

SaaS Software Cloud Update – April 2018

Public Markets and M&A Activity

The Navidar SaaS Software Cloud Index advanced +2.6% in April and +17.2% so far in 2018, compared with the NASDAQ's +0.0% and +2.4%, the Russell 2000's +0.9% and +0.5%, and the S&P 500's +0.3% and -1.0%, 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.

Citrix Systems (NASDAQ: CTXS +10.9%) – the enterprise software maker reported better than expected 1Q18 earnings. CTXS revenues increased by 5.2% to \$697M in 1Q18, surpassing consensus estimate of \$676M; 1Q18 adjusted earnings beating consensus estimates by 24 cents to \$1.29 per share. Subscription revenues surged 49.3% to \$103M, support and services revenues inched up 2.5% to \$433M, while product and license revenues declined 6% to \$161M. For 2Q18 and full year 2018, CTXS guided revenues in the range of \$710-720M and \$2.88-2.91B, respectively.

Asure Software (NASDAQ: ASUR +23.7%) – the human capital management (HCM) and workplace management software provider closed two strategic transactions during the month and revised its guidance upwards for 2018. ASUR acquired Evolution HCM customer portfolio from Wells Fargo Business Payroll Services and Austin HR, a provider of outsourced human resources (HR), consulting, and professional services around payroll and employee benefits. The deals will expand ASUR's footprint nationwide, provide opportunities to enhance its service offerings and penetrate in emerging growth markets. Following the closing of the deals, ASUR revised its revenue guidance to \$85-88M, up from \$79-82M, EBITDA to \$19-22M from \$18-20M.

Cloudera (NYSE: CLDR -34.0%) – the big data specialist's stock declined over weak guidance for the coming year (FY2019). CLDR reported strong 4Q18 earnings, with revenues growing by 42% to \$103.5M, beating street estimates by ~\$5M and non-GAAP EPS beating estimates by \$0.13 to (\$0.10). Core subscription revenues increased by 50% during the quarter. With management guiding for a huge decline in subscription revenue growth, combined with a forecast for continued operating losses and cash burn, the stock nosedived during the month. The company expects decline in growth rates from the current 42% to 20% in fiscal 2019, with 20% total revenue growth, 24% revenue subscription growth and non-GAAP net loss per share of (\$0.62) to (\$0.59).

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Athenahealth (NASDAQ: ATHN -14.4%) – the cloud-based healthcare applications provider's stock weakened on soft bookings reported in 1Q18 (down over 32% YOY) and deteriorating client retention rates. Although ATHN reported strong 1Q18 results, with revenues of \$329M, beating consensus estimates of \$319M and adjusted earnings beating consensus estimates by ~71% at \$1.25 per share. The company guided revenues to be \$1.31-1.38B in 2018, in line with consensus estimate of \$1.35B. ATHN fell short of its booking goals in 1Q18, down 32% YOY (\$52M versus \$77M), leading to concerns over long-term revenue growth. Also, the company failed to add any significant new customers since 1Q17.

Benefitfocus (NASDAQ: BNFT +23.8%) – the cloud-based benefits management platform and services provider announced a new stock award program for its employees. The program gives current employees a one-time restricted stock unit award of ~ \$2,000, at the time of the award. The new program will provide an opportunity to BNFT employees to own a piece of the company and benefit from its success.

ChannelAdvisor (NYSE: ECOM +46.2%) – the cloud-based e-commerce solutions provider reported strong preliminary results for 1Q18, exceeding prior guidance. Total revenue is expected to be \$31.2M, \$1.4M higher than the guidance range of \$29.4-29.8M. Adjusted EBITDA is expected to be ~\$0.8M, \$1.1M above the high end of the previous guidance range of a loss of (\$0.7-0.3M). ECOM results reflect its continued emphasis on driving revenue growth while improving operational efficiency.

AppFolio (NASDAQ: APPF +17.4%) – the property management software maker reported strong 1Q18 financial results. APPF reported revenues of \$42.3M during the quarter, beating consensus estimates of \$41M. The company posted diluted earnings of \$0.12 per share, matching the consensus estimate of \$0.12. The company guided the full year revenue to be in the range of \$179-182M.

Financial Engines (NASDAQ: FNGN +27.6%) – Private equity firm Hellman & Friedman announced plans to acquire the independent investment advisor for ~\$3.0B in an all cash deal, representing a 32.0% prior-close premium. Hellman & Friedman intends to combine FNGN with one of its portfolio companies, Edelman Financial Services, an independent financial planning and investment management firm. The combined entity is expected to have over \$190B in assets under management.

Faster Growth

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

Ticker	4/30 \$Price	Apr %ch	Ticker	4/30 \$Price	Apr %ch
AMZN	1566.13	8.2	PAYC	114.21	6.4
APPF	47.95	17.4	PCTY	54.63	6.6
AYX	31.25	-8.5	QTWO	49.25	8.1
BL	41.40	5.6	RNG	67.05	5.6
BOX	22.86	11.2	SAIL	24.09	16.4
CDLX	14.02	-4.2	SEND	28.86	2.6
COUP	46.37	1.6	SHOP	133.63	7.3
EVBG	37.35	2.0	SNAP	14.33	-9.7
FB	172.00	7.6	TEAM	55.98	3.8
HDP	16.93	-16.9	TWLO	42.21	10.6
HUBS	105.90	-2.2	TWOU	80.49	-4.2
INST	40.55	-3.8	WDAY	124.84	-1.8
MB	39.65	1.9	WIX	82.25	3.4
MULE	44.58	1.4	YEXT	13.34	5.5
NOW	166.14	0.4	ZEN	48.75	1.8
OKTA	42.81	7.4	ZS	29.89	6.5

Slower Growth

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

Ticker	4/30 \$Price	Apr %ch	Ticker	4/30 \$Price	Apr %ch
AAPL	165.26	-1.5	GOOGL	1018.58	-1.8
ALRM	40.38	7.0	GWRE	84.62	4.7
AMBR	9.26	4.0	IBM	144.96	-5.5
APPN	27.11	7.7	INTU	184.79	6.6
APTI	29.51	4.1	LOGM	110.20	-4.6
ASUR	15.14	23.7	LPSN	16.80	2.8
ATHN	122.47	-14.4	MODN	17.15	-5.0
BCOV	9.65	38.8	MSFT	93.52	2.5
BNFT	30.20	23.8	ORCL	45.67	-0.2
CHUB.k	22.67	0.8	PEGA	61.05	0.7
CLDR	14.25	-34.0	PYPL	74.61	-1.7
CRM	120.99	4.0	RST	13.91	5.8
CSCO	44.29	3.3	RP	53.50	3.9
CSLT	3.75	2.7	SAP	111.05	5.9
CSOD	44.13	12.8	SPSC	68.57	7.0
CTXS	102.91	10.9	SREV	3.79	-0.5
DATA	85.05	5.2	STMP	227.75	13.3
DBX	30.11	-3.6	TWTR	30.31	4.5
EBAY	37.88	-5.9	ULTI	239.92	-1.6
ECOM	13.30	46.2	UPLD	27.17	-5.6
EGAN	8.65	8.8	VEEV	70.13	-4.0
ELLI	96.87	5.4	VRNS	65.35	8.0
ENV	54.30	-5.2	WAGE	41.65	-7.9
FNGN	44.65	27.6	WEB	18.60	2.8
GDDY	64.56	5.1	WK	22.50	-5.1

Indexes

(% change in Apr)

Faster SaaS	3.6	NASDAQ	0.0
Slower SaaS	3.6	S&P 500	0.3
Others	-2.0	Russell2000	0.9
Overall SaaS	2.6	S&P Volatility	-20.2

Data source: S&P Capital IQ. 4/30/2018 Prices. 4/1-30/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

More M&A

- **Trimble (NASDAQ: TRMB +9.1%)** acquired Viewpoint for ~\$1.2B. Viewpoint provides cloud, software as a service (SaaS) and on premise commercial construction software solutions. It integrates a contractor's financial and resource management to their project operations and to their jobsite and field. The deal is highly complementary to TRMB's e-Builder business and will round out its comprehensive construction technology portfolio.
- **ServiceNow (NYSE: NOW +9.1%)** acquired VendorHawk for an undisclosed consideration. VendorHawk's technology optimizes customer SaaS usage, provides transparency and aims to help customers' digital transformation initiatives. The deal expands NOW's capabilities in software asset management by providing transparency into software license utilization and costs.
- **Tyler Technologies (NYSE: TYL +9.1%)** acquired Socrata for an undisclosed consideration. Socrata provides a data-as-a-service platform and cloud applications exclusively for city, county, state, and federal government organizations. The deal will allow TYL to tailor its solutions to the needs of the public sector verticals it serves.
- **Actian**, a provider of hybrid data management, cloud integration and analytics solutions, announced plans to be acquired by HCL Technologies, Sumeru Equity Partners and Actian's CEO and President, Rohit DeSouza, from Garnett & Helfrich Capital, for ~\$330M in an all-cash deal.
- **Smartvue**, a provider of cloud-based security camera platform that delivers remote monitoring from computers, smart phones, or tablets, was acquired by Johnson Controls International (NYSE: JCI) from Fortress Investment Group, Big Basin Partners and Ellis Capital, for an undisclosed consideration.

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

² Vertical companies provide software for specific industries

Select Horizontal Companies¹

Ticker	4/30 \$Price	Apr %ch	Ticker	4/30 \$Price	Apr %ch
AAPL	165.26	-1.5	MRIN	7.25	9.0
APPN	27.11	7.7	MSFT	93.52	2.5
APTI	29.51	4.1	MULE	44.58	1.4
ASUR	15.14	23.7	NOW	166.14	0.4
AYX	31.25	-8.5	OKTA	42.81	7.4
BCOV	9.65	38.8	ORCL	45.67	-0.2
BL	41.40	5.6	PAYC	114.21	6.4
BNFT	30.20	23.8	PCTY	54.63	6.6
BOX	22.86	11.2	PEGA	61.05	0.7
CCUR	5.20	8.3	PGQW	0.08	0.0
CHUBX	22.67	0.8	PYDS	1.71	-5.5
CLDR	14.25	-34.0	PYPL	74.61	-1.7
COUP	46.37	1.6	RNG	67.05	5.6
CRM	120.99	4.0	SAP	111.05	5.9
CSCO	44.29	3.3	SEND	28.86	2.6
CSOD	44.13	12.8	SHSP	6.47	1.6
CTXS	102.91	10.9	SMSI	1.99	13.7
DATA	85.05	5.2	SNAP	14.33	-9.7
DBX	30.11	-3.6	SPRT	2.71	-1.8
EGAN	8.65	8.8	SREV	3.79	-0.5
EVBG	37.35	2.0	TEAM	55.98	3.8
FNJN	2.95	-9.2	TWLO	42.21	10.6
GDDY	64.56	5.1	ULTI	239.92	-1.6
GOOGL	1018.58	-1.8	UPPL	27.17	-5.6
GSB	3.73	1.4	VRNS	65.35	8.0
HDP	16.93	-16.9	WAGE	41.65	-7.9
HUBS	105.90	-2.2	WDAY	124.84	-1.8
IBM	144.96	-5.5	WEB	18.60	2.8
INTU	184.79	6.6	WK	22.50	-5.1
LOGM	110.20	-4.6	YEXT	13.34	5.5
LPSN	16.80	2.8	ZEN	48.75	1.8
LVT	0.32	-1.9	ZS	29.89	6.5
MFON	0.99	-9.2			

Select Vertical Companies²

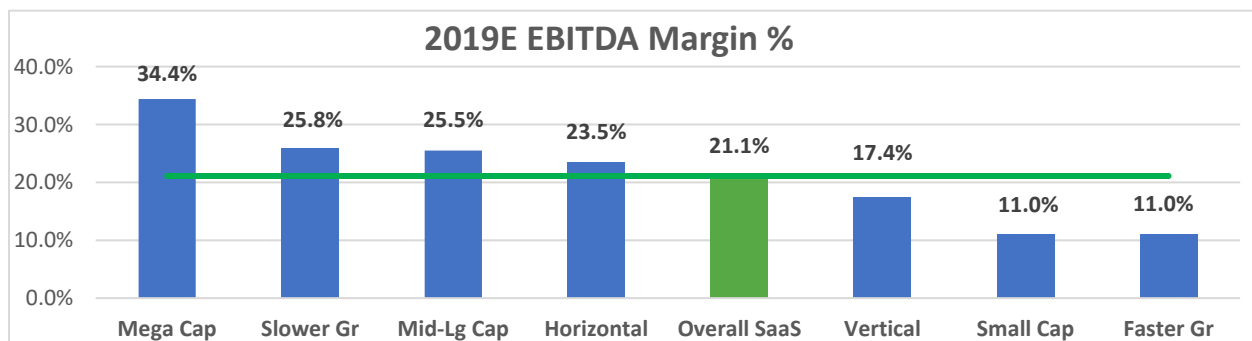
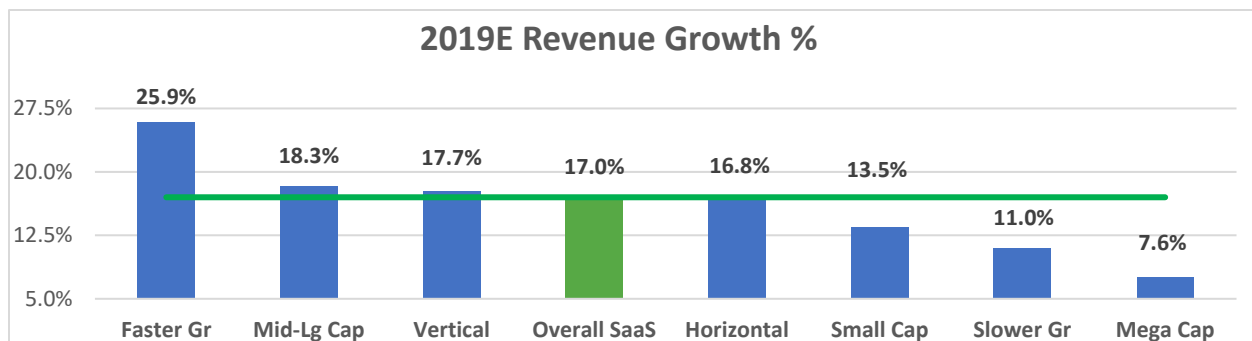
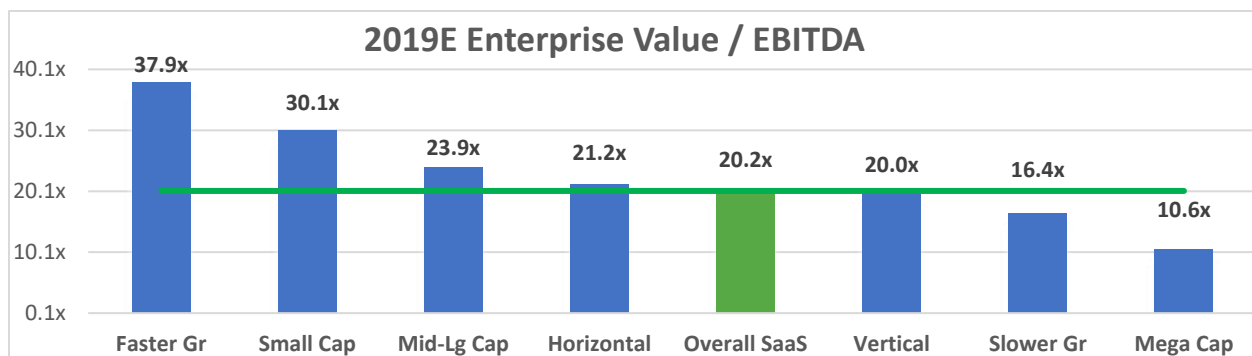
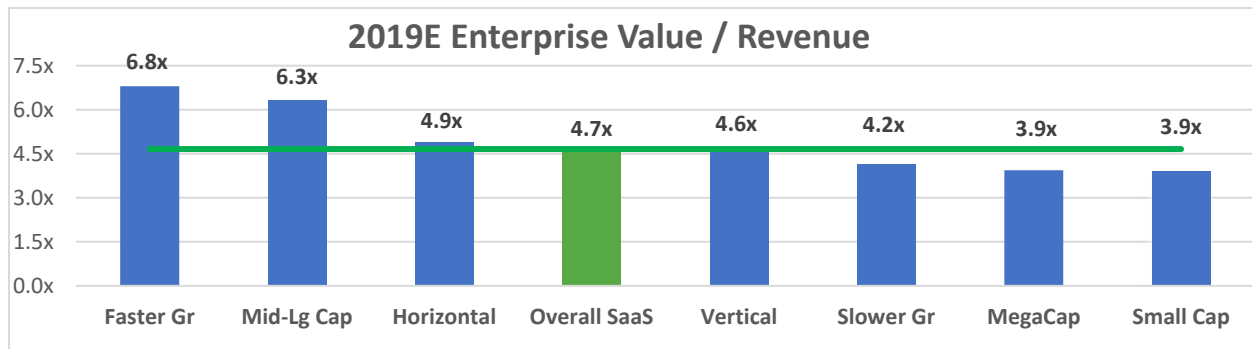
Ticker	4/30 \$Price	Apr %ch	Ticker	4/30 \$Price	Apr %ch
ACTA	0.76	-2.0	INST	40.55	-3.8
AKDS	0.32	-41.0	INUV	0.95	3.5
ALRM	40.38	7.0	IPAS	0.31	-18.4
AMBR	9.26	4.0	MB	39.65	1.9
AMZN	1566.13	8.2	MODN	17.15	-5.0
APPF	47.95	17.4	QTWO	49.25	8.1
ATHN	122.47	-14.4	RP	53.50	3.9
CDLX	14.02	-4.2	RST	13.91	5.8
COYN	0.03	-16.7	SAIL	24.09	16.4
CSLT	3.75	2.7	SCIL	0.69	13.1
CSTI	8.00	-4.2	SHOP	133.63	7.3
CXDO	2.50	-10.7	SNCR	11.20	6.2
EBAY	37.88	-5.9	SPSC	68.57	7.0
ECOM	13.30	46.2	STMP	227.75	13.3
ELLI	96.87	5.4	SVVC	10.96	-2.9
ENV	54.30	-5.2	TWOU	80.49	-4.2
EVOL	3.80	-21.1	TWTR	30.31	4.5
FB	172.00	7.6	VEEV	70.13	-4.0
FNGN	44.65	27.6	WIX	82.25	3.4
GSVC	6.74	-10.6	WSTL	3.07	-8.4
GWRE	84.62	4.7			

Indexes (% change in Apr)

Horizontal SaaS	2.0	NASDAQ	0.0
Vertical SaaS	3.4	S&P 500	0.3
Overall SaaS	2.5	Russell 2000	0.9
		S&P Volatility	-20.2

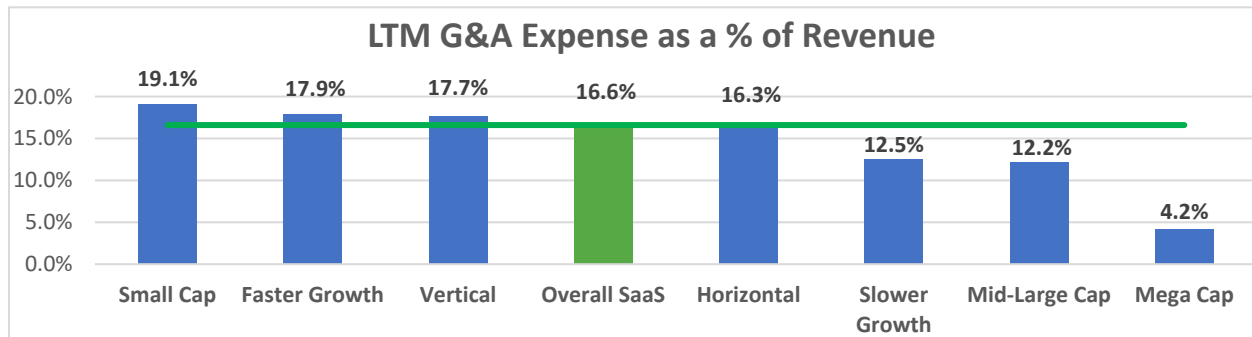
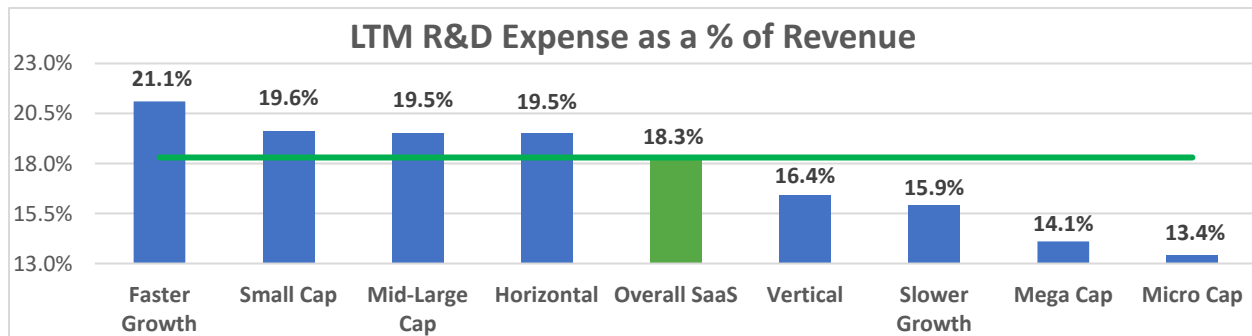
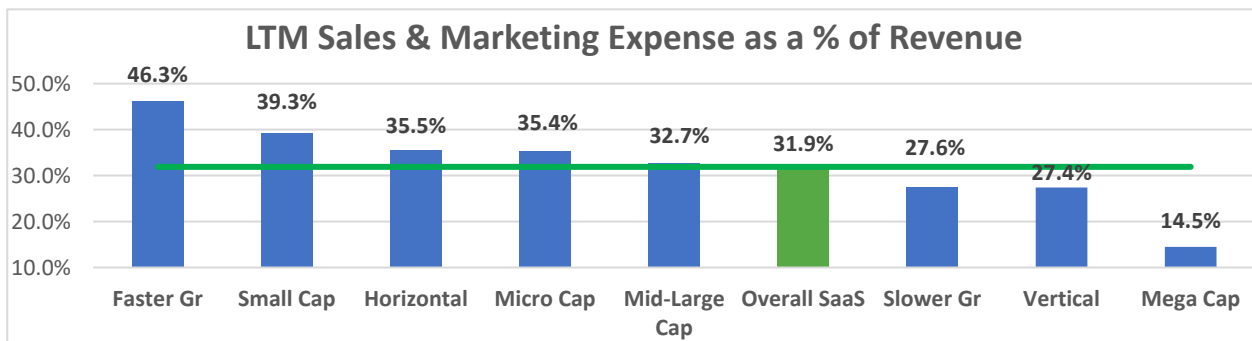
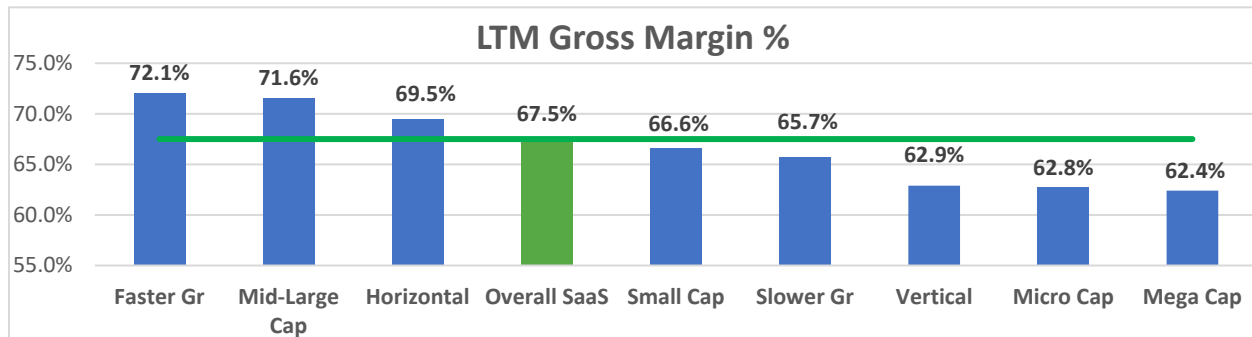
Data source: S&P Capital IQ. 4/30/2018 Prices. 4/1-30/2018 %Change. All investing involves risk, including the risk of losing the entire investment. Prices are subject to change without prior notice.

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



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

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



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

Selected Fast Growth – SaaS Software Cloud Public Company Valuation Metrics

(In \$ million, except per share values)

Ticker	Company Name	5/1/18 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	\$1,582.26	\$767,755	\$787,279	\$290,236	22%	13.4%	20%	2.7x	2.3x	32.0x	23.6x	9%	14%	67%	9,716.60	1.1%	16%
APPF	AppFolio	49.25	1,683	1,637	224	23%	25.4%	21%	7.3x	6.0x	39.3x	na	21%	15%	89%	5.67	2.5%	44%
AYX	Alteryx	32.99	1,999	1,825	237	32%	na	34%	7.7x	5.7x	73.8x	42.7x	-3%	17%	107%	19.42	15.0%	19%
BL	BlackLine	41.57	2,222	2,109	279	25%	5.8%	26%	7.6x	6.0x	na	63.0x	6%	25%	28%	26.80	4.4%	17%
BOX	Box	23.28	3,201	3,079	737	22%	6.2%	13%	4.2x	3.7x	38.5x	na	13%	4%	33%	75.48	6.1%	7%
CDLX	Cardlytics	14.11	282	517	227	43%	4.5%	21%	2.3x	1.9x	na	60.8x	-4%	0%	0%	1.98	10.3%	7%
COUP	Coupa	47.01	2,662	2,412	287	25%	2.6%	27%	8.4x	6.6x	82.9x	na	3%	21%	67%	32.80	7.0%	1%
EVBG	Everbridge	37.79	1,078	1,022	172	26%	2.4%	23%	5.9x	4.8x	na	na	3%	17%	60%	11.45	11.6%	12%
FB	Facebook	173.86	503,260	459,304	71,614	27%	60.4%	23%	6.4x	5.2x	22.8x	17.3x	9%	-10%	14%	7,239.34	1.4%	18%
HDP	Hortonworks	17.18	1,350	1,277	409	25%	na	18%	3.1x	2.6x	71.0x	na	-16%	-13%	64%	15.08	4.1%	3%
HUBS	HubSpot	105.30	4,033	3,827	601	24%	10.6%	25%	6.4x	5.1x	78.6x	na	-3%	9%	57%	61.26	9.7%	6%
INST	Instructure	39.25	1,346	1,209	261	26%	na	26%	4.6x	3.7x	na	na	-7%	8%	64%	9.91	4.1%	10%
MB	MINDBODY	39.30	1,863	1,646	325	28%	13.1%	na	5.1x	na	59.0x	na	1%	12%	35%	14.15	13.4%	5%
MULE	MuleSoft	44.57	5,953	5,749	543	32%	na	31%	10.6x	8.1x	na	na	1%	81%	93%	188.04	1.9%	7%
NOW	ServiceNow	165.42	29,226	28,494	3,339	28%	28.2%	26%	8.5x	6.7x	30.5x	22.1x	0%	8%	74%	337.66	5.4%	1%
OKTA	Okta	43.44	4,546	4,317	458	32%	na	53%	9.4x	6.2x	na	41.1x	9%	45%	70%	90.40	7.5%	11%
PAYC	Paycom	112.59	6,650	6,640	672	24%	39.7%	23%	9.9x	8.1x	39.7x	37.3x	5%	25%	85%	78.20	13.4%	16%
PCTY	Paylocity	53.82	2,831	2,720	495	22%	21.2%	na	5.5x	na	41.9x	na	5%	5%	34%	13.40	4.1%	35%
QTWO	Q2 Holdings	50.10	2,127	2,028	290	23%	11.6%	22%	7.0x	5.7x	94.5x	na	10%	18%	30%	14.70	4.2%	2%
RNG	RingCentral	68.05	5,353	5,172	777	23%	12.3%	23%	6.7x	5.4x	na	57.2x	7%	25%	109%	41.79	3.4%	21%
SAIL	SailPoint	23.90	2,084	2,036	276	24%	10.2%	20%	7.4x	6.2x	77.7x	41.4x	16%	51%	0%	17.47	3.6%	9%
SEND	SendGrid	28.75	1,247	1,088	174	24%	11.0%	24%	6.2x	5.0x	na	65.1x	2%	27%	0%	11.90	2.2%	8%
SHOP	Shopify	127.68	13,486	11,906	1,382	37%	6.4%	30%	8.6x	6.6x	na	59.3x	2%	1%	65%	256.74	9.2%	15%
SNAP	Snap	14.13	17,338	15,311	2,001	51%	na	44%	7.7x	5.3x	na	na	-11%	2%	-36%	293.58	14.0%	37%
TEAM	Atlassian	56.24	13,061	12,297	1,244	27%	27.9%	na	9.9x	na	30.8x	20.3x	4%	6%	62%	78.75	7.4%	34%
TWLO	Twilio	42.55	4,074	3,783	632	23%	4.9%	28%	6.0x	4.7x	na	na	11%	63%	24%	86.86	14.1%	13%
TWOU	2U	81.01	4,319	4,118	531	32%	5.3%	32%	7.8x	5.9x	na	49.7x	-4%	10%	76%	44.15	11.9%	1%
WDAY	Workday	125.62	27,024	25,247	3,302	23%	20.6%	21%	7.6x	6.3x	46.9x	41.2x	-1%	6%	42%	199.91	9.9%	32%
WIX	Wix.com	81.50	3,821	3,589	749	26%	21.3%	21%	4.8x	3.9x	23.0x	16.4x	2%	32%	0%	43.73	8.4%	3%
YEXT	Yext	13.09	1,259	1,140	297	32%	na	28%	3.8x	3.0x	na	na	3%	10%	-11%	11.56	8.7%	26%
ZEN	Zendesk	48.58	5,065	4,818	724	29%	8.2%	27%	6.7x	5.3x	67.3x	na	1%	25%	67%	69.55	3.9%	4%
ZS	Zscaler	29.13	3,418	3,552	271	33%	3.1%	25%	13.1x	10.5x	na	na	4%	0%	0%	49.17	3.8%	54%
Select Faster Growth (2019E Rev. Growth >20%) Median					513	26%	11.0%	25%	6.8x	5.4x	44.4x	41.3x	3%	14%	63%	43.94	6.6%	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)

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					Sales	Growth			CY19E	CY20E	CY19E	CY20E	1M	3M	12M			
Slower Growth (2019E Revenue Growth < 20%, excluding Micro Caps)																		
AAPL	Apple	\$169.10	\$858,016	903,263	\$267,957	2%	30.8%	0%	3.4x	3.4x	14.1x	13.7x	1%	1%	15%	5,533.66	1.1%	0%
ALRM	Alarm.Com	40.60	1,920	1,895	427	12%	22.8%	12%	4.4x	4.0x	31.2x	21.6x	8%	6%	24%	16.31	15.6%	3%
AMBR	Amber Road	9.46	258	271	94	9%	5.1%	na	2.9x	na	75.9x	na	6%	35%	12%	0.82	1.6%	9%
APPN	Appian	27.80	1,702	1,628	238	19%	na	18%	6.8x	5.8x	na	na	10%	-7%	0%	9.34	8.5%	0%
APTI	Apptio	30.83	1,340	1,201	267	17%	6.2%	16%	4.5x	3.9x	51.3x	21.6x	9%	18%	137%	17.87	6.1%	18%
ASUR	Asure Software	15.82	199	247	101	13%	24.0%	na	2.4x	na	22.8x	na	29%	5%	50%	3.04	28.1%	8%
ATHN	AthenaHealth	126.39	5,107	5,235	1,496	10%	28.4%	9%	3.5x	3.2x	32.5x	20.8x	-12%	1%	29%	61.06	7.5%	1%
BCOV	Brightcove	9.80	343	317	182	8%	4.7%	na	1.7x	na	51.4x	na	41%	44%	14%	2.60	1.1%	2%
BNFT	Benefitfocus	30.55	970	1,030	284	12%	7.2%	12%	3.6x	3.2x	na	68.7x	25%	22%	1%	7.08	18.8%	18%
CHUB.K	CommerceHub	22.67	989	970	135	11%	44.2%	6%	7.2x	6.8x	22.2x	18.8x	1%	19%	42%	19.00	1.4%	5%
CLDR	Cloudera	14.42	2,127	1,756	525	19%	na	20%	3.3x	2.8x	na	84.6x	-33%	-23%	-21%	42.79	6.3%	3%
CRM	salesforce.com	123.11	90,286	87,997	15,145	19%	24.3%	18%	5.8x	4.9x	26.2x	22.9x	6%	9%	42%	762.77	2.5%	5%
CSCO	Cisco	44.83	215,969	181,678	51,441	3%	34.4%	4%	3.5x	3.4x	12.6x	13.1x	5%	8%	32%	1,146.43	1.0%	0%
CSLT	Castlight Health	3.85	523	435	181	18%	4.2%	20%	2.4x	2.0x	44.1x	20.3x	5%	4%	3%	0.99	6.9%	5%
CSOD	Cornerstone	44.83	2,587	2,557	557	10%	22.9%	11%	4.6x	4.1x	26.1x	na	15%	10%	15%	24.13	7.1%	9%
CTXS	Citrix	104.71	14,363	15,036	3,003	3%	32.1%	6%	5.0x	4.7x	15.9x	14.8x	13%	12%	28%	192.23	4.5%	1%
DATA	Tableau	84.78	6,913	6,058	1,099	14%	8.0%	19%	5.5x	4.6x	28.1x	26.4x	5%	10%	57%	62.26	4.5%	18%
DBX	DropBox	30.90	12,311	12,705	1,543	16%	21.2%	15%	8.2x	7.2x	31.2x	27.3x	-1%	0%	0%	188.15	5.8%	34%
EBAY	eBay	37.83	37,602	42,052	11,902	8%	33.2%	9%	3.5x	3.2x	16.0x	13.8x	-6%	-18%	14%	384.40	3.9%	6%
ECOM	ChannelAdvisor	13.45	364	312	140	8%	7.1%	6%	2.2x	2.1x	29.4x	19.5x	48%	48%	14%	0.95	1.4%	5%
EGAN	eGain	8.90	243	239	69	8%	na	na	3.5x	na	na	na	12%	68%	474%	1.42	1.1%	38%
ELLI	Ellie Mae	97.99	3,362	3,130	588	18%	28.6%	16%	5.3x	4.6x	32.2x	26.5x	7%	5%	-6%	55.13	15.0%	2%
ENV	Envestnet	55.95	2,539	2,720	912	11%	19.9%	14%	3.0x	2.6x	21.5x	18.8x	-2%	4%	58%	12.98	2.5%	4%
FNGN	Financial Engines	44.50	2,824	2,599	558	9%	33.4%	5%	4.7x	4.5x	15.8x	14.8x	27%	55%	3%	25.80	4.7%	1%
GDDY	GoDaddy	64.03	9,397	11,515	2,905	12%	27.1%	11%	4.0x	3.6x	16.1x	14.2x	4%	14%	61%	89.06	3.0%	0%
GOOGL	Alphabet	1040.75	721,651	624,068	158,451	17%	37.7%	18%	3.9x	3.3x	18.7x	14.9x	0%	-12%	12%	2,486.82	0.4%	12%
GWRE	Guidewire	85.63	6,843	6,338	809	17%	21.1%	na	7.8x	na	38.3x	na	6%	9%	41%	60.89	5.2%	0%
IBM	IBM	145.00	133,105	166,852	80,837	0%	24.2%	0%	2.1x	2.1x	13.5x	12.2x	-5%	-11%	-9%	749.62	1.6%	0%
INTU	Intuit	187.24	47,954	48,331	6,645	11%	37.0%	9%	7.3x	6.6x	22.4x	na	8%	13%	49%	273.75	1.2%	4%
LOGM	LogMeIn	110.60	5,775	5,409	1,318	8%	37.8%	7%	4.1x	3.8x	13.0x	11.5x	-4%	-13%	-4%	54.24	6.7%	2%
LPSN	LivePerson	16.75	1,016	960	265	11%	11.0%	na	3.6x	na	na	na	2%	40%	125%	6.83	2.4%	8%
MODN	Model N	17.25	509	518	158	4%	8.8%	na	3.3x	na	23.8x	na	-4%	15%	60%	3.47	1.6%	16%
MSFT	Microsoft	95.00	729,904	686,252	125,383	9%	42.9%	9%	5.5x	5.0x	16.7x	16.8x	4%	1%	37%	3,195.92	0.6%	1%
ORCL	Oracle	45.95	187,582	178,409	41,965	4%	47.2%	1%	4.3x	4.2x	11.2x	11.7x	0%	-11%	2%	783.94	1.0%	28%
PEGA	Pegasystems	62.50	4,912	4,689	1,060	11%	16.6%	22%	4.4x	3.6x	31.4x	30.1x	3%	21%	36%	25.45	2.4%	52%
PYPL	PayPal Holdings	74.81	88,828	79,317	17,797	16%	27.1%	17%	4.5x	3.8x	20.0x	17.2x	-1%	-5%	57%	612.09	1.1%	5%
RST	Rosetta Stone	13.68	318	277	195	12%	2.5%	23%	1.4x	1.2x	na	na	4%	6%	24%	1.98	1.5%	4%
RP	RealPage	54.05	4,562	5,141	939	11%	27.8%	10%	5.5x	5.0x	26.9x	23.2x	5%	9%	45%	22.33	4.2%	4%
SAP	SAP	110.37	131,714	131,291	31,352	8%	34.3%	8%	4.2x	3.9x	24.8x	20.5x	5%	-1%	10%	0.70	0.0%	1%
SPSC	SPS Commerce	70.68	1,209	1,044	267	10%	19.8%	9%	3.9x	3.6x	29.2x	29.7x	10%	35%	25%	10.19	2.2%	1%
SREV	ServiceSource	3.75	339	295	259	6%	10.5%	na	1.1x	na	33.9x	na	-2%	10%	0%	1.40	1.3%	4%
STMP	Stamps.com	229.35	4,103	4,035	640	17%	48.2%	na	6.3x	na	17.3x	na	14%	11%	111%	67.89	12.0%	5%
TWTR	Twitter	30.30	22,721	20,001	3,265	12%	39.8%	9%	6.1x	5.6x	25.5x	24.2x	4%	12%	73%	967.99	4.3%	10%
ULTI	Ultimate Software	242.76	7,594	7,439	1,301	17%	25.5%	18%	5.7x	4.9x	39.4x	34.9x	0%	8%	18%	58.75	7.4%	4%
UPLD	Upland Software	27.50	592	683	142	6%	36.4%	na	4.8x	na	20.1x	na	-4%	19%	38%	7.92	0.9%	15%
VEEV	Veeva Systems	70.93	10,100	9,338	964	18%	32.9%	17%	9.7x	8.3x	31.1x	25.4x	-3%	16%	31%	80.91	3.1%	15%
VRNS	Varonis Systems	67.30	1,904	1,750	316	18%	5.0%	19%	5.5x	4.7x	62.4x	43.3x	11%	22%	110%	18.86	1.6%	2%
WAGE	WageWorks	41.95	1,663	1,015	565	8%	32.8%	na	1.8x	na	na	na	-7%	-31%	-44%	22.81	6.9%	1%
WEB	Web.com Group	18.75	813	1,448	787	3%	26.2%	3%	1.8x	1.8x	9.5x	10.2x	4%	-20%	-5%	8.04	5.6%	5%
WK	Workiva	22.35	955	897	267	13%	na	13%	3.4x	3.0x	89.6x	na	-6%	0%	31%	4.22	6.3%	45%
Select Slower Growth (2019E Rev. Growth < 20%) Median					714	11%	25.8%	11%	4.1x	3.9x	25.5x	20.4x	4%	9%	29%	24.79	3.1%	5%

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

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

(In \$ million, except per share values)

Ticker	Company Name	5/1/18 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 Med																		
ACTA	Actua	\$0.75	\$23	\$5	na	na	na	na	na	na	na	na	-3%	-95%	-95%	0.00	0.0%	4%
AKDS	Arkados Group	0.32	9	15	na	na	na	na	na	na	na	na	-42%	-49%	-75%	0.01	0.0%	12%
CCUR	Concurrent	5.16	51	(15)	na	na	na	na	na	na	na	na	8%	-10%	4%	0.42	1.1%	36%
COYN	COPSync	0.04	0	1	na	na	na	na	na	na	na	na	-3%	13%	-68%	0.00	0.1%	0%
CSTI	Costar	7.89	11	18	na	na	na	na	na	na	na	na	-6%	-15%	-22%	0.01	0.0%	0%
CXDO	Crexendo	2.50	36	35	na	na	na	na	na	na	na	na	-11%	-22%	71%	0.01	1.1%	74%
EVOL	Evolving Systems	3.75	47	48	na	na	na	na	na	na	na	na	-22%	-32%	-24%	0.05	0.0%	31%
FNJN	FinJan	2.94	82	59	68	-10%	na	na	0.9x	na	na	na	-10%	52%	54%	1.83	3.2%	3%
GSB	GlobalSCAPE	3.82	82	69	na	na	na	na	na	na	na	na	4%	8%	-5%	0.10	0.1%	21%
GSVC	GSV Capital	6.77	143	151	1	0%	na	na	na	na	na	na	-10%	-1%	48%	3.05	0.0%	1%
INUV	Inuvo	0.95	27	28	114	20%	2.8%	na	0.2x	na	na	na	4%	14%	-22%	0.06	1.1%	17%
IPAS	iPass	0.29	21	16	70	24%	8.8%	na	0.2x	na	na	na	-23%	-44%	-77%	0.16	1.1%	4%
LVT	LiveTiles	0.31	145	140	22	81%	na	na	6.2x	na	na	na	-3%	-29%	67%	0.14	0.0%	53%
MFON	Mobivity	0.99	37	39	na	na	na	na	na	na	na	na	-9%	-5%	41%	0.02	0.0%	19%
MRIN	Junein Software	7.75	45	20	na	na	na	na	na	na	na	na	17%	-17%	-38%	0.15	2.4%	28%
PGQW.F	1-Page	0.08	12	(7)	na	na	na	na	na	na	na	na	0%	0%	-35%	0.00	0.0%	12%
PYDS	Payment Data Sys	1.63	26	21	28	7%	na	na	0.7x	na	na	na	-10%	-12%	4%	0.30	4.8%	48%
SCIL	Scientific	0.69	16	na	na	na	na	na	na	na	na	na	13%	-16%	15%	0.01	0.0%	0%
SHSP	SharpSpring	6.59	56	50	22	27%	na	na	2.3x	na	na	na	3%	38%	53%	0.22	2.9%	22%
SMSI	Smith Micro	2.17	40	41	na	na	na	na	na	na	na	na	24%	-10%	103%	0.55	8.9%	12%
SNCR	Synchronoss	10.73	510	634	413	-1%	15.0%	na	1.5x	na	7.4x	na	2%	33%	-28%	6.19	13.1%	10%
SPRT	Support.com	2.71	51	2	na	na	na	na	na	na	na	na	-2%	-2%	27%	0.07	0.3%	8%
SVVC	First Technology	11.10	81	81	na	na	na	na	na	na	na	na	-2%	8%	31%	0.38	0.0%	4%
WSTL	Westell	3.05	48	22	na	na	na	na	na	na	na	na	-9%	-7%	16%	0.19	0.2%	32%
Select Micro Caps and Those with No Rev. Estimates Med					48	na	na	na	na	na	na	na	-3%	-8%	4%	0.12	0.2%	12%

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

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