

## Cloud Applications &amp; Analytics

## Initiating on Cloud Software: Time to 'Selectively' Revisit SaaS with CloudTracker 26% Below Highs

## CONCLUSION

Execution risks in enterprise software have elevated heading into late 2019 and into 2020 based on deteriorating economic conditions globally, socio-political uncertainty, and increasing trade tensions. That said, the cloud software category in particular stands to benefit from a multi-year tailwind driven by new digital enterprise initiatives. Based on our proprietary *CloudTracker* analysis, we estimate cloud software penetration could rise materially to 18.1% in 2023 from 9.6% in 2019 and exceed 50% by 2030. Even if the \$1.7T spend on Enterprise IT contracts after nine years of expansion, we still see the cloud software category sustaining robust growth, albeit at a slower pace. Given the *CloudTracker* is now 26% below the 52-week highs, we would begin to 'selectively' revisit cloud software names based on a favorable 2020-2021 outlook.

- **Investment cycle for the digital enterprise a trillion dollar transformation.** We are still in the early to middle stages of an investment cycle enabling the digital enterprise driven by mainstream adoption of modern cloud software and artificial intelligence. Relative to a \$1.7T spend on Enterprise IT, we size this opportunity as a trillion dollar transformation of the traditional stack.
- **CloudTracker shows cloud software industry growing 33% to \$162B.** Based on our proprietary *CloudTracker* analysis of the 50 largest SaaS pure-plays and 5 largest cloud divisions, we estimate the cloud software industry is on-track to grow 33% y/y to \$162B in 2019, from \$122B in 2018. This is consistent with reported growth at the two largest cloud software platforms, Microsoft Commercial Cloud (36% y/y) and AWS (35% y/y) last week.
- **Optimism has eroded as valuation and growth concerns resurface.** The *CloudTracker* valuation monitor of the 50 largest SaaS pure-plays shows cloud software valuations peaked at 13.3x in August but have now retrenched by nearly 3 turns to 10x with the average now 26% below the 52 week highs. The cohort of 40%-plus growers has declined the most, falling 36% below the 52-week highs on average.
- **Time to 'selectively' revisit high-quality cloud software ideas.** While execution risks in enterprise software remain elevated in the near-term, we prefer cloud software pure-plays with strong share gain prospects, solid track records of execution, and large market opportunities that could help compound growth over the next three to five years. To that end, we are assuming coverage with OW ratings on TWLO and PLAN and initiating coverage with OW ratings on MDB, AVLR, WORK, ESTC, and COUP.

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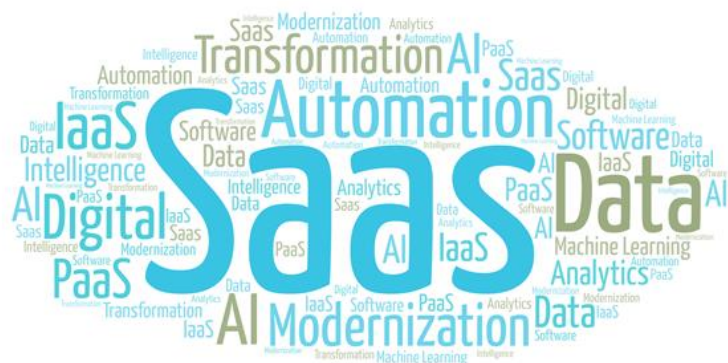
Related Companies:	Share Price:
AVLR	72.92
COUP	133.90
MDB	125.78
PLAN	48.71
TWLO	106.98
WORK	20.46
ESTC	74.60

## RISKS

Poor macroeconomic conditions could impact the capacity for enterprise IT investments and the health of supporting ecosystem partners

Symbol	Price	Rating		Target		Current Qtr.		Current FY EPS		Next FY EPS	
		Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous
AVLR	US\$72.92	Overweight	--	US\$93.00	--	(0.09)	--	(0.21)	--	(0.17)	--
COUP	US\$133.90	Overweight	--	US\$150.00	--	0.06	--	0.18	--	0.38	--
ESTC	US\$74.60	Overweight	--	US\$93.00	--	(0.31)	--	(1.28)	--	(1.37)	--
MDB	US\$125.78	Overweight	--	US\$158.00	--	(0.28)	--	(1.07)	--	(0.76)	--
PLAN	US\$48.71	Overweight	Suspended	US\$58.00	NA	(0.13)	NA	(0.53)	NA	(0.47)	NA
TWLO	US\$106.98	Overweight	Suspended	US\$141.00	NA	0.01	NA	0.17	NA	0.27	NA
WORK	US\$20.46	Overweight	--	US\$30.00	--	(0.12)	--	(0.58)	--	(0.58)	--

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## State of Cloud – Oct 2019

Initiating on Cloud Software: Time to  
'Selectively' Revisit SaaS with *CloudTracker*  
26% Below Highs

*Assuming coverage on TWLO, PLAN; Initiating  
coverage on WORK, AVLK, MDB, ESTC, COUP*

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# Executive Summary

Execution risks in enterprise software have elevated heading into late 2019 and into 2020 based on deteriorating economic conditions globally, socio-political uncertainty, and increasing trade tensions. That said, the cloud software category in particular stands to benefit from a multi-year tailwind driven by new digital enterprise mandates. Based on our proprietary *CloudTracker* analysis, we estimate cloud software penetration could rise materially to 18.2% in 2023 from 9.6% in 2019 and exceed 50% by 2030. Even if the \$1.7T spend on Enterprise IT contracts after nine years of expansion, we still see the cloud software category sustaining robust growth, albeit at a slower pace. Given the *CloudTracker* is now 26% below the 52-week highs, we would begin to 'selectively' revisit cloud software names based on a favorable 2020-2021 outlook.

1

## **Investment cycle for the digital enterprise a trillion dollar transformation.**

*We are still in the early to middle stages of an investment cycle enabling the digital enterprise driven by mainstream adoption of modern cloud software and artificial intelligence. Relative to a \$1.7T spend on Enterprise IT, we size this opportunity as a trillion dollar transformation of the traditional stack.*

2

## **CloudTracker shows cloud software industry growing 33% to \$162B.**

*Based on our proprietary CloudTracker analysis of the 50 largest SaaS pure-plays and 5 largest cloud divisions, we estimate the cloud software industry is on-track to grow 33% y/y to \$162B in 2019, from \$122B in 2018. This is consistent with reported growth at the two largest cloud software platforms, Microsoft Commercial Cloud (36% y/y) and AWS (35% y/y).*

3

## **Optimism has eroded as valuation and growth concerns resurface.**

*The CloudTracker valuation monitor of the 50 largest SaaS pure-plays shows cloud software valuations peaked at 13.3x in August but have now retrenched by nearly 4 turns to 9.5x with the average now 26% below the 52 week highs. The cohort of 40%-plus growers has declined the most, falling 36% below the 52-week highs on average.*

4

## **Time to 'selectively' revisit high-quality cloud software.**

*While execution risks in enterprise software remain elevated in the near-term, we prefer cloud software pure-plays with strong share gain prospects, solid track records of execution, and large market opportunities that could help compound growth over the next three to five years. To that end, we are assuming coverage with OW ratings on TWLO and PLAN and initiating coverage with OW ratings on MDB, AVL, WORK, ESTC, and COUP.*

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# Action Items

## ***Assuming coverage on TWLO, PLAN***

### **TWLO: Assuming with OW Rating and \$141 PT**

*Powering new digital experiences for Airbnb, Instacart, Nordstroms; Profitable \$1B+ run-rate with >50% organic growth.*

### **PLAN: Assuming with OW Rating and \$58 PT**

*Cloud planning is a new digital enterprise enabler at Coca Cola, Alphabet, United; Six quarters of 40%-plus growth.*

## ***Initiating coverage on WORK, AVL, MDB, ESTC, COUP***

### **WORK: Initiating with OW Rating and \$30 PT**

*New category creator pioneering software to automate middle-office workflows; \$579M run-rate growing 57.5%*

### **AVL: Initiating with OW Rating and \$93 PT**

*Pioneering cloud-based sales tax compliance; Wayfair ruling accelerated growth to 42% from 25% last year*

### **MDB: Initiating with OW Rating and \$158 PT**

*First database firm to IPO in 30+ years; Cloud database (Atlas) is now 37% of revenue growing at triple digit pace.*

### **ESTC: Initiating with OW Rating and \$93 PT**

*Enabling a new generation of infrastructure and analytics with search-centric approach growing in excess of 50%.*

### **COUP: Initiating with OW Rating and \$150 PT**

*Be selective given Coupa Pay drove material multiple expansion this year; 40%-plus grower with high barriers to entry.*

# Approach to SaaS Idea Generation

**Bracketing SaaS into four investment categories.** Given the increasing number of high-growth SaaS companies (n=50) with 30+ SaaS IPOs since 2016 and >\$150B M&A, we have created four distinct categories that help us better assess new SaaS idea generation using a combination of quantitative and qualitative factors. The franchise tag category encompasses models with the highest growth and TAM opportunities five years out. Core growth represents differentiated market leaders with durable growth prospects. GARP is growth at a 'relatively' reasonable price given optimism around recurring subscription models. Valuation and company-specific catalysts weigh in more heavily within the tactical category.

## Franchise Tag

### CY19E Growth

<b>TWLO</b>	72% y/y
<b>MDB</b>	48% y/y
<b>AVLR</b>	35% y/y
<b>PLAN</b>	42% y/y
<b>WORK</b>	52% y/y
<b>ESTC</b>	55% y/y
<b>COUP</b>	43% y/y

## Core Growth

## GARP

## Tactical

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# 01

## The State of Cloud Software

# State of Cloud Software – Journey to \$100B+

## Cloud Software Milestones



CRM IPO  
**June 2004**



AWS launch  
**March 2006**



Azure launch  
**October 2008**



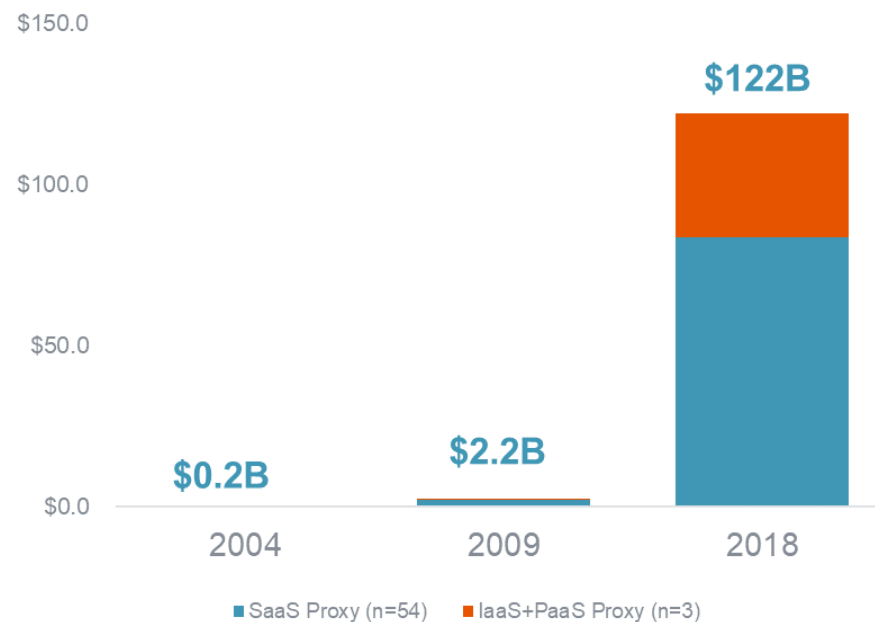
Creative Cloud launch  
**April 2012**



WDAY IPO  
**October 2012**

## CloudTracker (n=55)

*CloudTracker Revenue*  
2004 - 2018



Cloud software has evolved from a cottage industry into a mainstream technology eclipsing \$100B+ for the first time in 14 years.



# State of Cloud Software – Secular Growers

		2017	2018	2019E	2019E	2019E	
CloudTracker (n=55)					% Y/Y	% Share	
1	Microsoft	MSFT	\$20,200	\$32,200	\$44,436	38.0%	27.3%
2	Amazon AWS	AMZN	\$17,459	\$25,655	\$34,881	36.0%	21.4%
3	Salesforce	CRM	\$10,350	\$13,036	\$16,859	29.3%	10.4%
4	Adobe	ADBE	\$6,133	\$7,922	\$10,037	26.7%	6.2%
5	Alphabet	GOOGL	\$3,471	\$5,586	\$9,015	61.4%	5.5%
6	SAP	SAP	\$3,769	\$5,027	\$7,051	40.3%	4.3%
7	Oracle	ORCL	\$4,198	\$5,667	\$6,706	18.3%	4.1%
8	Workday	WDAY	\$2,094	\$2,760	\$3,591	30.1%	2.2%
9	ServiceNow	NOW	\$1,918	\$2,609	\$3,458	32.6%	2.1%
10	Square	SQ	\$2,214	\$3,298	\$2,274	-31.1%	1.4%
11	Dropbox	DBX	\$1,107	\$1,392	\$1,653	18.7%	1.0%
12	Shopify	SHOP	\$673	\$1,073	\$1,537	43.2%	0.9%
13	Twilio	TWLO	\$399	\$650	\$1,118	72.0%	0.7%
14	Veeva Systems	VEEV	\$679	\$847	\$1,067	26.1%	0.7%
15	RealPage	RP	\$671	\$869	\$992	14.0%	0.6%
16	DocuSign	DOCU	\$505	\$684	\$951	39.0%	0.6%
17	Proofpoint	PFPT	\$520	\$717	\$880	22.8%	0.5%
18	RingCentral	RNG	\$504	\$674	\$875	29.9%	0.5%
19	Zendesk	ZEN	\$430	\$599	\$810	35.3%	0.5%
20	Wix.com	WIX	\$426	\$604	\$765	26.7%	0.5%
21	Paycom	PAYC	\$433	\$566	\$729	28.8%	0.4%
22	Box	BOX	\$497	\$599	\$691	15.3%	0.4%
23	HubSpot	HUBS	\$376	\$513	\$665	29.6%	0.4%
24	Slack Technologies	WORK	\$211	\$383	\$609	59.2%	0.4%
25	Zoom Video	ZM	\$144	\$312	\$590	88.9%	0.4%
26	Cornerstone	CSOD	\$482	\$538	\$570	6.0%	0.4%
27	New Relic	NEWR	\$330	\$446	\$566	27.0%	0.3%
28	Okta	OKTA	\$247	\$386	\$563	45.6%	0.3%
29	Paylocity	PCTY	\$334	\$418	\$514	23.0%	0.3%
30	CrowdStrike	CRWD	\$113	\$250	\$450	80.3%	0.3%
31	Mimecast	MIME	\$241	\$322	\$400	24.3%	0.2%
32	MongoDB	MDB	\$149	\$247	\$394	59.7%	0.2%
33	Medallia	MDLA	\$261	\$308	\$387	25.7%	0.2%
34	Alteryx	AYX	\$132	\$254	\$375	47.7%	0.2%
35	Elastic NV	ESTC	\$131	\$231	\$373	61.4%	0.2%
36	Coupa Software	COUP	\$182	\$253	\$372	46.9%	0.2%
37	Avalara	AVLR	\$213	\$272	\$365	34.2%	0.2%
38	Zscaler	ZS	\$149	\$233	\$352	51.0%	0.2%
39	Tenable	TENB	\$188	\$267	\$348	30.3%	0.2%
40	Anaplan	PLAN	\$164	\$233	\$342	46.7%	0.2%
41	Qualys	QLYS	\$231	\$279	\$322	15.4%	0.2%
42	Rapid7	RPD	\$201	\$244	\$320	30.9%	0.2%
43	Q2 Holdings	Q2WO	\$194	\$241	\$314	30.3%	0.2%
44	Five9	FIVN	\$200	\$258	\$314	21.8%	0.2%
45	Yext	YEXT	\$166	\$223	\$301	34.9%	0.2%
46	LivePerson	LPSN	\$219	\$250	\$291	16.4%	0.2%
47	BlackLine	BL	\$176	\$228	\$283	24.0%	0.2%
48	Zuora	ZUO	\$162	\$231	\$277	19.6%	0.2%
49	Smartsheet	SMAR	\$107	\$171	\$267	55.8%	0.2%
50	Datadog	DDOG	\$101	\$198	\$258	30.0%	0.2%
51	AppFolio	APPF	\$144	\$190	\$254	33.8%	0.2%
52	Cloudflare	NET	\$135	\$193	\$250	30.0%	0.2%
53	Talend SA	TLND	\$150	\$204	\$247	21.0%	0.2%
54	Everbridge	EVBG	\$104	\$147	\$198	34.9%	0.1%
55	PagerDuty	PD	\$80	\$114	\$164	43.2%	0.1%
CloudTracker Revenue			\$85,065	\$122,070	\$162,669		
Industry Growth (% Y/Y)			44.4%	43.5%	33.3%		
Industry Penetration			5.7%	7.5%	9.6%		

There are few \$120B+ segments of technology that are still growing >30% annually.

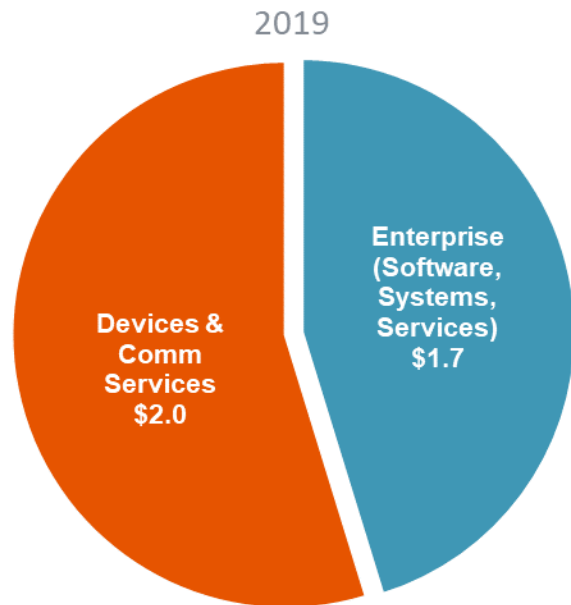
**\$122B** → **\$162B**  
 Cloud Software Proxy 2018 → Cloud Software Proxy 2019E  
**+33% Y/Y**

The top three largest platforms (Microsoft, AWS, and Salesforce) combined are on pace to control >50% of the cloud software industry in 2019.

Source: FactSet, Piper Jaffray Estimates

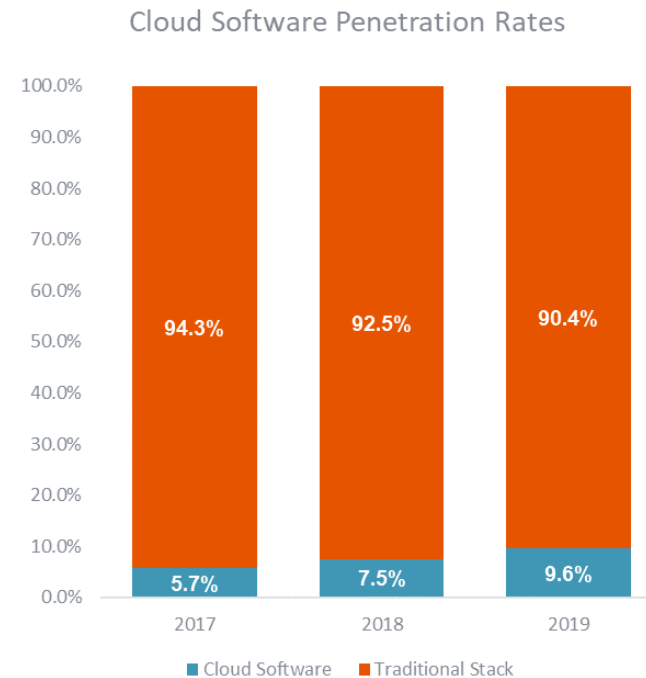
# Cloud Thesis – A Trillion Dollar Transformation

## Global IT Industry - \$3.7T in 2019



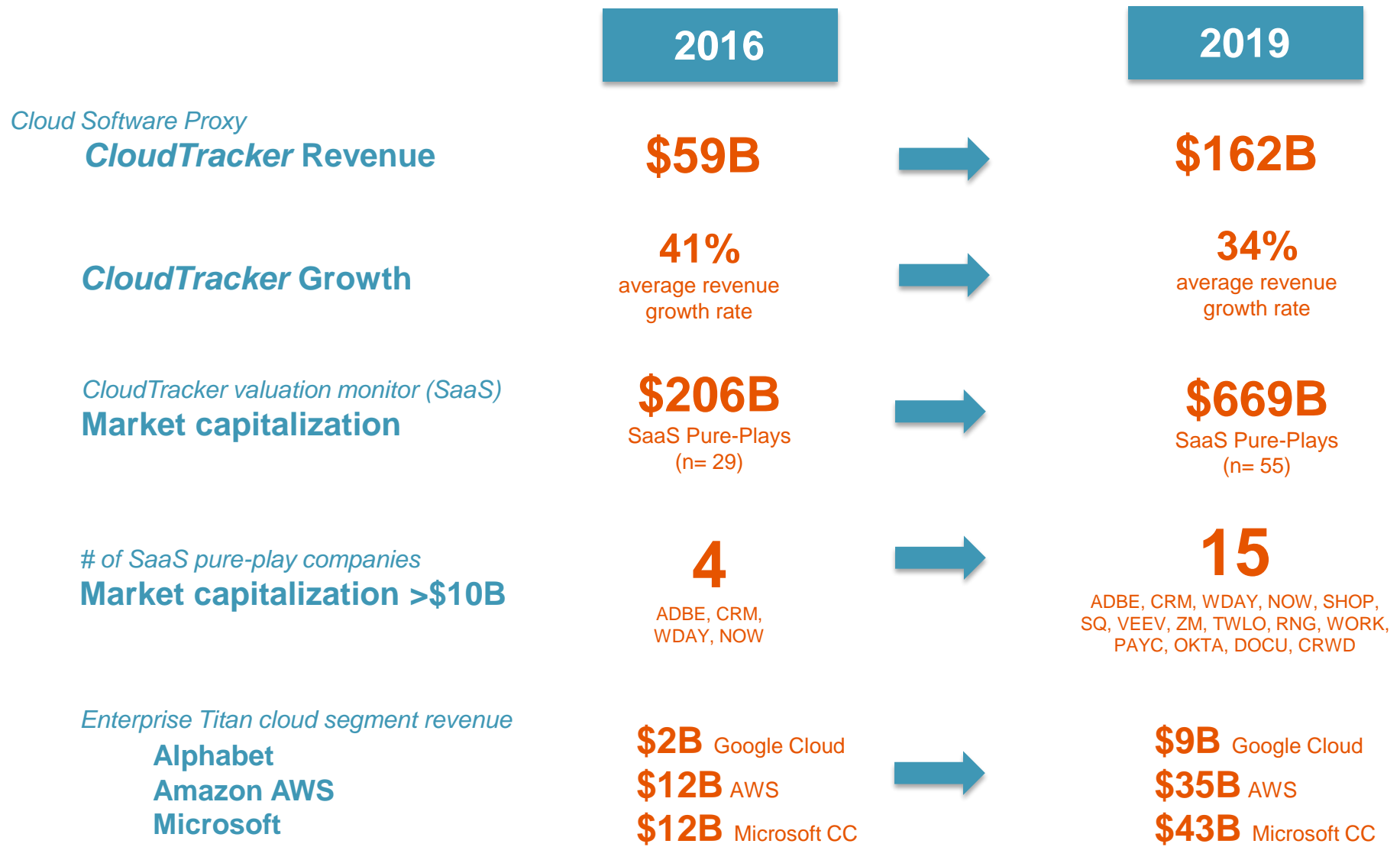
Spending on enterprise software, services, and systems equates to a \$1.7 trillion dollar opportunity.

## CloudTracker – Share of Enterprise IT



**9.6%**  
penetration of a trillion-dollar plus opportunity

# Why Increasingly Relevant for Growth Investors?



Source: Piper Jaffray Estimates, FactSet (October 21, 2016 vs. October 21, 2019)

# 02

## *Proprietary **CloudTracker** Analysis*

## CloudTracker – Constituents (n=55)

### SaaS Pure-Plays (n=50)

#### Cloud Applications



#### Cloud Infrastructure



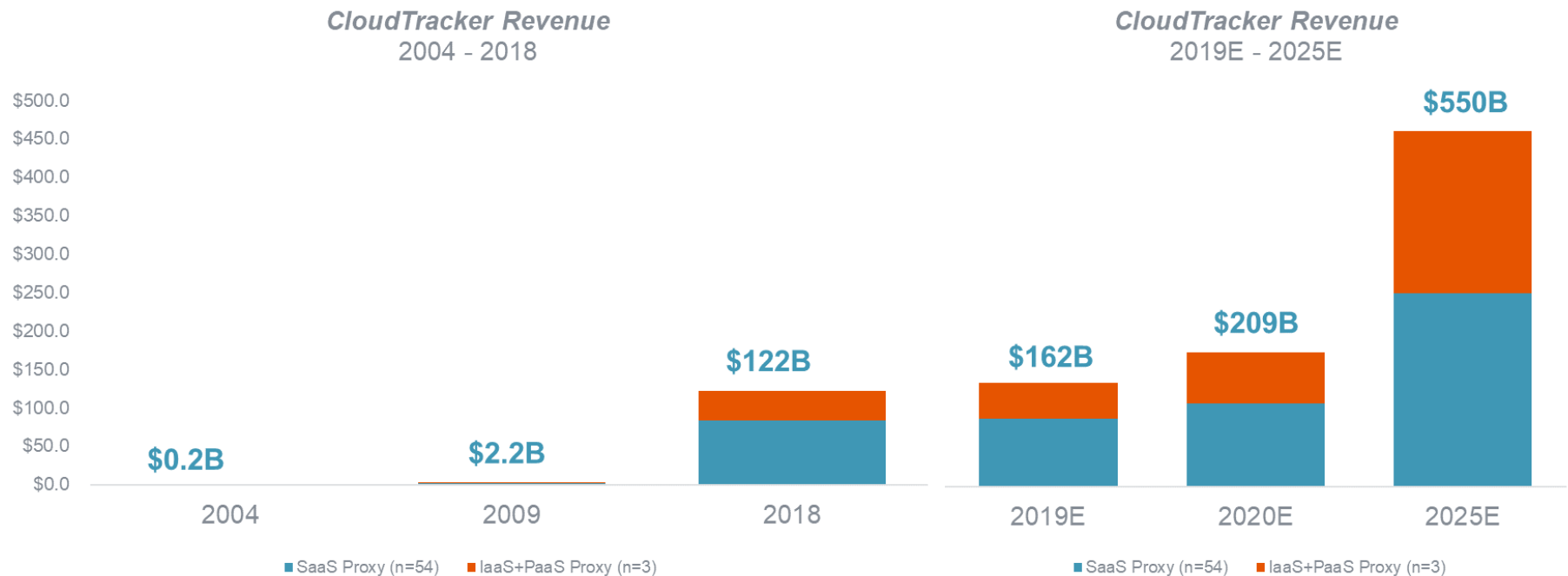
### Cloud Divisions (n=5)



Source: Company Reports

## CloudTracker – Monitoring a “Trillion Dollar Transformation”

Cloud is still in the early to middle innings of a **trillion-dollar transformation**. While the shift to cloud has been part of the technology narrative for the past decade, we still view cloud as having one of the most compelling secular growth tailwinds in technology. It took 14 years for cloud software to eclipse the first \$100B, a feat that could be surpassed within the next two years as cloud adoption goes mainstream in the enterprise. We estimate cloud software could quadruple to \$550B by 2025 from \$122B in 2018.

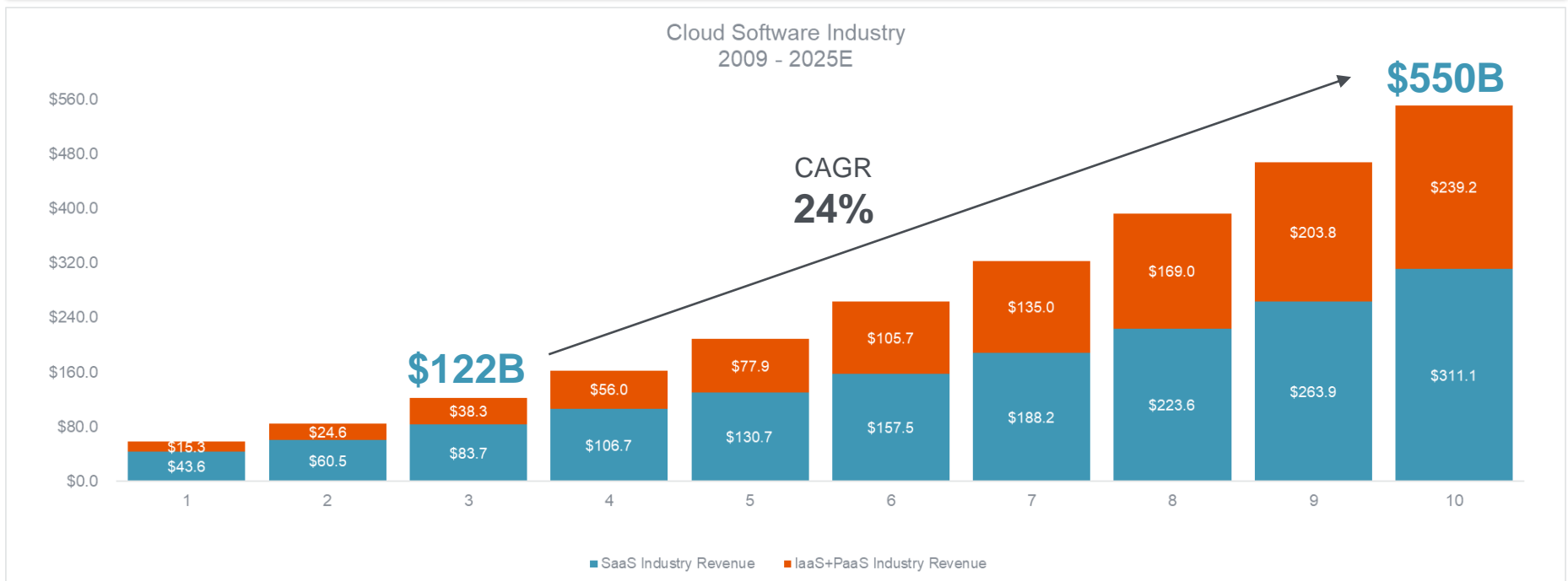


It took 14 years to add the first \$100B+ in cloud software revenue

...and could only take two years to add the next \$100B (eclipsing \$200B by 2020E)

## CloudTracker – Cloud Poised to Grow 24% Annually Through 2025

**Cloud software industry could grow 24% annually topping \$550B in 2025.** Bottoms-up analysis of the 55 largest cloud software leaders (consisting of 50 SaaS pure-plays and the cloud divisions of the 5 largest enterprise titans) suggests that the cloud industry could grow at a 24% CAGR reaching \$550B in 2025.

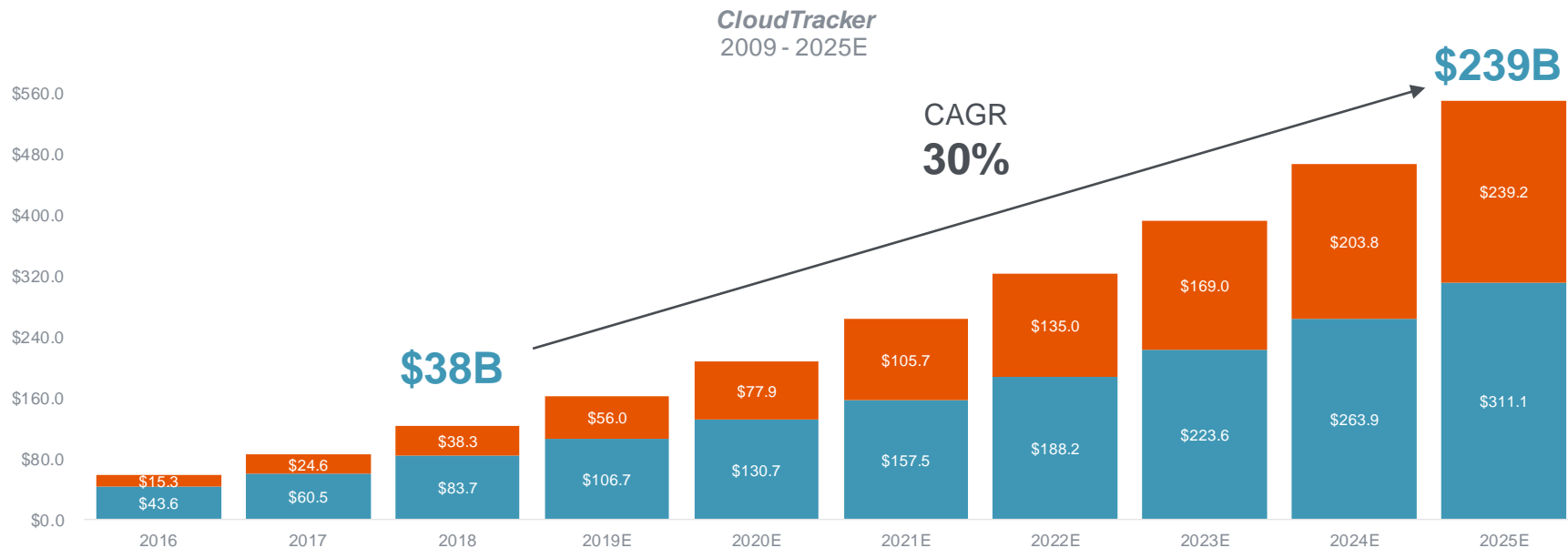


***“Trillion Dollar Transformation”***

Cloud software revenue could exceed \$550B by CY25E and approach \$1T by CY30E.

## CloudTracker – IaaS Poised to Grow 30% Annually Through 2025

**Cloud platform segment could expand six-fold by 2025.** Bottoms-up analysis of the three largest Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) leaders that include Amazon Web Services (AWS), Microsoft Azure, Google Cloud suggests that the cloud industry could grow at a 30.9% CAGR as it expands more than six-fold to \$239B in CY25E vs. \$38B in CY18.



**IaaS: Winner (s) Take Most  
– A Three Horse Race**

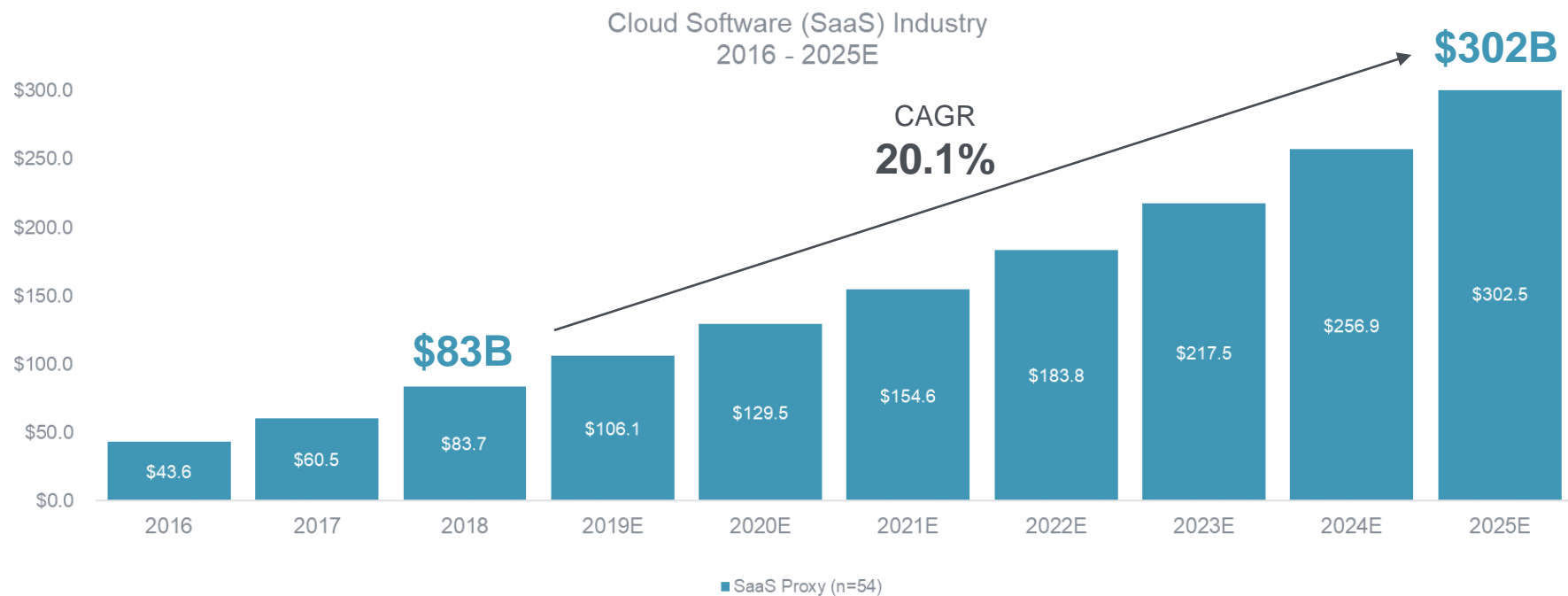


Source: Corporate Reports, FactSet, Piper Jaffray Estimates



## CloudTracker – SaaS Poised to Grow 20% Annually Through 2025

**Cloud SaaS segment could more than triple to \$300B+ by 2025.** Bottoms-up analysis of the 50 largest Software as a Service (SaaS) leaders suggests cloud application and cloud infrastructure software could grow at a 20.1% CAGR as it more than triples to \$302B in CY25E vs. \$83B in CY18.



**SaaS: Opportunity  
in the Long-Tail**

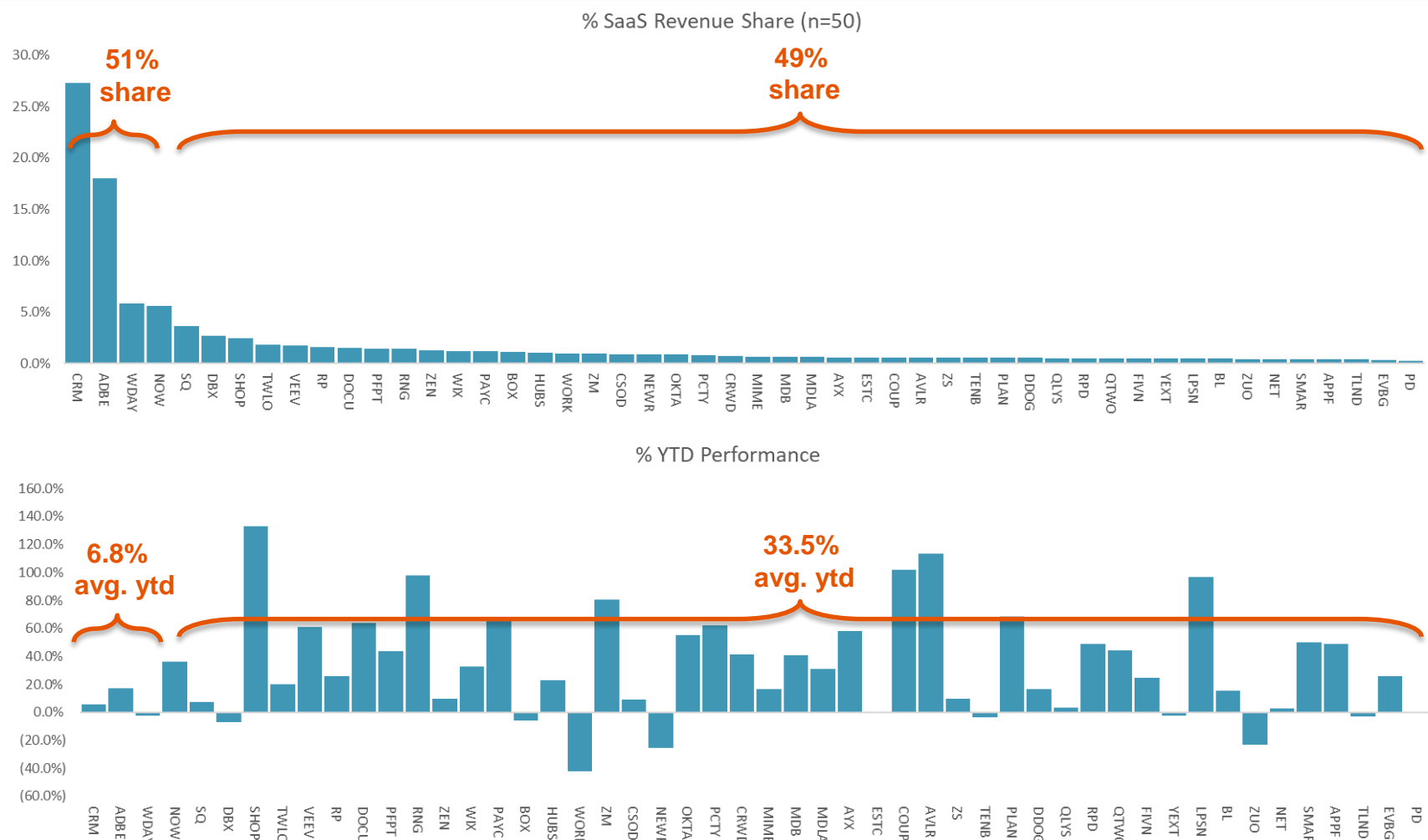
**SaaS Pure-Plays with  
Market Capitalization in  
Excess of \$10 Billion**

**15**

ADBE, CRM, WDAY, NOW, SHOP,  
SQ, VEEV, ZM, TWLO, RNG, WORK,  
PAYC, OKTA, DOCU, CRWD

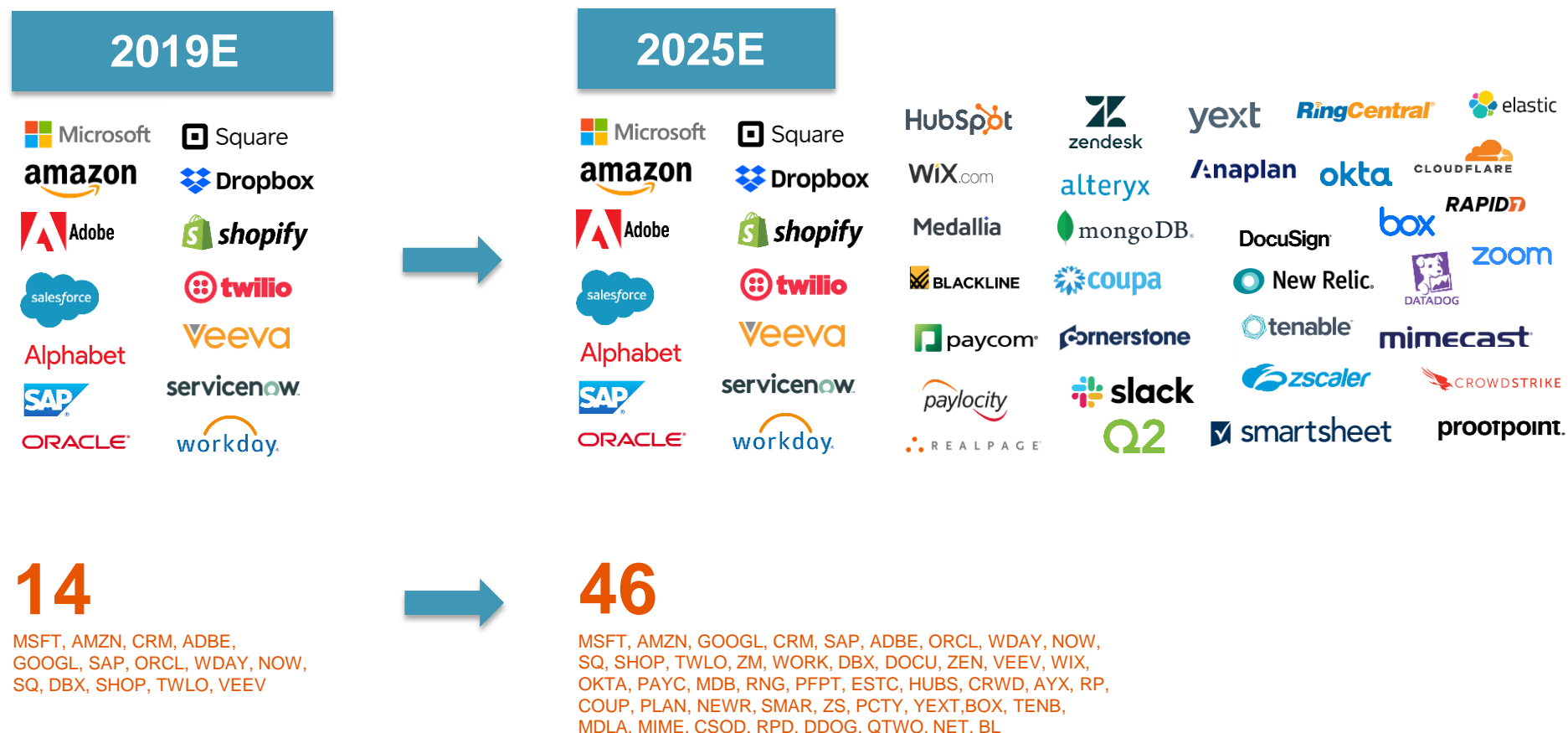
# SaaS Thesis: The Long-Tail Opportunity in SaaS

Invest in the “long-tail opportunity” within SaaS. While 51% of the SaaS pure-play (n=50) revenue was controlled by the three largest players, the bulk of the YTD returns occurred in the remaining long-tail.



# SaaS Thesis: Billion Dollar Cloud Could Triple to 46 by 2025

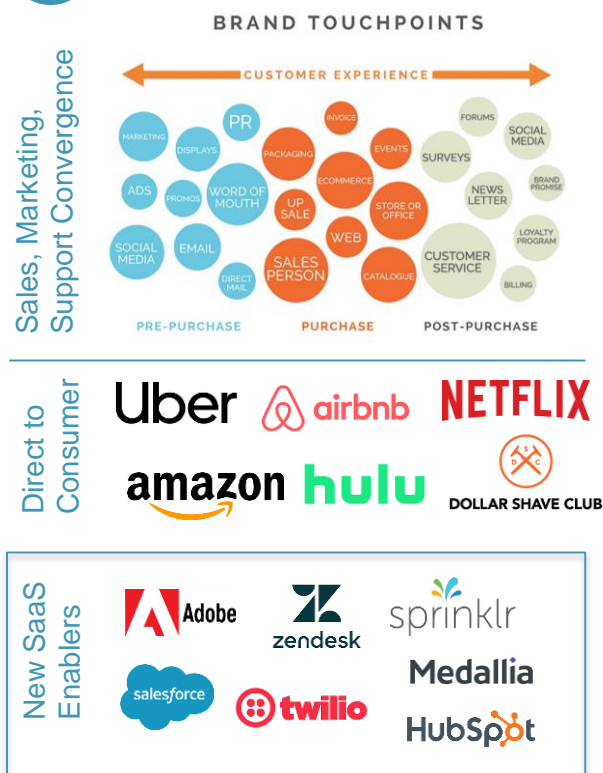
**See potential for 46 billion-dollar SaaS business models by CY25.** Based on our analysis of the 55 largest cloud software platforms and forecast through CY25E, we estimate that the number of SaaS business models that could generate \$1B+ in revenue could triple to 46 in CY25E vs. 14 in CY19E.



# SaaS Thesis: Three Major SaaS Themes to Watch

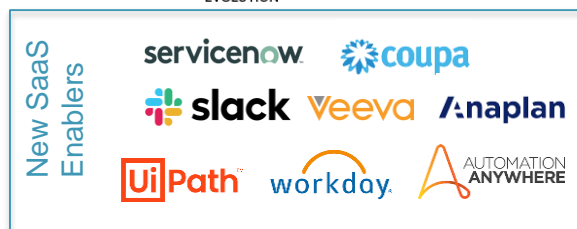
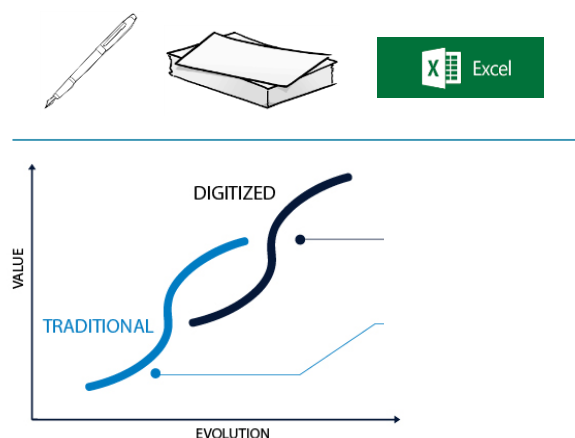
**Closely monitor three major SaaS investment themes.** We anticipate outsized growth potential in SaaS business models that are linked to three major themes across the cloud sector, including: (1) the **Experience Era** driven by consumer brands that now intensely compete on differentiated customer, product, and employee experiences, (2) **Rise of Automation** of traditional back-office and middle-office workflows, and (3) **Data Modernization** disruption that is retooling a data stack that has been largely untouched for 20+ years.

## 1 Experience Era



## 2 Rise of Automation

Traditional back office workflows are still rooted in manually intensive processes

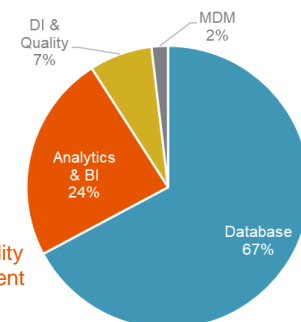


## 3 Data Modernization

Modernization the legacy data stack originally built for client-server workloads

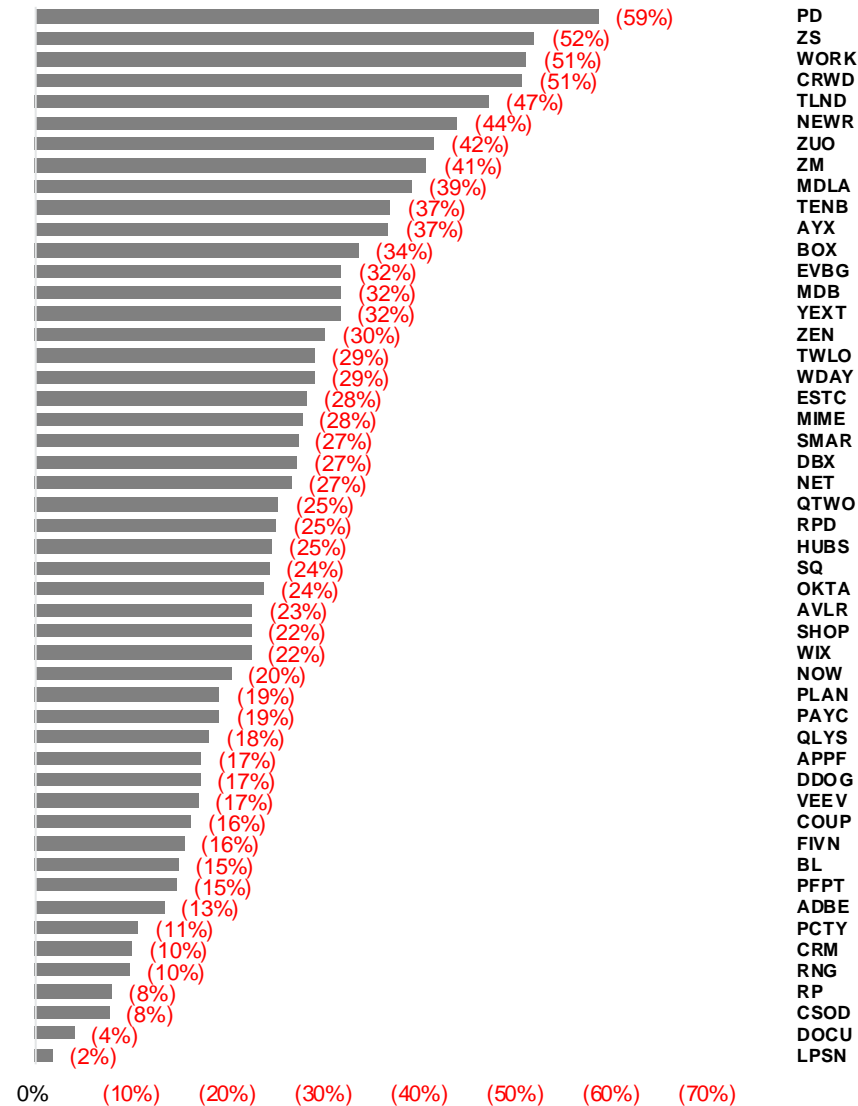
**\$87B**

- Market Opportunity
- Database
  - Analytics
  - Data Integration & Quality
  - Master Data Management



## CloudTracker | Performance Monitor - 26% Below 52W Highs

% off 52 Week High - Cloud 50



Investor optimism on SaaS has eroded as valuation and growth concerns resurface, pressuring the **CloudTracker** to fall 26% below the highs, on average.

## CloudTracker | Valuation Monitor – NTM EV/S

Enterprise Value to Sales - NTM



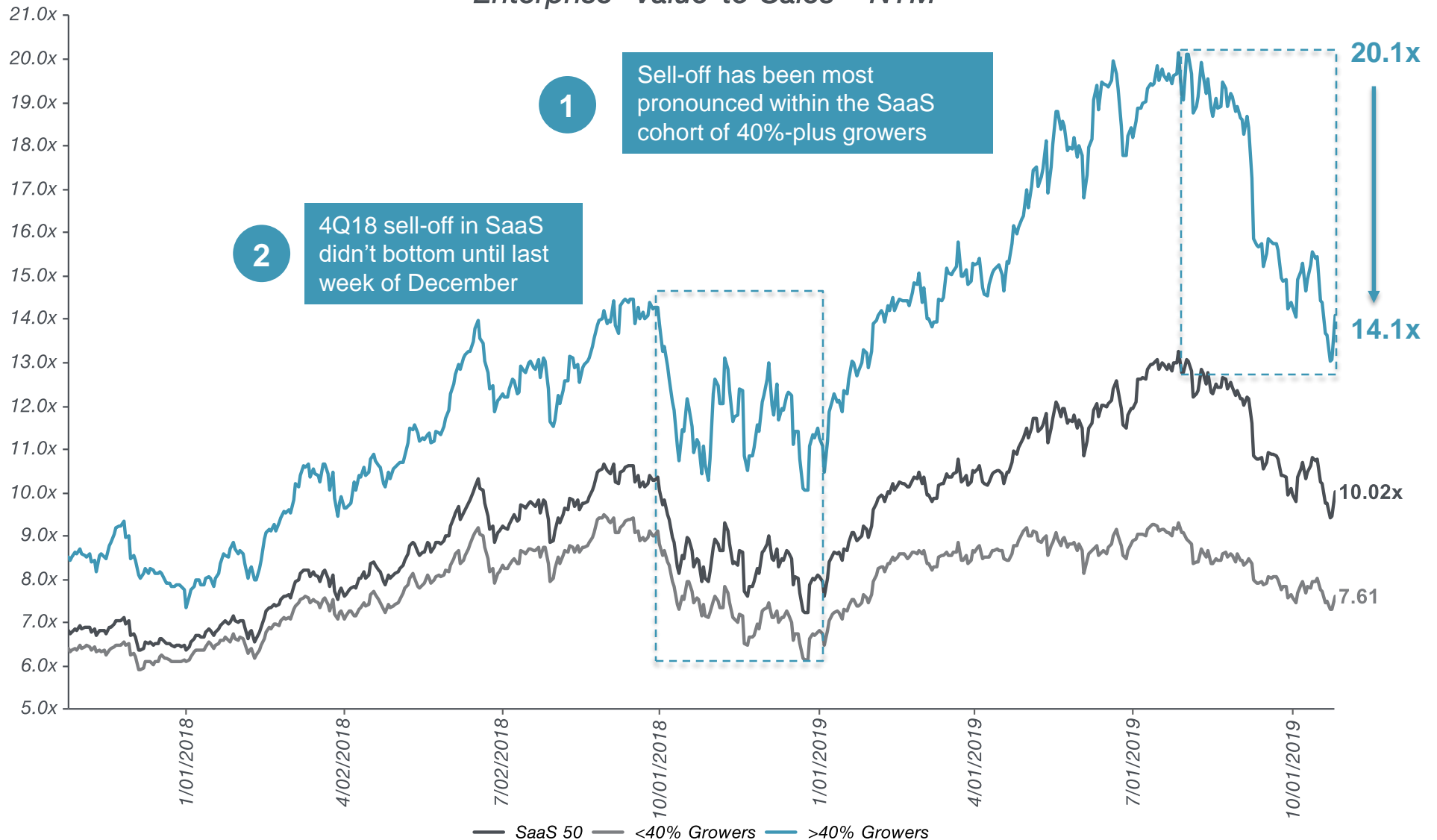
Notes: Reflects 10/25/19 closing pricing.

Source: Corporate Reports, FactSet, Piper Jaffray Estimates

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## CloudTracker | Valuation Monitor – NTM EV/S By Growth Cohort

Enterprise Value to Sales - NTM



Notes: Reflects 10/25/19 closing pricing.

Source: Corporate Reports, FactSet, Piper Jaffray Estimates

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## CloudTracker | Metric Monitor – Ranked By Growth

Tier 1				Tier 2				Tier 3				Tier 4				Tier 5			
Ticker	2Q % y/y	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	2Q19 % y/y	2020 EV/S	2021 EV/S
CRWD	103%	17.5x	13.1x	PD	49%	10.4x	8.2x	DOCU	37%	9.5x	7.6x	WIX	27%	5.7x	4.5x	DBX	18%	4.2x	3.7x
ZM	103%	22.6x	18.6x	NET	49%	11.9x	9.1x	ZEN	37%	7.0x	5.5x	FIVN	27%	8.9x	7.5x	BOX	16%	3.4x	3.0x
TWLO	86%	9.1x	7.4x	SHOP	48%	16.2x	12.3x	EVBG	35%	9.3x	7.8x	MIME	27%	5.2x	4.4x	QLYS	16%	8.2x	7.1x
DDOG	82%	21.3x	16.3x	PLAN	47%	13.5x	10.4x	RPD	35%	6.1x	5.0x	BL	26%	7.4x	6.2x	LPSN	15%	7.6x	6.3x
MDB	78%	16.7x	12.9x	COUP	44%	18.4x	14.2x	YEEXT	35%	4.5x	3.5x	VEEV	25%	17.4x	15.1x	RP	13%	5.6x	5.1x
WORK	67%	13.5x	10.0x	SQ	44%	8.8x	7.3x	APPF	35%	9.9x	8.3x	ADBE	25%	10.2x	8.9x	CSOD	7%	5.3x	4.5x
ESTC	63%	13.3x	10.2x	AVLR	43%	11.0x	9.0x	TENB	34%	5.4x	4.5x	PCTY	25%	7.9x	6.6x	Average		5.7x	4.9x
ZS	61%	12.1x	9.5x	Average		12.9x	10.1x	RNG	34%	12.1x	10.0x	CRM	24%	5.8x	4.9x	2021 EV/S <b>4.9x</b> Sub-20% growers have materially lower multiples.			
AYX	59%	11.5x	8.9x					HUBS	33%	8.0x	6.5x	PFPT	23%	6.5x	5.5x				
SMAR	55%	11.7x	8.4x					WDAY	33%	8.2x	6.7x	TLND	23%	3.4x	2.9x				
OKTA	50%	16.8x	12.8x					QTWO	33%	8.9x	7.4x	ZUO	22%	4.4x	3.7x				
Average		15.1x	11.7x					MDLA	32%	5.9x	5.3x	Average		7.5x	6.4x				
								NOW	32%	10.1x	8.1x								
								PAYC	31%	13.6x	11.4x								
								NEWR	30%	4.8x	3.9x								
								Average		8.2x	6.8x								

2021 EV/S

**11.1x**

SaaS cohort of 40%-plus growers is valued at a premium

Notes: Reflects 10/25/19 closing pricing.

Source: FactSet, Piper Jaffray Estimates

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## CloudTracker | Metric Monitor – Ranked By Rule 40 (Growth+Margin)

Tier 1				Tier 2				Tier 3				Tier 4				Tier 5				
Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	L4Q R40	2020 EV/S	2021 EV/S	Ticker	2Q19 % y/y	2020 EV/S	2021 EV/S	
ZM	123%	22.6x	18.6x	MDB	59%	16.7x	12.9x	CRM	49%	5.8x	4.9x	RNG	39%	12.1x	10.0x	CSOD	27%	5.3x	4.5x	
DDOG	84%	21.3x	16.3x	SQ	57%	8.8x	7.3x	APPF	48%	9.9x	8.3x	MIME	39%	5.2x	4.4x	BOX	27%	3.4x	3.0x	
ZS	73%	12.1x	9.5x	PFPT	51%	6.5x	5.5x	EVBG	47%	9.3x	7.8x	WORK	37%	13.5x	10.0x	RPD	24%	6.1x	5.0x	
TWLO	72%	9.1x	7.4x	OKTA	55%	16.8x	12.8x	WDAY	46%	8.2x	6.7x	NEWR	36%	4.8x	3.9x	MDLA	22%	5.9x	5.3x	
AYX	71%	11.5x	8.9x	PAYC	54%	13.6x	11.4x	ZEN	45%	7.0x	5.5x	QTWO	35%	8.9x	7.4x	ZUO	20%	4.4x	3.7x	
CRWD	67%	17.5x	13.1x	QLYS	53%	8.2x	7.1x	DOCU	45%	9.5x	7.6x	TENB	34%	5.4x	4.5x	TLND	20%	3.4x	2.9x	
VEEV	67%	17.4x	15.1x	SHOP	53%	16.2x	12.3x	DBX	44%	4.2x	3.7x	AVLR	34%	11.0x	9.0x	PLAN	18%	13.5x	10.4x	
ESTC	62%	13.3x	10.2x	COUP	53%	18.4x	14.2x	PCTY	43%	7.9x	6.6x	YEXT	32%	4.5x	3.5x	NET	16%	11.9x	9.1x	
ADBE	62%	10.2x	8.9x	SMAR	51%	11.7x	8.4x	FIVN	40%	8.9x	7.5x	BL	31%	7.4x	6.2x	LPSN	2%	7.6x	6.3x	
NOW	57%	10.1x	8.1x	WIX	50%	5.7x	4.5x	Average		7.9x	6.5x	RP	31%	5.6x	5.1x	Average		6.8x	5.6x	
Average			14.5x	11.6x	HUBS	50%	8.0x	6.5x							PD	30%	10.4x	8.2x		
				Average			11.9x	9.4x				Average			8.1x	6.6x				

10 of the 50 SaaS pure-plays have growth+margin metrics between 60% and 123%

30 of the 50 SaaS pure-plays are balancing growth and profitability

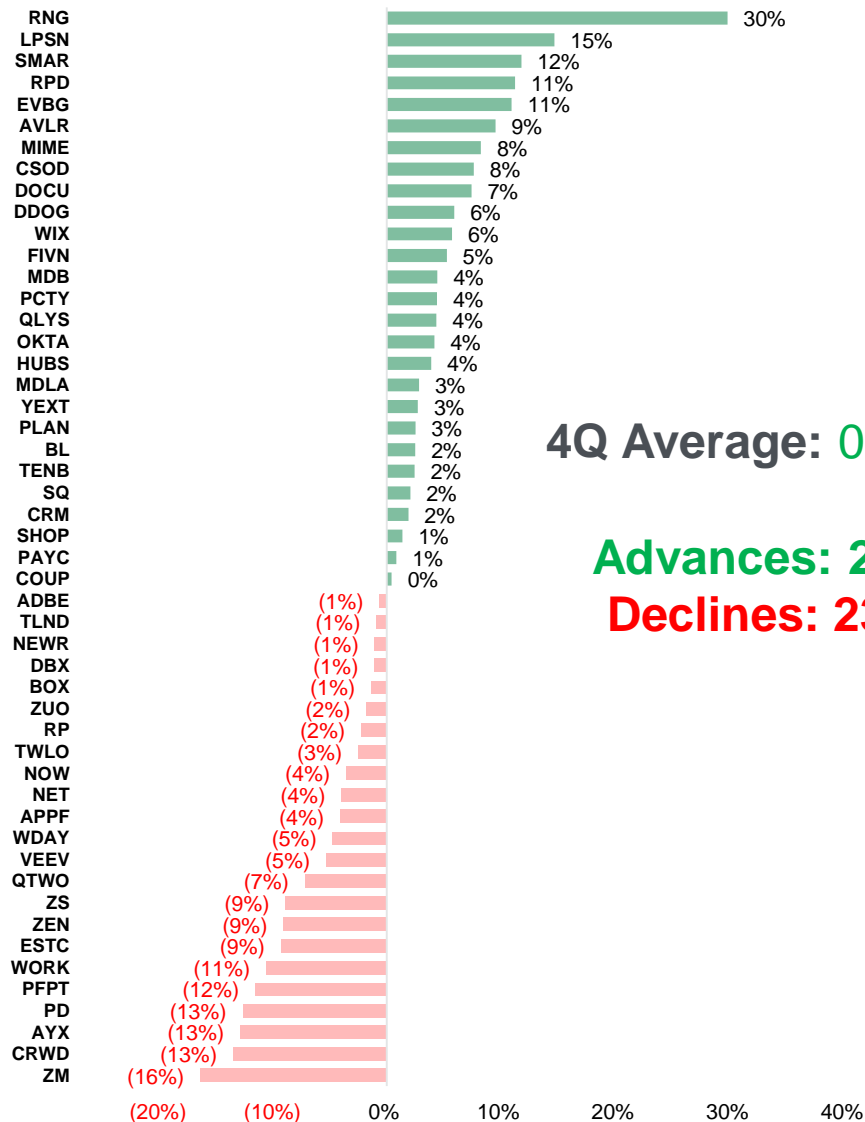
Notes: Reflects 10/25/19 closing pricing.

Source: FactSet, Piper Jaffray Estimates

PIPER JAFFRAY

## CloudTracker | Performance Monitor – Quarterly

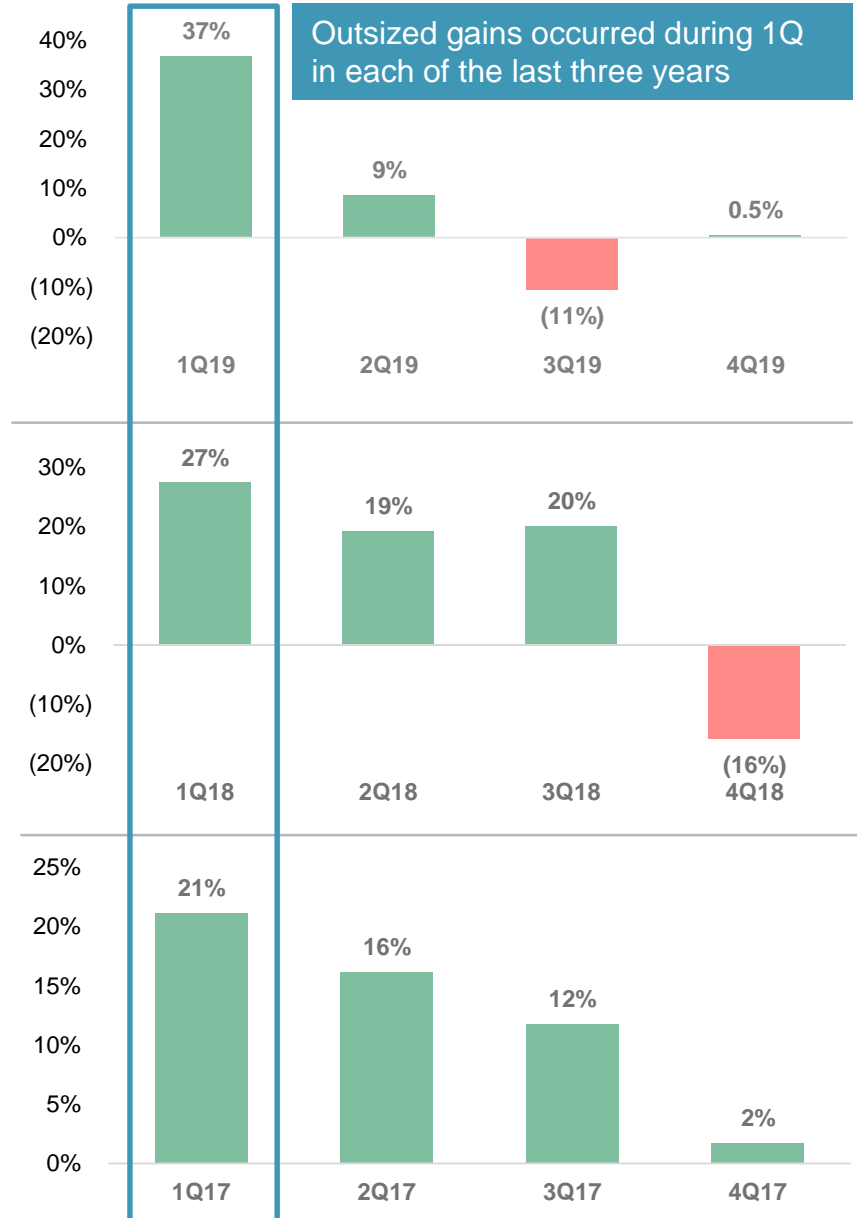
4Q19 Performance - Cloud 50



4Q Average: 0.5%

Advances: 27

Declines: 23



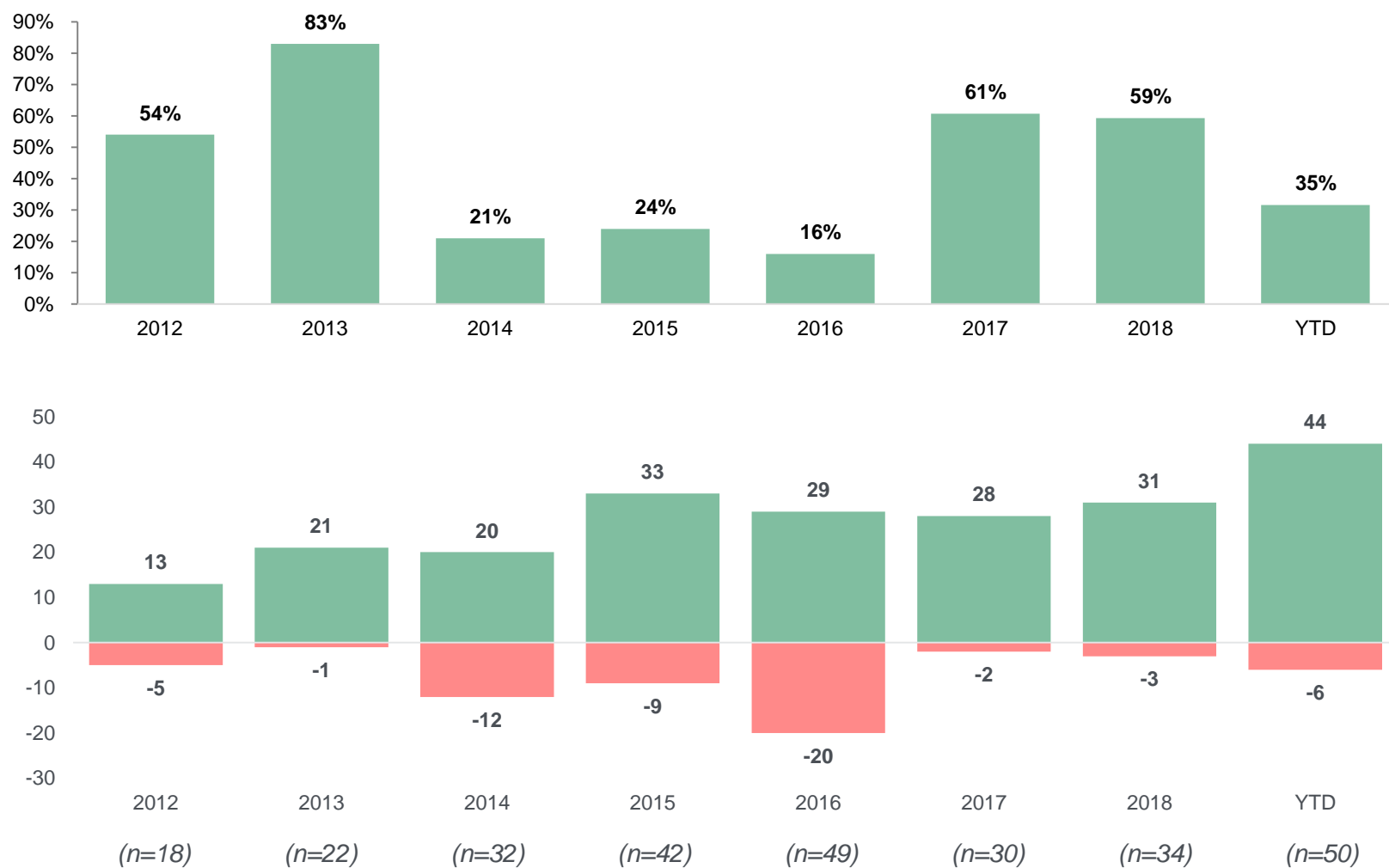
Outsized gains occurred during 1Q in each of the last three years

Notes: Reflects 10/25/19 closing pricing.

Source: FactSet, Piper Jaffray Estimates

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## CloudTracker | Performance Monitor - Annual



Notes: Reflects 10/25/19 closing pricing.

Source: FactSet, Piper Jaffray Estimates

# 03

TWLO: Assuming Coverage of Twilio

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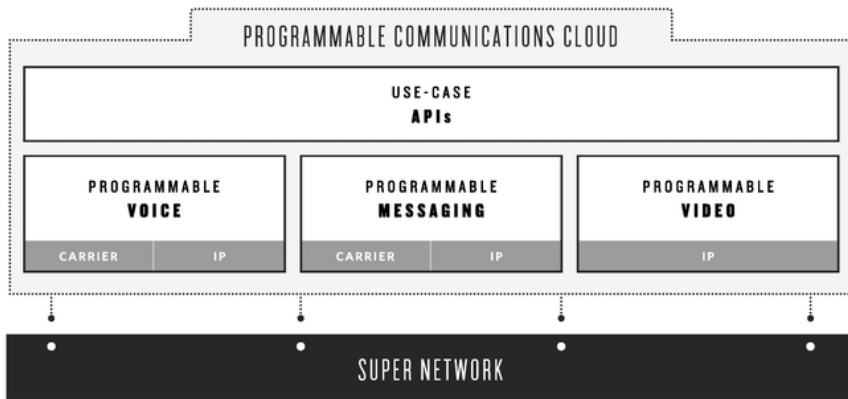
# TWLO: Assuming with OW Rating and \$141 PT

*Twilio has emerged as the new programmable software API layer to empower delivery of digital experiences (messaging, voice, e-mail) for customers like Uber, Airbnb, Nordstrom, and Instacart.*

- 1 Large greenfield opportunity.** Addressing a \$66B TAM by powering new digital delivery experiences within a trillion-dollar-plus communications sector.
- 2 Usage-based API model remains a durable growth lever.** We estimate the blended net expansion rate across Twilio and SendGrid combined remains above 130%.
- 3 Competitive moat is widening.** Well positioned for share gains on first mover advantage, global Super Network, 5M+ developers, and ambitious product roadmap.
- 4 Revenue could triple to \$3.6B base-case by CY24E.** Expanding number of use-cases and cross-sell opportunities could expand ARPU to \$13K by CY24E vs. \$6.5K today across 250K+ customers. See upside potential to bull-case revenue of \$6.4B (41% CAGR CY19E – CY24E).
- 5 Premium valuation is warranted.** Few cloud software franchises are at \$1B+ run-rate, yet still growing organically by 50%-plus with a profitable model, large TAM opportunity, and strong leadership.

# TWLO: Product Overview and Market Opportunity

## Product Overview



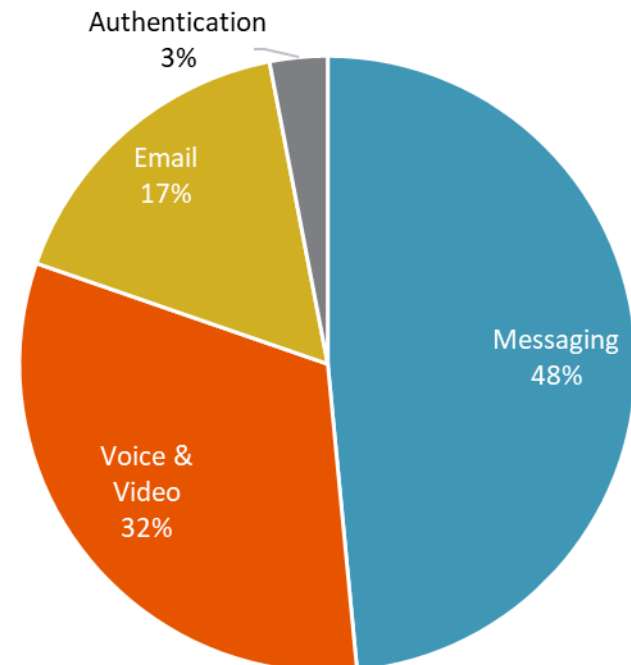
Twilio provides a range of programmable APIs, (snippets of code) that allow developers to embed voice, video, messaging into their applications anywhere in the world.

Twilio recently has invested in combining these building block APIs into full fledged applications, such as Flex, call center software that manages incoming customer communication.

## TAM Opportunity (B)

**\$66B**

Total  
addressable  
market



## Competitors

**nexmo**  
a Vonage Company

**plivo**

**bandwidth**

**MessageBird**

Source: Twilio Corporate Reports (15 October 2018) |

[https://s21.q4cdn.com/247074597/files/doc\\_presentations/2018/10/Twilio-Signs-Definitive-Agreement-to-Acquire-Sendgrid.pdf](https://s21.q4cdn.com/247074597/files/doc_presentations/2018/10/Twilio-Signs-Definitive-Agreement-to-Acquire-Sendgrid.pdf)

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# TWLO Forecast: Revenue Could Triple to \$3.6B+

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$650	\$1,119	\$1,509	\$1,939	\$2,441	\$2,983	\$3,646
Growth % Y/Y	62.9%	72.1%	34.9%	28.5%	25.9%	22.2%	22.2%
FCF	(\$16)	(\$30)	\$28	\$97	\$293	\$537	\$911
FCF margin	-2.5%	-2.7%	1.8%	5.0%	12.0%	18.0%	25.0%
Programmable API	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000
TAM penetration	1.0%	1.7%	2.3%	2.9%	3.7%	4.5%	5.5%

# \$3.6B

Base-case Revenue  
CY24E

**Assumes 27% CAGR**  
(CY19E-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$650	\$1,157	\$1,736	\$2,517	\$3,523	\$4,757	\$6,421
Growth % Y/Y	62.9%	78.0%	50.0%	45.0%	40.0%	35.0%	35.0%
FCF	(\$16)	(\$90)	\$0	\$227	\$529	\$951	\$1,605
FCF margin	-2.5%	-7.8%	0.0%	9.0%	15.0%	20.0%	25.0%
Programmable API	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000	\$66,000
TAM penetration	1.0%	1.8%	2.6%	3.8%	5.3%	7.2%	9.7%

# \$6.4B

Bull-case Revenue  
CY24E

**Assumes 41% CAGR**  
(CY19E-CY24E)

# TWLO: Likely Areas of Pushback

## 1 Decelerating Growth

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19
Base Organic Growth	45.7%	54.1%	67.8%	76.8%	63.6%	56.2%

Organic growth has decelerated for two straight quarters to 56.2% vs. peak of 76.8% in 4Q18 on tough compares.

## 2 Gross Margin

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19
Gross Margin	55.0%	55.0%	55.4%	54.0%	58.5%	59.5%

Variable COGS model results in slightly lower gross margin similar to Shopify (SHOP).

## 3 Competition

Company	Employees	% Y/Y
Plivo	154	-2%
MessageBird	239	+39%
Nextmo (VG)	447	+16%
Bandwidth (BAND)	777	+23%
Twilio (TWLO)	2,552	+73%

Twilio's headcount is larger than top four competitors combined and growing at a faster pace.



# TWLO: Management Team

11

Years in Current Role

## Jeff Lawson

*Chief Executive Officer, President and Co-Founder*

Mr. Lawson is one of the founders and is the current Chief Executive Officer of Twilio. Prior to co-founding Twilio, Mr. Lawson served as founder and CTO of Nine Star, Inc.. From 2004 to 2005, Mr. Lawson served as Technical Product Manager of Amazon.com, Inc.. In 2000, Mr. Lawson served as Chief Technology Officer of StubHub, Inc., an online marketplace for live entertainment events. Mr. Lawson received a B.S. in Computer Science & Film/Video from the University of Michigan.

3

Years in Current Role

## George Hu

*Chief Operating Officer*

Mr. Hu joined Twilio in 2017. Previously Mr. Hu founded Peer, an anonymous feedback tool for the workplace, that was acquired by Twitter in 2016. Mr. Hu was at Salesforce for 13 years prior to Peer, where he most recently served as Chief Operating Officer for 4 years. Mr. Hu received a bachelor's degree in economics from Harvard and a M.B.A from Stanford Graduate School of Business.

5

Years in Current Role

## Karyn Smith

*General Counsel*

Ms. Smith joined Twilio in 2014 as the Company's first Lawyer. Today she leads legal, government affairs, and trust and security, and from 2016 – 2017 Ms. Smith served as the interim Chief People Officer. Previously Ms. Smith was Zynga's VP and Deputy General Counsel. Before Zynga Ms. Smith was a partner at Cooley LLP, representing emerging growth companies for 10 years. Ms. Smith holds a Bachelor of Journalism from the University of Missouri, Columbia, and J.D. cum laude from Santa Clara University School of Law.

1

Year in Current Role

## Khozema Shipchandler

*Chief Financial Officer*

Mr. Shipchandler joined Twilio in late 2018. Previously Mr. Shipchandler served in various roles at GE for over 20 years, most recently as GE Digitalis's Chief Commercial Officer. Mr. Shipchandler holds a B.A. in English, Biology and Economics from Indiana University Bloomington.

1

Year in Current Role

## Chee Chew

*Chief Product Officer*

Mr. Chew joined Twilio in beginning of 2019. Previously Mr. Chew worked at Amazon as the Vice President of Consumer Engagement where he was responsible for the user shopping experience on mobile and desktop. Mr. Chew has also worked at Google as VP of Engineering and a GM at Microsoft. Mr. Chew has a B.S. and M.S. in Computer Science from Massachusetts Institute of Technology (MIT).

# TWLO: Valuation & Investment Risks

## Establishing a 12-month price target of \$141

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$3,646	\$6,421	\$3,169
Estimated FCF (000s)	\$911	\$1,605	\$697
Estimated % FCF margin	25%	25%	22%
Discount rate	15%	15%	15%
Duration (years)	3	3	3
Discounted FCF	\$599	\$1,056	\$458
Assumed EV/FCF multiple	34x	30x	25x
Enterprise value	\$20,376	\$31,667	\$11,230
Net cash (debt)	\$785	\$785	\$785
FD share count (CY21E)	150	152	150
Annual dilution	2%	3%	2%
<b>Share value</b>	<b>\$141</b>	<b>\$213</b>	<b>\$80</b>
<b>% upside</b>	<b>32%</b>	<b>100%</b>	<b>-25%</b>
Implied EV/S (CY21E)	10.5x	12.6x	6.2x



## RISKS

- **Outages and bugs.** If the product(s) have outages or severe bugs the company's reputation could be damaged, cause a security vulnerability or have potential financial losses due to SLA contracts, regulatory fines, and down time.
- **Reliant on third party networks.** Twilio relies on third party vendors for its cloud infrastructure, AWS, and carriers to deliver messages. If any of those services have a disruption it could affect Twilio customers usages. Reliance on carriers and cloud providers also could put pressure on margins as those providers could increase pricing.
- **Aggressive Investments.** The company is heavily investing in their products. If these investments do not materially grow revenue it could cause weakened probability and a decline in stock price.
- **Competitive threat.** The company is operating in a highly competitive market with many incumbents and new players. Failure to increase market share could hinder growth.

Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	22.4x	12.6x	8.4x	5.8x
Base-case	22.4x	13.0x	9.7x	7.5x
Bear-case	22.4x	13.1x	10.1x	8.1x
EV/FCF				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

# 04

## PLAN: Assuming Coverage of Anaplan

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# PLAN: Assuming with OW rating and \$58 PT

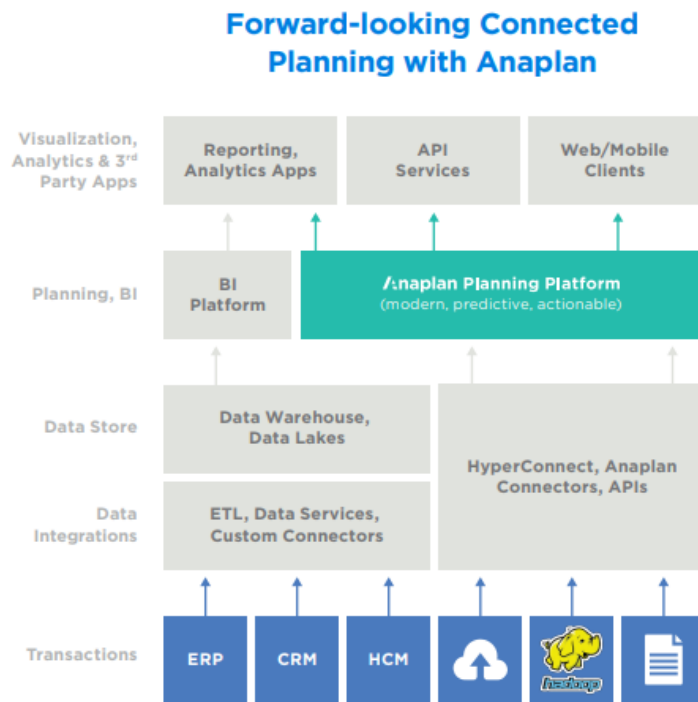
*Anaplan is the leader in cloud software for connected planning with a multi-departmental focus targeting large G2K enterprise customers like Alphabet, Coca-Cola, United Airlines, etc.*

- 1 Cloud planning – a modern alternative for the digital enterprise.** Anaplan has emerged as the leading SaaS alternative replacing legacy solutions like Oracle Hyperion, IBM Cognos and Excel addressing a \$21B TAM.
- 2 Strong land and expand model.** The Honeycomb approach has contributed to new use-cases and a net expansion rate of >120% while sustaining 40%-plus revenue growth for six consecutive quarters. The average top 10 customer ARR is now \$5M+.
- 3 Differentiated technology with less than 15% G2K logo penetration.** *Hyperblock* is a patented in-memory cloud database with a built-in calculation engine built for enterprise-wide scalability creating a differentiated enterprise-grade experience.
- 4 Revenue could triple to \$1.25B by CY24E.** Robust share gains within a large TAM could contribute to a tripling of revenue to base-case of \$1.25B by CY24E (32% CAGR) with upside potential to a bull-case of \$2.1B (44% CAGR).
- 5 Premium valuation is warranted on high-growth prospects.** The combination of high-growth prospects, a large market opportunity, strong leadership, and differentiated technology help justify a premium valuation during a multi-year period of 40%-plus growth.

# PLAN: Product Overview and Market Opportunity

## Product Overview

### Cross-Departmental Enterprise Planning Cloud Platform



Anaplan use cases include: business expansion, acquisitions, sales rep territory assignment, product launch, rip-cord plans

## TAM Opportunity (B)

**72M**

Potential Users

(Knowledge Workers)

**\$21 B**

Performance Management and Analytics Applications Software

## Competitors



Spreadsheets

**ORACLE**  
HYPERION



# PLAN Forecast: Revenue Could Triple to \$1.25B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$241	\$342	\$454	\$585	\$754	\$973	\$1,255
Growth % Y/Y	42.9%	42.3%	32.5%	28.9%	29.0%	29.0%	29.0%
FCF	(\$68)	(\$39)	(\$29)	\$1	\$38	\$117	\$314
FCF margin	-28.4%	-11.5%	-6.4%	0.2%	5.0%	12.0%	25.0%
TAM Penetration	1.1%	1.6%	2.2%	2.8%	3.6%	4.6%	6.0%

# \$1.25B

Base-case Revenue  
CY24E

**Assumes 32% CAGR**  
(CY18-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$241	\$354	\$514	\$740	\$1,058	\$1,503	\$2,104
Growth % Y/Y	42.9%	47.3%	45.0%	44.0%	43.0%	42.0%	40.0%
FCF	(\$68)	(\$34)	(\$23)	\$16	\$74	\$210	\$526
FCF margin	-28.4%	-9.5%	-4.4%	2.2%	7.0%	14.0%	25.0%
TAM Penetration	1.1%	1.7%	2.4%	3.5%	5.0%	7.2%	10.0%

# \$2.1B

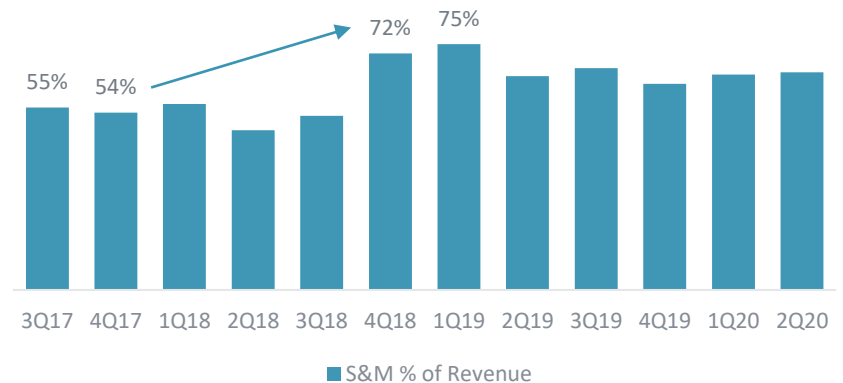
Bull-case Revenue  
CY24E

**Assumes 44% CAGR**  
(CY18-CY24E)

# PLAN: Likely Areas of Pushback

## 1 Sales Investments + Turnover

Heavy sales investments and turnover with the third CRO in three years joining in August 2019.



## 2 Valuation



Shares have risen 83% YTD and remain one of the top performing SaaS names this year after three quarters of accelerating subscription growth which rose to 48.3% last quarter. The CY20E EV/S multiple has expanded to 16x from 9x entering the year.

## 3 Competition



Acquisitions by Workday and SAP within the planning and performance management sector heighten competitive risks

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# PLAN: Management Team

2

Years in Current Role

## Frank Calderoni

Chief Executive Officer and Chairman

Mr. Calderoni has been at Anaplan since 2017. Prior to Anaplan Mr. Calderoni served as Executive Vice President, Operations, and Chief Financial Officer of Red Hat. Mr. Calderoni also worked at Cisco for 11 years in various positions, most recently as Chief Financial Officer. Mr. Calderoni serves on the board of Adobe (ADBE) and Palo Alto Networks (PANW). Mr. Calderoni has a B.S. in Accounting, with a major in Finance from Fordham University and a M.B.A. from Pace University.

1

Year in Current Role

## David Morton

Executive VP and Chief Financial Officer

Mr. Morton has been at Anaplan since Late 2018. Prior to Anaplan Mr. Morton served as Chief Account Officer at Tesla and spent 21 years at Seagate serving most recently as Executive Vice President and Chief Financial Officer, and Principal Accounting Officer. Mr. Morton has a B.S. in Business Administration with a major in Finance, Real Estate and Law from California State Polytechnic University, Pomona.

2

Years in Current Role

## Sampath Gomatam

Senior Vice President , Product

Mr. Gomatam has been at Anaplan since Early 2017, and had been Senior Vice President, Product, since late 2018. Prior to Anaplan Mr. Gomatam has over 18 years in various product management roles at companies such as Citrix, Support.com, and SAP. Mr. Gomatam holds a Bachelor of Technology from the Indian Institute of Technology and a M.B.A. from Santa Clara University.

1

Year in Current Role

## Mark Anderson

Chief Growth Officer

Mr. Anderson has been at Anaplan since August 2019 as the Chief Growth Officer responsible for leading the worldwide sales organization. Prior to Anaplan, Mr. Anderson has over 30 years of experience in various sales management roles at companies such as Palo Alto Networks, F5 Networks, Lucent, Cisco Systems, and Comdisco. Mr. Anderson holds a B.A. in Economics and Business from York University.



# PLAN: Valuation & Investment Risks

## Establishing a 12-month price target of \$58

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$1,255	\$2,104	\$1,011
Estimated FCF (000s)	\$314	\$526	\$233
Estimated % FCF margin	25%	25%	23%
Discount rate	15%	15%	15%
Duration (years)	3	3	3
Discounted FCF	\$206	\$346	\$153
Assumed EV/FCF multiple	45x	45x	25x
Enterprise value	\$9,369	\$15,562	\$3,855
Net cash (debt)	\$356	\$356	\$356
FD share count (CY21E)	167	178	167
Annual dilution	5%	8%	5%
<b>Share value</b>	<b>\$58</b>	<b>\$89</b>	<b>\$25</b>
<b>% upside</b>	<b>20%</b>	<b>84%</b>	<b>-48%</b>
Implied EV/S (CY21E)	16.0x	21.0x	7.0x

## RISKS

- **Aggressive investments.** Anaplan is heavily investing in both product development and sales & marketing resources. If these investments do not result in material revenue gains it could impact the company's growth and valuation.
- **Departure of key personnel.** The company relies on the experience and expertise of certain employees and executives. Failure to retain these employees could cause disruptions in business.
- **Competitive threat.** The company is operating in a highly competitive market with incumbents and new players. Failure to increase market share could hinder growth.
- **Foreign exchange risk.** Anaplan currently generates a portion of its revenue from outside the US. Significant fluctuations in currency could affect reported results.



Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	29.3x	19.9x	13.7x	9.5x
Base-case	29.3x	20.6x	15.6x	12.1x
Bear-case	29.3x	20.8x	16.0x	12.8x
EV/FCF				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

Notes: Reflects 10/25/19 closing pricing.  
Source: FactSet, Piper Jaffray Estimates, Finviz

# 05

## WORK: Initiating Coverage of Slack

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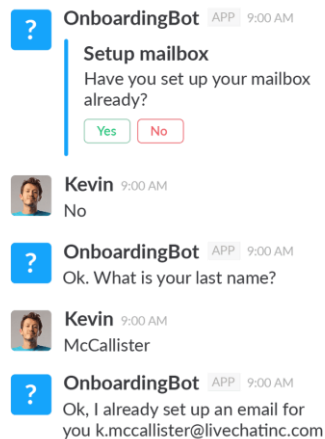
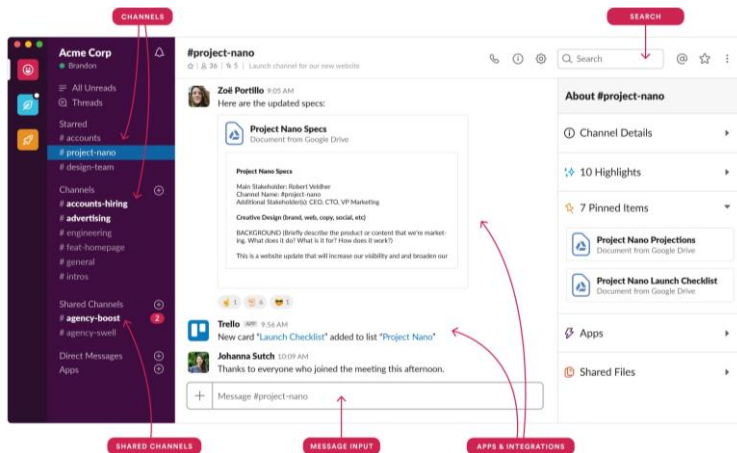
# WORK: Initiating with OW Rating and \$30 PT

*Slack has emerged as a category creator pioneering software to automate middle-office workflows.*

- 1 Disrupting the email status quo.** SMTP-based email has evolved into the de facto standard software tool to digitally communicate and share information for 20+ years. Slack has high ambitions to disrupt the email status quo.
- 2 Email disruption is the means to an automation end.** While email is the near-term target, we see a broader opportunity for Slack to materially improve human to application interactions through a broad ecosystem of integration partners that can help automate repetitive, mundane middle-office workflows and basic tasks.
- 3 Built for enterprise scalability.** While Slack has embraced a freemium model, the paid enterprise segment (cohort spending >\$100K) has grown materially and could account for the majority of revenue in two years.
- 4 Revenue could quadruple to \$2.5B by CY24E.** The greenfield opportunity to automate middle-office workflows at a low-cost of less than \$200/user suggests revenue could expand 4x to a base-case of \$2.5B by CY24E (33% CAGR) with upside to a bull-case of \$4B (45% CAGR).
- 5 Category leadership in a \$30B+ TAM warrants premium valuation.** With shares falling 51% below the June highs, the risk-reward appears favorable at 10x CY21E EV/S assuming it can sustain high growth as it gains share vs. traditional email.

# WORK: Product Overview and Market Opportunity

## Product Overview



## TAM Opportunity (B)

**\$30B**  
Total Addressable Market

	Alphabet Gmail	Microsoft LinkedIn	Microsoft Teams	Slack
Enterprise Users (M)	1000+	530	13	12
% Basic Requirement		67%		
Basic User TAM		355		
ARR per Basic User		\$0		
TAM (M)		\$0		
% Advanced Requirement		33%		
Advanced User TAM		175		
ARR per Advanced User		\$175		
TAM (M)		\$30,608		

**175M**  
advanced user TAM

**355M**  
'free' user TAM

## Competitors



Source: Slack Company Reports

PIPER JAFFRAY

# WORK Forecast: Revenue Could Top \$2.5B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$401	\$609	\$857	\$1,156	\$1,503	\$1,953	\$2,539
Growth % Y/Y	81.6%	52.1%	40.6%	34.9%	30.0%	30.0%	30.0%
FCF	(\$97)	(\$167)	(\$70)	\$15	\$180	\$352	\$635
FCF margin	-24.3%	-27.4%	-8.1%	1.3%	12.0%	18.0%	25.0%
Workspace TAM	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608
TAM penetration	1.3%	2.0%	2.8%	3.8%	4.9%	6.4%	8.3%

**\$2.5B**

Base-case  
Revenue CY24E

**Assumes 33% CAGR**  
(CY19E-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$401	\$621	\$931	\$1,378	\$2,012	\$2,857	\$4,000
Growth % Y/Y	81.6%	55.0%	50.0%	48.0%	46.0%	42.0%	40.0%
FCF	(\$97)	(\$90)	\$0	\$124	\$241	\$429	\$1,000
FCF margin	-24.3%	-14.5%	0.0%	9.0%	12.0%	15.0%	25.0%
Workspace TAM	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608	\$30,608
TAM penetration	1.3%	2.0%	3.0%	4.5%	6.6%	9.3%	13.1%

**\$4.0B**

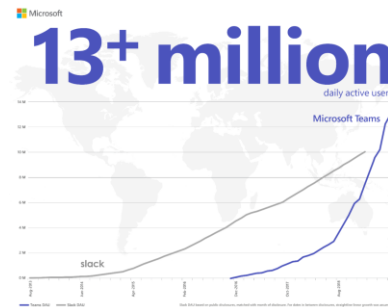
Bull-case Revenue  
CY24E

**Assumes 45% CAGR**  
(CY19E-CY24E)

# WORK: Likely Areas of Pushback

## 1 Competition (Microsoft Teams)

Investor sentiment has increasingly turned negative on the threat of Microsoft Teams.



## 2 Moderating Growth

	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20
Revenue Growth % Y/Y	89.4%	79.3%	82.0%	78.2%	66.6%	57.5%

Growth has moderated from 79% in 2Q19 to 57.5% in 2Q20, exacerbated by outages and \$8M in SLA credits during the July ending quarter further elevating investor concerns on competition.

## 3 Valuation

The direct public offering (DPO) on June 20<sup>th</sup> has been mixed with shares falling 47% below the opening price of \$38.50 with limited to no restrictions on insider and employee selling. The valuation multiple has compressed from 19x CY21E EV/S at the DPO opening price to 10x at current levels.



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# WORK: Management Team

10

Years in Current Role

## Stewart Butterfield

*Chief Executive Officer, Chairman, and Co-Founder*

Mr. Butterfield co-founded Slack in 2009. Previously Mr. Butterfield was a GM at Flickr, a photo sharing site, and was CEO and Co-Founder prior to its acquisitions by Yahoo!. Mr. Butterfield has a B.A. in Philosophy from the University of Victoria and a M.S. of Philosophy from the University of Cambridge.

5

Years in Current Role

## Allen Shim

*Chief Financial Officer*

Mr. Shim joined Slack at the end in 2014 and has been serving as the Chief Financial Officer since January 2018. Prior to Slack Mr. Shim was VP of Finance and Treasurer at YuMe, a data analytics company for TV advertisement. Mr. Shim also worked at Yahoo! in business operations. Mr. Shim holds a B.S. in Economics from Wharton School of the University of Pennsylvania.

3

Years in Current Role

## Robert Frati

*Senior Vice President of Sales and Customer Success*

Ms. Frati joined Slack in 2016 and has been the SVP of Sales and Customer Success since early 2018. Prior to Slack Mr. Frati spent 10 years at Salesforce, most recently as SVP, Commercial Sales, APAC. Mr. Frati has a B.A. in Political Economy from the University of California, Berkeley.

10

Years in Current Role

## Cal Henderson

*Chief Technology Officer and Co-Founder*

Mr. Henderson co-founded Slack in 2009 and has served as the CTO since late 2012. Prior to Slack Mr. Henderson was Director of Engineering at Yahoo! Mr. Henderson holds a B.S. in Software Engineering from the University of Central England.

3

Years in Current Role

## David Schellhase

*General Counsel and Secretary*

Mr. Schellhase has been with Slack since 2016. Previously Mr. Schellhase served as Chief Operating Officer at Honest work, which was acquired by Twitter. Mr. Schellhase has also served as General Counsel for Groupon and salesforce.com. Mr. Schellhase has a B.A. in European History from Columbia University and J.D. from Cornell Law School.

# WORK: Valuation & Investment Risks

## Establishing a 12-month price target of \$30

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$2,539	\$4,000	\$2,046
Estimated FCF (000s)	\$635	\$1,000	\$512
Estimated % FCF margin	25%	25%	25%
Discount rate	15%	15%	15%
Duration (years)	3	3	3
Discounted FCF	\$417	\$658	\$336
Assumed EV/FCF multiple	43x	43x	26x
Enterprise value	\$17,948	\$28,277	\$8,745
Net cash (debt)	\$785	\$785	\$785
FD share count (CY21E)	630	640	625
Annual dilution	3%	3%	2%
<b>Share value</b>	<b>\$30</b>	<b>\$45</b>	<b>\$15</b>
<b>% upside</b>	<b>45%</b>	<b>122%</b>	<b>-25%</b>
Implied EV/S (CY21E)	15.5x	20.5x	8.0x

## RISKS

- **Outages and bugs.** If the product(s) have outages or severe bugs the company's reputation could be damaged, cause a security vulnerability, or have potential financial losses due to SLA contracts, regulatory fines, and down time.
- **Aggressive Investments.** The company is heavily investing in their products. If these investments do not materially grow revenue it could cause weakened probability and a decline in stock price.
- **Departure of key personnel.** The company relies on the experience and expertise of certain employees. Failure to retain these employees could cause disruptions in business.
- **Competitive threat against Microsoft.** The company is operating in a highly competitive market, particularly as it relates to head to head competition against Microsoft Teams. Failure to increase market share could hinder growth.



Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	28.7x	18.5x	12.3x	8.3x
Base-case	28.7x	18.9x	13.4x	9.9x
Bear-case	28.7x	19.2x	13.9x	10.4x
EV/FCF				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

Notes: Reflects 10/25/19 closing pricing.  
Source: Company reports, Piper Jaffray estimates



# 06

## MDB: Initiating Coverage of MongoDB

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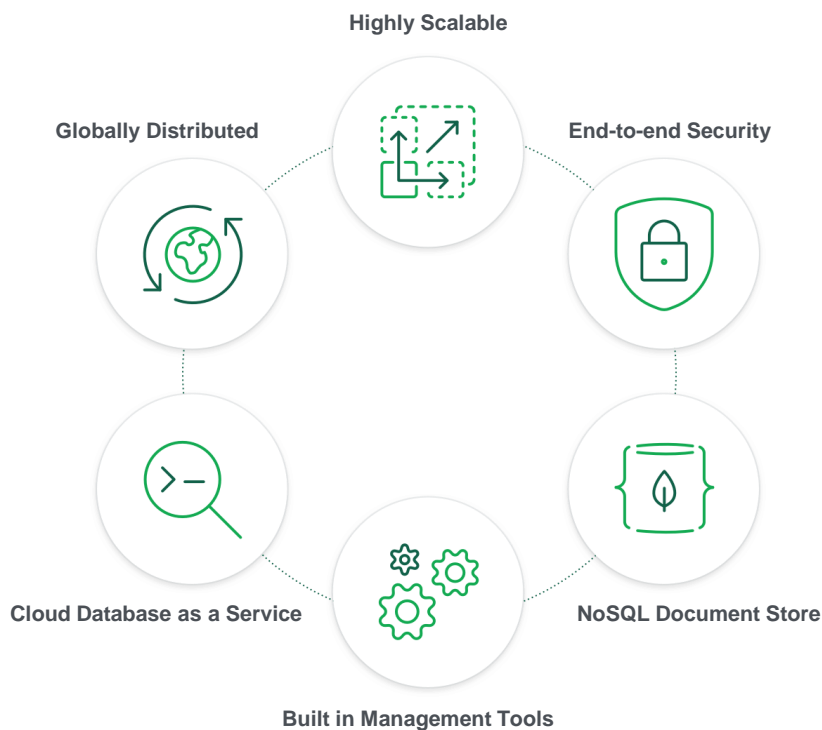
# MDB: Initiating with OW Rating and \$158 PT

*First database software firm to IPO in more than 30 years. Addressing one of largest opportunities in software, the \$63B database market, driven by software development moving to the cloud.*

- 1 Modern database software built for new applications.** Aligns with cloud infrastructure and modern application development, moving past paradigms from the 1980s: IBM, Oracle, Microsoft.
- 2 Cloud database (Atlas) growing triple-digits.** MongoDB Atlas is a managed cloud database service that has witnessed impressive triple-digit growth since inception. Atlas is now 37% of sales vs. 1% three years ago and could exceed 50% in F2022.
- 3 Patented document-based database operating at scale.** MDB has reached meaningful scale (\$400M+ run-rate) based on a differentiated technology stack (patented), a freemium sales distribution model, and strong leadership.
- 4 Revenue could quadruple to \$1.6B by CY24E.** Strong share gain momentum could sustain a 32% CAGR as revenue quadruples to a base-case of \$1.6B with upside potential to a bull-case of \$3B assuming a 49% CAGR or 3% market penetration.
- 5 Premium valuation warranted.** The growth profile, in part driven by the Atlas mix shift, combined with strong leadership, a large market opportunity, and differentiated technology warrants a premium valuation, in our view.

# MDB: Product Overview and Market Opportunity

## Product Overview

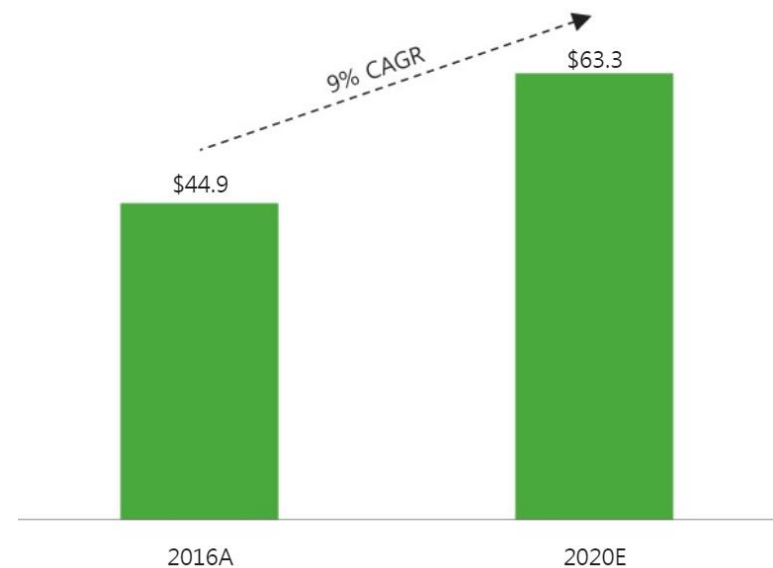


### MongoDB's product portfolio includes:

- Database client (server software)
- User interface for server mgmt
- Security tools
- Serverless / API management
- Mobile database (Realm)

## TAM Opportunity (B) – Database Software

**\$63B**  
Total Addressable  
Market



## Competitors



# MDB Forecast: Revenue Could Quadruple to \$1.6B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$267	\$395	\$519	\$684	\$903	\$1,191	\$1,573
Growth % Y/Y	60.8%	48.0%	31.3%	31.8%	32.0%	32.0%	32.0%
FCF	(\$49)	(\$32)	(\$14)	\$7	\$90	\$143	\$393
FCF margin	-18.3%	-8.0%	-2.7%	1.0%	10.0%	12.0%	25.0%
Database TAM	\$46,000	\$53,000	\$63,000	\$73,000	\$85,000	\$98,000	\$100,000
TAM penetration	0.6%	0.7%	0.8%	0.9%	1.1%	1.2%	1.6%

**\$1.6B**

Base-case Revenue  
CY24E

**Assumes 1.6% market  
share and a 32% CAGR  
(CY19E-CY24E)**

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$267	\$409	\$613	\$919	\$1,379	\$2,041	\$3,000
Growth % Y/Y	60.8%	53.0%	50.0%	50.0%	50.0%	48.0%	47.0%
FCF	(\$49)	(\$15)	\$0	\$83	\$165	\$306	\$750
FCF margin	-18.3%	-3.7%	0.0%	9.0%	12.0%	15.0%	25.0%
Database TAM	\$46,000	\$53,000	\$63,000	\$73,000	\$85,000	\$98,000	\$100,000
TAM penetration	0.6%	0.8%	1.0%	1.3%	1.6%	2.1%	3.0%

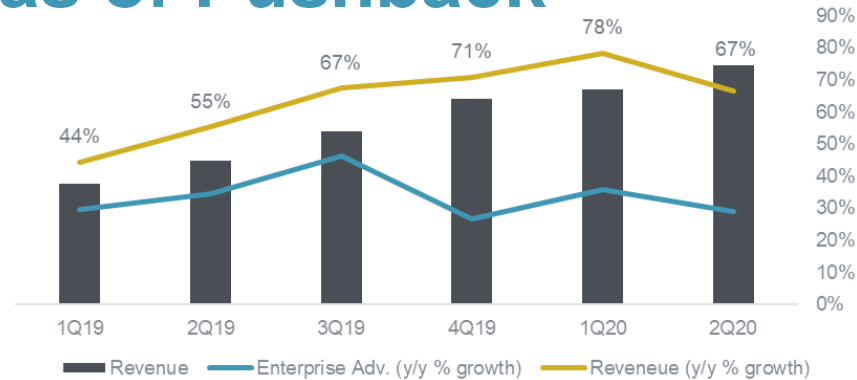
**\$3B**

Bull-case Revenue  
CY24E

**Assumes 3% market share  
and a 49% CAGR  
(CY19E-CY24E)**

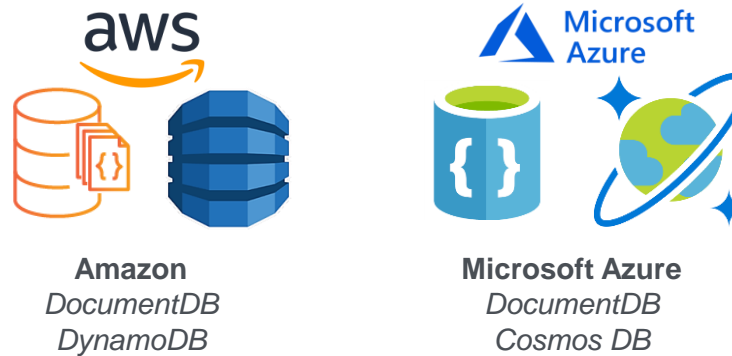
# MDB: Likely Areas of Pushback

## 1 Moderating Growth



Growth is moderating after four straight quarters of acceleration, in part because of ASC606 compares on Enterprise Advanced.

## 2 IaaS Competition



Cloud database realm is increasingly competitive with offerings from the largest cloud platforms, that in some cases are emulating MongoDB document database code.

## 3 International Exposure

Primary geographical markets	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20
Americas	\$33,420	\$38,736	\$42,889	\$57,643	\$57,756	\$64,967
EMEA	\$14,024	\$17,937	\$18,553	\$29,243	\$25,320	\$27,810
Asia Pacific	\$2,695	\$2,938	\$3,543	\$5,395	\$6,312	\$6,591
Americas - % y/y growth	49.2%	58.0%	52.9%	61.7%	72.8%	67.7%
EMEA - % y/y growth	57.1%	79.5%	62.5%	64.4%	80.5%	55.0%
Asia Pacific - % y/y growth	154.5%	169.8%	75.0%	73.5%	134.2%	124.3%

Broader investor concern in macro spending environment. MDB has 35% of revenue from outside the Americas, with EMEA growing below MDB's overall growth last quarter.

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# MDB: Management Team

5

Years in Current Role

## Dev Ittycheria

*Chief Executive Officer, Chairman, and Director*

Mr. Ittycheria has been with MongoDB since 2014. Prior to MongoDB Mr. Ittycheria was a Managing Director at OpenView Venture Partners, before that a Venture Partner at Greylock Partners. Mr. Ittycheria also was a co-founder and Chief Executive Officer at BladeLogic, which was later acquired by BMC software where Mr. Ittycheria then served as President-Enterprise Management. Mr. Ittycheria currently serves on Datadog's (DDOG) board of directors and has previously been on the boards of Bazaarvoice, Athenahealth, and AppDynamics. Mr. Ittycheria has a B.S. in Electrical Engineering from Rutgers University.

11

Years in Current Role

## Eliot Horowitz

*Chief Technology Officer, Co-Founder, and Director*

Mr. Horowitz has been with MongoDB since 2008. Prior to co-founding MongoDB Mr. Horowitz co-founded ShopWiki, an online retail search engine, where he was CTO. Before starting ShopWiki Mr. Horowitz was a software engineer at DoubleClick, a digital advertising company. Mr. Horowitz has a B.S. in Computer Science from Brown University.

3

Years in Current Role

## Michael Gordon

*Chief Operating Officer and Chief Financial Officer*

Mr. Gordon has been with MongoDB since 2015 serving as Chief Financial Officer and stepped into the role of Chief Operating Officer at the end of 2018. Prior to MongoDB Mr. Gordon was Chief Financial Officer and Chief Operating Officer at Yodle, an online marketing company, and before that was a Managing Director at Merrill Lynch in Media and Telecom. Mr. Gordon has a A.B. from Harvard and his M.B.A. from Harvard Business School.

2

Years in Current Role

## Cedric Pech

*Chief Revenue Officer*

Mr. Pech joined MongoDB in 2017 as EMEA sales head before becoming the Chief Revenue Officer in early 2019. Prior to MongoDB Mr. Pech was at Fuzed, an enterprise cloud communication platform, where he most recently served as Senior Vice President of Worldwide Sales. Mr. Pech completed his Class Prepa at Lycee Bois Fleury Grenoble and has his M.B.A. from Montpellier Business School.

# MDB: Valuation & Investment Risks

## Establishing a 12-month price target of \$158

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$1,573	\$3,000	\$1,125
Estimated FCF (000s)	\$393	\$750	\$203
Estimated % FCF margin	25%	25%	18%
Discount rate	15%	15%	15%
Discount period by year	3	3	3
Discounted FCF	\$259	\$493	\$133
Assumed EV/FCF multiple	37x	37x	28x
Enterprise value	\$9,565	\$18,343	\$3,728
Net cash (debt)	\$213	\$213	\$213
FD share count (CY21E)	62	67	62
Annual dilution	3%	8%	3%
<b>Share value</b>	<b>\$158</b>	<b>\$277</b>	<b>\$64</b>
<b>% upside</b>	<b>25%</b>	<b>120%</b>	<b>-49%</b>
Implied EV/S (CY21E)	14.0x	20.0x	6.0x

## RISKS

- **Aggressive Investments.** The company is heavily investing in their products. If these investments do not materially grow revenue it could cause weakened probability and a decline in stock price.
- **Departure of key personnel.** The company relies on the experience and expertise of certain employees. Failure to retain these employees could cause disruptions in business.
- **Competitive threat.** The company is operating in a highly competitive market with incumbents and new players, most notably AWS. Failure to increase market share could hinder growth.
- **Adoption of modern databases among customers.** Enterprises may fail to adopt new databases or do not see the need for a NoSQL store. This could hinder MongoDB's ability to penetrate the database market.



Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	26.6x	17.4x	11.6x	7.7x
Base-case	26.6x	17.9x	13.7x	10.4x
Bear-case	26.6x	18.2x	14.2x	11.3x
EV/FCF				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

Notes: Reflects 10/25/19 closing pricing.  
Source: Company reports, Piper Jaffray estimates, FactSet, Finviz

# 07

## AVLR: Initiating Coverage of Avalara



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# AVLR: Initiating with OW Rating and \$93 PT

*Pioneering a new market for cloud-based automation software for sales tax compliance.*

- 1 Large greenfield market opportunity for compliance software.** The U.S. alone collects more than \$470 billion in sales tax receipts annually with the compliance burden representing an \$8 billion TAM opportunity (2% of total). Europe is even larger with value-added tax collections north of \$1.2 trillion.
- 2 New regulations are helping stimulate adoption.** The landmark Wayfair ruling by the Supreme Court last year opening the door to online sales taxation has helped to stimulate broader compliance adoption with 43 states now enforcing economic nexus. Avalara's revenue growth has accelerated to 42% y/y from 25% y/y one year ago.
- 3 Content and partner ecosystem creates high barriers to entry.** Avalara has amassed 16 million UPC codes critical in assessing sales tax in real-time. This combined with 700 partner integrations creates a high barrier to entry.
- 4 Revenue could triple to \$1.1B.** Based on favorable secular tailwinds and increasing sales tax regulation, revenue could triple to \$1.1B by CY24E (25% CAGR) with potential upside to \$2B (40% CAGR).
- 5 New tax paradigm warrants a long-term ownership mindset.** We are in the very early innings of automating the sales tax compliance process, for both online and offline transactions globally involving trillions of tax dollars.

# AVLR: Product Overview and Market Opportunity

## Product Overview

**Avalara** AvaTax

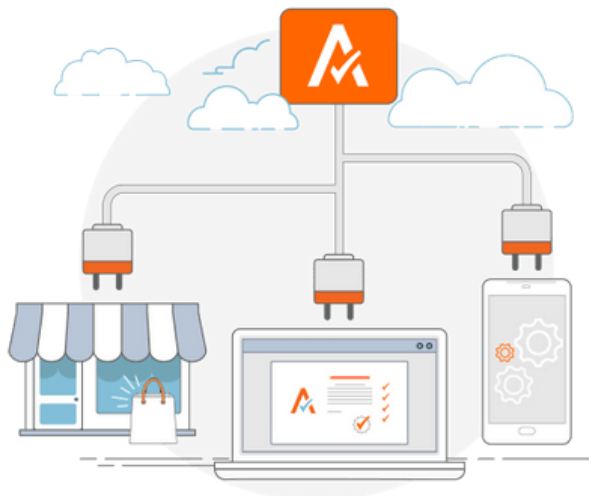
*Filing and Remittance*

**Avalara** Returns

*Tax Rate Calculation*

**Avalara** CertCapture

*Tax Document Management*



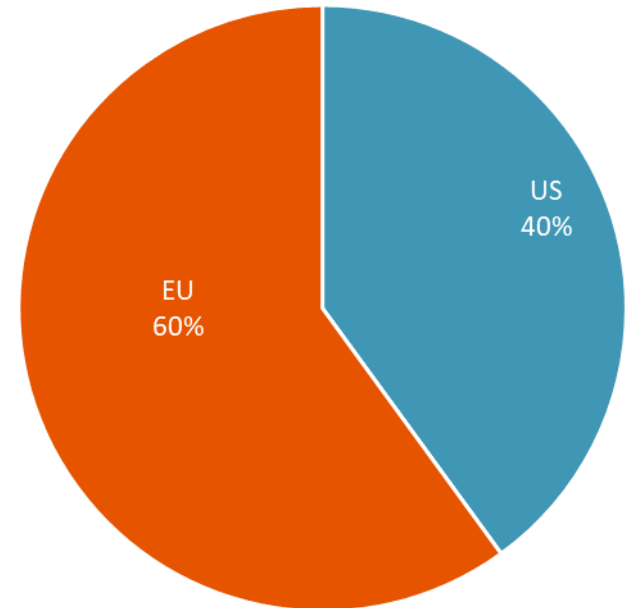
## TAM Opportunity (B)

# \$20B

Total addressable market

### US + EU Tax Compliance TAM

Sales tax receipts (B)	\$1,672
Estimated compliance tax rate	1.2%
Compliance automation TAM (M)	\$20,000
Avalara U.S. revenue (M)	\$367
<b>US + EU penetration rate</b>	<b>1.8%</b>



## Competitors

  
**Spreadsheets**

  
**TaxJar**

 **VERTEX**

**SOVOS**  
SOLVE TAX FOR GOOD™

# AVLR Forecast: Revenue Could Triple to \$1.1B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$272	\$367	\$459	\$575	\$718	\$898	\$1,122
Growth % Y/Y	27.5%	35.1%	25.0%	25.2%	25.0%	25.0%	25.0%
FCF	(\$19)	(\$0)	\$19	\$52	\$108	\$171	\$281
FCF margin	-6.8%	0.0%	4.1%	9.0%	15.0%	19.0%	25.0%
US+EU TAM	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
TAM penetration	1.4%	1.8%	2.3%	2.9%	3.6%	4.5%	5.6%

**\$1.1B**

Base-case Revenue  
CY24E

**Assumes 25% CAGR**  
(CY19E-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$272	\$380	\$533	\$746	\$1,044	\$1,461	\$2,046
Growth % Y/Y	27.5%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
FCF	(\$19)	\$5	\$25	\$89	\$157	\$263	\$511
FCF margin	-6.8%	1.3%	4.7%	12.0%	15.0%	18.0%	25.0%
US+EU TAM	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
TAM penetration	1.4%	1.9%	2.7%	3.7%	5.2%	7.3%	10.2%

**\$2.0B**

Bull-case Revenue  
CY24E

**Assumes 40% CAGR**  
(CY19E-CY24E)

# AVLR: Likely Areas of Pushback

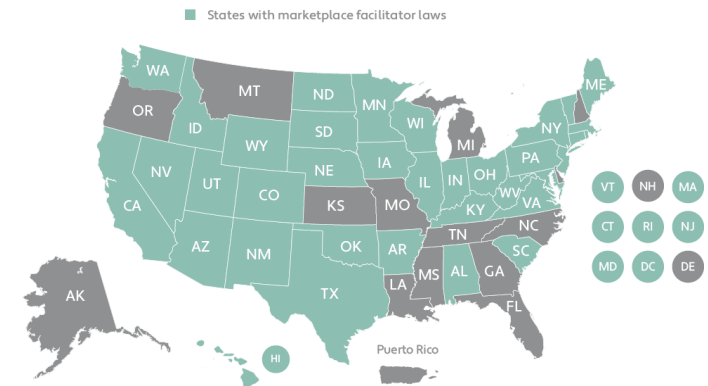
## 1 Wayfair Anniversary

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19
Subscription and Returns	26.2%	23.9%	24.3%	32.5%	35.2%	42.0%

Wayfair ruling occurred on June 21, 2018, and some investor concerns have surfaced on growth prospects after four straight quarters of accelerating growth rates.

## 2 Marketplace facilitator laws

New tax collection requirements for marketplace facilitators went into effect October 1, 2019 adding uncertainty to role and competitive landscape vs. marketplaces.



## 3 High SMB and mid-market exposure

### Small Business Optimism

Index Component	Net %	Change From Aug
Plans to Increase Employment	17%	3
Plans to Make Capital Outlays	27%	-1
Plans to Increase Inventories	2%	0
Expect Economy to Improve	9%	-3
Expect Real Sales Higher	16%	-1
Current Inventory	-6%	0
Current Job Openings	35%	0
Expected Credit Conditions	-4%	-2
Now a Good Time to Expand	22%	-4
Earnings Trend	-3%	-2

# AVLR: Management Team

12

Years in Current Role

## Scott McFarlane

Chief Executive Officer and Chairman

Mr. MacFarlane has been on the board of Avalara since 2004 and Chief Executive Officer since 2007. Mr. McFarlane also served as Chief Operations Officer from 2004 – 2010. Prior to Avalara, Mr. McFarlane spent 6 years at Check Point Software, most recently as Vice President, Strategy And Business Development. Mr. McFarlane has a B.A. in Economics from Claremont McKenna College.

4

Years in Current Role

## William Ingram

Chief Financial Officer

Mr. Ingram has been at Avalara since 2015. Prior to Avalara Mr. Ingram served as Interim Chief Financial Officer at Khan Academy and before that was at Leap Wireless International, the parent company of Cricket Wireless, for 7 years where he most recently served as Executive VP and Chief of Strategy. Mr. Ingram has a B. A. in Economics from Stanford University and an M.B.A. from Harvard.

1

Year in Current Role

## Amit Mathradas

President and COO

Mr. Mathradas has been at Avalara since 2019. Prior to Avalara Mr. Mathradas served as General Manager for North America at PayPal since 2015 and before that was at Web.com and Senior Vice President and General Manager for Web.com. Prior experience included 14 years at Dell, where he was most recently the General Manager of Dell Small Business. Mr. Mathradas has a B. A. in Economics from Wittenberg University and an M.B.A. from Northwestern University – Kellogg School of Management.

1

Year in Current Role

## Sanjay Parthasarathy

Chief Product Officer

Mr. Parthasarathy has been at Avalara since 2019. Prior to Avalara, Mr. Parthasarathy served as Chief Executive Officer and Founder at Indix (acquired by Avalara) since 2012. Prior experience included 19 years at Microsoft where he helped grow the developer tools business into a \$1 billion platform worldwide and helped launch the .NET platform.

6

Years in Current Role

## Alesia Pinney

Executive Vice President, General Counsel, and Secretary

Ms. Pinney has been at Avalara since 2013. Prior to Avalara Ms. Pinney served as Senior VP, General Counsel, and Secretary at Radiant Logistics and has served in similar positions throughout her career. Ms. Pinney has a B.A. in Business Administration in Accounting from Seattle University, a Master of Taxation from the University of Denver, College of Law, and J.D. from Seattle University School of Law.

# AVLR: Valuation & Investment Risks

## Establishing a 12-month price target of \$93

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$1,122	\$2,046	\$1,004
Estimated FCF (000s)	\$281	\$511	\$201
Estimated % FCF margin	25%	25%	20%
Discount rate	15%	15%	15%
Discount period by year	3	3	3
Discounted FCF	\$184	\$336	\$132
Assumed EV/FCF multiple	41x	41x	29x
Enterprise value	\$7,471	\$13,788	\$3,763
Net cash (debt)	\$442	\$442	\$442
FD share count (CY21E)	85	90	85
Annual dilution	2%	5%	2%
<b>Share value</b>	<b>\$93</b>	<b>\$158</b>	<b>\$49</b>
<b>% upside</b>	<b>28%</b>	<b>117%</b>	<b>-32%</b>
Implied EV/S (CY21E)	13.0x	18.5x	7.0x

## RISKS

- **Departure of key personnel.** Failure to retain key employees and corporate executives could cause disruptions in business.
- **Tax calculation errors.** The company's reputation could be damaged if sales taxes are calculated or filed incorrectly, and could pay fines or the difference of miscalculations.
- **Aggressive Investments.** The company is heavily investing in go-to-market activities and tax technology partnerships. If these investments do not materially grow revenue, it could cause negatively impact results and valuation.
- **Regulatory risk to nascent online sales tax rules.** As new tax laws around online sales tax and online marketplaces come into effect, it negatively impact Avalara due to uncertainty of how these laws will be enforced or changed.



Valuation Multiples	CY18	CY19E	CY20E	CY21E
<b>EV/Sales</b>				
Bull-case	17.7x	12.6x	9.0x	6.4x
Base-case	17.7x	13.1x	10.5x	8.4x
Bear-case	17.7x	13.3x	10.9x	9.0x
<b>EV/FCF</b>				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

Notes: Reflects 10/25/19 closing pricing.

Source: Company reports, Piper Jaffray estimates, FactSet, Finviz

# 08

## ESTC: Initiating Coverage of Elastic

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# ESTC: Initiating with OW Rating and \$93 PT

*Elastic is enabling a new generation of infrastructure and analytics with a search-centric approach.*

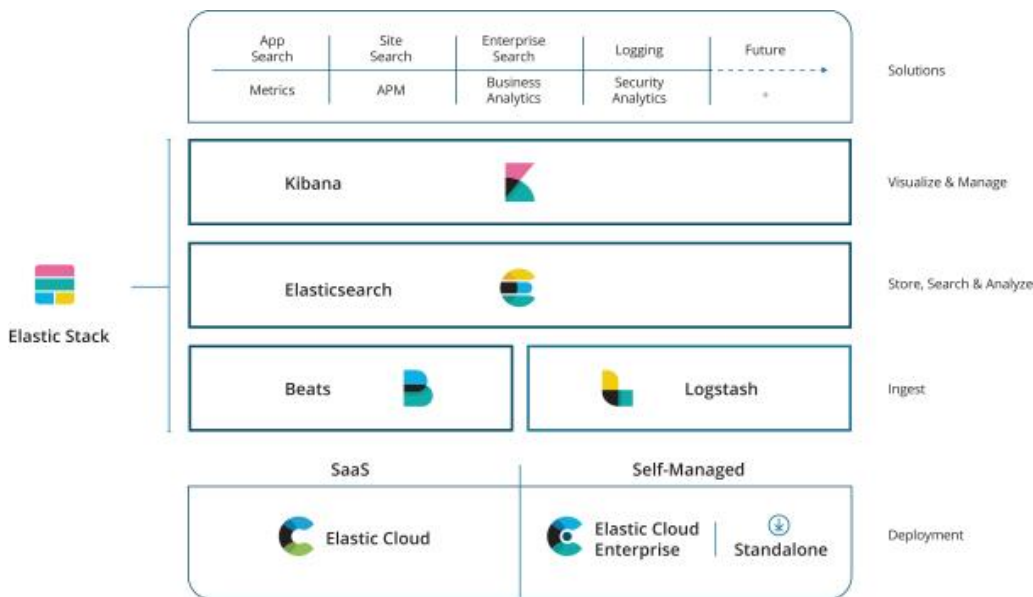
- 1 Democratizing the power of search.** Elastic's open core platform allows any developer to bring robust full text search and analytics to any data addressing a \$45B opportunity.
- 2 General purpose functionality helps sustain high-growth.** Disruptive pricing model coupled with a general-purpose architecture has contributed to a robust net expansion rate that has exceeded 130% for 11 consecutive quarters. Subscription growth has exceeded 50% for more than 9 consecutive quarters.
- 3 Developer focused freemium business model.** Elastic's ability to quickly search and analyze unstructured and structured data coupled with a freemium pricing model has made it the go-to choice for developers.
- 4 Revenue could quadruple to \$1.45B.** We see untapped growth potential to upsell 10K customers to higher paying offerings (only 475 customers pay >\$100K) that could quadruple base-case revenue to \$1.45B by CY24E (32% CAGR), with potential upside to a bull-case of \$2.2B (43% CAGR).
- 5 Growth prospects warrant a premium valuation.** ESTC shares have been volatile but warrant a premium valuation based on solid growth execution (58% last quarter), a differentiated search-centric approach, and a significant TAM opportunity.



# ESTC: Product Overview and Market Opportunity

## Product Overview

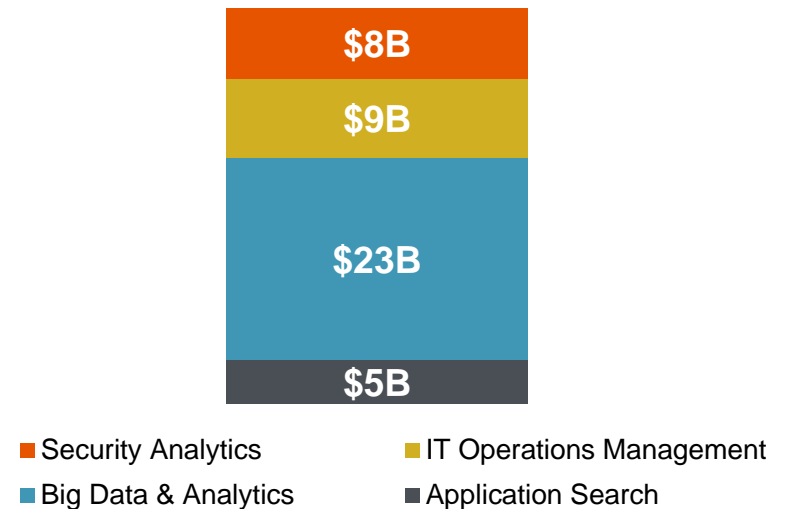
### Foundational Search Technology Platform



Elastic's software products allow developers to ingest & store data from any source and create a data framework to perform text search in milliseconds or less.

## TAM Opportunity (B)

### \$45B Total Market Opportunity



## Competitors



# ESTC Forecast: Revenue Could Quadruple to \$1.5B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$241	\$373	\$521	\$697	\$917	\$1,178	\$1,500
Grow th % Y/Y	60.8%	55.0%	39.7%	33.8%	31.5%	28.5%	27.3%
FCF	(\$32)	(\$30)	(\$0)	(\$10)	\$92	\$141	\$375
FCF margin	-13.1%	-8.2%	-0.1%	-1.4%	10.0%	12.0%	25.0%
Infrastructure TAM	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000
TAM penetration	0.5%	0.8%	1.2%	1.5%	2.0%	2.6%	3.3%

**\$1.5B**

Base-case  
Revenue CY24E

**Assumes 32% CAGR**  
(CY19E-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
Revenue	\$241	\$368	\$552	\$801	\$1,123	\$1,572	\$2,200
Grow th % Y/Y	60.8%	53.0%	50.0%	45.0%	40.2%	40.0%	40.0%
FCF	(\$32)	(\$15)	\$0	\$72	\$135	\$236	\$550
FCF margin	-13.1%	-4.1%	0.0%	9.0%	12.0%	15.0%	25.0%
Infrastructure TAM	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000
TAM penetration	0.5%	0.8%	1.2%	1.8%	2.5%	3.5%	4.9%

**\$2.2B**

Bull-case Revenue  
CY24E

**Assumes 43% CAGR**  
(CY19E-CY24E)

# ESTC: Likely Areas of Pushback

## 1 AWS Open Distro Threat



AWS released its own cloud-hosted version of Elastic in March 2019 built on Elastic's code base, called *OpenDistro for Elasticsearch*.

## 2 Widening Competitive Field



New Elastic use-cases and functionality expand its reach into new markets like SIEM, APM, and end point security where the competitive set begins to broaden.

## 3 International Exposure

Geographic exposure	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20
US	\$28,985	\$97,006	\$32,821	\$37,999	\$39,558	\$45,557
Other	\$20,587	\$62,929	\$23,823	\$25,576	\$31,277	\$35,042
US - y/y Growth	NM	60%	62%	64%	57%	49%
Other - % y/y growth	NM	113%	88%	78%	70%	71%
US - % of revenue	58%	58%	60%	56%	57%	55%
Other - % of revenue	42%	42%	40%	44%	43%	45%

45% of Elastic's revenue comes from outside the U.S.

---

# ESTC: Management Team

2

Years in Current  
Role

## Shay Banon

### Chief Executive Officer, Co-Founder, and Chairman

Mr. Banon co-founded Elastic in 2012, and has served as a member of the board of directors since its inception. Mr. Banon became Chief Executive Officer in May 2017, and Chairman & Chief Executive Officer since June 2018. He previously served as Chief Technology Officer from July 2012 to April 2017. Mr. Banon holds a B.S. in Computer Science from Technion, Israel Institute of Technology.

2

Years in Current  
Role

## Janesh Moorjani

### Chief Financial Officer

Mr. Moorjani has served as Chief Financial Officer since August 2017. Prior to joining Elastic, he served as Executive Vice President and Chief Financial Officer of Infoblox from January 2016 until August 2017. From July 2013 to January 2016, Mr. Moorjani was with VMware, Inc. where he served in various roles, most recently as a Senior Vice President of Finance from January 2015 to January 2016. From October 2004 to June 2013, he served in a number of finance and sales roles at Cisco Systems, Inc. Mr. Moorjani holds a Bachelor of Commerce degree from Sydenham College of Commerce and Economics of University of Mumbai and an M.B.A. from the Wharton School of the University of Pennsylvania.

2

Years in Current  
Role

## Aaron Katz

### Chief Revenue Officer

Mr. Katz has served as Chief Revenue Officer since March 2017 and previously served as Senior Vice President of Field Operations from July 2014 to March 2017. Prior to joining Elastic, he served in various executive roles at salesforce.com from July 2002 to June 2014, most recently as Senior Vice President of Enterprise Sales from February 2013 to June 2014 and Senior Vice President of Enterprise Corporate Sales from April 2009 to January 2013. Mr. Katz holds a B.S. in Managerial Economics from the University of California, Davis.

# ESTC: Valuation & Investment Risks

## Establishing a 12-month price target of \$93

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$1,500	\$2,200	\$1,125
Estimated FCF (000s)	\$375	\$550	\$203
Estimated % FCF margin	25%	25%	18%
Discount rate	15%	15%	15%
Discount period by year	3	3	3
Discounted FCF	\$247	\$362	\$133
Assumed EV/FCF multiple	31x	33x	28x
Enterprise value	\$7,644	\$12,008	\$3,728
Net cash (debt)	\$314	\$314	\$314
FD share count (CY21E)	85	85	85
Annual dilution	0%	0%	0%
<b>Share value</b>	<b>\$93</b>	<b>\$145</b>	<b>\$47</b>
<b>% upside</b>	<b>25%</b>	<b>94%</b>	<b>-36%</b>
Implied EV/S (CY21E)	11.0x	15.0x	6.0x

## RISKS

- **Aggressive investments.** Elastic is heavily investing in both product development and sales & marketing resources. If these investments do not result in material revenue gains it could impact the company's growth and valuation.
- **Departure of key personnel.** The company relies on the experience and expertise of certain employees and executives. Failure to retain these employees could cause disruptions in business.
- **Competitive threat.** The company is operating in a highly competitive market with incumbents and new players, most notably AWS. Failure to increase market share could hinder growth.
- **Foreign exchange risk.** Elastic currently generates 45% of its revenue from outside the US. Significant fluctuations in currency could affect reported results.



Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	25.1x	16.4x	10.9x	7.5x
Base-case	25.1x	16.2x	11.6x	8.7x
Bear-case	25.1x	15.5x	12.1x	9.7x
EV/FCF				
Bull-case	--	--	--	--
Base-case	--	--	--	--
Bear-case	--	--	--	--

Notes: Reflects 10/25/19 closing pricing.  
Source: Company reports, Piper Jaffray estimates, FactSet, Finviz

# 09

## COUP: Initiating Coverage of Coupa Software

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# COUP: Initiating with OW Rating and \$150 PT

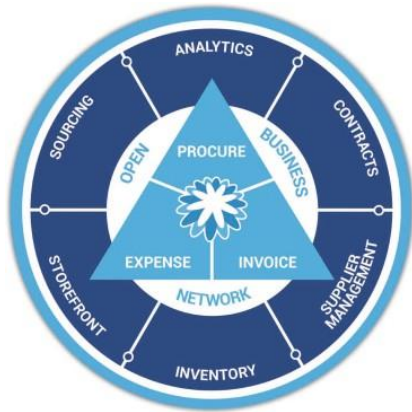
*Coupa is automating back-office procurement workflows via a modern cloud software platform with untapped potential to enhance growth and margins via a new payment revenue stream (Coupa Pay).*

- 1 Automating the procurement process for mid-market and enterprise customers.** Coupa has emerged as the leading cloud software platform for business spend management (BSM) and helps automate procurement for Nike, Salesforce, and Toyota.
- 2 Addressing a large business spend TAM of \$56B.** Modern software to manage, monitor, and optimize business spend management in real-time addresses a large \$56B TAM across 100K+ potential customers (Coupa has 1K+ customers today).
- 3 Coupa Pay could further enhance growth and margins.** Coupa is in the early stages of extending its product portfolio beyond SaaS offerings into the untapped B2B payments space through Coupa Pay. This new initiative has promising potential given \$500B of spend could be processed through its platforms this year alone.
- 4 Revenue could triple to \$1.45B by CY24E. Share gains in BSM could expand** revenue more than 3x to a base-case of \$1.45B by CY24E (31% CAGR) with upside potential to a bull-case of \$2.5B (46% CAGR).
- 5 Be selective given Coupa Pay drove multiple expansion this year.** We advise risk-tolerant growth investors to Overweight COUP but also acknowledge that rising investor optimism on Coupa Pay will likely create more volatility near-term.

# COUP: Product Overview and Market Opportunity

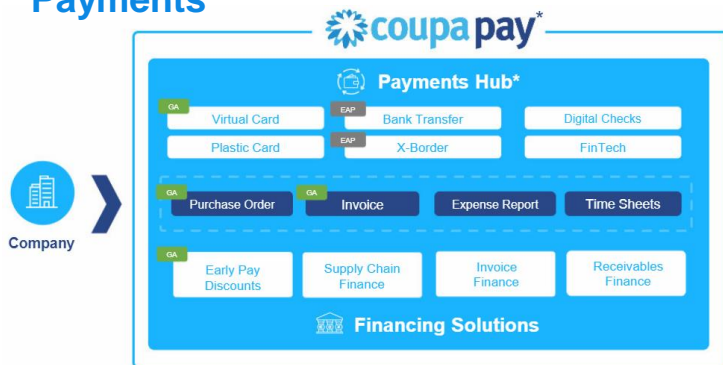
## Product Overview

### Business Spend Management



**Coupa Platform:**  
Software interface to purchase supplies, process invoices, manage expenses, and translate all activities into a core enterprise ERP

### Payments



### Coupa Pay:

Software to automate the procure-to-pay lifecycle (pay suppliers, reconcile account receivable/payable activity)

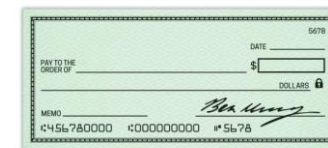
## TAM Opportunity (B)

**100K+**

Target Customers

### Competitors

**SAP Ariba**



**\$56B**  
Business Spend Management (BSM) Opportunity  
*\*Excluding Coupa Pay*



# COUP Forecast: Revenue Could Triple to \$1.45B

## Forecast: Base-Case (CY18 – CY24E)

Base-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
<b>Revenue</b>	<b>\$260</b>	<b>\$372</b>	<b>\$485</b>	<b>\$629</b>	<b>\$830</b>	<b>\$1,096</b>	<b>\$1,447</b>
<i>Growth % Y/Y</i>	39.4%	43.0%	30.4%	29.6%	32.0%	32.0%	32.0%
<b>FCF</b>	<b>\$30</b>	<b>\$34</b>	<b>\$63</b>	<b>\$107</b>	<b>\$166</b>	<b>\$274</b>	<b>\$434</b>
<i>FCF margin</i>	11.5%	9.1%	13.0%	17.0%	20.0%	25.0%	30.0%
 Spend Automation TAM	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000
 TAM penetration	0.5%	0.7%	0.9%	1.1%	1.5%	2.0%	2.6%

# \$1.45B

Base-case Revenue  
CY24E

**Assumes 31% CAGR**  
(CY19E-CY24E)

## Forecast: Bull-Case (CY18 – CY24E)

Bull-Case	CY18	CY19E	CY20E	CY21E	CY22E	CY23E	CY24E
<b>Revenue</b>	<b>\$260</b>	<b>\$383</b>	<b>\$561</b>	<b>\$816</b>	<b>\$1,186</b>	<b>\$1,724</b>	<b>\$2,501</b>
<i>Growth % Y/Y</i>	39.4%	47.0%	46.5%	45.5%	45.4%	45.3%	45.1%
<b>FCF</b>	<b>\$30</b>	<b>\$38</b>	<b>\$78</b>	<b>\$147</b>	<b>\$237</b>	<b>\$379</b>	<b>\$750</b>
<i>FCF margin</i>	11.5%	9.9%	14.0%	18.0%	20.0%	22.0%	30.0%
 Spend Automation TAM	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000	\$56,000
 TAM penetration	0.5%	0.7%	1.0%	1.5%	2.1%	3.1%	4.5%

# \$2.5B

Bull-case Revenue  
CY24E

**Assumes 46% CAGR**  
(CY19E-CY24E)

# COUP: Likely Areas of Pushback

## 1 B2B Payment Optimism

CY20E EV/S multiple has expanded to 18.4x from 7.8x at the beginning of the year on rising investor optimism around the new B2B payment revenue opportunity even after the 16% pull-back from 52 week highs.

### Why Payments

**coupa pay**



Complete Spend Flow



Utilize Core Competencies



Leverage Platform Innovations

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coupa

## 2 Organic Growth

	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20
Revenue Growth % Y/Y	37.0%	38.4%	42.5%	39.4%	44.3%	54.3%



Reported growth has accelerated to 54% y/y last quarter from 38% one year ago, in part from the Exari (4/19) and Hiperos (12/18) acquisitions.

## 3 Valuation

Shares have risen 113% YTD and remain one of the top performing SaaS names this year, in part on rising optimism around Coupa Pay (B2B payments) that are yet to materially contribute to revenue.



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# COUP: Management Team

10

Years in Current Role

## Rob Bernshteyn

*Chief Executive Officer, Chairman, and Director*

Mr. Bernshteyn has been with the company since 2009. Prior to Coupa Mr. Bernshteyn was VP, Global Product Marketing & Management at Success Factors, and was at Siebel Systems before that as the Director of Product Management. Mr. Bernshteyn has a B.S. in Information Systems from the State University of New York at Albany and an M.B.A. from Harvard Business School.

4

Years in Current Role

## Todd Ford

*Chief Financial Officer*

Mr. Ford has been with Coupa since 2015. Prior to Coupa Mr. Ford served as the Chief Financial Officer of MobileIron and was a Managing Director at Broken Arrow Capital, a CV firm he found in 2007. Mr. Ford has a B.S. in Accounting from Santa Clara University.

3

Years in Current Role

## Steve Winter

*Chief Revenue Officer*

Mr. Winter has been with Coupa since 2016. Prior to Coupa Mr. Winter served as Executive VP, Worldwide Field Operation at Marketo and was at SAP for 7 years before that serving different executive positions. Mr. Winter has a B.A. in Business Administration from Georgia State University.

2

Years in Current Role

## Mark Riggs

*Chief Customer Officer*

Mr. Riggs has been with Coupa since late 2017. Prior to Coupa Mr. Riggs served as Chief Operation Officer at Welcome, a cloud messaging solution and also Spent 5 years at Business Objects as VP of Global Services before being acquired by SAP. Mr. Riggs has a B.S. in Computer Information Systems from Northern Arizona University.

# COUP: Valuation & Investment Risks

Establishing a 12-month price target of \$150

	Base CY24E	Bull CY24E	Bear CY24E
Estimated Revenue (000s)	\$1,447	\$2,501	\$1,125
Estimated FCF (000s)	\$434	\$750	\$304
Estimated % FCF margin	30%	30%	27%
Discount rate	15%	15%	15%
Duration (years)	3	3	3
Discounted FCF	\$285	\$493	\$200
Assumed EV/FCF multiple	35x	35x	24x
Enterprise value	\$10,076	\$17,170	\$4,693
Net cash (debt)	\$264	\$264	\$264
FD share count (CY21E)	75	84	75
Annual dilution	1%	8%	1%
Coupa BSM value	\$138	\$208	\$66
% upside	3%	55%	-51%
Implied EV/S (CY21E)	16.0x	21.0x	7.5x
Estimated Coupa Pay (CY21E)	\$65	\$85	\$45
Assumed EV/S multiple	14x	14x	7x
Coupa Pay valuation (M)	\$910	\$1,190	\$315
Coupa BSM value	\$138	\$208	\$66
Coupa Pay value	\$12	\$14	\$4
<b>Sum of parts</b>	<b>\$150</b>	<b>\$222</b>	<b>\$70</b>
<b>% upside</b>	<b>12%</b>	<b>66%</b>	<b>-47%</b>



Notes: Reflects 10/25/19 closing pricing.  
Source: Company reports, Piper Jaffray estimates, Finviz, FactSet

## RISKS

- **Integration risk.** Coupa has made several acquisitions in recent years, failure to integrate these acquisitions could result in diminished revenue prospects and potentially damage the company's reputation.
- **Aggressive investments.** The company is heavily investing in operations and its products. If these sales investments and product launches do not result in material revenue gains it could impact the company's growth and valuation.
- **Competitive threat.** The company is operating in a highly competitive market with significant incumbent presence and new players. If incumbents were able to innovate and encroach on Coupa's current advantage growth could be affected.
- **Timing risk on Coupa Pay.** The company is in the early stages of monetizing \$1T+ of cumulative spend under management with a B2B payment offering but timing of revenue ramp is uncertain.

Valuation Multiples	CY18	CY19E	CY20E	CY21E
EV/Sales				
Bull-case	30.7x	20.9x	14.3x	9.8x
Base-case	30.7x	21.5x	16.5x	12.7x
Bear-case	30.7x	21.6x	16.0x	12.8x
EV/FCF				
Bull-case	--	--	--	54.5x
Base-case	--	--	--	74.8x
Bear-case	--	--	--	85.3x

# 10

## Appendix

PLAN: Anaplan Inc Income Statement	FY 2018	1Q19 APR	2Q19 JUL	3Q19 OCT	4Q19 JAN	FY 2019	1Q20 APR	2Q20 JUL	3Q20E OCT	4Q20E JAN	FY 2020E	1Q21E APR	2Q21E JUL	3Q21E OCT	4Q21E JAN	FY 2021E	1Q22E APR	2Q22E JUL	3Q22E OCT	4Q22E JAN	FY 2022E
<b>Y/Y Growth</b>																					
Subscription (%)	57.0%	52.1%	44.8%	42.3%	43.8%	45.3%	44.9%	48.3%	41.6%	40.3%	43.5%	38.0%	34.5%	34.6%	33.6%	35.0%	32.8%	31.3%	31.0%	30.2%	31.2%
Professional Services (%)	-14.7%	-8.2%	20.8%	28.0%	98.3%	29.2%	62.1%	33.3%	22.9%	25.1%	34.3%	15.0%	15.0%	15.0%	15.0%	15.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Total Revenue (%)	39.7%	40.3%	40.8%	40.3%	49.4%	42.9%	47.1%	46.2%	39.3%	38.2%	42.3%	34.7%	32.0%	32.4%	31.3%	32.5%	30.0%	28.9%	29.0%	28.0%	28.9%
<b>Q/Q Growth</b>																					
Subscription (%)	---	8.2%	10.5%	9.6%	9.8%	---	9.0%	13.1%	4.6%	8.8%	---	7.2%	10.2%	4.6%	8.0%	---	6.6%	9.0%	4.4%	7.4%	---
Professional Services (%)	---	37.7%	23.8%	-6.8%	24.9%	---	12.5%	1.8%	-14.1%	27.1%	---	3.4%	1.8%	-14.1%	27.1%	---	-1.1%	1.8%	-14.1%	27.1%	---
Total Revenue (%)	---	11.2%	12.2%	7.2%	11.7%	---	9.5%	11.5%	2.1%	10.8%	---	6.8%	9.2%	2.5%	9.8%	---	5.8%	8.3%	2.6%	8.9%	---
<b>Calculated Billings</b>	<b>\$203,737</b>	<b>\$55,572</b>	<b>\$61,292</b>	<b>\$71,990</b>	<b>\$101,344</b>	<b>\$290,199</b>	<b>\$87,151</b>	<b>\$89,365</b>	<b>\$99,351</b>	<b>\$136,226</b>	<b>\$412,093</b>	<b>\$113,975</b>	<b>\$116,083</b>	<b>\$131,252</b>	<b>\$178,299</b>	<b>\$539,609</b>	<b>\$148,186</b>	<b>\$149,675</b>	<b>\$169,468</b>	<b>\$229,216</b>	<b>\$696,545</b>
% Q/Q Chg	---	-15.6%	10.3%	17.5%	40.8%	---	-14.0%	2.5%	11.2%	37.1%	---	-16.3%	1.8%	13.1%	35.8%	---	-16.9%	1.0%	13.2%	35.3%	---
% Y/Y Chg	41.4%	34.0%	32.6%	43.4%	53.9%	42.4%	56.8%	45.8%	38.0%	34.4%	42.0%	30.8%	29.9%	32.1%	30.9%	30.9%	30.0%	28.9%	29.1%	28.6%	29.1%
Subscription Revenue	\$143,542	\$44,921	\$49,618	\$54,366	\$59,700	\$208,605	\$65,085	\$73,598	\$76,956	\$83,737	\$299,376	\$89,803	\$98,978	\$103,549	\$111,856	\$404,186	\$119,234	\$129,955	\$135,616	\$145,588	\$530,393
Professional Services and Other Revenue	\$24,805	\$6,629	\$8,210	\$7,648	\$9,550	\$32,037	\$10,745	\$10,942	\$9,400	\$11,950	\$43,037	\$12,357	\$12,583	\$10,810	\$13,743	\$49,493	\$13,592	\$13,842	\$11,891	\$15,117	\$54,442
<b>Total Revenue</b>	<b>\$168,347</b>	<b>\$51,550</b>	<b>\$57,828</b>	<b>\$62,014</b>	<b>\$69,250</b>	<b>\$240,642</b>	<b>\$75,830</b>	<b>\$84,540</b>	<b>\$86,356</b>	<b>\$95,687</b>	<b>\$342,413</b>	<b>\$102,160</b>	<b>\$111,561</b>	<b>\$114,359</b>	<b>\$125,598</b>	<b>\$453,678</b>	<b>\$132,826</b>	<b>\$143,797</b>	<b>\$147,507</b>	<b>\$160,705</b>	<b>\$584,835</b>
% Q/Q Chg	---	11.2%	12.2%	7.2%	11.7%	---	9.5%	11.5%	2.1%	10.8%	---	6.8%	9.2%	2.5%	9.8%	---	5.8%	8.3%	2.6%	8.9%	---
% Y/Y Chg	39.7%	40.3%	40.8%	40.3%	49.4%	42.9%	47.1%	46.2%	39.3%	38.2%	42.3%	34.7%	32.0%	32.4%	31.3%	32.5%	30.0%	28.9%	29.0%	28.0%	28.9%
Cost of Subscription Revenue	\$19,779	\$7,723	\$8,713	\$9,110	\$10,123	\$35,669	\$10,592	\$11,570	\$13,083	\$13,817	\$49,061	\$15,267	\$16,826	\$17,603	\$19,015	\$68,712	\$20,270	\$22,092	\$23,055	\$24,750	\$90,167
Cost of Professional Services and Other	\$31,552	\$6,207	\$7,092	\$7,644	\$9,104	\$30,047	\$9,990	\$9,754	\$8,460	\$10,755	\$38,959	\$11,121	\$11,325	\$9,729	\$12,368	\$44,543	\$12,233	\$12,457	\$10,702	\$13,605	\$48,998
<b>Gross Profit (Non-GAAP)</b>	<b>\$117,016</b>	<b>\$37,620</b>	<b>\$42,023</b>	<b>\$45,260</b>	<b>\$50,023</b>	<b>\$174,926</b>	<b>\$55,248</b>	<b>\$63,216</b>	<b>\$64,814</b>	<b>\$71,115</b>	<b>\$254,393</b>	<b>\$75,772</b>	<b>\$83,410</b>	<b>\$87,026</b>	<b>\$94,215</b>	<b>\$340,423</b>	<b>\$100,324</b>	<b>\$109,247</b>	<b>\$113,751</b>	<b>\$122,350</b>	<b>\$445,671</b>
Gross Margin (%)	69.5%	73.0%	72.7%	73.0%	72.2%	72.7%	72.9%	74.8%	75.1%	74.3%	74.3%	74.2%	74.8%	76.1%	75.0%	75.0%	75.5%	76.0%	77.1%	76.1%	76.2%
Subscription Gross Margin (%)	86.2%	82.8%	82.4%	83.2%	83.0%	82.9%	83.7%	84.3%	83.0%	83.5%	83.6%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
Professional Services Gross Margin (%)	-27.2%	6.4%	13.6%	0.1%	4.7%	6.2%	7.0%	10.9%	10.0%	10.0%	9.5%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Research & Development	\$30,033	\$11,432	\$11,881	\$10,636	\$11,223	\$45,172	\$13,140	\$13,948	\$14,249	\$15,000	\$56,337	\$16,346	\$17,850	\$17,726	\$19,217	\$71,138	\$20,322	\$22,001	\$22,569	\$24,588	\$89,480
% of Revenue	17.8%	22.2%	20.5%	17.2%	16.2%	18.8%	17.3%	16.5%	16.5%	15.7%	16.5%	16.0%	16.0%	15.5%	15.3%	15.7%	15.3%	15.3%	15.3%	15.3%	15.3%
Sales & Marketing	\$97,151	\$38,420	\$37,466	\$41,707	\$43,255	\$160,848	\$49,504	\$55,813	\$57,168	\$61,909	\$224,394	\$66,404	\$72,515	\$73,190	\$77,243	\$289,351	\$84,345	\$89,873	\$92,192	\$98,030	\$364,440
% of Revenue	57.7%	74.5%	64.8%	67.3%	62.5%	66.8%	65.3%	66.0%	66.2%	64.7%	65.5%	65.0%	65.0%	64.0%	61.5%	63.8%	63.5%	62.5%	62.5%	61.0%	62.3%
General & Administrative	\$26,909	\$11,061	\$9,631	\$11,207	\$11,418	\$43,317	\$12,694	\$10,096	\$10,190	\$10,621	\$43,601	\$11,238	\$11,379	\$11,436	\$11,932	\$45,985	\$12,619	\$13,661	\$14,013	\$15,267	\$55,559
% of Revenue	16.0%	21.5%	16.7%	18.1%	16.5%	18.0%	16.7%	11.9%	11.8%	11.1%	12.7%	11.0%	10.2%	10.0%	9.5%	10.1%	9.5%	9.5%	9.5%	9.5%	9.5%
Total Operating Expenses	\$154,093	\$60,913	\$58,978	\$63,550	\$65,896	\$249,337	\$75,338	\$79,857	\$81,607	\$87,531	\$324,332	\$93,987	\$101,744	\$102,351	\$108,391	\$406,473	\$117,286	\$125,535	\$128,774	\$137,885	\$509,479
<b>Operating Income (Non-GAAP)</b>	<b>(\$37,076)</b>	<b>(\$23,293)</b>	<b>(\$16,955)</b>	<b>(\$18,290)</b>	<b>(\$15,873)</b>	<b>(\$74,411)</b>	<b>(\$20,090)</b>	<b>(\$16,641)</b>	<b>(\$16,793)</b>	<b>(\$16,415)</b>	<b>(\$69,939)</b>	<b>(\$18,215)</b>	<b>(\$18,334)</b>	<b>(\$15,325)</b>	<b>(\$14,177)</b>	<b>(\$66,050)</b>	<b>(\$16,962)</b>	<b>(\$16,288)</b>	<b>(\$15,023)</b>	<b>(\$15,535)</b>	<b>(\$63,808)</b>
Operating Margin (%)	-22.0%	-45.2%	-29.3%	-29.5%	-22.9%	-30.9%	-26.5%	-19.7%	-19.4%	-17.2%	-20.4%	-17.8%	-16.4%	-13.4%	-11.3%	-14.6%	-12.8%	-11.3%	-10.2%	-9.7%	-10.9%
Interest (Income)/Expense	(\$473)	\$89	\$36	\$314	\$1,482	\$1,921	\$1,251	\$1,339	\$1,300	\$1,300	\$5,190	\$1,300	\$1,300	\$1,300	\$1,300	\$5,200	\$1,300	\$1,300	\$1,300	\$1,300	\$5,200
Other (Income)/Expense	\$107	(\$411)	(\$229)	(\$602)	(\$223)	(\$1,465)	(\$246)	\$548	(\$500)	\$350	\$152	(\$500)	(\$500)	\$250	\$350	(\$400)	(\$500)	(\$500)	(\$500)	(\$500)	(\$2,000)
Pre-Tax Income	(\$37,442)	(\$23,615)	(\$17,148)	(\$18,578)	(\$14,614)	(\$73,955)	(\$19,085)	(\$14,754)	(\$15,993)	(\$14,765)	(\$64,597)	(\$17,415)	(\$17,534)	(\$13,775)	(\$12,527)	(\$61,250)	(\$16,162)	(\$15,488)	(\$14,223)	(\$14,735)	(\$60,608)
Taxes	(\$1,261)	(\$553)	(\$907)	(\$617)	(\$1,132)	(\$3,209)	(\$1,087)	(\$1,322)	(\$1,322)	(\$1,322)	(\$5,053)	(\$1,322)	(\$1,322)	(\$1,322)	(\$1,322)	(\$5,288)	(\$1,322)	(\$1,322)	(\$1,322)	(\$1,322)	(\$5,288)
Tax Rate (%)	3.4%	2.3%	5.3%	3.3%	7.7%	4.3%	5.7%	-3.0%	-3.0%	-3.0%	7.8%	-3.0%	-3.0%	-3.0%	-3.0%	8.6%	-3.0%	-3.0%	-3.0%	-3.0%	8.7%
<b>Net Income</b>	<b>(\$38,703)</b>	<b>(\$24,168)</b>	<b>(\$18,055)</b>	<b>(\$19,195)</b>	<b>(\$15,746)</b>	<b>(\$77,164)</b>	<b>(\$20,172)</b>	<b>(\$16,076)</b>	<b>(\$17,315)</b>	<b>(\$16,087)</b>	<b>(\$69,650)</b>	<b>(\$18,737)</b>	<b>(\$18,856)</b>	<b>(\$15,097)</b>	<b>(\$13,849)</b>	<b>(\$66,538)</b>	<b>(\$17,484)</b>	<b>(\$16,810)</b>	<b>(\$15,545)</b>	<b>(\$16,057)</b>	<b>(\$65,896)</b>
<b>Earnings Per Share (Non-GAAP)</b>	<b>(\$0.44)</b>	<b>(\$0.23)</b>	<b>(\$0.18)</b>	<b>(\$0.18)</b>	<b>(\$0.13)</b>	<b>(\$0.73)</b>	<b>(\$0.16)</b>	<b>(\$0.12)</b>	<b>(\$0.13)</b>	<b>(\$0.12)</b>	<b>(\$0.53)</b>	<b>(\$0.14)</b>	<b>(\$0.13)</b>	<b>(\$0.11)</b>	<b>(\$0.10)</b>	<b>(\$0.47)</b>	<b>(\$0.12)</b>	<b>(\$0.11)</b>	<b>(\$0.10)</b>	<b>(\$0.11)</b>	<b>(\$0.44)</b>
Basic Shares Outstanding	18,956	21,587	23,338	46,085	119,076	53,328	122,992	129,549	133,000	136,000	130,385	138,000	140,000	142,000	144,000	141,000	146,000	148,000	150,000	152,000	149,000
Diluted Shares Outstanding	88,212	105,370	98,606	105,370	119,076	105,480	122,992	129,549	133,000	136,000	130,385	138,000	140,000	142,000	144,000	141,000	146,000	148,000	150,000	152,000	149,000

Source: Piper Jaffray estimates and Company Filings  
(figures in \$ thousands)

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Current disclosure information for this company can be found at:  
[www.piperjaffray.com/researchdisclosures](http://www.piperjaffray.com/researchdisclosures)

Last updated: 10/25/19

AVLR: Avalara, Inc. Income Statement	FY 2017	1Q18 MAR	2Q18 JUN	3Q18 SEP	4Q18 DEC	FY 2018	1Q19 MAR	2Q19 JUN	3Q19E SEP	4Q19E DEC	FY 2019E	1Q20E MAR	2Q20E JUN	3Q20E SEP	4Q20E DEC	FY 2020E	1Q21E MAR	2Q21E JUN	3Q21E SEP	4Q21E DEC	FY 2021E
<b>YY Growth</b>																					
Subscription Revenue (%)	29.0%	26.2%	23.9%	24.3%	32.5%	26.9%	35.2%	42.0%	35.8%	28.3%	35.0%	27.0%	25.1%	26.8%	27.4%	26.6%	27.4%	27.4%	27.4%	27.4%	27.4%
Professional Services (%)	6.1%	12.5%	56.2%	47.4%	32.5%	36.5%	92.2%	55.9%	13.0%	5.9%	36.0%	3.9%	3.3%	8.3%	9.1%	6.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Revenue (%)	27.3%	25.3%	25.5%	25.8%	32.5%	27.5%	38.4%	42.9%	34.1%	26.8%	35.1%	25.6%	24.7%	24.3%	25.5%	25.0%	25.7%	25.0%	24.6%	25.6%	25.2%
<b>Q/Q Growth</b>																					
Subscription Revenue (%)	---	6.9%	3.4%	7.3%	11.7%	---	9.1%	8.7%	2.6%	5.5%	---	8.0%	7.0%	4.0%	6.0%	---	8.0%	7.0%	4.0%	6.0%	---
Professional Services (%)	---	-10.5%	15.0%	31.6%	-2.2%	---	29.8%	-6.6%	-4.6%	-8.3%	---	27.3%	-7.1%	0.0%	-7.7%	---	22.5%	-7.1%	0.0%	-7.7%	---
Total Revenue (%)	---	5.8%	4.1%	8.8%	10.6%	---	10.5%	7.4%	2.1%	4.6%	---	9.5%	6.7%	1.8%	5.6%	---	9.6%	6.1%	1.5%	6.4%	---
Net Dollar Revenue Retention		109%	108%	105%	108%		107%	111%	105%	104%		105%	105%	105%	105%		106%	106%	106%	106%	
Contribution from cohort >1 yr	\$178,578	\$53,372	\$54,962	\$58,031	\$62,678	\$229,043	\$65,673	\$70,906	\$73,003	\$80,000	\$289,582	\$89,219	\$95,864	\$97,864	\$102,375	\$385,321	\$113,122	\$120,696	\$122,815	\$129,717	\$486,350
% Q/Q Chg		6.6%	3.0%	5.6%	8.0%		4.8%	8.0%	3.0%	9.6%		-69.2%	7.4%	2.1%	4.6%		-70.6%	6.7%	1.8%	5.6%	
% Y/Y Chg		26.2%	32.9%	29.3%	25.2%	28.3%	23.0%	29.0%	25.8%	27.6%	26.4%	35.9%	35.2%	34.1%	28.0%	33.1%	26.8%	25.9%	25.5%	26.7%	26.2%
% Existing Customer Revenue Mix		87.0%	86.0%	83.5%	81.5%	84.3%	77.3%	77.7%	78.3%	82.1%	78.9%	83.6%	84.2%	84.5%	83.7%	84.0%	84.3%	84.8%	85.0%	84.4%	84.6%
Contribution from cohort <1 yr	\$34,581	\$8,005	\$8,917	\$11,496	\$14,245	\$42,663	\$19,297	\$20,393	\$20,200	\$17,500	\$77,390	\$17,500	\$18,000	\$18,000	\$20,000	\$73,500	\$21,000	\$21,600	\$21,600	\$24,000	\$88,200
% Q/Q Chg		0.4%	11.4%	28.9%	23.9%		35.5%	5.7%	-0.6%	-13.4%		-77.4%	2.9%	0.0%	11.1%		-71.4%	2.9%	0.0%	11.1%	
% Y/Y Chg		19.7%	-6.3%	10.5%	78.7%	23.4%	141.1%	128.7%	75.7%	22.8%	81.4%	-9.3%	-11.7%	-10.9%	14.3%	-5.0%	20.0%	20.0%	20.0%	20.0%	20.0%
% New Customer Revenue Mix		13.0%	14.0%	16.5%	18.5%	15.7%	22.7%	22.3%	21.7%	17.9%	21.1%	16.4%	15.8%	15.5%	16.3%	16.0%	15.7%	15.2%	15.0%	15.6%	15.4%
Subscription and Returns	\$199,942	\$57,870	\$59,845	\$64,219	\$71,730	\$253,664	\$78,231	\$85,008	\$87,203	\$92,000	\$342,442	\$99,360	\$106,315	\$110,568	\$117,202	\$433,445	\$126,578	\$135,438	\$140,856	\$149,307	\$552,179
Professional Services	\$13,217	\$3,507	\$4,034	\$5,308	\$5,193	\$18,042	\$6,739	\$6,291	\$6,000	\$5,500	\$24,530	\$7,000	\$6,500	\$6,500	\$6,000	\$26,000	\$7,350	\$6,825	\$6,825	\$6,300	\$27,300
<b>Total Revenue</b>	<b>\$213,159</b>	<b>\$61,377</b>	<b>\$63,879</b>	<b>\$69,527</b>	<b>\$76,923</b>	<b>\$271,706</b>	<b>\$84,970</b>	<b>\$91,299</b>	<b>\$93,203</b>	<b>\$97,500</b>	<b>\$366,972</b>	<b>\$106,719</b>	<b>\$113,864</b>	<b>\$115,864</b>	<b>\$122,375</b>	<b>\$458,821</b>	<b>\$134,122</b>	<b>\$142,296</b>	<b>\$144,415</b>	<b>\$153,717</b>	<b>\$574,550</b>
% Q/Q Chg	---	5.8%	4.1%	8.8%	10.6%	---	10.5%	7.4%	2.1%	4.6%	---	9.5%	6.7%	1.8%	5.6%	---	9.6%	6.1%	1.5%	6.4%	---
% Y/Y Chg	27.3%	25.3%	25.5%	25.8%	32.5%	27.5%	38.4%	42.9%	34.1%	26.8%	35.1%	25.6%	24.7%	24.3%	25.5%	25.0%	25.7%	25.0%	24.6%	25.6%	25.2%
Subscription Cost of Revenue	\$44,156	\$13,623	\$14,573	\$15,701	\$16,974	\$60,871	\$19,067	\$21,000	\$21,801	\$23,000	\$84,868	\$24,641	\$26,154	\$27,089	\$28,128	\$106,012	\$29,746	\$31,151	\$32,397	\$33,594	\$126,888
Prof. Services Cost of Revenue	\$9,128	\$2,692	\$2,795	\$2,906	\$3,700	\$12,093	\$4,329	\$4,397	\$4,080	\$3,685	\$16,491	\$4,690	\$4,290	\$4,290	\$3,900	\$17,170	\$4,778	\$4,436	\$4,436	\$4,095	\$17,745
<b>Gross Profit (Non-GAAP)</b>	<b>\$159,875</b>	<b>\$45,062</b>	<b>\$46,511</b>	<b>\$50,920</b>	<b>\$56,249</b>	<b>\$198,742</b>	<b>\$61,574</b>	<b>\$65,902</b>	<b>\$67,323</b>	<b>\$70,815</b>	<b>\$265,613</b>	<b>\$77,387</b>	<b>\$83,420</b>	<b>\$84,484</b>	<b>\$90,346</b>	<b>\$335,639</b>	<b>\$99,598</b>	<b>\$106,709</b>	<b>\$107,582</b>	<b>\$116,028</b>	<b>\$429,918</b>
% Gross Margin	75.0%	73.4%	72.8%	73.2%	73.1%	73.1%	72.5%	72.2%	72.2%	72.6%	72.4%	72.5%	73.3%	72.9%	73.8%	73.2%	74.3%	75.0%	74.5%	75.5%	74.8%
Subscription Gross Margin (%)	77.9%	76.5%	75.6%	75.6%	76.3%	76.0%	75.6%	75.3%	75.0%	75.0%	75.2%	75.2%	75.4%	75.5%	76.0%	75.5%	76.5%	77.0%	77.0%	77.5%	77.0%
Services Gross Margin (%)	30.9%	23.2%	30.7%	45.3%	28.8%	33.0%	35.8%	30.1%	32.0%	33.0%	32.8%	33.0%	34.0%	34.0%	35.0%	34.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Research & Development	\$38,873	\$12,038	\$11,644	\$12,379	\$12,669	\$48,730	\$14,664	\$17,369	\$18,175	\$18,817	\$69,025	\$20,277	\$21,634	\$22,014	\$23,251	\$87,176	\$25,483	\$27,036	\$27,439	\$29,206	\$109,165
% of Revenue	18.2%	19.6%	18.2%	17.8%	16.5%	17.9%	17.3%	19.0%	19.5%	19.3%	18.8%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Sales & Marketing	\$128,092	\$35,760	\$39,057	\$39,213	\$47,344	\$161,374	\$35,534	\$38,028	\$41,942	\$43,387	\$158,891	\$46,423	\$49,531	\$50,401	\$53,233	\$199,587	\$57,672	\$61,187	\$62,099	\$66,098	\$247,057
% of Revenue	60.1%	58.3%	61.1%	56.4%	61.5%	59.4%	41.8%	41.7%	45.0%	44.5%	43.3%	43.5%	43.5%	43.5%	43.5%	43.5%	43.0%	43.0%	43.0%	43.0%	43.0%
General & Administrative	\$30,335	\$7,613	\$7,971	\$8,901	\$9,516	\$34,001	\$12,873	\$13,033	\$14,447	\$15,112	\$55,465	\$15,474	\$15,941	\$15,989	\$16,521	\$63,925	\$17,704	\$18,498	\$18,052	\$18,446	\$72,701
% of Revenue	14.2%	12.4%	12.5%	12.8%	12.4%	12.5%	15.2%	14.3%	15.5%	15.5%	15.1%	14.5%	14.0%	13.8%	13.5%	13.9%	13.2%	13.0%	12.5%	12.0%	12.7%
Total Operating Expenses	\$197,300	\$55,411	\$58,672	\$60,493	\$69,529	\$244,105	\$63,071	\$68,430	\$74,563	\$77,317	\$283,381	\$82,173	\$87,106	\$88,404	\$93,005	\$350,688	\$100,859	\$106,722	\$107,589	\$113,751	\$428,922
<b>Operating Income (Non-GAAP)</b>	<b>(\$37,425)</b>	<b>(\$10,349)</b>	<b>(\$12,161)</b>	<b>(\$9,573)</b>	<b>(\$13,280)</b>	<b>(\$45,363)</b>	<b>(\$1,497)</b>	<b>(\$2,528)</b>	<b>(\$7,240)</b>	<b>(\$6,502)</b>	<b>(\$17,768)</b>	<b>(\$4,786)</b>	<b>(\$3,685)</b>	<b>(\$3,919)</b>	<b>(\$2,658)</b>	<b>(\$15,049)</b>	<b>(\$1,261)</b>	<b>(\$13)</b>	<b>(\$7)</b>	<b>\$2,277</b>	<b>\$996</b>
Operating Margin (%)	-17.6%	-16.9%	-19.0%	-13.8%	-17.3%	-16.7%	-1.8%	-2.8%	-7.8%	-6.7%	-4.8%	-4.5%	-3.2%	-3.4%	-2.2%	-3.3%	-0.9%	0.0%	0.0%	1.5%	0.2%
Interest and Other, net	\$2,013	\$828	\$526	(\$485)	(\$789)	\$80	(\$608)	(\$728)	(\$725)	(\$725)	(\$2,786)	(\$500)	(\$500)	(\$500)	(\$500)	(\$2,000)	(\$350)	(\$350)	(\$350)	(\$350)	(\$1,400)
Pre-Tax Income	(\$39,438)	(\$11,177)	(\$12,687)	(\$9,088)	(\$12,491)	(\$45,443)	(\$889)	(\$1,800)	(\$6,515)	(\$5,777)	(\$14,982)	(\$4,286)	(\$3,185)	(\$3,419)	(\$2,158)	(\$13,049)	(\$911)	\$337	\$343	\$2,627	\$2,396
Taxes	(\$1,219)	(\$848)	\$114	(\$91)	(\$151)	(\$976)	\$116	\$172	\$100	\$100	\$488	\$100	\$100	\$100	\$100	\$400	\$100	\$100	\$100	\$100	\$400
Tax Rate (%)	-3.1%	-7.6%	0.9%	-1.0%	-1.2%	-2.1%	13.0%	9.6%	1.5%	1.7%	3.3%	2.3%	3.1%	2.9%	4.6%	3.1%	11.0%	-29.7%	-29.2%	-3.8%	-16.7%
Net Income (Non-GAAP)	(\$38,219)	(\$10,329)	(\$12,801)	(\$8,997)	(\$12,340)	(\$44,467)	(\$1,005)	(\$1,972)	(\$6,615)	(\$5,877)	(\$15,470)	(\$4,386)	(\$3,285)	(\$3,519)	(\$2,258)	(\$13,449)	(\$1,011)	\$237	\$243	\$2,527	\$1,996
<b>Earnings Per Share (Non-GAAP)</b>	<b>(\$0.68)</b>	<b>(\$0.16)</b>	<b>(\$0.19)</b>	<b>(\$0.14)</b>	<b>(\$0.19)</b>	<b>(\$0.67)</b>	<b>(\$0.01)</b>	<b>(\$0.03)</b>	<b>(\$0.09)</b>	<b>(\$0.08)</b>	<b>(\$0.21)</b>	<b>(\$0.06)</b>	<b>(\$0.04)</b>	<b>(\$0.04)</b>	<b>(\$0.03)</b>	<b>(\$0.17)</b>	<b>(\$0.01)</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.03</b>	<b>\$0.02</b>

Source: Piper Jaffray estimates and Company Filings  
(figures in \$ thousands)

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Last Updated: 10/25/19

COUP: Coupa Software Income Statement	FY 2018	1Q19 APR	2Q19 JUL	3Q19 OCT	4Q19 JAN	FY 2019	1Q20 APR	2Q20 JUL	3Q20E OCT	4Q20E JAN	FY 2020E	1Q21E APR	2Q21E JUL	3Q21E OCT	4Q21E JAN	FY 2021E	1Q22E APR	2Q22E JUL	3Q22E OCT	4Q22E JAN	FY 2022E
<b>Y/Y Growth</b>																					
Subscription (%)	40.0%	40.1%	39.3%	41.5%	44.8%	41.6%	46.0%	50.8%	43.5%	33.8%	43.0%	31.9%	30.4%	29.6%	33.2%	31.3%	30.2%	29.7%	29.6%	32.9%	30.7%
Professional Services (%)	37.1%	16.7%	31.1%	51.7%	3.8%	22.9%	31.3%	85.7%	37.8%	22.0%	43.1%	20.0%	20.0%	25.0%	25.0%	22.4%	20.0%	20.0%	20.0%	20.0%	20.0%
Total Revenue (%)	39.6%	37.0%	38.4%	42.5%	39.4%	39.4%	44.3%	54.3%	42.9%	32.7%	43.0%	30.7%	29.1%	29.1%	32.5%	30.4%	29.2%	28.6%	28.7%	31.8%	29.6%
Calculated Billings	\$226,194	\$50,208	\$68,704	\$68,629	\$127,382	\$314,923	\$75,100	\$107,715	\$89,285	\$157,982	\$430,082	\$96,799	\$134,162	\$126,864	\$203,849	\$561,674	\$124,887	\$173,001	\$163,359	\$269,100	\$730,346
% Q/Q Chg		-40.3%	36.8%	-0.1%	85.6%		-41.0%	43.4%	-17.1%	76.9%		-77.5%	38.6%	-5.4%	60.7%		-77.8%	38.5%	-5.6%	64.7%	
% Y/Y Chg		22.1%	32.8%	39.5%	51.4%	39.2%	49.6%	56.8%	30.1%	24.0%	36.6%	28.9%	24.6%	42.1%	29.0%	30.6%	29.0%	28.9%	28.8%	32.0%	30.0%
<b>Calculated Billings - TTM</b>		<b>\$235,265</b>	<b>\$252,253</b>	<b>\$271,681</b>	<b>\$314,923</b>		<b>\$339,815</b>	<b>\$378,826</b>	<b>\$399,482</b>	<b>\$430,082</b>		<b>\$451,781</b>	<b>\$478,228</b>	<b>\$515,806</b>	<b>\$561,674</b>		<b>\$589,762</b>	<b>\$628,600</b>	<b>\$665,096</b>	<b>\$730,346</b>	
% Q/Q Chg			7.2%	7.7%	15.9%		7.9%	11.5%	5.5%	7.7%		5.0%	5.9%	7.9%	8.9%		5.0%	6.6%	5.8%	9.8%	
% Y/Y Chg					39.2%		44.4%	50.2%	47.0%	36.6%		32.9%	26.2%	29.1%	30.6%		30.5%	31.4%	28.9%	30.0%	
Subscription Revenue	\$164,865	\$49,966	\$55,374	\$60,559	\$67,529	\$233,428	\$72,957	\$83,482	\$86,915	\$90,382	\$333,736	\$96,253	\$108,830	\$112,606	\$120,420	\$438,109	\$125,320	\$141,202	\$145,956	\$160,070	\$572,549
Professional Services Revenue	\$21,915	\$6,386	\$6,277	\$6,896	\$7,379	\$26,938	\$8,387	\$11,657	\$9,500	\$9,000	\$38,544	\$10,064	\$13,988	\$11,875	\$11,250	\$47,178	\$12,077	\$16,786	\$14,250	\$13,500	\$56,613
<b>Total Revenue</b>	<b>\$186,780</b>	<b>\$56,352</b>	<b>\$61,651</b>	<b>\$67,455</b>	<b>\$74,908</b>	<b>\$260,366</b>	<b>\$81,344</b>	<b>\$95,139</b>	<b>\$96,415</b>	<b>\$99,382</b>	<b>\$372,280</b>	<b>\$106,317</b>	<b>\$122,819</b>	<b>\$124,481</b>	<b>\$131,670</b>	<b>\$485,287</b>	<b>\$137,398</b>	<b>\$157,988</b>	<b>\$160,206</b>	<b>\$173,570</b>	<b>\$629,162</b>
% Q/Q Chg		4.8%	9.4%	9.4%	11.0%		8.6%	17.0%	1.3%	3.1%		7.0%	15.5%	1.4%	5.8%		4.4%	15.0%	1.4%	8.3%	
% Y/Y Chg	39.6%	37.0%	38.4%	42.5%	39.4%	39.4%	44.3%	54.3%	42.9%	32.7%	43.0%	30.7%	29.1%	29.1%	32.5%	30.4%	29.2%	28.6%	28.7%	31.8%	29.6%
Cost of Subscription Revenue	\$31,584	\$9,559	\$9,836	\$11,430	\$12,998	\$43,823	\$13,843	\$15,582	\$16,514	\$17,173	\$63,111	\$18,288	\$20,678	\$21,395	\$22,880	\$83,241	\$23,811	\$26,828	\$27,732	\$30,413	\$108,784
Cost of Professional Services Revenue	\$20,704	\$6,005	\$5,798	\$6,603	\$7,626	\$26,032	\$8,481	\$10,405	\$9,215	\$8,730	\$36,831	\$9,762	\$13,569	\$11,400	\$10,688	\$45,419	\$11,473	\$15,947	\$13,538	\$12,825	\$53,783
<b>Gross profit (Non-GAAP)</b>	<b>\$134,492</b>	<b>\$40,788</b>	<b>\$46,017</b>	<b>\$49,422</b>	<b>\$54,284</b>	<b>\$190,511</b>	<b>\$59,020</b>	<b>\$69,152</b>	<b>\$70,686</b>	<b>\$73,479</b>	<b>\$272,337</b>	<b>\$78,267</b>	<b>\$88,572</b>	<b>\$91,686</b>	<b>\$98,103</b>	<b>\$356,628</b>	<b>\$102,113</b>	<b>\$115,213</b>	<b>\$118,937</b>	<b>\$130,332</b>	<b>\$466,595</b>
Gross margin (%)	72.0%	72.4%	74.6%	73.3%	72.5%	73.2%	72.6%	72.7%	73.3%	73.9%	73.2%	73.6%	72.1%	73.7%	74.5%	73.5%	74.3%	72.9%	74.2%	75.1%	74.2%
Subscription Gross Margin (%)	80.8%	80.9%	82.2%	81.1%	80.8%	81.2%	81.0%	81.3%	81.0%	81.0%	81.1%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%
Professional Services Gross Margin (%)	5.5%	6.0%	7.6%	4.2%	-3.3%	3.4%	-1.1%	10.7%	3.0%	3.0%	4.4%	3.0%	3.0%	4.0%	5.0%	3.7%	5.0%	5.0%	5.0%	5.0%	5.0%
Research & Development	\$37,607	\$10,654	\$10,457	\$13,031	\$15,625	\$49,767	\$16,966	\$18,289	\$18,319	\$19,379	\$72,953	\$20,200	\$23,336	\$23,651	\$25,017	\$92,205	\$26,106	\$30,018	\$30,439	\$32,978	\$119,541
% of Revenue	20.1%	18.9%	17.0%	19.3%	20.9%	19.1%	20.9%	19.2%	19.0%	19.5%	19.6%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Sales & Marketing	\$79,605	\$21,400	\$22,466	\$21,270	\$23,902	\$89,038	\$27,765	\$32,110	\$33,263	\$34,287	\$127,425	\$36,148	\$41,758	\$42,324	\$44,768	\$164,998	\$47,402	\$54,506	\$55,271	\$59,882	\$217,061
% of Revenue	42.6%	38.0%	36.4%	31.5%	31.9%	34.2%	34.1%	33.8%	34.5%	34.5%	34.2%	34.0%	34.0%	34.0%	34.0%	34.0%	34.5%	34.5%	34.5%	34.5%	34.5%
General and Administrative	\$29,114	\$8,417	\$9,065	\$9,358	\$12,400	\$39,240	\$12,073	\$13,930	\$14,462	\$15,404	\$55,869	\$15,416	\$15,966	\$16,183	\$16,459	\$64,024	\$17,175	\$18,169	\$18,424	\$18,746	\$72,513
% of Revenue	15.6%	14.9%	14.7%	13.9%	16.6%	15.1%	14.8%	14.6%	15.0%	15.5%	15.0%	14.5%	13.0%	13.0%	12.5%	13.2%	12.5%	11.5%	11.5%	10.8%	11.5%
Total Operating Expenses	\$146,327	\$40,472	\$41,989	\$43,660	\$51,928	\$178,046	\$56,805	\$64,330	\$66,045	\$69,071	\$256,248	\$71,765	\$81,061	\$82,158	\$86,244	\$321,226	\$90,683	\$102,692	\$104,135	\$111,606	\$409,115
% Y/Y Chg	27.4%	20.2%	12.3%	18.9%	34.6%	21.7%	40.4%	53.2%	51.3%	33.0%	43.9%	26.3%	26.0%	24.4%	24.9%	25.4%	26.4%	26.7%	26.7%	29.4%	27.4%
<b>Operating Income (Non-GAAP)</b>	<b>(\$11,835)</b>	<b>\$316</b>	<b>\$4,028</b>	<b>\$5,762</b>	<b>\$2,356</b>	<b>\$12,465</b>	<b>\$2,215</b>	<b>\$4,822</b>	<b>\$4,641</b>	<b>\$4,408</b>	<b>\$16,089</b>	<b>\$6,502</b>	<b>\$7,511</b>	<b>\$9,528</b>	<b>\$11,858</b>	<b>\$35,401</b>	<b>\$11,430</b>	<b>\$12,520</b>	<b>\$14,802</b>	<b>\$18,726</b>	<b>\$57,480</b>
Operating Margin (%)	-6.3%	0.6%	6.5%	8.5%	3.1%	4.8%	2.7%	5.1%	4.8%	4.4%	4.3%	6.1%	6.1%	7.7%	9.0%	7.3%	8.3%	7.9%	9.2%	10.8%	9.1%
Other (Income)/expense	\$0	(\$225)	(\$228)	(\$228)	(\$232)	(\$913)	(\$215)	(\$473)	(\$500)	(\$1,250)	(\$2,438)	(\$500)	(\$500)	(\$500)	(\$1,250)	(\$2,750)	(\$500)	(\$500)	(\$500)	(\$1,250)	(\$2,750)
Interest (Income)/expense	\$3,263	\$78	\$372	\$1,112	\$2,255	\$3,817	\$924	\$1,479	\$1,250	\$1,250	\$4,903	\$1,250	\$1,250	\$1,250	\$1,250	\$5,000	\$1,250	\$1,250	\$1,250	\$1,250	\$5,000
<b>Other/Interest (Income)/expense</b>	<b>\$3,263</b>	<b>(\$147)</b>	<b>\$144</b>	<b>\$884</b>	<b>\$2,023</b>	<b>\$2,904</b>	<b>\$709</b>	<b>\$1,006</b>	<b>\$750</b>	<b>\$0</b>	<b>\$2,465</b>	<b>\$750</b>	<b>\$750</b>	<b>\$750</b>	<b>\$0</b>	<b>\$2,250</b>	<b>\$750</b>	<b>\$750</b>	<b>\$750</b>	<b>\$0</b>	<b>\$2,250</b>
Pre-Tax Income	(\$8,572)	\$169	\$4,172	\$6,646	\$4,379	\$15,369	\$2,924	\$5,828	\$5,391	\$4,408	\$18,554	\$7,252	\$8,261	\$10,278	\$11,858	\$37,651	\$12,180	\$13,270	\$15,552	\$18,726	\$59,730
Taxes	\$2,749	\$707	\$876	\$1,186	\$1,018	\$3,787	\$780	\$521	\$750	\$3,500	\$5,551	\$1,813	\$2,065	\$2,569	\$2,965	\$9,412	\$3,045	\$3,318	\$3,888	\$4,681	\$14,932
Tax Rate (%)	-32.1%	417.3%	21.0%	17.8%	23.2%	24.6%	26.7%	8.9%	13.9%	79.4%	29.9%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Net Income (Non-GAAP)	(\$11,321)	(\$538)	\$3,296	\$5,460	\$3,361	\$11,582	\$2,144	\$5,307	\$4,641	\$908	\$13,003	\$5,439	\$6,196	\$7,708	\$8,894	\$28,239	\$9,135	\$9,953	\$11,664	\$14,044	\$44,798
<b>Earnings Per Share (Non-GAAP)</b>	<b>(\$0.21)</b>	<b>(\$0.01)</b>	<b>\$0.05</b>	<b>\$0.08</b>	<b>\$0.05</b>	<b>\$0.18</b>	<b>\$0.03</b>	<b>\$0.07</b>	<b>\$0.06</b>	<b>\$0.01</b>	<b>\$0.18</b>	<b>\$0.07</b>	<b>\$0.08</b>	<b>\$0.10</b>	<b>\$0.12</b>	<b>\$0.38</b>	<b>\$0.12</b>	<b>\$0.13</b>	<b>\$0.15</b>	<b>\$0.18</b>	<b>\$0.57</b>

Source: Piper Jaffray estimates and Company Filings  
(figures in \$ thousands)

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Last Updated: 10/23/19



ESTC: Elastic N.V. Income Statement	FY 2018	1Q19 JUL	2Q19 OCT	3Q19 JAN	4Q19 APR	FY 2019	1Q20 JUL	2Q20E OCT	3Q20E JAN	4Q20E APR	FY 2020E	1Q21E JUL	2Q21E OCT	3Q21E JAN	4Q21E APR	FY 2021E	1Q22E JUL	2Q22E OCT	3Q22E JAN	4Q22E APR	FY 2022E
<b>Revenue Mix</b>																					
License (%)	16%	13%	16%	13%	16%	15%	11%	14%	11%	13%	12%	9%	12%	10%	12%	11%	8%	10%	8%	10%	9%
Subscription (%)	61.4%	60.2%	60.1%	61.3%	58.6%	60.0%	61.2%	62.0%	63.6%	61.0%	61.9%	61.8%	62.5%	63.6%	61.0%	62.2%	61.0%	62.0%	62.7%	60.2%	61.4%
SaaS	15.9%	18.2%	15.8%	16.6%	17.1%	16.9%	19.6%	16.6%	17.6%	18.3%	18.0%	21.5%	18.4%	19.6%	20.3%	20.0%	24.3%	21.2%	22.5%	23.5%	22.9%
Subscription (%)	93.4%	91.1%	91.9%	91.2%	91.3%	91.4%	91.8%	92.2%	92.3%	92.5%	92.2%	92.7%	92.9%	92.9%	93.0%	92.9%	93.5%	93.6%	93.7%	93.6%	93.6%
Professional Services (%)	6.6%	8.9%	8.1%	8.8%	8.7%	8.6%	8.2%	7.8%	7.7%	7.5%	7.8%	7.3%	7.1%	7.1%	7.0%	7.1%	6.5%	6.4%	6.3%	6.2%	6.4%
Total Revenue (%)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Y/Y Growth</b>																					
License (%)	78%	56%	58%	62%	43%	53%	37%	30%	25%	24%	28%	20%	20%	20%	20%	20%	15%	15%	15%	15%	15%
Subscription (%)	50.4%	70.2%	68.2%	65.7%	61.7%	66.0%	61.1%	57.0%	55.0%	53.5%	56.3%	41.5%	38.0%	36.0%	35.0%	37.4%	32.0%	32.0%	32.0%	32.0%	32.0%
SaaS		117.7%	78.7%	67.5%	69.3%	79.9%	70.7%	60.0%	59.0%	58.0%	61.5%	54.0%	52.0%	51.0%	50.0%	51.6%	51.0%	53.0%	54.0%	55.0%	53.4%
Subscription (%)	87.3%	75.6%	68.0%	65.5%	59.4%	66.2%	59.6%	52.8%	51.4%	49.3%	52.8%	41.6%	37.8%	36.9%	35.8%	37.8%	34.7%	34.0%	34.8%	34.9%	34.6%
Professional Services (%)	25.2%	123.5%	127.8%	136.0%	105.4%	121.7%	45.4%	46.0%	30.0%	28.0%	36.2%	25.0%	25.0%	25.0%	25.0%	25.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Total Revenue (%)	81.4%	79.0%	71.6%	69.9%	62.6%	69.9%	58.4%	52.3%	49.5%	47.4%	51.4%	40.2%	36.8%	36.0%	35.0%	36.8%	33.6%	33.0%	33.8%	33.9%	33.6%
<b>RPO</b>		\$229	\$269	\$304	\$353		\$363														
Change in deferred revenue	\$44,292	\$2,368	\$25,310	\$9,633	\$34,565	\$71,876	(\$33)	\$30,000	\$30,000	\$30,000	\$89,967	\$30,000	\$30,000	\$30,000	\$30,000	\$120,000	\$30,000	\$30,000	\$30,000	\$30,000	\$120,000
Revenue	\$159,935	\$56,644	\$63,575	\$70,835	\$80,599	\$271,653	\$89,710	\$96,793	\$105,880	\$118,836	\$411,219	\$125,799	\$132,458	\$144,022	\$160,451	\$562,730	\$168,079	\$176,136	\$192,693	\$214,767	\$751,675
Change in unbilled accounts receivable	(\$511)	\$206	(\$361)	(\$639)	\$223	(\$571)	(\$237)	(\$237)	(\$237)	(\$237)	(\$948)	\$27,070	\$24,393	\$28,187	(\$237)	(\$948)	(\$237)	(\$237)	(\$237)	(\$237)	(\$948)
Calculated Billings	\$203,716	\$59,218	\$88,524	\$79,829	\$115,387	\$342,958	\$89,440	\$126,556	\$135,643	\$148,599	\$500,238	\$155,562	\$162,221	\$173,785	\$190,214	\$681,782	\$197,842	\$205,899	\$222,456	\$244,530	\$870,727
% Q/Q Chg	--	-19.2%	49.5%	-9.8%	44.5%	--	-22.5%	4.1%	7.2%	9.6%	--	4.7%	4.3%	7.1%	9.5%	--	4.0%	4.1%	8.0%	9.9%	--
% Y/Y Chg	63.8%	44.3%	55.4%	67.4%	70.8%	60.8%	51.0%	43.0%	69.9%	28.8%	45.9%	73.9%	28.2%	28.1%	28.0%	36.3%	27.2%	26.9%	28.0%	28.6%	27.7%
<b>By Revenue Segment</b>																					
License	\$25,759	\$7,240	\$10,204	\$9,406	\$12,624	\$39,474	\$9,907	\$13,265	\$11,758	\$15,654	\$50,583	\$11,888	\$15,918	\$14,109	\$18,785	\$60,700	\$13,672	\$18,306	\$16,225	\$21,602	\$69,805
Subscription	\$98,139	\$34,072	\$38,202	\$43,440	\$47,231	\$162,949	\$54,905	\$59,977	\$67,332	\$72,500	\$254,714	\$77,691	\$82,768	\$91,572	\$97,874	\$349,905	\$102,552	\$109,254	\$120,874	\$129,194	\$461,875
SaaS	\$25,484	\$10,297	\$10,030	\$11,740	\$13,768	\$45,835	\$17,578	\$16,048	\$18,667	\$21,753	\$74,046	\$27,070	\$24,393	\$28,187	\$32,630	\$112,280	\$40,876	\$37,321	\$43,407	\$50,577	\$172,181
Subscription Revenue	\$149,382	\$51,609	\$58,436	\$64,586	\$73,623	\$248,254	\$82,390	\$89,290	\$97,756	\$109,907	\$379,343	\$116,649	\$123,080	\$133,867	\$149,289	\$522,885	\$157,099	\$164,882	\$180,507	\$201,373	\$703,861
Professional Services Revenue	\$10,553	\$5,035	\$5,139	\$6,249	\$6,976	\$23,399	\$7,320	\$7,503	\$8,124	\$8,929	\$31,876	\$9,150	\$9,379	\$10,155	\$11,162	\$39,845	\$10,980	\$11,254	\$12,186	\$13,394	\$47,814
<b>Total Revenue</b>	<b>\$159,935</b>	<b>\$56,644</b>	<b>\$63,575</b>	<b>\$70,835</b>	<b>\$80,599</b>	<b>\$271,653</b>	<b>\$89,710</b>	<b>\$96,793</b>	<b>\$105,880</b>	<b>\$118,836</b>	<b>\$411,219</b>	<b>\$125,799</b>	<b>\$132,458</b>	<b>\$144,022</b>	<b>\$160,451</b>	<b>\$562,730</b>	<b>\$168,079</b>	<b>\$176,136</b>	<b>\$192,693</b>	<b>\$214,767</b>	<b>\$751,675</b>
% Q/Q Chg	--	14.3%	12.2%	17.4%	13.8%	--	11.3%	7.9%	9.4%	12.3%	--	5.9%	5.3%	8.7%	11.4%	--	4.8%	4.8%	9.4%	11.5%	--
% Y/Y Chg	63.8%	44.3%	55.4%	67.4%	70.8%	60.8%	58.4%	52.3%	49.5%	47.4%	51.4%	40.2%	36.8%	36.0%	35.0%	36.8%	33.6%	33.0%	33.8%	33.9%	33.6%
Cost of license	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cost of subscription and SaaS	\$25,700	\$9,212	\$11,553	\$12,208	\$14,755	\$47,728	\$16,310	\$17,993	\$20,200	\$21,750	\$76,253	\$23,307	\$24,831	\$27,471	\$29,362	\$104,971	\$30,765	\$32,776	\$36,262	\$38,758	\$138,562
Cost of Subscription	\$25,700	\$9,212	\$11,553	\$12,208	\$14,755	\$47,728	\$16,310	\$17,993	\$20,200	\$21,750	\$76,253	\$23,307	\$24,831	\$27,471	\$29,362	\$104,971	\$30,765	\$32,776	\$36,262	\$38,758	\$138,562
Cost of Professional Services Revenue	\$12,104	\$5,082	\$5,393	\$6,023	\$6,347	\$22,845	\$7,664	\$7,278	\$7,880	\$8,661	\$31,483	\$8,876	\$9,097	\$9,850	\$10,827	\$38,650	\$10,651	\$10,917	\$11,820	\$12,992	\$46,379
Cost of Revenue	\$37,804	\$14,294	\$16,946	\$18,231	\$21,102	\$70,573	\$23,974	\$25,271	\$28,080	\$30,411	\$107,736	\$32,183	\$33,928	\$37,321	\$40,189	\$143,621	\$41,416	\$43,693	\$48,082	\$51,750	\$184,942
<b>Gross Profit (Non-GAAP)</b>	<b>\$122,131</b>	<b>\$42,350</b>	<b>\$46,629</b>	<b>\$52,604</b>	<b>\$59,497</b>	<b>\$201,080</b>	<b>\$65,736</b>	<b>\$71,522</b>	<b>\$77,800</b>	<b>\$88,425</b>	<b>\$303,483</b>	<b>\$93,616</b>	<b>\$98,530</b>	<b>\$106,700</b>	<b>\$120,262</b>	<b>\$419,109</b>	<b>\$126,663</b>	<b>\$132,443</b>	<b>\$144,610</b>	<b>\$163,017</b>	<b>\$566,733</b>
Gross Margin (%)	76.4%	74.8%	73.3%	74.3%	73.8%	74.0%	73.3%	73.9%	73.5%	74.4%	73.8%	74.4%	74.4%	74.1%	75.0%	74.5%	75.4%	75.2%	75.0%	75.9%	75.4%
License Gross Margin (%)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Subscription Gross Margin (%)	82.8%	82.2%	80.2%	81.1%	80.0%	80.8%	80.2%	79.8%	79.3%	80.2%	79.9%	80.0%	79.8%	79.5%	80.3%	79.9%	80.4%	80.1%	79.9%	80.8%	80.3%
Professional Services Gross Margin (%)	-14.7%	-0.9%	-4.9%	3.6%	9.0%	2.4%	-4.7%	3.0%	3.0%	3.0%	1.2%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Research & Development	\$49,941	\$16,710	\$20,473	\$21,073	\$25,183	\$83,439	\$29,427	\$30,006	\$32,823	\$35,651	\$127,906	\$38,998	\$39,737	\$41,766	\$44,926	\$165,428	\$45,381	\$47,557	\$52,027	\$57,987	\$202,952
% of Revenue	31.2%	29.5%	32.2%	29.7%	31.2%	30.7%	32.8%	31.0%	31.0%	30.0%	31.1%	31.0%	30.0%	29.0%	28.0%	29.4%	27.0%	27.0%	27.0%	27.0%	27.0%
Sales & Marketing	\$78,927	\$28,533	\$31,832	\$33,687	\$40,353	\$134,405	\$47,080	\$49,365	\$53,469	\$59,656	\$209,570	\$64,158	\$66,229	\$70,571	\$78,621	\$279,578	\$80,678	\$84,545	\$90,566	\$100,941	\$356,729
% of Revenue	49.3%	50.4%	50.1%	47.6%	50.1%	49.5%	52.5%	51.0%	50.5%	50.2%	51.0%	51.0%	50.0%	49.0%	49.0%	49.7%	48.0%	48.0%	47.0%	47.0%	47.5%
General and Administrative	\$25,225	\$8,767	\$9,154	\$9,574	\$11,437	\$38,932	\$13,497	\$14,519	\$15,882	\$17,825	\$61,723	\$18,870	\$18,544	\$18,723	\$22,463	\$78,600	\$21,850	\$22,898	\$25,050	\$27,920	\$97,718
% of Revenue	15.8%	15.5%	14.4%	13.5%	14.2%	14.3%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	14.0%	13.0%	14.0%	14.0%	13.0%	13.0%	13.0%	13.0%	13.0%
Total Operating Expenses	\$154,093	\$54,010	\$61,459	\$64,334	\$76,973	\$256,776	\$90,004	\$93,889	\$102,174	\$113,132	\$399,199	\$122,025	\$124,511	\$131,060	\$146,010	\$523,606	\$147,910	\$155,000	\$167,643	\$186,847	\$657,399
% Y/Y Chg	59%	75%	91%	61%	50%	67%	67%	53%	59%	47%	55%	36%	33%	28%	29%	31%	21%	24%	28%	28%	26%
<b>Operating Income (Non-GAAP)</b>	<b>(\$31,962)</b>	<b>(\$11,660)</b>	<b>(\$14,830)</b>	<b>(\$11,730)</b>	<b>(\$17,476)</b>	<b>(\$55,696)</b>	<b>(\$24,268)</b>	<b>(\$22,367)</b>	<b>(\$24,374)</b>	<b>(\$24,707)</b>	<b>(\$95,716)</b>	<b>(\$28,409)</b>	<b>(\$25,980)</b>	<b>(\$24,359)</b>	<b>(\$25,749)</b>	<b>(\$104,497)</b>	<b>(\$21,247)</b>	<b>(\$22,557)</b>	<b>(\$23,032)</b>	<b>(\$23,831)</b>	<b>(\$90,666)</b>
Operating Margin (%)	-38.2%	-37.7%	-30.0%	-10.8%	-11.3%	-20.3%	-27.1%	-23.1%	-23.0%	-20.8%	-23.3%	-22.6%	-19.6%	-16.9%	-16.0%	-18.6%	-12.6%	-12.8%	-12.0%	-11.1%	-12.1%
<b>Other/Interest (Income)/expense</b>	<b>(\$1,357)</b>	<b>\$596</b>	<b>\$264</b>	<b>\$1,877</b>	<b>\$704</b>	<b>\$3,441</b>	<b>\$931</b>	<b>\$272</b>	<b>\$250</b>	<b>\$250</b>	<b>\$1,703</b>	<b>\$250</b>	<b>\$250</b>	<b>\$250</b>	<b>\$250</b>	<b>\$1,000</b>	<b>\$250</b>	<b>\$250</b>	<b>\$250</b>	<b>\$250</b>	<b>\$1,000</b>
Pre-Tax Income	(\$33,319)	(\$11,064)	(\$14,566)	(\$9,853)	(\$16,772)	(\$52,255)	(\$23,337)	(\$22,095)	(\$24,124)	(\$24,457)	(\$94,013)	(\$28,159)	(\$25,730)	(\$24,109)	(\$25,499)	(\$103,497)	(\$20,997)	(\$22,307)	(\$22,782)	(\$23,581)	(\$89,666)
Taxes	\$5,107	\$1,430	\$2,344	\$1,298	\$3,700	\$8,772	\$755	\$2,000	\$2,000	\$2,000	\$6,755	\$2,500	\$2,500	\$2,500	\$2,500	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500	\$10,000
Tax Rate (%)	-15.3%	-12.9%	-16.1%	-13.2%	-22.1%	-16.8%	-8.2%	-9.1%	-8.3%	-8.2%	-7.2%	-8.9%	-9.7%	-10.4%	-9.8%	-9.7%	-11.9%	-11.2%	-11.0%	-10.6%	-11.2%
Net Income (Non-GAAP)	(\$38,426)	(\$12,494)	(\$16,910)	(\$11,151)	(\$20,472)	(\$61,027)	(\$24,092)	(\$24,095)	(\$26,124)	(\$26,457)	(\$100,768)	(\$30,659)	(\$28,230)	(\$26,609)	(\$27,999)	(\$113,497)	(\$23,497)	(\$24,807)	(\$25,282)	(\$26,081)	(\$99,666)
<b>Earnings Per Share (Non-GAAP)</b>	<b>(\$1.20)</b>	<b>(\$0.38)</b>	<b>(\$0.38)</b>	<b>(\$0.16)</b>	<b>(\$0.28)</b>	<b>(\$1.11)</b>	<b>(\$0.32)</b>	<b>(\$0.31)</b>	<b>(\$0.33)</b>	<b>(\$0.33)</b>											

MDB: MongoDB Inc. Income Statement	FY 2018	1Q19 APR	2Q19 JUL	3Q19 OCT	4Q19 JAN	FY 2019	1Q20 APR	2Q20 JUL	3Q20E OCT	4Q20E JAN	FY 2020E	1Q21E APR	2Q21E JUL	3Q21E OCT	4Q21E JAN	FY 2021E	1Q22E APR	2Q22E JUL	3Q22E OCT	4Q22E JAN	FY 2022E
<b>Y/Y Growth</b>																					
Atlas (%)		437.4%	495.9%	330.7%	507.3%	443.4%	343.2%	246.8%	195.7%	73.7%	165.8%	54.4%	53.1%	50.7%	52.8%	52.6%	48.5%	51.2%	50.7%	50.2%	50.2%
Enterprise Advanced & Pro (%)		29.6%	34.6%	46.3%	26.9%	34.2%	35.9%	29.0%	1.3%	-0.5%	14.4%	15.0%	15.0%	20.0%	25.0%	18.7%	17.0%	17.0%	17.0%	17.0%	17.0%
Subscription (%)	55.1%	46.4%	58.2%	70.5%	73.4%	63.6%	82.3%	70.9%	43.0%	24.7%	50.5%	29.5%	29.9%	33.6%	38.1%	33.0%	30.8%	32.7%	33.8%	34.4%	33.1%
Professional Services (%)	28.7%	24.0%	28.0%	36.0%	36.6%	31.4%	32.5%	15.2%	5.0%	5.0%	13.5%	0.0%	0.0%	5.0%	5.0%	2.5%	0.0%	0.0%	5.0%	5.0%	2.6%
Total Revenue (%)	52.4%	44.3%	55.4%	67.4%	70.8%	60.8%	78.3%	66.7%	40.3%	23.5%	48.0%	27.7%	28.3%	32.1%	36.5%	31.3%	29.4%	31.4%	32.6%	33.3%	31.8%
<b>Q/Q Growth</b>																					
Atlas (%)		54.6%	52.3%	34.8%	91.3%		12.8%	19.2%	14.9%	12.4%		0.3%	18.2%	13.1%	14.0%		-2.5%	20.3%	12.7%	13.6%	
Enterprise Advanced & Pro (%)		-6.9%	13.7%	17.6%	1.9%		-0.3%	8.0%	-7.6%	0.0%		15.3%	8.0%	-3.6%	4.2%		7.9%	8.0%	-3.6%	4.2%	
Subscription (%)	---	-0.9%	19.6%	20.9%	21.1%	---	4.2%	12.1%	1.2%	5.5%	---	8.2%	12.5%	4.1%	9.1%	---	2.5%	14.1%	5.0%	9.5%	---
Professional Services (%)	---	14.6%	11.2%	14.4%	-6.3%	---	11.2%	-3.4%	4.3%	-6.3%	---	5.9%	-3.4%	9.5%	-6.3%	---	0.8%	-3.4%	15.0%	-6.3%	---
Total Revenue (%)	---	0.2%	18.9%	20.4%	19.1%	---	4.6%	11.2%	1.3%	4.9%	---	8.1%	11.7%	4.3%	8.4%	---	2.4%	13.5%	5.3%	9.0%	---
<b>By Revenue Segment</b>																					
Atlas	\$10,899	\$6,963	\$10,607	\$14,297	\$27,355	\$59,222	\$30,863	\$36,787	\$42,269	\$47,520	\$157,439	\$47,652	\$56,320	\$63,701	\$72,600	\$240,273	\$70,779	\$85,140	\$95,978	\$109,055	\$360,952
Enterprise Advanced & Pro	\$140,954	\$39,106	\$44,479	\$52,307	\$53,277	\$189,169	\$53,131	\$57,369	\$53,000	\$53,000	\$216,500	\$61,101	\$65,974	\$63,600	\$66,250	\$256,925	\$71,488	\$77,190	\$74,412	\$77,513	\$300,602
Subscription Revenue	\$151,853	\$46,069	\$55,086	\$66,604	\$80,632	\$248,391	\$83,994	\$94,156	\$95,269	\$100,520	\$373,939	\$108,753	\$122,295	\$127,301	\$138,850	\$497,198	\$142,267	\$162,330	\$170,390	\$186,567	\$661,554
Professional Services Revenue	\$14,175	\$4,070	\$4,525	\$5,178	\$4,852	\$18,625	\$5,394	\$5,212	\$5,437	\$5,095	\$21,138	\$5,394	\$5,212	\$5,709	\$5,349	\$21,664	\$5,394	\$5,212	\$5,994	\$5,617	\$22,217
<b>Total Revenue</b>	<b>\$166,028</b>	<b>\$50,139</b>	<b>\$59,611</b>	<b>\$71,782</b>	<b>\$85,484</b>	<b>\$267,016</b>	<b>\$89,388</b>	<b>\$99,368</b>	<b>\$100,705</b>	<b>\$105,615</b>	<b>\$395,076</b>	<b>\$114,147</b>	<b>\$127,507</b>	<b>\$133,010</b>	<b>\$144,199</b>	<b>\$518,862</b>	<b>\$147,661</b>	<b>\$167,542</b>	<b>\$176,384</b>	<b>\$192,184</b>	<b>\$683,771</b>
% Y/Y Chg	63.8%	44.3%	55.4%	67.4%	70.8%	60.8%	78.3%	66.7%	40.3%	23.5%	48.0%	27.7%	28.3%	32.1%	36.5%	31.3%	29.4%	31.4%	32.6%	33.3%	31.8%
Cost of Subscription Revenue	\$30,035	\$9,711	\$11,627	\$12,693	\$20,177	\$54,208	\$21,607	\$23,159	\$23,817	\$25,130	\$93,713	\$27,732	\$30,329	\$31,443	\$34,018	\$123,523	\$34,855	\$39,771	\$41,746	\$45,709	\$162,081
Cost of Professional Services Revenue	\$11,630	\$3,495	\$4,097	\$4,175	\$4,307	\$16,074	\$4,984	\$5,108	\$5,328	\$4,993	\$20,413	\$5,286	\$5,056	\$5,423	\$5,082	\$20,847	\$5,124	\$4,951	\$5,694	\$5,336	\$21,106
<b>Gross Profit (Non-GAAP)</b>	<b>\$124,363</b>	<b>\$36,933</b>	<b>\$43,887</b>	<b>\$54,914</b>	<b>\$61,000</b>	<b>\$196,734</b>	<b>\$62,797</b>	<b>\$71,101</b>	<b>\$71,560</b>	<b>\$75,492</b>	<b>\$280,950</b>	<b>\$81,129</b>	<b>\$92,122</b>	<b>\$96,143</b>	<b>\$105,099</b>	<b>\$374,493</b>	<b>\$107,681</b>	<b>\$122,820</b>	<b>\$128,944</b>	<b>\$141,139</b>	<b>\$500,584</b>
Gross Margin (%)	74.9%	73.7%	73.6%	76.5%	71.4%	73.7%	70.3%	71.6%	71.1%	71.5%	71.1%	71.1%	72.2%	72.3%	72.9%	72.2%	72.9%	73.3%	73.1%	73.4%	73.2%
Subscription Gross Margin (%)	80.2%	78.9%	78.9%	80.9%	75.0%	78.2%	74.3%	75.4%	75.0%	75.0%	74.9%	74.5%	75.2%	75.3%	75.5%	75.2%	75.5%	75.5%	75.5%	75.5%	75.5%
Professional Services Gross Margin (%)	18.0%	14.1%	9.5%	19.4%	11.2%	13.7%	7.6%	2.0%	2.0%	2.0%	3.4%	2.0%	3.0%	5.0%	5.0%	3.8%	5.0%	5.0%	5.0%	5.0%	5.0%
Sales & Marketing	\$102,708	\$30,979	\$34,408	\$32,990	\$38,862	\$137,239	\$41,180	\$47,580	\$47,332	\$50,167	\$186,258	\$53,078	\$59,291	\$61,850	\$66,332	\$240,550	\$66,447	\$75,394	\$79,373	\$86,483	\$307,697
% of Revenue	61.9%	61.8%	57.7%	46.0%	45.5%	51.4%	46.1%	47.9%	47.0%	47.5%	47.1%	46.5%	46.5%	46.5%	46.0%	46.4%	45.0%	45.0%	45.0%	45.0%	45.0%
Research & Development	\$56,450	\$16,439	\$18,526	\$20,048	\$23,154	\$78,167	\$26,348	\$31,026	\$31,340	\$33,797	\$122,510	\$34,244	\$35,702	\$35,913	\$36,050	\$141,908	\$36,915	\$41,886	\$44,096	\$48,046	\$170,943
% of Revenue	34.0%	32.8%	31.1%	27.9%	27.1%	29.3%	29.5%	31.2%	31.1%	32.0%	31.0%	30.0%	28.0%	27.0%	25.0%	27.3%	25.0%	25.0%	25.0%	25.0%	25.0%
General and Administrative	\$28,626	\$8,396	\$8,827	\$9,652	\$8,675	\$35,550	\$7,911	\$7,256	\$8,963	\$8,660	\$32,790	\$9,132	\$9,563	\$9,710	\$10,094	\$38,498	\$10,336	\$11,393	\$11,994	\$12,492	\$46,215
% of Revenue	17.2%	16.7%	14.8%	13.4%	10.1%	13.3%	8.9%	7.3%	8.9%	8.2%	8.3%	8.0%	7.5%	7.3%	7.0%	7.4%	7.0%	6.8%	6.8%	6.5%	6.8%
Total Operating Expenses	\$187,785	\$55,815	\$61,762	\$62,691	\$70,692	\$250,957	\$75,440	\$85,863	\$87,635	\$92,625	\$341,560	\$96,455	\$104,556	\$107,473	\$112,476	\$420,957	\$113,699	\$128,673	\$135,464	\$147,021	\$524,856
% Y/Y Chg	63.8%	44.3%	55.4%	67.4%	70.8%	60.8%	35.2%	39.0%	39.8%	31.0%	36.1%	27.9%	21.8%	22.6%	21.4%	23.2%	17.9%	23.1%	26.0%	30.7%	24.7%
<b>Operating Income (Non-GAAP)</b>	<b>(\$63,422)</b>	<b>(\$18,882)</b>	<b>(\$17,875)</b>	<b>(\$7,777)</b>	<b>(\$9,692)</b>	<b>(\$54,223)</b>	<b>(\$12,643)</b>	<b>(\$14,762)</b>	<b>(\$16,075)</b>	<b>(\$17,133)</b>	<b>(\$60,610)</b>	<b>(\$15,326)</b>	<b>(\$12,434)</b>	<b>(\$11,330)</b>	<b>(\$7,377)</b>	<b>(\$46,465)</b>	<b>(\$6,018)</b>	<b>(\$5,853)</b>	<b>(\$6,520)</b>	<b>(\$5,882)</b>	<b>(\$24,271)</b>
Operating Margin (%)	-38.2%	-37.7%	-30.0%	-10.8%	-11.3%	-20.3%	-14.1%	-14.9%	-16.0%	-16.2%	-15.3%	-13.4%	-9.8%	-8.5%	-5.1%	-9.0%	-4.1%	-3.5%	-3.7%	-3.1%	-3.5%
<b>Other/Interest (Income)/expense</b>	<b>\$2,094</b>	<b>\$591</b>	<b>\$662</b>	<b>\$840</b>	<b>\$742</b>	<b>\$2,835</b>	<b>\$420</b>	<b>\$272</b>	<b>\$250</b>	<b>\$250</b>	<b>\$1,192</b>	<b>\$500</b>	<b>\$500</b>	<b>\$500</b>	<b>\$500</b>	<b>\$2,000</b>	<b>\$500</b>	<b>\$500</b>	<b>\$500</b>	<b>\$500</b>	<b>\$2,000</b>
Pre-Tax Income	(\$61,328)	(\$18,291)	(\$17,213)	(\$6,937)	(\$8,950)	(\$51,388)	(\$12,223)	(\$14,490)	(\$15,825)	(\$16,883)	(\$59,418)	(\$14,826)	(\$11,934)	(\$10,830)	(\$6,877)	(\$44,465)	(\$5,518)	(\$5,353)	(\$6,020)	(\$5,382)	(\$22,271)
Taxes	\$1,287	\$467	\$246	(\$33)	\$121	\$801	(\$138)	\$195	\$200	\$200	\$457	\$150	\$150	\$150	\$150	\$600	\$150	\$150	\$150	\$150	\$600
Tax Rate (%)	-2.1%	-2.6%	-1.4%	0.5%	-1.4%	-1.6%	1.1%	-1.3%	-1.3%	-1.2%	-0.8%	-1.0%	-1.3%	-1.4%	-2.2%	-1.3%	-2.7%	-2.8%	-2.5%	-2.8%	-2.7%
Net Income (Non-GAAP)	(\$62,615)	(\$18,758)	(\$17,459)	(\$6,904)	(\$9,071)	(\$52,189)	(\$12,085)	(\$14,685)	(\$16,025)	(\$17,083)	(\$59,875)	(\$14,976)	(\$12,084)	(\$10,980)	(\$7,027)	(\$45,065)	(\$5,668)	(\$5,503)	(\$6,170)	(\$5,532)	(\$22,871)
<b>Earnings Per Share (Non-GAAP)</b>	<b>(\$1.45)</b>	<b>(\$0.37)</b>	<b>(\$0.34)</b>	<b>(\$0.13)</b>	<b>(\$0.17)</b>	<b>(\$1.00)</b>	<b>(\$0.22)</b>	<b>(\$0.26)</b>	<b>(\$0.28)</b>	<b>(\$0.30)</b>	<b>(\$1.07)</b>	<b>(\$0.26)</b>	<b>(\$0.20)</b>	<b>(\$0.18)</b>	<b>(\$0.12)</b>	<b>(\$0.76)</b>	<b>(\$0.09)</b>	<b>(\$0.09)</b>	<b>(\$0.10)</b>	<b>(\$0.09)</b>	<b>(\$0.37)</b>

Source: Piper Jaffray estimates and Company Filings  
(figures in dollars, thousands)

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Current disclosure information for this company can be found at:

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Last Updated: 10/23/19

WORK: Slack Income Statement	FY 2018	1Q19 APR	2Q19 JUL	3Q19 OCT	4Q19 JAN	FY 2019	1Q20 APR	2Q20 JUL	3Q20E OCT	4Q20E JAN	FY 2020E	1Q21E APR	2Q21E JUL	3Q21E OCT	4Q21E JAN	FY 2021E	1Q22E APR	2Q22E JUL	3Q22E OCT	4Q22E JAN	FY 2022E
% Revenue Mix																					
Enterprise (>\$100K cohort)	32%	36%	38%	41%	43%	40%	43%	43%	45%	47%	45%	48%	48%	48%	49%	48%	50%	50%	51%	51%	51%
Mass Market	68%	64%	62%	59%	57%	60%	57%	57%	55%	53%	55%	52%	52%	52%	51%	52%	50%	50%	49%	49%	49%
% Y/Y Chg																					
Enterprise (>\$100K cohort)	205%	173%	130%	119%	112%	127%	99%	78%	63%	55%	70%	54%	57%	53%	46%	52%	45%	42%	40%	38%	41%
Mass Market	83%	62%	58%	63%	59%	60%	48%	45%	38%	33%	40%	28%	29%	34%	34%	31%	33%	31%	27%	26%	29%
Total Revenue	110%	89%	79%	82%	78%	82%	67%	58%	48%	42%	52%	39%	41%	43%	39%	41%	39%	37%	33%	32%	35%
Enterprise (>\$100K cohort)	\$70,574	\$29,131	\$35,335	\$43,316	\$52,439	\$160,221	\$57,973	\$62,773	\$70,448	\$81,028	\$272,222	\$89,456	\$98,505	\$108,038	\$118,320	\$414,319	\$129,726	\$140,198	\$151,196	\$163,016	\$584,136
Mass Market	\$149,970	\$51,788	\$56,683	\$62,332	\$69,528	\$240,331	\$76,848	\$82,200	\$85,709	\$92,366	\$337,122	\$98,351	\$105,731	\$115,137	\$123,369	\$442,588	\$131,282	\$139,010	\$146,681	\$154,973	\$571,946
Revenue	\$220,544	\$80,919	\$92,018	\$105,648	\$121,967	\$400,552	\$134,821	\$144,973	\$156,156	\$173,394	\$609,344	\$187,807	\$204,236	\$223,175	\$241,689	\$856,907	\$261,008	\$279,208	\$297,877	\$317,989	\$1,156,082
% Q/Q Chg	---	---	13.7%	14.8%	15.4%	---	10.5%	7.5%	7.7%	11.0%	---	8.3%	8.7%	9.3%	8.3%	---	8.0%	7.0%	6.7%	6.8%	---
% Y/Y Chg	109.7%	89.4%	79.3%	82.0%	78.2%	81.6%	66.6%	57.5%	47.8%	42.2%	52.1%	39.3%	40.9%	42.9%	39.4%	40.6%	39.0%	36.7%	33.5%	31.6%	34.9%
Cost of Revenue	\$25,873	\$9,498	\$11,303	\$13,500	\$16,268	\$50,569	\$17,970	\$18,702	\$21,081	\$23,408	\$81,161	\$25,354	\$27,572	\$30,129	\$32,628	\$115,682	\$35,236	\$37,693	\$40,213	\$42,928	\$156,071
Gross Profit (Non-GAAP)	\$194,671	\$71,421	\$80,715	\$92,148	\$105,699	\$349,983	\$116,851	\$126,271	\$135,075	\$149,986	\$528,183	\$162,453	\$176,664	\$193,046	\$209,061	\$741,225	\$225,772	\$241,515	\$257,663	\$275,060	\$1,000,011
Gross Margin (%)	88.3%	88.3%	87.7%	87.2%	86.7%	87.4%	86.7%	87.1%	86.5%	86.5%	86.7%	86.5%	86.5%	86.5%	86.5%	86.5%	86.5%	86.5%	86.5%	86.5%	86.5%
Research & Development	\$106,090	\$32,015	\$34,238	\$37,458	\$43,879	\$147,590	\$49,318	\$54,585	\$59,339	\$60,688	\$223,930	\$63,854	\$69,440	\$75,879	\$82,174	\$291,348	\$83,523	\$83,762	\$83,406	\$82,677	\$333,368
% of Revenue	48%	39.6%	37.2%	35.5%	36.0%	37%	36.6%	37.7%	38.0%	35.0%	36.7%	34.0%	34.0%	34.0%	34.0%	34.0%	32.0%	30.0%	28.0%	26.0%	28.8%
Sales & Marketing	\$132,144	\$40,964	\$53,305	\$67,460	\$68,785	\$230,514	\$66,131	\$66,746	\$81,201	\$87,564	\$301,642	\$93,903	\$102,118	\$107,124	\$108,760	\$411,906	\$117,454	\$125,644	\$134,045	\$143,095	\$520,237
% of Revenue	59.9%	50.6%	57.9%	63.9%	56.4%	57.5%	49.1%	46.0%	52.0%	50.5%	49.5%	50.0%	50.0%	48.0%	45.0%	48.1%	45.0%	45.0%	45.0%	45.0%	45.0%
General and Administrative	\$52,205	\$18,652	\$25,220	\$27,469	\$31,614	\$102,955	\$35,168	\$60,559	\$41,381	\$41,615	\$178,722	\$45,074	\$46,974	\$47,090	\$50,755	\$189,893	\$54,812	\$57,238	\$59,575	\$62,008	\$233,633
% of Revenue	23.7%	23.1%	27.4%	26.0%	25.9%	25.7%	26.1%	41.8%	26.5%	24.0%	29.3%	24.0%	23.0%	21.1%	21.0%	22.2%	21.0%	20.5%	20.0%	19.5%	20.2%
Total Operating Expenses	\$290,439	\$91,631	\$112,763	\$132,387	\$144,278	\$481,059	\$150,617	\$181,890	\$181,923	\$189,867	\$704,298	\$202,831	\$218,533	\$230,094	\$241,690	\$893,149	\$255,789	\$266,644	\$277,026	\$287,781	\$1,087,240
% Y/Y Chg	54%	50%	71%	74%	66%	66%	64%	61%	37%	32%	46%	35%	20%	26%	27%	27%	26%	22%	20%	19%	22%
Operating Income (Non-GAAP)	(\$95,768)	(\$20,210)	(\$32,048)	(\$40,239)	(\$38,579)	(\$131,076)	(\$33,766)	(\$55,619)	(\$46,848)	(\$39,881)	(\$176,115)	(\$40,378)	(\$41,869)	(\$37,048)	(\$32,629)	(\$151,924)	(\$30,017)	(\$25,129)	(\$19,363)	(\$12,720)	(\$87,229)
Operating Margin (%)	-43.4%	-25.0%	-34.8%	-38.1%	-31.6%	-32.7%	-25.0%	-38.4%	-30.0%	-23.0%	-28.9%	-21.5%	-20.5%	-16.6%	-13.5%	-17.7%	-11.5%	-9.0%	-6.5%	-4.0%	-7.5%
Other/Interest (Income)/expense	\$4,581	\$1,802	\$2,085	\$3,376	\$8,883	\$16,146	\$7,077	\$3,111	\$3,000	\$3,000	\$16,188	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000
Pre-Tax Income	(\$91,187)	(\$18,408)	(\$29,963)	(\$36,863)	(\$29,696)	(\$114,930)	(\$26,689)	(\$52,508)	(\$43,848)	(\$36,881)	(\$159,927)	(\$37,378)	(\$38,869)	(\$34,048)	(\$29,629)	(\$139,924)	(\$27,017)	(\$22,129)	(\$16,363)	(\$9,720)	(\$75,229)
Taxes	\$793	\$350	\$85	\$318	\$87	\$840	\$520	(\$923)	\$500	\$500	\$597	\$500	\$500	\$500	\$500	\$2,000	\$500	\$500	\$500	\$500	\$2,000
Tax Rate (%)	-0.9%	-1.9%	-0.3%	-0.9%	-0.3%	-0.7%	-1.9%	1.8%	-1.1%	-1.4%	-0.4%	-1.3%	-1.3%	-1.5%	-1.7%	-1.4%	-1.9%	-2.3%	-3.1%	-5.1%	-2.7%
Net income (loss) attributable to noncontrolling inte	\$22	\$6	\$174	(\$24)	\$1,625	\$1,781	\$1,451	(\$54)			\$1,397										
Net Income (Non-GAAP)	(\$92,002)	(\$18,764)	(\$30,222)	(\$37,157)	(\$31,408)	(\$117,551)	(\$28,660)	(\$51,531)	(\$44,348)	(\$37,381)	(\$161,921)	(\$37,878)	(\$39,369)	(\$34,548)	(\$30,129)	(\$141,924)	(\$27,517)	(\$22,629)	(\$16,863)	(\$10,220)	(\$77,229)
Earnings Per Share (Non-GAAP)	\$ (0.75)	\$ (0.16)	\$ (0.25)	\$ (0.69)	\$ (0.50)	\$ (0.97)	\$ (0.23)	\$ (0.14)	\$ (0.12)	\$ (0.10)	\$ (0.58)	\$ (0.30)	\$ (0.11)	\$ (0.09)	\$ (0.08)	\$ (0.58)	\$ (0.07)	\$ (0.06)	\$ (0.04)	\$ (0.02)	\$ (0.19)
Basic Shares Outstanding	122.865	118.926	120.9	53.779	54.810	121.732	125.9	368.5	378.5	388.5	315.4	125.9	368.5	378.5	388.5	315.4	398.5	408.5	418.5	428.5	413.5
Diluted Shares Outstanding	122.865	118.926	120.9	53.779	62.299	121.732	125.9	368.5	378.5	388.5	64.1	125.9	368.5	378.5	388.5	315.4	398.5	408.5	418.5	428.5	413.5

Source: Piper Jaffray estimates and Company Filings  
(figures in \$ thousands)

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Last Updated: 10/23/19

TWLO: Twilio Inc Income Statement	FY 2017	1Q18 MAR	2Q18 JUN	3Q18 SEP	4Q18 DEC	FY 2018	1Q19 MAR	2Q19 JUN	3Q19E SEP	4Q19E DEC	FY 2019E	1Q20E MAR	2Q20E JUN	3Q20E SEP	4Q20E DEC	FY 2020E	1Q21E MAR	2Q21E JUN	3Q21E SEP	4Q21E DEC	FY 2021E
Y/Y Growth																					
Base Revenue (%)	48.8%	45.7%	54.1%	67.8%	76.8%	62.3%	88.0%	90.2%	76.5%	63.5%	77.8%	45.6%	36.8%	35.9%	32.2%	37.1%	33.5%	28.8%	29.1%	28.1%	29.7%
Variable Revenue(%)	5.5%	72.5%	53.9%	69.6%	82.6%	70.1%	5.6%	43.5%	10.0%	-0.8%	13.2%	14.2%	-12.6%	0.0%	0.0%	-0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Revenue (%)	43.9%	47.8%	54.1%	68.0%	77.3%	62.9%	80.6%	86.1%	70.8%	57.8%	72.1%	44.0%	33.5%	33.9%	30.4%	34.9%	32.1%	27.6%	27.8%	26.9%	28.5%
Q/Q Growth																					
Base Revenue (%)	---	11.6%	14.9%	14.3%	20.6%	---	18.7%	16.2%	6.1%	11.7%	---	5.7%	9.2%	5.4%	8.7%	---	6.7%	5.4%	5.6%	7.9%	---
Variable Revenue(%)	---	16.8%	9.8%	14.1%	24.7%	---	-32.5%	49.4%	-12.6%	12.5%	---	-22.2%	14.3%	0.0%	12.5%	---	-22.2%	14.3%	0.0%	12.5%	---
Total Revenue (%)	---	12.0%	14.4%	14.3%	21.0%	---	14.1%	18.0%	4.9%	11.8%	---	4.1%	9.4%	5.2%	8.8%	---	5.5%	5.7%	5.4%	8.0%	---
Base: Twilio core ex-Uber	\$335,588	\$112,342	\$129,094	\$147,592	\$178,172	\$567,200	\$184,125	\$201,761	\$215,570	\$244,925	\$846,381	\$259,654	\$286,075	\$302,029	\$328,137	\$1,175,895	\$350,753	\$370,595	\$392,222	\$422,638	\$1,536,208
Base: Uber	\$29,902	\$5,165	\$5,910	\$6,756	\$7,986	\$25,817	\$8,160	\$9,076	\$9,231	\$10,316	\$36,783	\$10,068	\$11,017	\$11,586	\$12,607	\$45,278	\$13,300	\$14,057	\$14,812	\$15,997	\$58,166
Base: Twilio	\$365,490	\$117,507	\$135,004	\$154,348	\$186,158	\$593,017	\$192,285	\$210,837	\$224,800	\$255,242	\$883,164	\$269,723	\$297,092	\$313,614	\$340,744	\$1,221,173	\$364,053	\$384,651	\$407,034	\$438,636	\$1,594,374
Base: Sendgrid	\$0	\$0	\$0	\$0	\$0	\$0	\$28,600	\$45,900	\$47,655	\$49,140	\$171,295	\$51,893	\$54,144	\$56,573	\$61,500	\$224,109	\$65,268	\$67,906	\$70,703	\$76,608	\$280,484
Base Revenue	\$365,490	\$117,507	\$135,004	\$154,348	\$186,158	\$593,017	\$220,885	\$256,737	\$272,455	\$304,382	\$1,054,459	\$321,615	\$351,236	\$370,187	\$402,244	\$1,445,282	\$429,321	\$452,557	\$477,737	\$515,244	\$1,874,859
Variable Revenue	\$33,530	\$11,609	\$12,750	\$14,547	\$18,144	\$57,050	\$12,254	\$18,302	\$16,000	\$18,000	\$64,556	\$14,000	\$16,000	\$16,000	\$18,000	\$64,000	\$14,000	\$16,000	\$16,000	\$18,000	\$64,000
Total Revenue	\$399,020	\$129,116	\$147,754	\$168,895	\$204,302	\$650,067	\$233,139	\$275,039	\$288,455	\$322,382	\$1,119,015	\$335,615	\$367,236	\$386,187	\$420,244	\$1,509,282	\$443,321	\$468,557	\$493,737	\$533,244	\$1,938,859
% Q/Q Chg		12.0%	14.4%	14.3%	21.0%		14.1%	18.0%	4.9%	11.8%		4.1%	9.4%	5.2%	8.8%		5.5%	5.7%	5.4%	8.0%	
% Y/Y Chg	43.9%	47.8%	54.1%	68.0%	77.3%	62.9%	80.6%	86.1%	70.8%	57.8%	72.1%	44.0%	33.5%	33.9%	30.4%	34.9%	32.1%	27.6%	27.8%	26.9%	28.5%
Total Cost of Revenue	\$177,601	\$58,162	\$66,549	\$75,351	\$93,997	\$294,059	\$96,820	\$111,486	\$118,844	\$132,176	\$459,326	\$139,280	\$152,403	\$160,267	\$174,401	\$626,352	\$179,545	\$189,766	\$199,964	\$215,964	\$785,238
Gross Profit (Non-GAAP)	\$221,419	\$70,954	\$81,205	\$93,544	\$110,305	\$356,008	\$136,319	\$163,553	\$169,612	\$190,205	\$659,689	\$196,335	\$214,833	\$225,919	\$245,843	\$882,930	\$263,776	\$278,791	\$293,774	\$317,280	\$1,153,621
Gross Margin (%)	55.5%	55.0%	55.0%	55.4%	54.0%	54.8%	58.5%	59.5%	58.8%	59.0%	59.0%	58.5%	58.5%	58.5%	58.5%	58.5%	59.5%	59.5%	59.5%	59.5%	59.5%
Research & Development	\$96,476	\$29,368	\$28,847	\$30,713	\$36,918	\$125,846	\$49,380	\$62,896	\$65,479	\$74,148	\$251,903	\$75,513	\$80,792	\$84,961	\$92,454	\$333,720	\$97,531	\$103,083	\$108,622	\$117,314	\$426,549
% of Revenue	24.2%	22.7%	19.5%	18.2%	18.1%	19.4%	21.2%	22.9%	22.7%	23.0%	22.5%	22.5%	22.0%	22.0%	22.0%	22.1%	22.0%	22.0%	22.0%	22.0%	22.0%
Sales & Marketing	\$89,480	\$28,669	\$32,145	\$39,974	\$48,904	\$149,692	\$53,430	\$67,538	\$72,979	\$73,181	\$267,128	\$77,191	\$84,464	\$94,616	\$92,454	\$348,725	\$97,531	\$103,083	\$118,497	\$117,314	\$436,424
% of Revenue	22.4%	22.2%	21.8%	23.7%	23.9%	23.0%	22.9%	24.6%	25.3%	22.7%	23.9%	23.0%	23.0%	24.5%	22.0%	23.1%	22.0%	22.0%	24.0%	22.0%	22.5%
General & Administrative	\$55,526	\$17,610	\$18,003	\$18,606	\$22,114	\$76,333	\$30,146	\$31,609	\$33,749	\$34,200	\$129,704	\$36,918	\$40,396	\$43,639	\$42,024	\$162,977	\$44,332	\$46,856	\$51,842	\$47,992	\$191,022
% of Revenue	13.9%	13.6%	12.2%	11.0%	10.8%	11.7%	12.9%	11.5%	11.7%	10.6%	11.6%	11.0%	11.0%	11.3%	10.0%	10.8%	10.0%	10.0%	10.5%	9.0%	9.9%
Total Operating Expenses	\$241,482	\$75,647	\$78,995	\$89,293	\$107,936	\$351,871	\$132,956	\$162,043	\$172,208	\$181,528	\$648,735	\$189,623	\$205,652	\$223,216	\$226,932	\$845,423	\$239,393	\$253,021	\$278,961	\$282,619	\$1,053,995
Operating Income (Non-GAAP)	(\$20,063)	(\$4,693)	\$2,210	\$4,251	\$2,369	\$4,137	\$3,363	\$1,510	(\$2,596)	\$8,677	\$10,954	\$6,712	\$9,181	\$2,703	\$18,911	\$37,508	\$24,383	\$25,771	\$14,812	\$34,661	\$99,626
Operating Margin (%)	-5.0%	-3.6%	1.5%	2.5%	1.2%	0.6%	1.4%	0.5%	-0.9%	2.7%	1.0%	2.0%	2.5%	0.7%	4.5%	2.5%	5.5%	5.5%	3.0%	6.5%	5.1%
Interest and Other, net	\$3,071	\$665	\$797	\$3,740	\$2,928	\$8,130	\$5,205	\$4,961	\$4,800	\$4,800	\$19,766	\$4,500	\$4,500	\$4,500	\$4,500	\$18,000	\$4,500	\$4,500	\$4,500	\$4,500	\$18,000
Pre-Tax Income	(\$16,992)	(\$4,028)	\$3,007	\$7,991	\$5,297	\$12,267	\$8,568	\$6,471	\$2,204	\$13,477	\$30,720	\$11,212	\$13,681	\$7,203	\$23,411	\$55,508	\$28,883	\$30,271	\$19,312	\$39,161	\$117,626
Taxes	(\$705)	(\$137)	(\$150)	(\$84)	(\$420)	(\$791)	(\$2,142)	(\$1,618)	\$0	(\$3,369)	(\$7,129)	(\$2,803)	(\$3,420)	(\$1,801)	(\$5,853)	(\$13,877)	(\$7,221)	(\$7,568)	(\$4,828)	(\$9,790)	(\$29,407)
Tax Rate (%)	-4.1%	-3.4%	5.0%	1.1%	7.9%	6.4%	25.0%	25.0%	0.0%	25.0%	23.2%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Net Income (Non-GAAP)	(\$17,697)	(\$4,165)	\$2,857	\$7,907	\$4,877	\$11,476	\$6,426	\$4,853	\$2,204	\$10,108	\$23,590	\$8,409	\$10,261	\$5,402	\$17,558	\$41,631	\$21,662	\$22,703	\$14,484	\$29,371	\$88,220
Earnings Per Share (Non-GAAP)	(\$0.19)	(\$0.04)	\$0.03	\$0.07	\$0.04	\$0.11	\$0.05	\$0.03	\$0.01	\$0.07	\$0.17	\$0.06	\$0.07	\$0.04	\$0.11	\$0.27	\$0.14	\$0.14	\$0.09	\$0.18	\$0.55
Basic shares outstanding	91,472	94,674	96,348	98,020	99,418	97,130	116,591	129,311	132,311	135,311	128,381	137,311	138,811	140,311	141,811	139,561	143,811	145,311	146,811	148,311	146,061
Diluted shares outstanding	91,472	94,674	106,604	109,821	110,616	108,338	130,083	143,660	149,910	148,160	142,953	150,160	151,660	153,160	154,660	152,410	156,660	158,160	159,660	161,160	158,910

Source: Piper Jaffray estimates and Company Filings  
(figures in \$ thousands)

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Legend:

I: Initiating Coverage

R: Resuming Coverage

T: Transferring Coverage

D: Discontinuing Coverage

S: Suspending Coverage

OW: Overweight

N: Neutral

UW: Underweight

NA: Not Available

UR: Under Review

Distribution of Ratings/IB Services Piper Jaffray				
Rating	Count	Percent	IB Serv./Past 12 Mos.	
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<b>BUY [OW]</b>	<b>387</b>	<b>64.82</b>	<b>88</b>	<b>22.74</b>
<b>HOLD [N]</b>	<b>202</b>	<b>33.84</b>	<b>17</b>	<b>8.42</b>
<b>SELL [UW]</b>	<b>8</b>	<b>1.34</b>	<b>1</b>	<b>12.50</b>

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