.1x	na	37.0x	-14%	34%	0%	2.36	12.6%	6%
COUP	Coupa	61.31	3,495	3,230	292	24%	4.5%	30%	11.0x	8.5x	na	71.4x	-1%	32%	100%	62.94	8.5%	1%
CRM	salesforce.com	137.15	101,890	98,719	15,773	20%	23.5%	19%	6.3x	5.3x	29.4x	23.6x	1%	13%	51%	707.71	2.1%	5%
DOMO	Domo	16.61	414	1,132	160	21%	na	23%	7.1x	5.8x	na	na	-39%	0%	0%	17.35	6.5%	14%
EV BG	Everbridge	44.98	1,293	1,232	175	26%	1.5%	23%	7.0x	5.7x	na	na	-5%	20%	90%	17.51	8.0%	11%
FB	Facebook	172.58	498,276	456,088	69,653	25%	57.4%	22%	6.5x	5.4x	25.1x	18.5x	-11%	0%	2%	4,273.53	1.0%	17%
HDP	Hortonworks	17.42	1,377	1,288	407	23%	na	23%	3.2x	2.6x	48.7x	26.6x	-4%	3%	30%	18.10	11.3%	3%
HUBS	HubSpot	124.10	4,767	4,541	613	25%	10.9%	23%	7.4x	6.0x	81.4x	58.7x	-1%	17%	72%	63.54	10.0%	6%
INST	Instructure	38.70	1,328	1,212	260	25%	na	24%	4.7x	3.8x	na	na	-9%	-5%	20%	15.62	5.7%	10%
LV T	LiveTiles	0.48	225	220	23	81%	na	na	9.7x	na	na	na	35%	51%	186%	0.38	0.0%	52%
MB	MINDBODY	37.35	1,782	1,702	314	26%	5.2%	26%	5.4x	4.3x	na	60.3x	-3%	-6%	44%	24.03	21.6%	4%
NOW	ServiceNow	175.96	31,088	30,195	3,353	29%	27.6%	27%	9.0x	7.1x	32.2x	24.3x	2%	6%	59%	314.69	6.4%	1%
OKTA	Okta	49.65	5,293	5,006	471	32%	na	30%	10.6x	8.2x	na	93.2x	-1%	16%	126%	137.38	8.1%	12%
PAYC	Paycom	106.25	6,275	6,256	674	23%	40.9%	22%	9.3x	7.6x	38.6x	32.2x	8%	-7%	52%	85.47	13.3%	16%
PCTY	Paylocity	58.00	3,054	2,924	501	22%	23.7%	na	5.8x	na	43.8x	na	-1%	6%	28%	13.29	5.5%	34%
QTWO	Q2 Holdings	59.15	2,512	2,393	293	23%	11.9%	21%	8.2x	6.7x	na	na	4%	20%	52%	20.46	4.3%	2%
RNG	RingCentral	73.75	5,805	5,607	793	23%	12.4%	26%	7.1x	5.6x	na	73.4x	5%	10%	112%	71.19	4.7%	14%
SAIL	SailPoint	24.09	2,101	2,038	280	23%	9.1%	24%	7.3x	5.9x	69.1x	46.8x	-2%	0%	0%	19.37	2.9%	9%
SEND	SendGrid	25.53	1,184	1,019	176	24%	11.7%	22%	5.8x	4.7x	na	na	-4%	-12%	0%	20.38	4.0%	7%
SHOP	Shopify	138.21	14,708	13,133	1,421	38%	6.5%	31%	9.2x	7.1x	na	69.1x	-5%	3%	50%	207.61	11.5%	15%
SNAP	Snap	12.50	15,875	14,070	1,685	44%	na	40%	8.3x	6.0x	na	na	-5%	-13%	-9%	293.96	15.6%	36%
TEAM	A tlassian	72.41	16,945	16,031	1,298	30%	27.2%	26%	12.4x	9.8x	38.9x	32.5x	16%	29%	102%	91.79	8.9%	34%
TWLO	Twilio	57.89	5,544	5,236	672	24%	5.3%	27%	7.8x	6.1x	na	na	3%	37%	98%	117.12	7.8%	13%
TWOU	2U	75.66	4,330	4,172	541	32%	5.2%	34%	7.7x	5.8x	na	na	-9%	-6%	46%	53.51	9.0%	1%
WDAY	Workday	124.02	26,788	24,932	3,314	23%	20.6%	22%	7.5x	6.1x	46.8x	40.4x	2%	-1%	21%	250.74	9.3%	31%
WIX	Wix.com	95.00	4,454	4,104	757	26%	23.2%	24%	5.4x	4.4x	27.7x	20.0x	-5%	16%	54%	78.16	7.4%	3%
Y EXT	Yext	21.14	2,047	1,923	298	32%	na	28%	6.5x	5.0x	na	na	9%	58%	63%	30.87	10.8%	22%
ZEN	Zendesk	54.47	5,695	5,457	736	29%	9.1%	30%	7.4x	5.7x	75.2x	41.1x	0%	12%	86%	88.47	4.9%	4%
ZS	Zscaler	35.31	4,223	3,936	280	32%	1.6%	25%	14.0x	11.2x	na	na	-1%	18%	0%	61.52	16.3%	53%
Select Faster Growth (2019E Rev. Growth >20%) Median					486	25%	11.3%	25%	6.8x	5.8x	41.8x	40.7x	-1%	13%	54%	62.23	7.8%	12%

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

(In \$ million, except per share values)

Ticker	Company Name	7/31/18 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			
Slower Growth (2019E Revenue Growth < 20%, excluding Micro Caps)																		
AAPL	Apple	\$190.29	\$921,559	965,189	\$271,890	2%	30.2%	2%	3.5x	3.5x	15.0x	14.2x	3%	15%	28%	4,174.91	0.9%	0%
ALRM	Alarm.Com	42.87	2,028	2,001	429	12%	22.4%	12%	4.7x	4.2x	31.8x	21.0x	6%	6%	13%	20.25	18.2%	4%
AMBR	Amber Road	8.50	232	245	94	10%	4.3%	na	2.6x	na	55.0x	na	-10%	-8%	-9%	1.01	1.0%	9%
APPN	Appian	31.08	1,904	1,843	240	18%	na	18%	7.7x	6.5x	na	na	-14%	15%	59%	18.66	16.0%	0%
APTI	Apprio	33.57	1,466	1,327	267	17%	6.0%	16%	5.0x	4.3x	57.8x	23.9x	-7%	14%	89%	15.45	8.4%	20%
ASUR	Asure Software	14.09	214	306	109	17%	23.6%	4%	2.8x	2.7x	33.2x	na	-12%	-7%	7%	3.42	21.8%	6%
ATHN	AthenaHealth	150.71	6,104	6,146	1,487	10%	28.2%	11%	4.1x	3.7x	33.5x	21.3x	-5%	23%	9%	55.67	4.5%	1%
BCOV	Brightcove	8.55	307	280	181	8%	4.7%	na	1.5x	na	na	na	-11%	-11%	28%	1.59	0.8%	2%
BNFT	Benefitfocus	30.10	956	1,024	285	12%	7.3%	14%	3.6x	3.2x	na	na	-10%	0%	-16%	6.87	15.6%	18%
CLDR	Cloudera	13.39	1,984	1,555	526	19%	na	19%	3.0x	2.5x	na	na	-2%	-6%	-22%	25.22	6.7%	3%
CSCO	Cisco	42.29	198,885	172,592	51,535	3%	34.9%	6%	3.3x	3.2x	11.6x	na	-2%	-5%	34%	920.48	0.9%	0%
CSLT	Castlight Health	3.30	449	379	167	9%	6.7%	16%	2.3x	2.0x	na	24.9x	-22%	-12%	-23%	3.20	6.0%	5%
CSOD	Cornerstone	49.40	2,850	2,769	559	10%	22.9%	14%	5.0x	4.4x	29.9x	19.8x	4%	12%	23%	23.67	2.7%	9%
CTXS	Citrix	109.97	14,904	15,542	3,051	4%	33.8%	6%	5.1x	4.8x	15.9x	14.6x	5%	7%	39%	193.40	8.4%	1%
DATA	Tableau	103.07	8,405	7,539	1,122	15%	7.1%	22%	6.7x	5.5x	37.0x	34.4x	5%	21%	60%	68.40	4.9%	17%
DBX	DropBox	26.77	10,719	10,043	1,582	17%	21.5%	16%	6.3x	5.5x	23.2x	19.5x	-17%	-11%	0%	142.45	17.2%	34%
EBAV	eBay	33.45	33,100	38,334	11,651	8%	33.2%	9%	3.3x	3.0x	14.5x	12.9x	-8%	-12%	-6%	357.92	2.6%	6%
ECOM	ChannelAdvisor	13.90	377	322	140	7%	7.6%	6%	2.3x	2.2x	36.7x	18.7x	-1%	5%	32%	1.28	0.8%	5%
EGAN	eGain	13.00	357	353	73	13%	7.5%	na	4.8x	na	23.6x	na	-14%	50%	603%	8.98	13.2%	37%
ELLI	Ellie Mae	99.22	3,408	3,165	584	17%	29.8%	16%	5.4x	4.7x	32.4x	27.6x	-4%	2%	14%	50.94	20.9%	2%
ENV	Envestnet	58.60	2,650	3,029	923	13%	20.0%	15%	3.3x	2.8x	26.5x	28.0x	7%	8%	50%	19.60	6.7%	4%
GDDY	GoDaddy	73.62	11,546	13,533	2,945	12%	27.4%	11%	4.6x	4.1x	18.2x	15.4x	4%	14%	71%	122.16	4.0%	0%
GOOGL	Alphabet	1227.22	850,265	751,992	160,675	17%	38.0%	18%	4.7x	4.0x	22.3x	18.8x	9%	20%	30%	2,395.73	0.4%	12%
GWRE	Guidewire	86.20	6,919	6,227	834	18%	21.8%	na	7.5x	na	38.9x	na	-3%	2%	19%	58.24	4.9%	0%
IBM	IBM	144.93	132,287	166,289	80,219	0%	24.8%	1%	2.1x	2.1x	13.5x	13.2x	4%	0%	0%	639.29	1.7%	0%
INTU	Intuit	204.24	52,406	50,920	6,833	11%	36.3%	12%	7.5x	6.7x	23.2x	na	0%	11%	49%	266.51	1.2%	4%
LOGM	LogMeIn	81.05	4,204	4,205	1,274	7%	37.4%	6%	3.3x	3.1x	10.7x	9.8x	-22%	-26%	-30%	67.39	5.8%	2%
LPSN	LivePerson	23.20	1,409	1,351	270	12%	10.9%	na	5.0x	na	na	na	10%	38%	71%	13.43	2.8%	8%
MODN	ModelN	18.65	569	572	159	5%	9.4%	na	3.6x	na	38.8x	na	0%	9%	41%	4.40	1.5%	16%
MSFT	Microsoft	106.08	814,376	767,627	128,676	10%	42.5%	11%	6.0x	5.4x	20.4x	18.8x	8%	13%	46%	2,960.36	0.6%	1%
ORCL	Oracle	47.68	189,821	183,835	41,582	4%	46.9%	2%	4.4x	4.3x	11.8x	12.2x	8%	4%	-5%	1,014.97	1.4%	29%
PEGA	Pegasystems	55.60	4,369	4,114	1,063	11%	16.0%	21%	3.9x	3.2x	24.6x	26.6x	1%	-9%	-8%	28.84	2.3%	52%
PYPL	PayPal Holdings	82.14	97,227	88,840	17,911	16%	26.0%	17%	5.0x	4.2x	22.2x	19.5x	-1%	10%	40%	640.54	1.2%	5%
RST	Rosetta Stone	14.70	332	295	194	12%	4.3%	5%	1.5x	1.4x	na	na	-8%	6%	42%	1.92	1.8%	8%
RP	RealPage	55.10	4,965	5,513	971	12%	27.9%	10%	5.7x	5.2x	28.6x	23.4x	0%	3%	42%	47.94	3.5%	3%
SAP	SAP	116.68	139,265	142,551	31,041	8%	34.0%	8%	4.6x	4.2x	27.9x	23.2x	1%	5%	11%	0.81	0.0%	1%
SPSC	SPS Commerce	85.79	1,499	1,327	268	9%	21.2%	10%	5.0x	4.5x	33.6x	33.0x	17%	25%	48%	13.35	1.2%	1%
SREV	ServiceSource	3.50	318	280	262	6%	10.8%	na	1.1x	na	32.3x	na	-11%	-8%	-8%	0.82	1.1%	4%
STMP	Stamps.com	261.00	4,678	4,572	645	17%	48.3%	na	7.1x	na	18.3x	na	3%	15%	76%	66.57	11.6%	5%
TWTR	Twitter	31.87	24,032	21,067	3,297	13%	38.0%	12%	6.4x	5.7x	30.9x	24.0x	-27%	5%	98%	1,201.36	6.9%	10%
ULTI	Ultimate Software	276.89	8,639	8,464	1,319	16%	25.4%	17%	6.4x	5.5x	44.5x	34.3x	8%	15%	23%	66.21	5.8%	4%
UPLD	Upland Software	31.32	674	802	148	8%	36.5%	na	5.4x	na	21.9x	na	-9%	15%	27%	6.81	4.7%	14%
VEEV	Veeva Systems	75.63	10,848	9,930	975	18%	33.7%	17%	10.2x	8.7x	32.6x	27.2x	-2%	8%	19%	76.80	3.3%	10%
VRSN	Varonis Systems	59.78	1,719	1,560	315	18%	4.6%	18%	5.0x	4.2x	53.0x	34.5x	-20%	-9%	60%	26.66	2.0%	2%
WAGE	WageWorks	52.80	2,093	1,445	542	6%	32.6%	7%	2.7x	2.5x	na	na	6%	27%	-19%	17.67	6.6%	1%
WEB	Web.com Group	25.15	1,252	1,865	766	2%	25.4%	2%	2.4x	2.4x	13.8x	14.2x	-3%	35%	15%	26.20	2.5%	4%
WK	Workiva	25.25	1,079	1,017	268	13%	na	13%	3.8x	3.4x	na	na	3%	12%	29%	3.24	3.7%	44%
Select Slower Growth (2019E Rev. Growth < 20%) Median					766	12%	25.1%	12%	4.6x	4.2x	27.2x	21.0x	-1%	7%	28%	26.66	3.6%	4%

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

(In \$ million, except per share values)

Ticker	Company Name	7/31/18 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	0%	-3%	-94%	0.00	0.0%	4%
AKDS	Arkados Group	0.55	18	24	na	na	na	na	na	na	na	na	45%	71%	-23%	0.06	0.1%	10%
CCUR	Concurrent	5.13	47	(14)	na	na	na	na	na	na	na	na	-4%	-1%	-24%	0.09	0.4%	43%
CSTI	Costar	10.15	16	23	na	na	na	na	na	na	na	na	10%	27%	-8%	0.01	0.0%	0%
CXDO	Crexendo	2.55	36	35	na	na	na	na	na	na	na	na	-2%	2%	50%	0.00	1.1%	74%
EVOL	Evolving Systems	2.60	32	31	na	na	na	na	na	na	na	na	-9%	-32%	-47%	0.03	0.2%	33%
FNJN	FinJan	4.00	111	30	71	-28%	63.6%	40%	0.4x	0.3x	na	na	18%	36%	27%	2.20	2.7%	3%
GSB	GlobalSCAPE	3.67	80	64	na	na	na	na	na	na	na	na	-5%	-2%	-28%	0.11	0.1%	21%
G SVC	GSV Capital	6.90	145	143	1	3%	na	na	na	na	na	na	1%	2%	73%	0.69	0.0%	1%
INUV	Inuvo	0.66	21	22	103	17%	4.8%	na	0.2x	na	na	na	-15%	-30%	-39%	0.03	1.3%	15%
IPAS	iPass	0.34	24	22	66	23%	7.5%	7%	0.3x	0.3x	na	3.1x	-3%	8%	-73%	0.10	2.1%	2%
MFON	Mobivity	1.15	51	52	na	na	na	na	na	na	na	na	11%	16%	53%	0.01	0.0%	21%
MRIN	Junein Software	5.55	32	13	na	na	na	na	na	na	na	na	-4%	-23%	-31%	0.04	3.7%	29%
PYDS	Payment Data Sys	1.71	27	24	32	20%	0.7%	na	0.7x	na	na	na	4%	0%	28%	0.09	4.4%	45%
SCIL	Scientific	0.52	14	na	na	na	na	na	na	na	na	na	-27%	-24%	-1%	0.01	0.0%	0%
SHSP	SharpSpring	10.45	88	84	23	28%	na	na	3.6x	na	na	na	20%	62%	149%	0.80	1.4%	18%
SMSI	Smith Micro	2.57	64	58	na	na	na	na	na	na	na	na	12%	29%	145%	0.75	17.0%	23%
SPRT	Support.com	2.76	52	4	na	na	na	na	na	na	na	na	-3%	2%	18%	0.08	0.2%	8%
SVVC	First Technology	12.88	94	94	na	na	na	na	na	na	na	na	-9%	18%	60%	0.69	0.0%	4%
WSTL	Westell	2.75	43	15	na	na	na	na	na	na	na	na	-4%	-10%	-21%	0.12	0.3%	32%
Select Micro Caps and Those with No Rev. Estimates Med					49	18.4%	6.2%	23.6%	0.4x	0.3x	na	3.1x	-2%	2%	-4%	0.08	0.2%	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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