



November 2022

State of the OpenCloud 2022

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Battery

STILL
↓

We're Long
Cloud-Infrastructure
& Open-Source Software

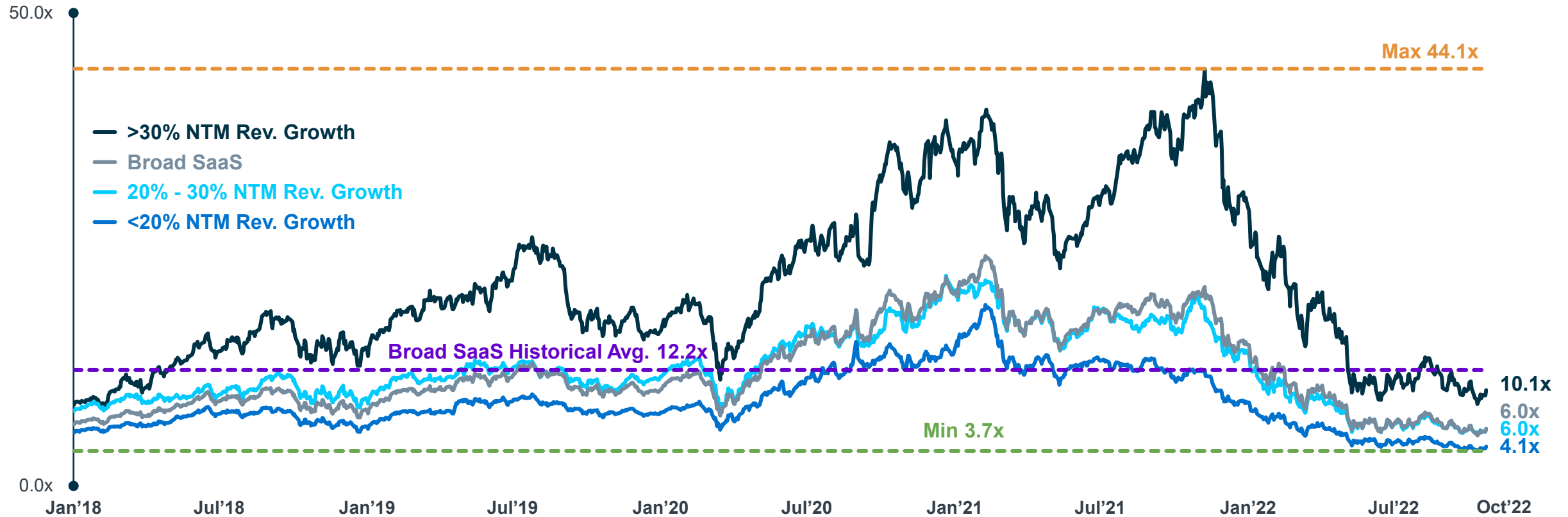


We are long cloud-infrastructure & open-source software

- 1 Infrastructure-software fundamentals remain resilient despite macro outlook
- 2 Measured growth is being rewarded over growth at all cost
- 3 Cloud providers continue to exhibit growth durability and profitability
- 4 Public cloud-native companies are reaching scale and the private backlog is promising
- 5 Cloud software is the deflationary force enabling productivity in a high inflation environment
- 6 Cloud-native is not an option, it's a necessity

Software revenue multiples are down across the board

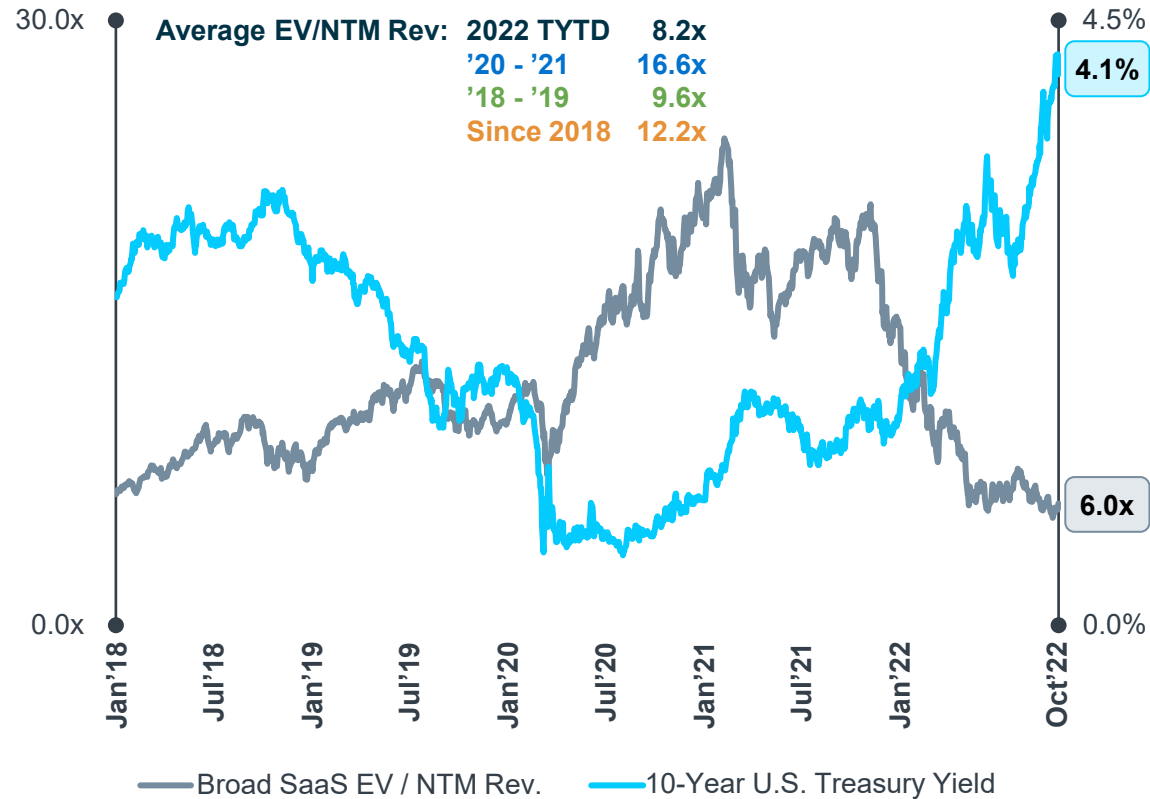
Enterprise Value / NTM Revenue



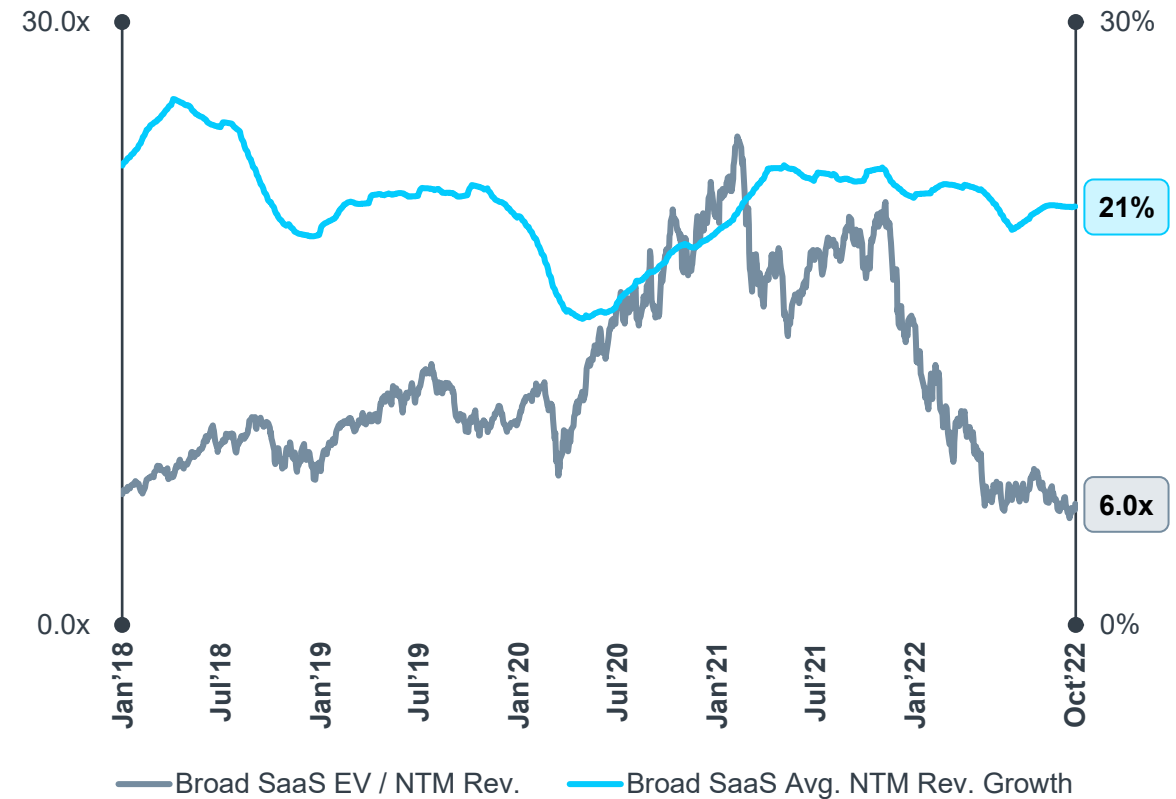
Software revenue multiples have compressed from 2021 highs to below the historical average since 2018.

Interest rates and macro sentiment are driving the correction despite stable revenue growth

Rising interest rates have resulted in multiple compression



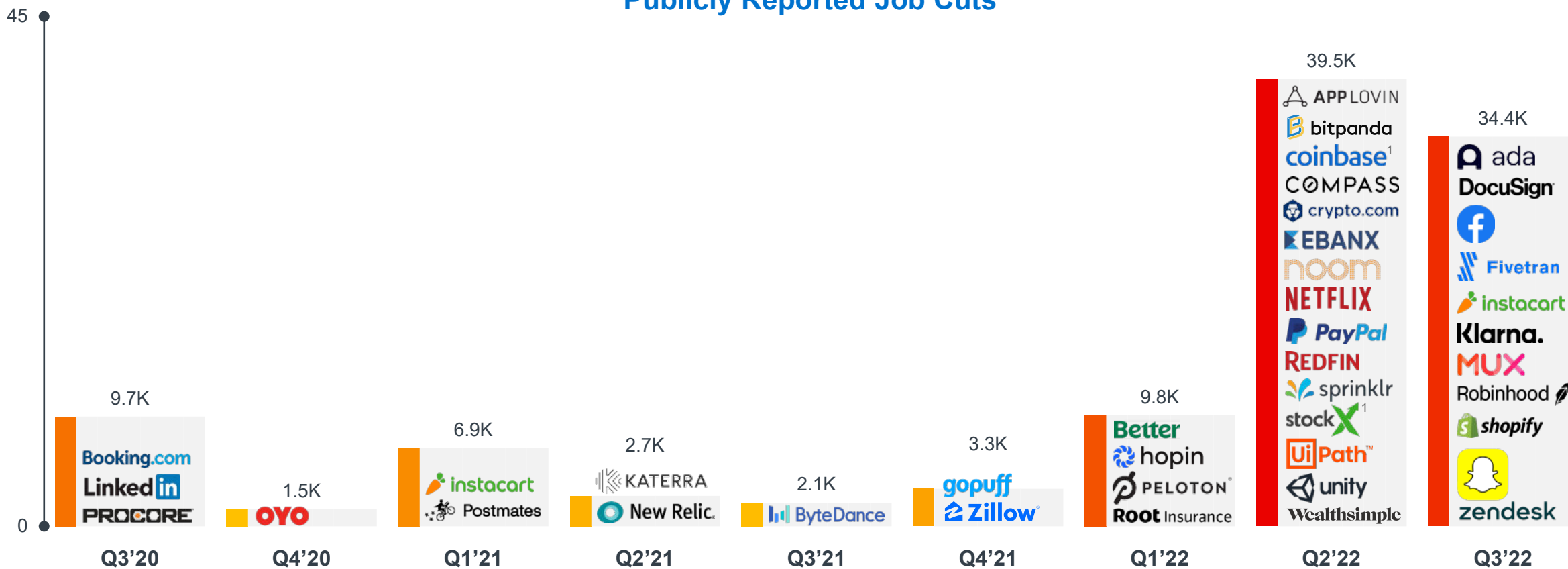
Company growth forecasts remain healthy



While company fundamentals remain strong, software multiples have compressed as a result of ongoing macro pressures, including rising interest rates.

The tightening of the economy is causing companies to reevaluate their cost structure

Publicly Reported Job Cuts



More than 70K positions were eliminated across 400+ companies globally in the last two quarters as companies reevaluate their cost structure in light of macro headwinds.

There is pain ahead for private companies

Private Software Companies

1,000+
Global unicorns
in the last 10 years

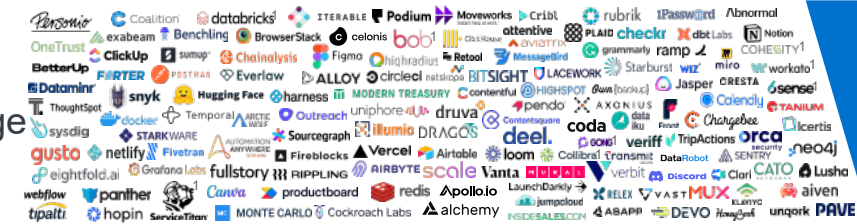


Public Software Companies



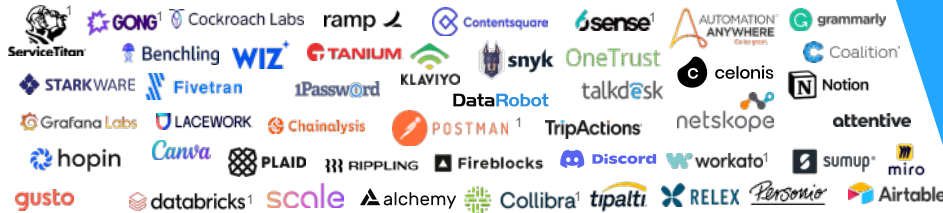
200
Public software companies
in the last 10 years

400
\$3B average
valuation



70
\$1B+ NTM
revenue

50
Valuation
of \$5B+



60
Valuation
of \$5B+

15
Valuation
of \$10B+



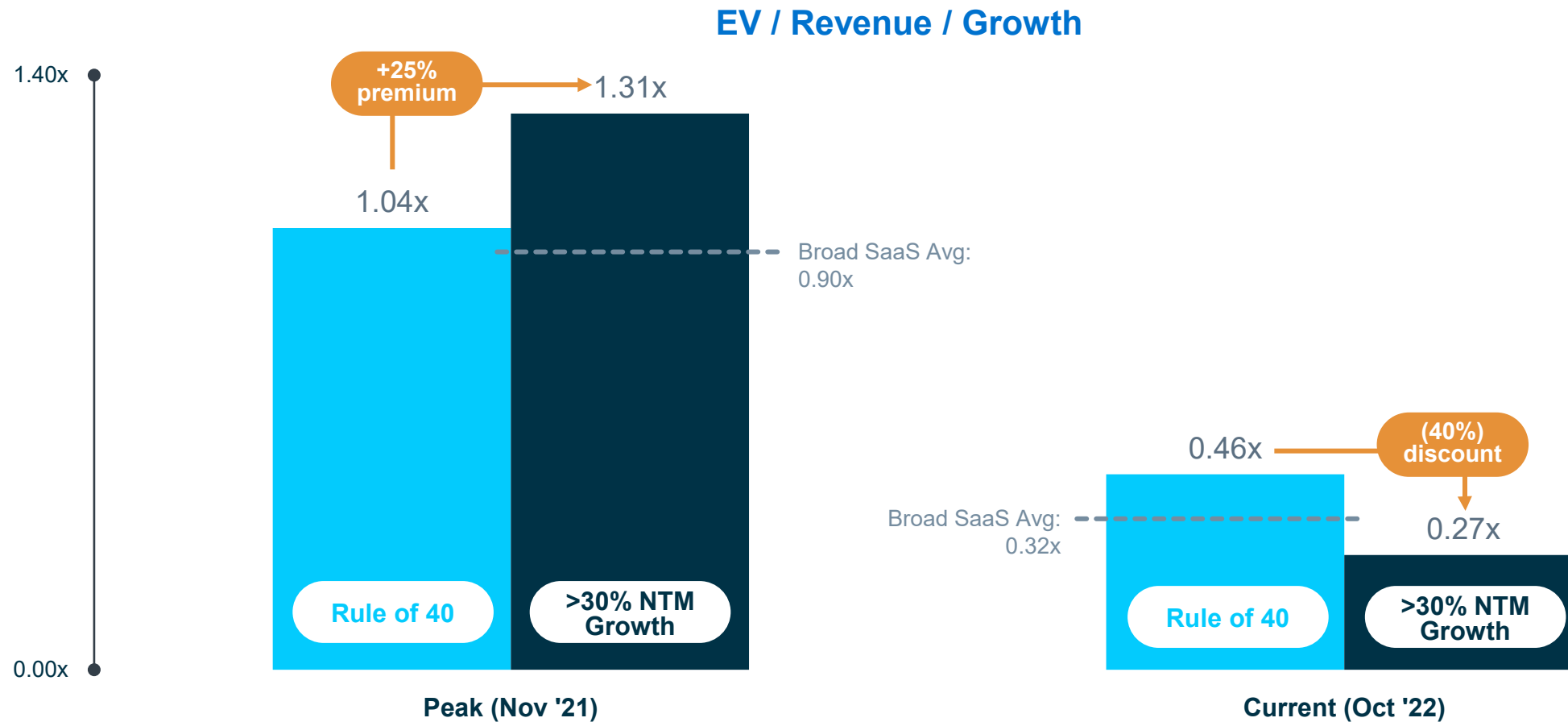
40
Valuation
of \$10B+

Highly-valued software unicorns have a high bar to meet to transition to successful public companies, often requiring a 10x+ revenue ramp and being mindful about margins early on.

Sources: Pitchbook, CapIQ

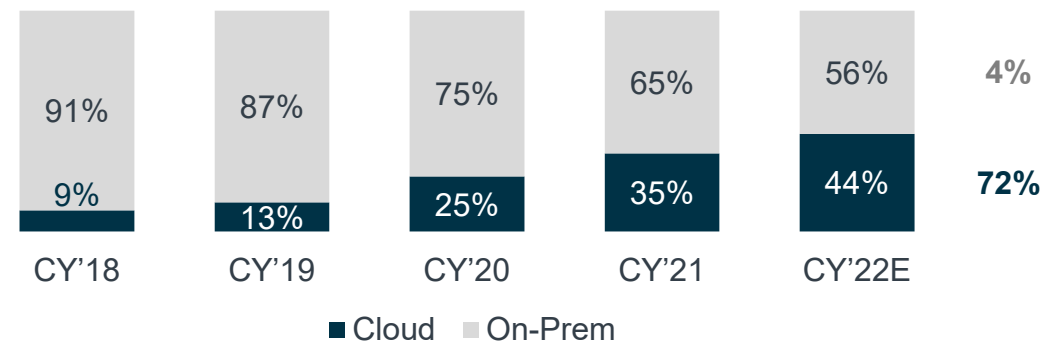
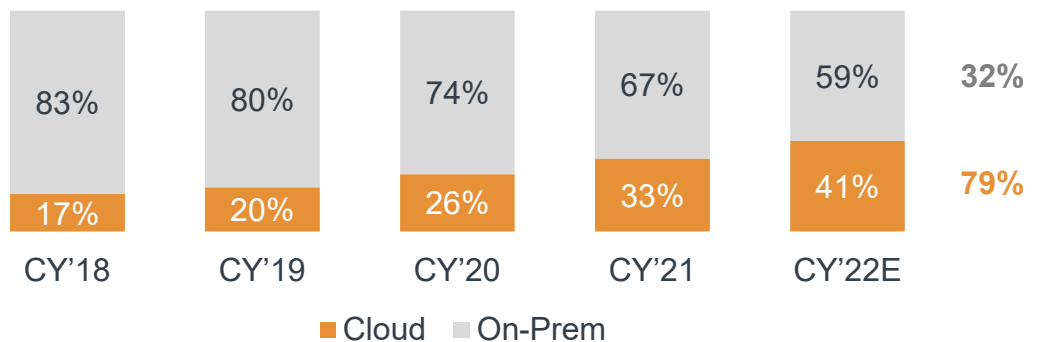
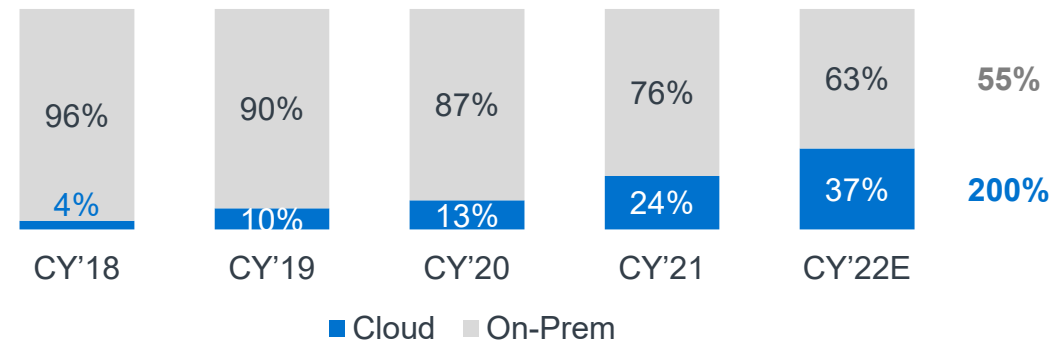
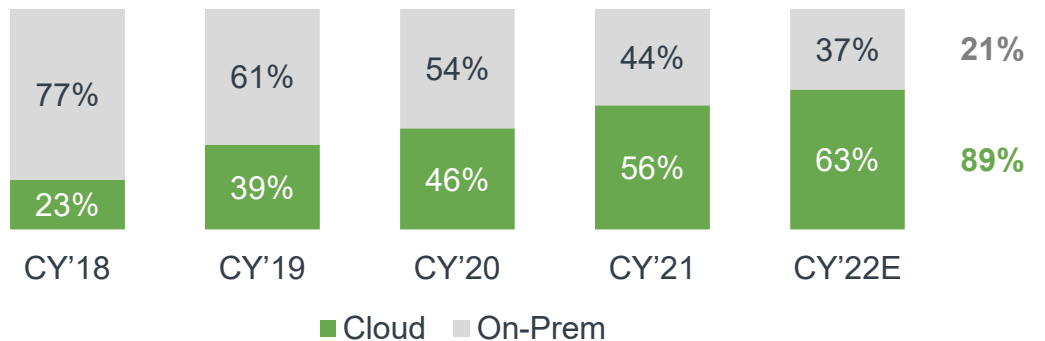
Note: ¹ Affirm, Akamai, Bob, Cohesity, Collibra, Confluent, Databricks, DataDog, Gong, Nutanix, Pendo, Postman, Sabre, ServiceTitan, Splunk, Workato and 6sense are current or past Battery portfolio companies. For a full list of all Battery investments, please click [here](#). Unicorn indicates a valuation of \$1B or more. Public companies considered with a minimum market cap of \$500M+. Excludes Figma due to announced Adobe acquisition.

The market is shifting from “growth at all cost” to “measured growth”



On a growth-adjusted basis, some of the fastest-growing software companies have been disproportionately penalized as the market rewards profitability and measured growth.

Cloud businesses are core to driving market value



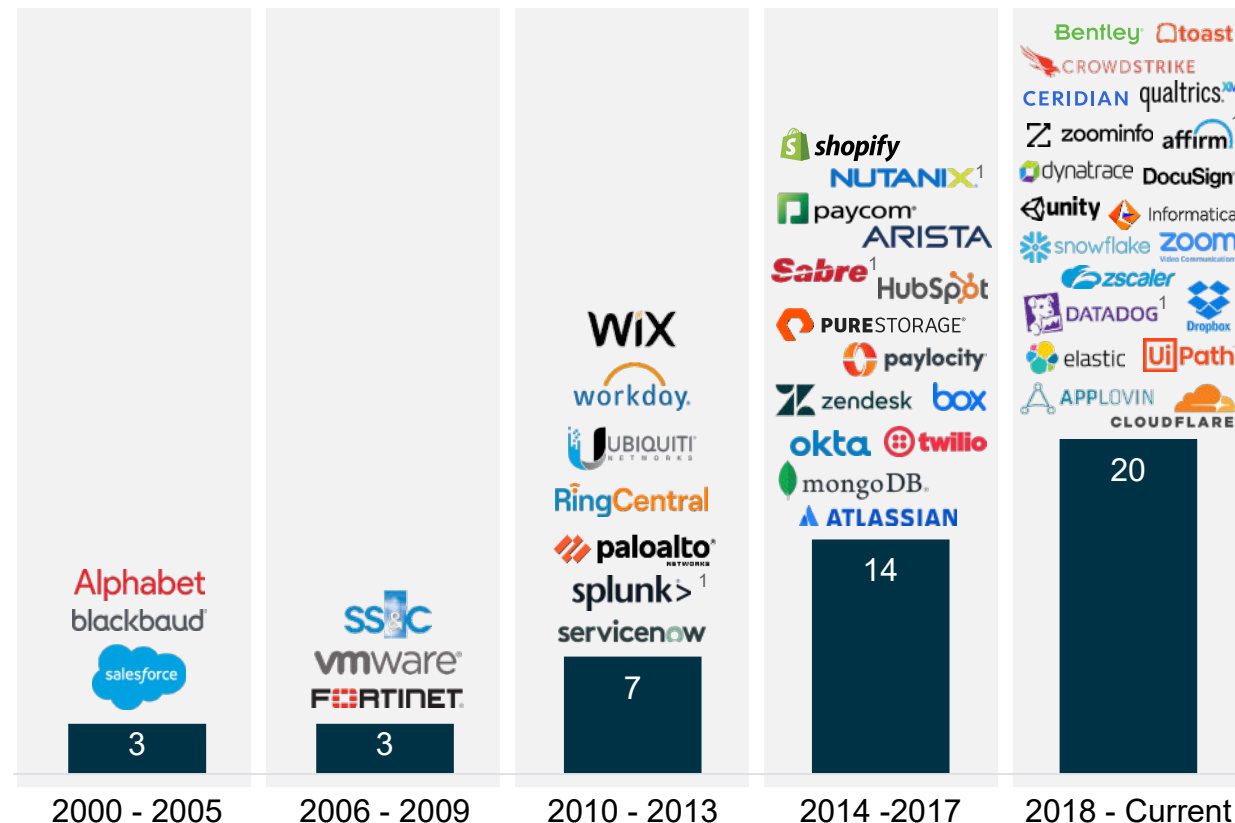
Across infrastructure-software companies, cloud revenue growth far outpaces that of on-prem, and cloud serves as the foundation for long-term sustainable growth.

Cloud-infrastructure fundamentals remain healthy

Top 10 Highest-Valued Software Companies by Multiple

Company	Cloud Infra?	Market Cap	NTM Rev.	NTM Growth	FCF Margin	Rule of 40	EV / NTM Rev
snowflake	✓	\$64,411	\$2,517	54%	15%	69	22.5x
CLOUDFLARE	✓	\$18,914	\$1,136	40%	2%	42	16.1x
zscaler	✓	\$22,701	\$1,502	38%	23%	61	15.9x
DATADOG ¹	✓	\$29,636	\$1,899	39%	21%	60	15.6x
ATlassian	✓	\$52,533	\$3,599	28%	22%	50	15.3x
zoominfo	✗	\$18,841	\$1,241	34%	36%	70	15.0x
GitLab	✓	\$8,189	\$495	49%	(8%)	41	14.9x
CROWDSTRIKE	✓	\$38,323	\$2,640	44%	29%	73	14.6x
bill.com	✗	\$14,445	\$968	51%	2%	53	14.6x
SentinelOne	✓	\$7,355	\$542	79%	(15%)	64	12.9x
Top 10 SaaS Avg.				45%	13%	58	15.7x
Broad SaaS Avg.				21%	5%	26	6.0x

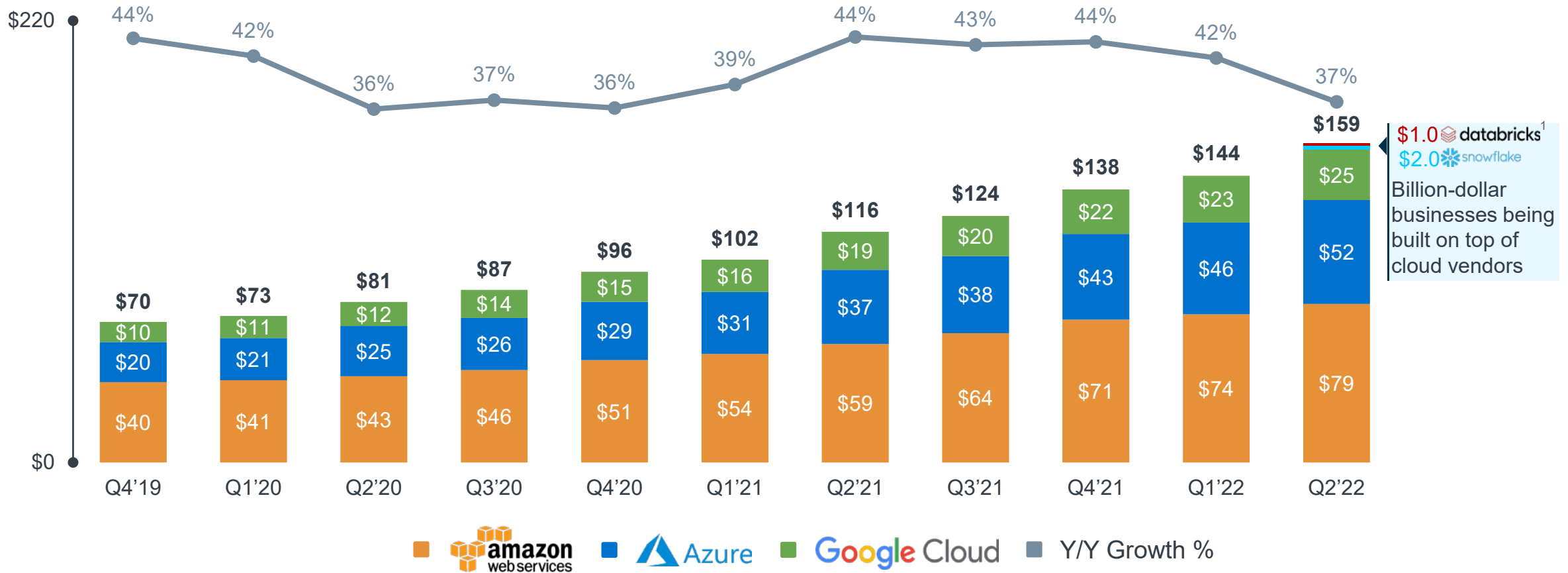
of \$1B+ NTM Revenue Software Companies by IPO Date



The number of \$1B+ revenue software companies continues to expand rapidly, and cloud-infrastructure companies, which exhibit healthy growth and profitability at scale, represent 8 of the top 10 most valuable software companies.

Cloud vendors continue to show growth durability at massive scale despite the current macro environment

Cloud Vendor Annualized Run-Rate Revenue (US\$B)



Cloud giants have continued to benefit as digital transformation accelerates and more workloads shift to the cloud.

Cloud leaders are demonstrating growth with attractive margin profiles



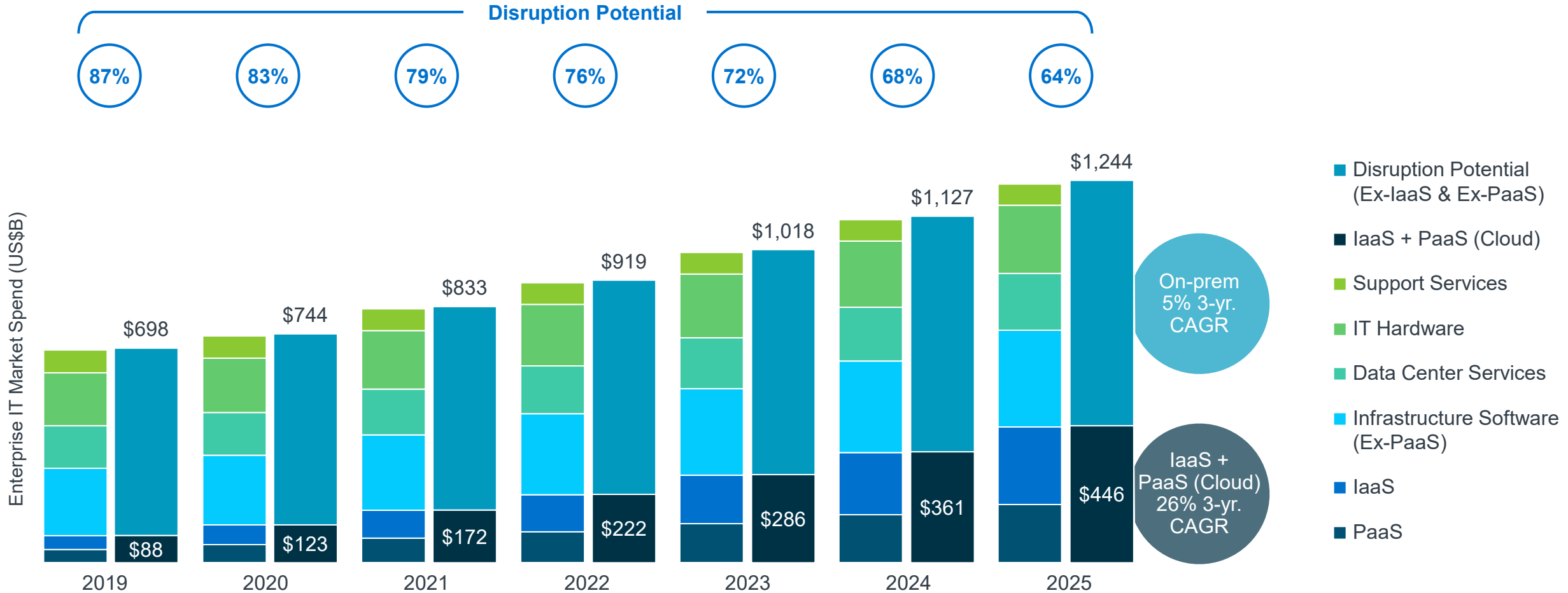
	amazon webservices™			Microsoft Azure			Google Cloud		
	Q2'21		Q2'22	Q2'21		Q2'22	Q2'21		Q2'22
Annualized Cloud Revenue	\$59B	1.3x	\$79B	\$37B	1.4x	\$52B	\$19B	1.4x	\$25B
Illustrative Multiple	8.0x		8.0x	8.0x		8.0x	8.0x		8.0x
Implied Cloud Valuation	\$474B	1.3x	\$632B	\$296B	1.4x	\$414B	\$148B	1.4x	\$201B
Cloud Contribution to Enterprise Value	27%	1.8x	48%	15%	1.5x	23%	10%	1.7x	16%
Cloud GAAP Operating Margin	28%	1%	29%	45%	(3%)	42%	(13%)	(1%)	(14%)

On a combined basis, cloud represents 28% of Amazon, Microsoft and Google's enterprise value, up from 17% in the year prior.

Source: Company filings and Wall Street Research

Note: Market data as of 10/25/22. MSFT cloud revenue represents Azure estimates while cloud GAAP operating margin represents Intelligent Cloud as reported

We're in the early innings of cloud adoption

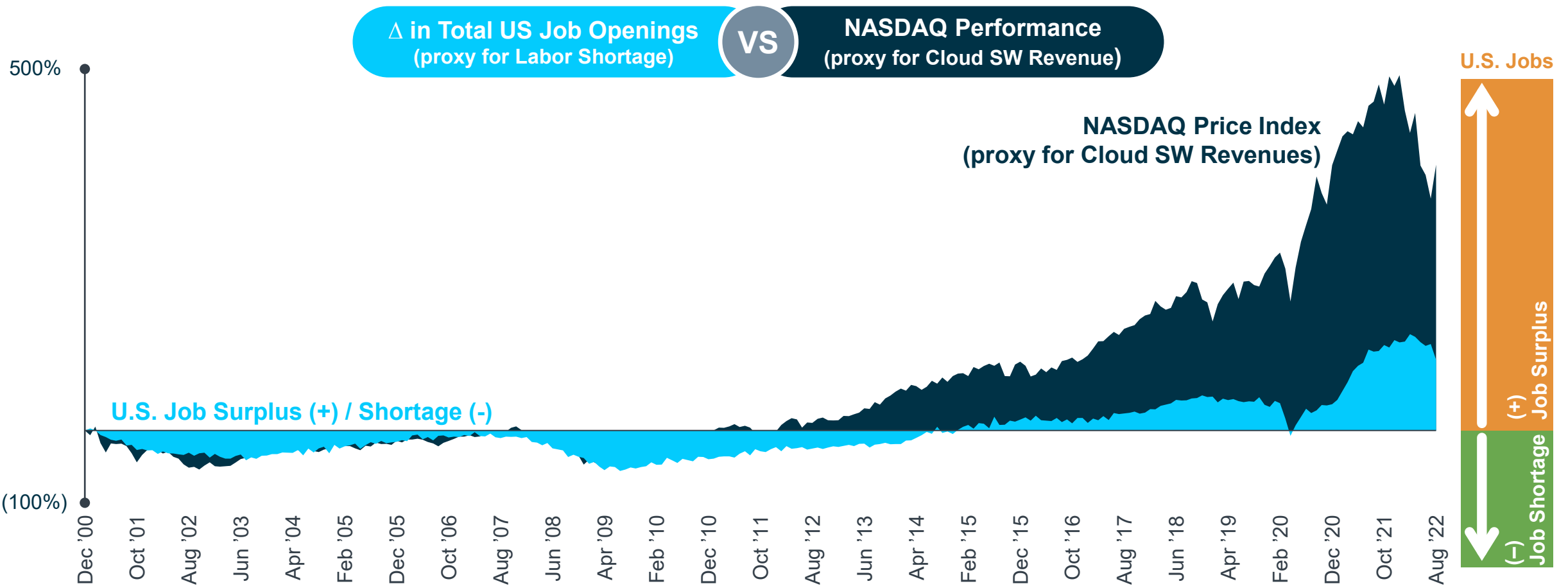


Cloud penetration is rapidly expanding with ample room to grow. In 2022, cloud spend is expected to represent ~25% of the \$919B overall infrastructure spend.

Source: Gartner

Note: IaaS + PaaS includes revenue from AWS, Azure, Google Cloud, AliCloud, Salesforce/Heroku, Tencent, Oracle, Digital Ocean, and other cloud companies.

Cloud software is the deflationary force enabling productivity in a high inflation environment



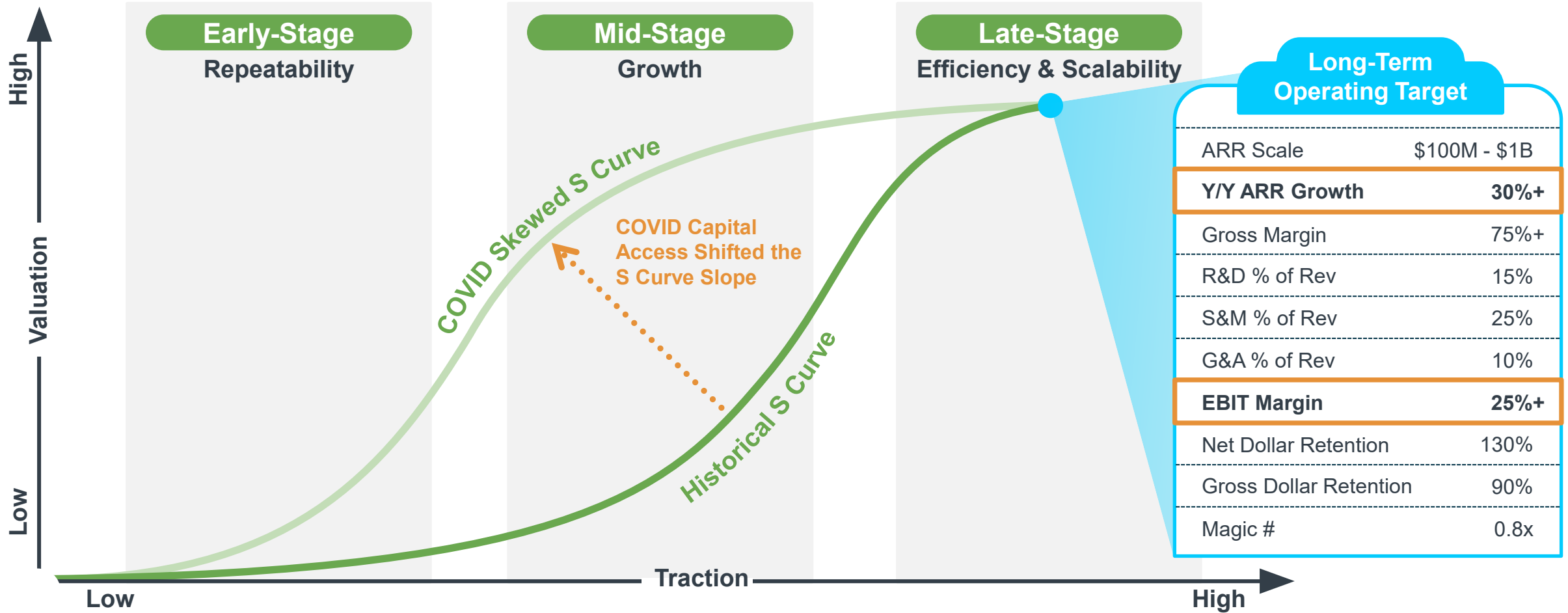
Cloud software is the counterbalance to periods of labor shortages, driving increased productivity from existing resources and acting a source of deflationary pressure.



Operational Best Practices for OpenCloud Companies









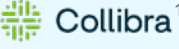





1 COVID-19 shifted the valuation slope, but the end state for healthy companies remains the same



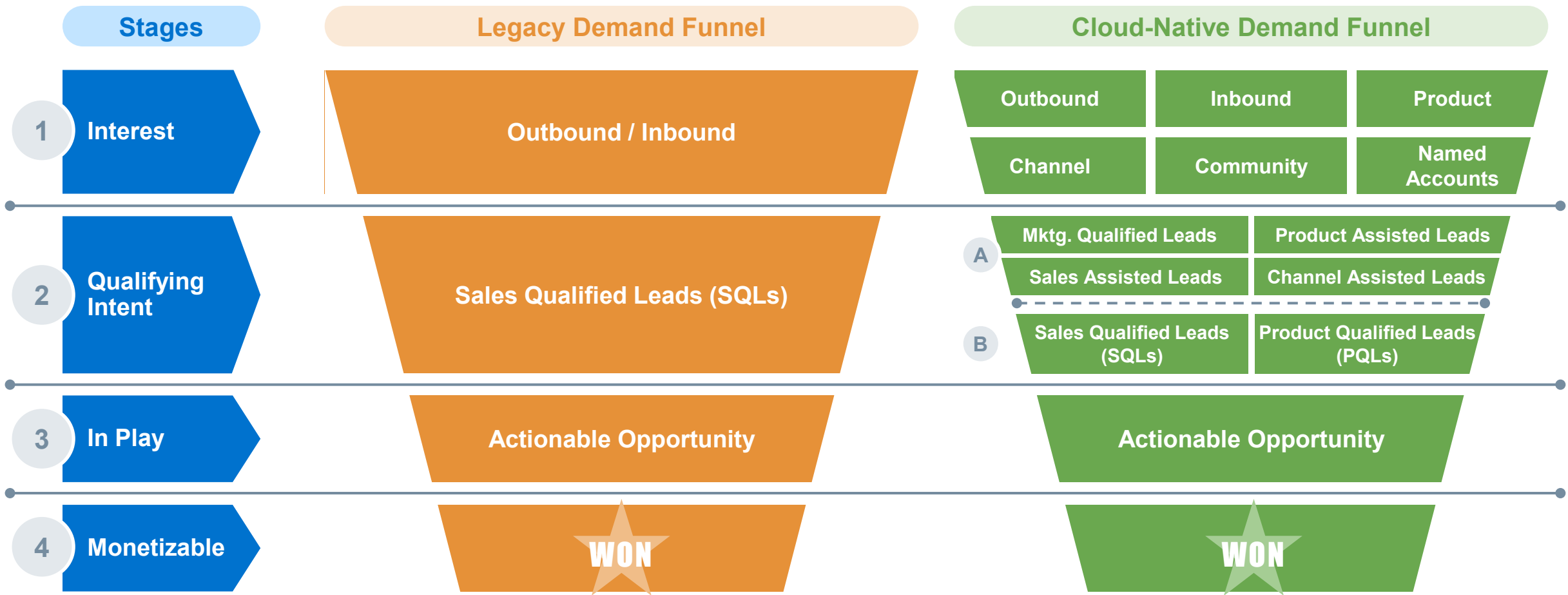
COVID-19 and the cheap capital environment shifted the slope of the s-curve and resulting valuations, but the path to a lasting business remains the same.

2 Product is playing an outsized role in the buyer journey, but there's no one size fits all

	Product-Led Growth	Product-Assisted Growth	Sales-Influenced Growth
Customer Profile	Individuals	Teams	Organizations
User / Champion	Buyer	Influencer	POC / Limited Role
Customer Acquisition	Organic / Growth-led	Marketing-led	Sales-led
Lead Generation	PQL	PQL / MQL	Named Accounts
Sales Team Involvement	Self-Serve	Inside Sales	Enterprise Rep
Sales Cycle	Days	Months	Quarters
Success Metrics to Track	New Customer Lands	ARR & Expansion	ACV & Contract Duration
Example Companies	 ATLASSIAN  POSTMAN ¹  snyk  1Password	 snowflake  GitLab  databricks ¹  MATILLION ¹	 Collibra ¹  servicenow  CROWDSTRIKE  paloalto ¹

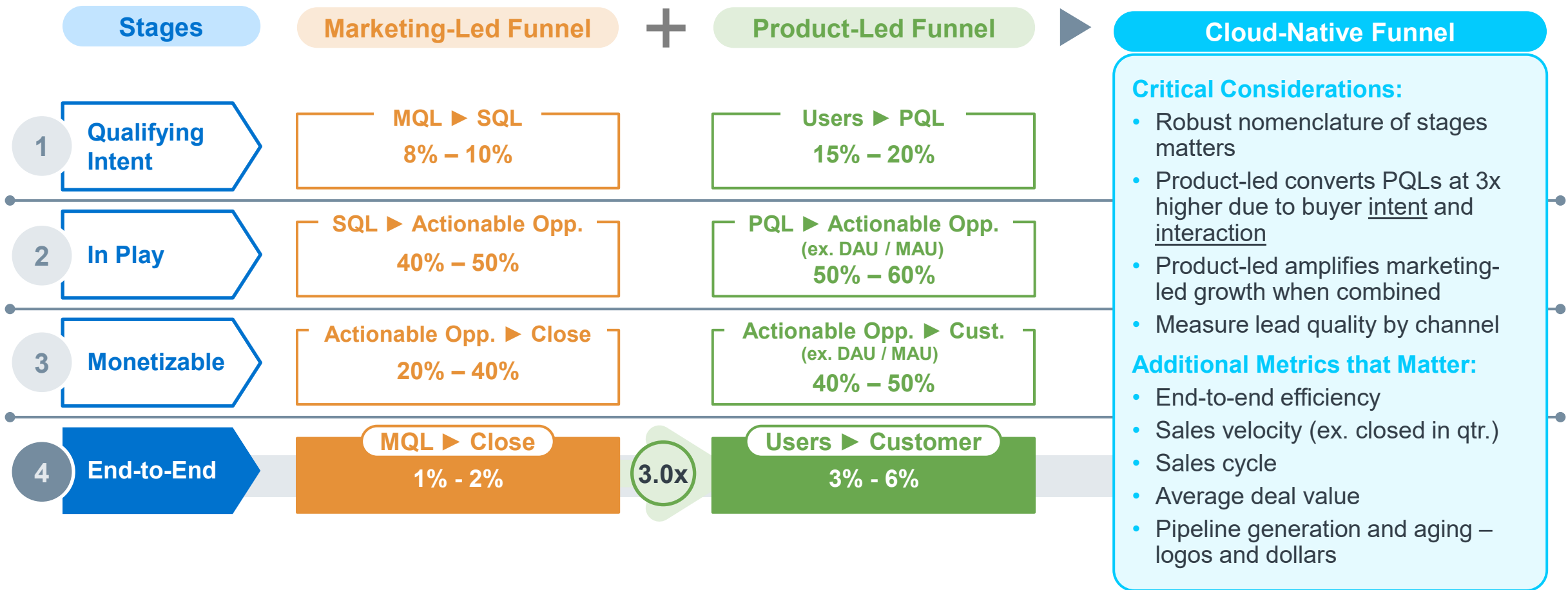
There are different paths to optimizing the first \$100M; beyond that, product-assisted and sales-influenced growth can go hand-in-hand.

3 Rise of go-to-market strategies based on buyer preference



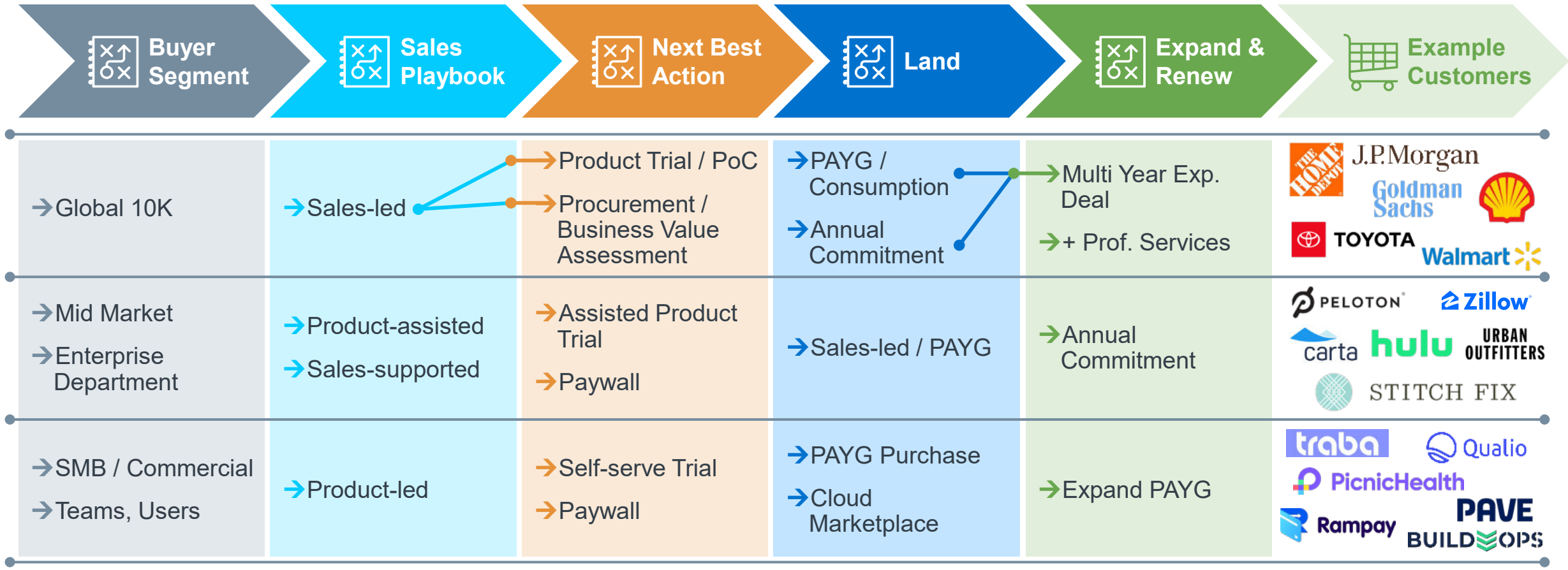
The demand-gen funnel is increasing in complexity with more customer engagement touchpoints than ever before; with complexity comes opportunity.

4 Cloud-native demand funnel can be both marketing & product driven



Combining marketing-led and product-led growth is a powerful force multiplier to your GTM engine with the product-led funnel converting 3x faster while being more efficient.

5 Product marketing playbooks to match sales qualification and customer LTV



Align product marketing with sales playbooks to engage customers through the right product marketing channels.

6 Align sales comp plans with customers purchase patterns

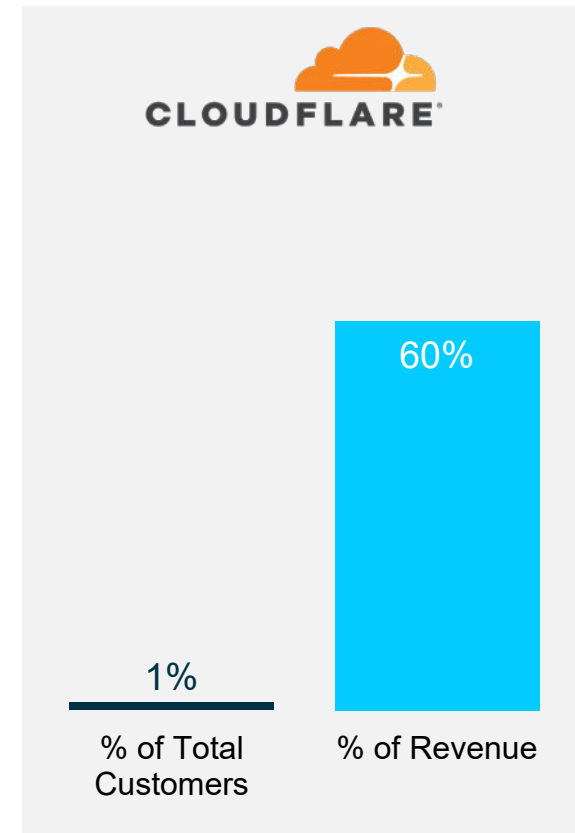
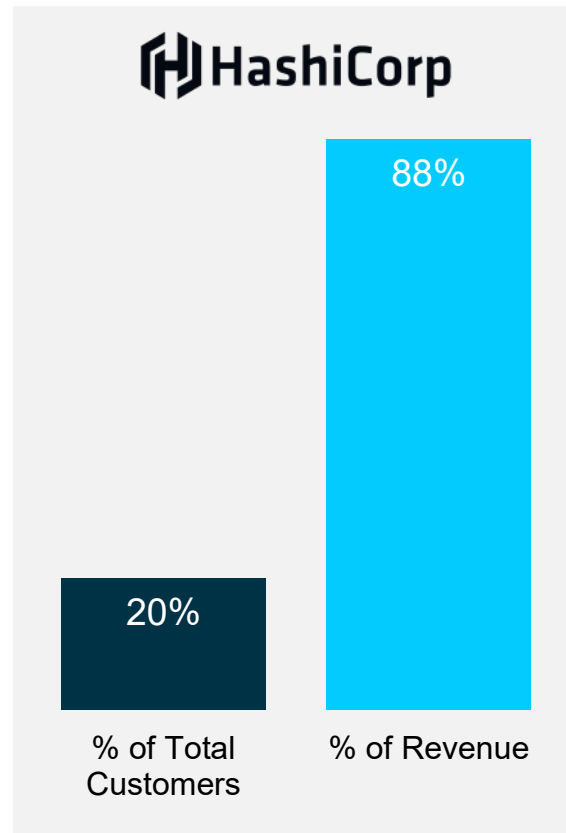
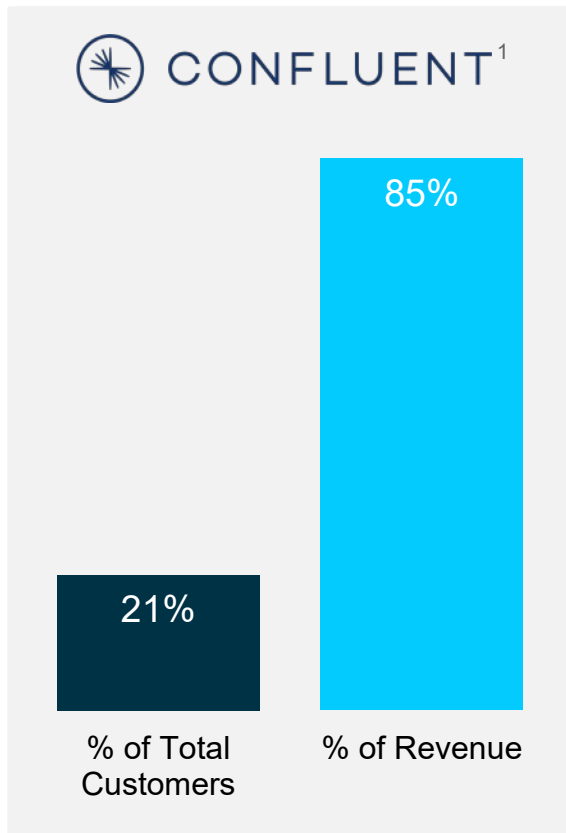
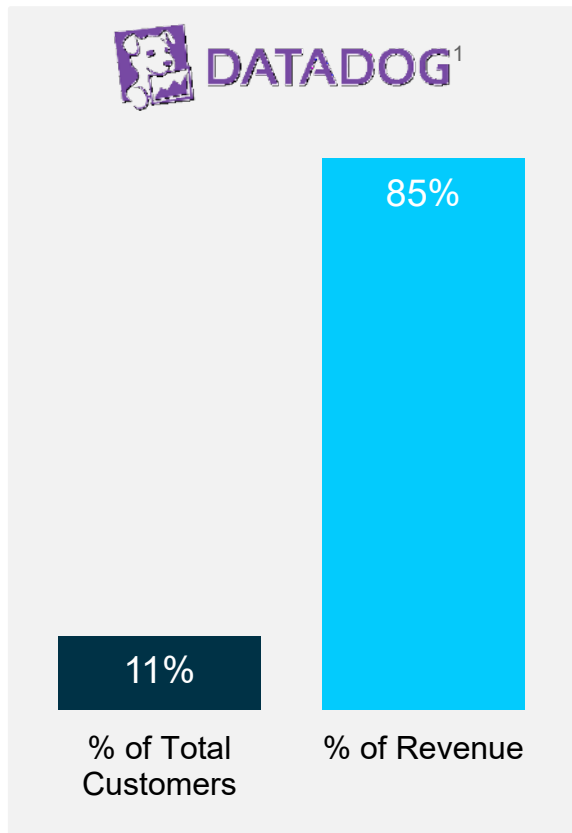
Cloud-Native Sales Comp Maturity

	SaaS 1.0: Named Accounts	SaaS 2.0: Land & Expand	Cloud-Native: PAYG / Consumption
Target	\$1.2M ARR	\$1.2M ARR	# of logos (ex. New, Ent., Workloads)
Attainment	80% (\$1.0M)	80% (\$1.0M)	Logo acquisition + ARR
Ramp	9 – 12 Months	9 Months (0%, 50%, 100%)	9 Months (0%, 50%, 100%)
Quota Terms	1 Year (lumpy Q4 loaded)	Quarterly (AE) or Monthly (ISR)	Quarterly or Monthly (AR and ISR)
Focus	Gross New ARR	Net New ARR (i.e., net of churn)	Land deals + Exp. within 1 st yr.
Structure	Multi-year TCV commitments	Hunter / farmer sales separation	PAYG + kicker for commit deals
LTV:CAC:	0.5 – 2.0x	2.0 – 3.0x	5.0x+

Incentivize your sales team to focus on landing and acquiring new customers with flexible deal structures. Product hooks will naturally expand usage with quick time to value.

7 Highly-qualified product lands can drive 10x – 50x expansions over time

\$100K+ Customer Contribution



Customer quality matters, even PAYG deals with large customers will compound over time with efficiency.

8 Expansion is critical to compounding ARR growth

Tier 1 (130%+ NDR)



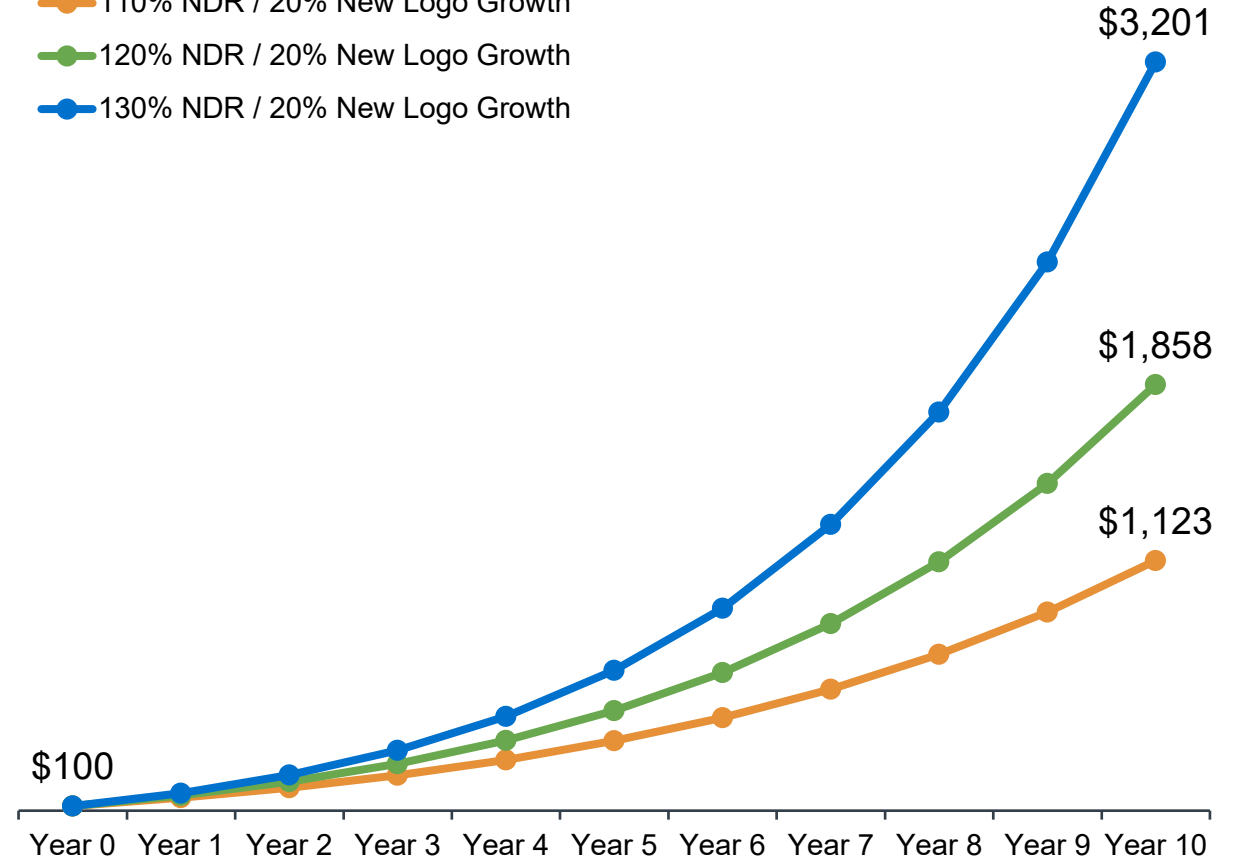
Tier 2 (120% - 130% NDR)



Tier 3 (110% - 120% NDR)



- 110% NDR / 20% New Logo Growth
- 120% NDR / 20% New Logo Growth
- 130% NDR / 20% New Logo Growth



High NDR is the cornerstone of efficiency and profitability.

9 Align pricing “unit” with customer “perceived” value



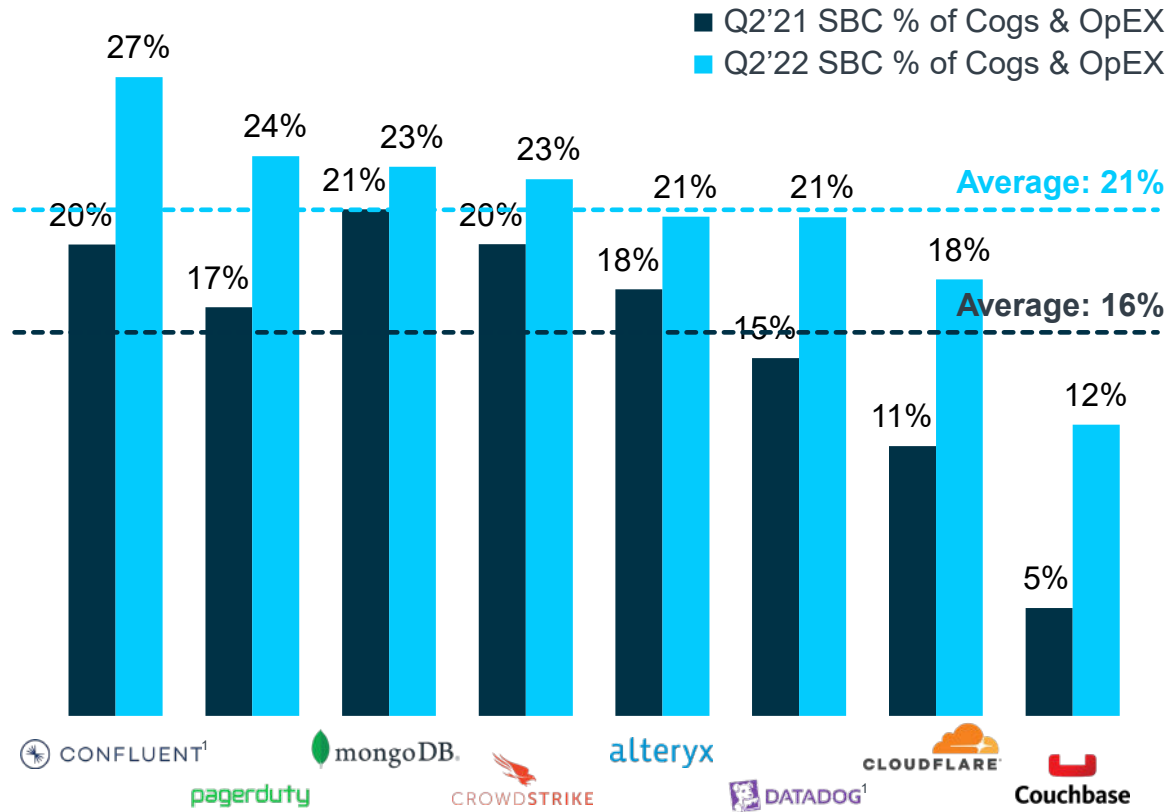
	snowflake	CROWDSTRIKE	DATADOG ¹
Pricing model	Consumption-based	Per endpoint	Per host
Perceived ROI	High-quality, data-driven insights / predictions	Enhanced endpoint visibility and breach prevention	Greater visibility into application / infrastructure performance
Net-dollar retention	171%	120%+	130%+
LTM revenue scale / growth	\$1,638M / 92%	\$1,834M / 61%	\$1,366M / 79%
LTM non-GAAP gross margin	71%	77%	80%
ACV	\$292K	\$103K	\$77K

Value-based pricing lowers the barriers to adoption and drives natural expansion.

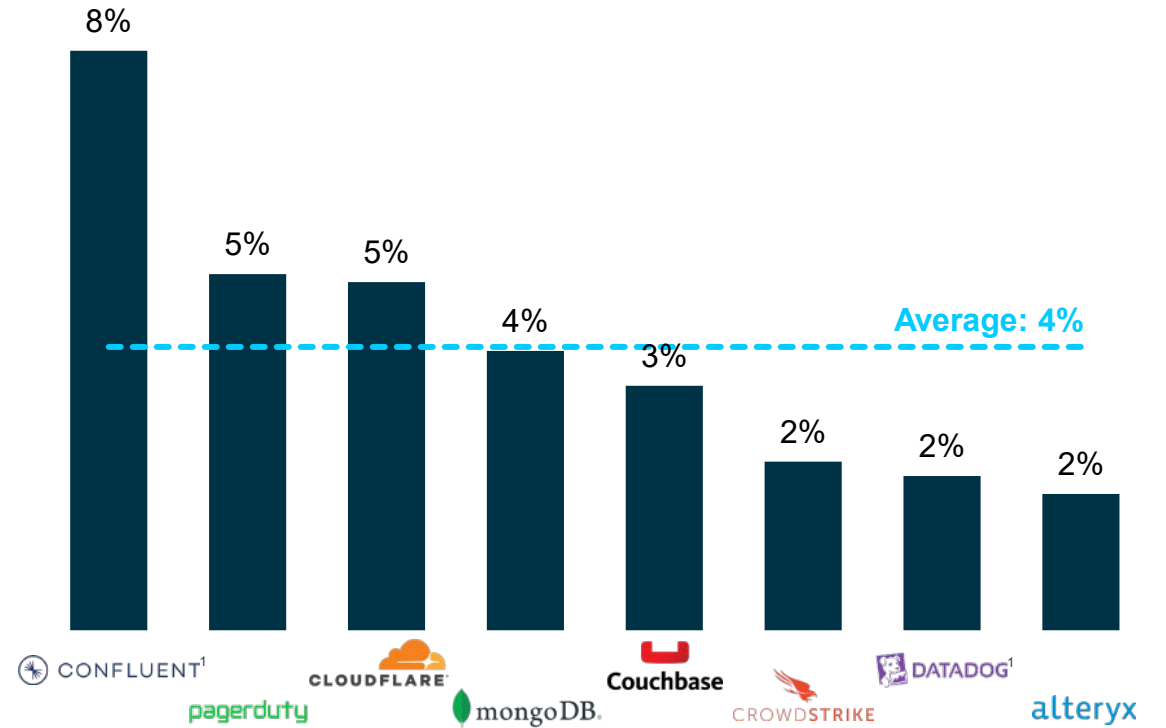
Source: Company filings.
 Note: ACV calculated as annualized revenue / # of customers. CRWD ACV represents subscription ACV. ¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#).

10 SBC is a real business expense

SBC % of Cogs & OpEx



Annual Dilution



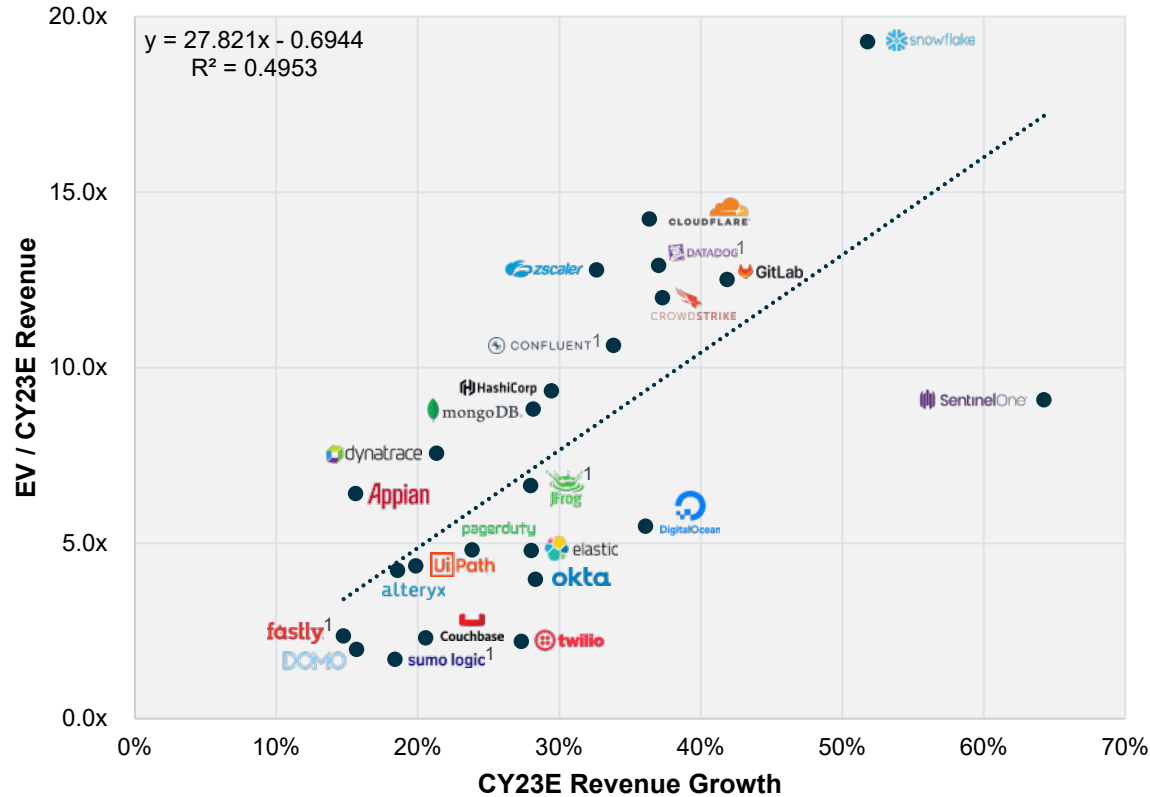
While stock-based compensation is not a cash expense, it is not free and should be managed closely to limit the dilution to existing shareholders



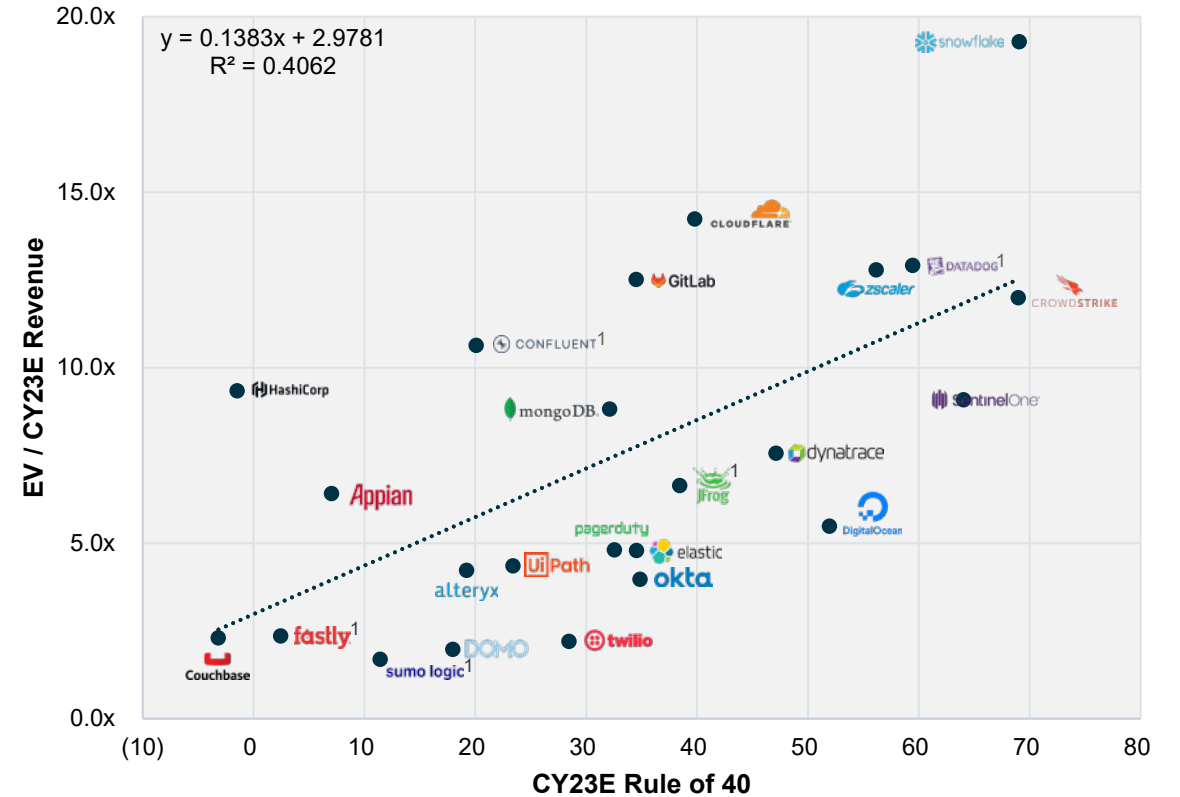
Building a Lasting Public Company: Focus on KPIs that Matter

Index to the cloud and know your cloud metrics fundamentals

EV / CY23E Revenue vs. CY23E Revenue Growth



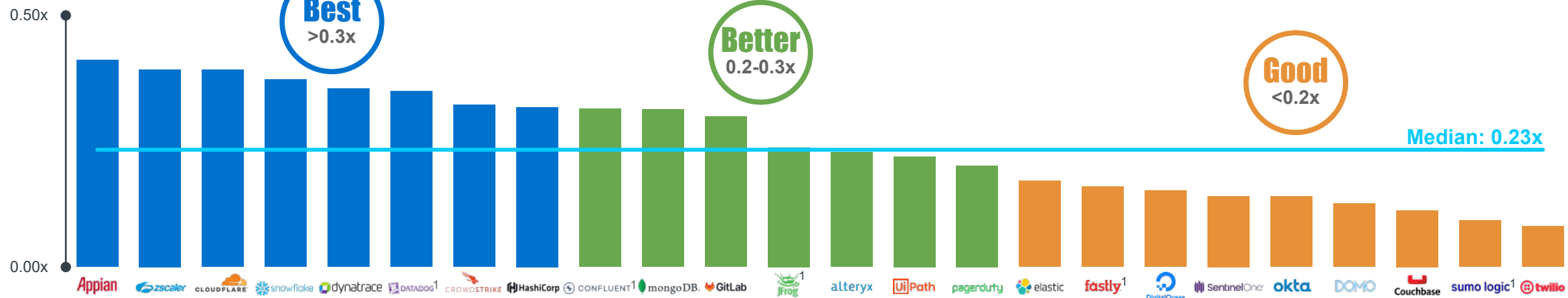
EV / CY23E Revenue vs. CY23E Rule of 40



Software valuations are driven by sustainable growth with a path to profitability.

EV / revenue / growth levels the playing field

CY'23E EV / Rev / Growth

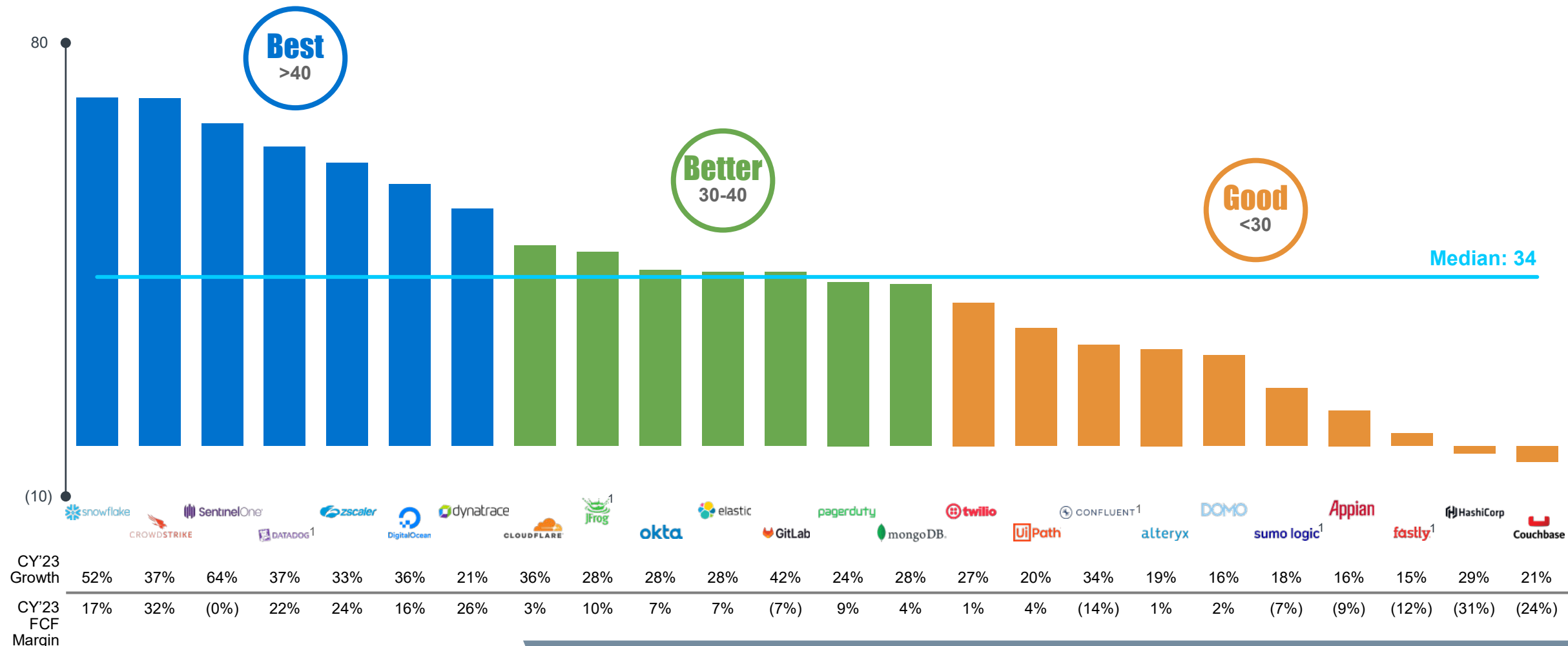


CY'23E Rev Growth



Adjusting the revenue multiple for growth provides insight into the relative value; however, analysts continue to underestimate the growth potential of cloud-infrastructure businesses.

Rule of 40 measures efficiency



As software businesses mature and growth naturally slows, improving profit margins is integral to driving free-cashflow generation and sustaining the rule of 40 over time.

Last twelve months revenue growth at IPO



○ Date of IPO

Cloud-infrastructure markets are large and growing; companies attached to these mega trends are experiencing the benefits of these tailwinds.

¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#). Source: Company filings. Excludes ForeScout, SailPoint, Carbon Black, and Nutanix¹ due to lack of disclosed metrics. Talend financials based on constant currency.

Average magic number over the last twelve months at IPO



○ Date of IPO

Product-led growth and bottoms-up are enabling companies to be more efficient in customer acquisition.

¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#). Note: Magic number calculated as ((Q(t) - Q(t-1)) subscription revenue * 4) / S&M Q(t-1). ARR used instead of subscription revenue if disclosed. Source: Company filings. Excludes ForeScout, SailPoint, Carbon Black, and Nutanix¹ due to lack of disclosed metrics. Ping Identity, Dynatrace, and SolarWinds exclude amortization/depreciation of acquired assets and restructuring costs. Talend financials based on constant currency.

Dollar-based net retention at IPO



○ Date of IPO

Bottoms-up and transaction-based revenue streams have far more consistency and expansion potential than we all anticipated.

¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#). Source: Company filings. Excludes ForeScout, SailPoint, Carbon Black, and Nutanix¹ and C3 due to lack of disclosed metrics.

LTV:CAC at IPO



Efficient customer acquisition while focusing on enterprise-grade customers results in higher expansion potential.

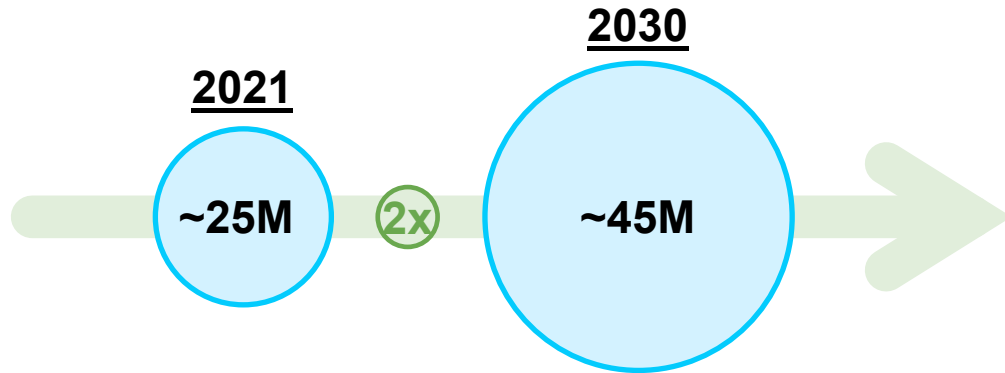
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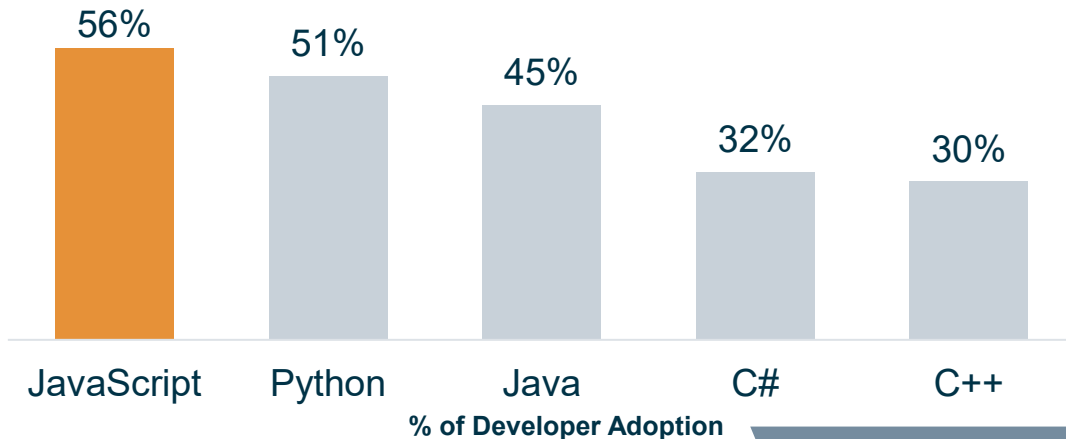
Themes of Interest

A modern web-development ecosystem is emerging to deliver a better developer and end-user experience, shifting the back end to the front end

Global Professional Developer Population



JavaScript is the Most Widely Adopted Language

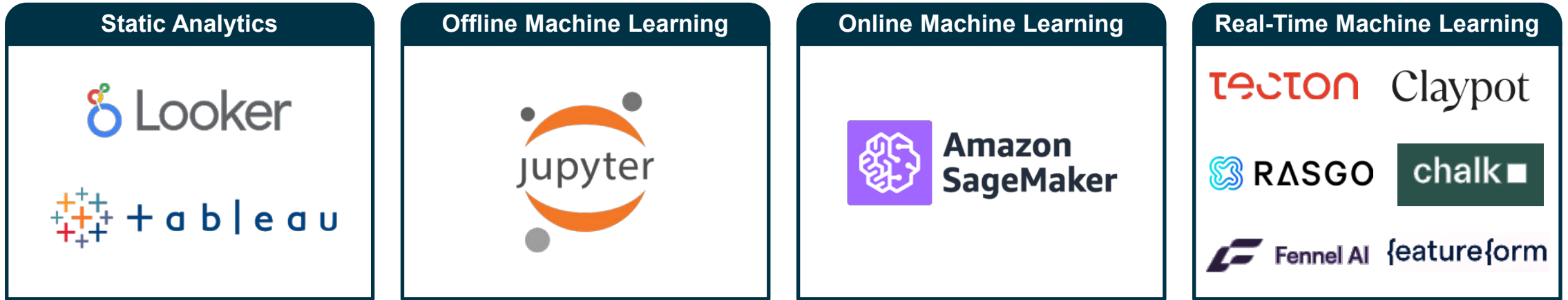


Web-Development Ecosystem

Front End Framework	SVELTE	Vue.js	React	SOLIDJS	ANGULAR	PREACT
Static Site Generation	astro	SVELTEKIT	Gatsby	HUGO	NuxtJS	HEXO
Run-Time	node					Deno
Headless CMS	strapi	directus	SANITY	ghost	Payload	contentful
Managed Deployment	Vercel	fastly ¹	Gatsby	netlify	Fly.io	CLOUDFLARE
Database Abstraction	convex	CHISELSTRIKE	supabase	apollo	prisma	HASURA
	appwrite	fauna	xata			

Higher levels of abstraction are allowing web developers to own more of the end-to-end workflow, enabling front end developers to own more of the development process.

Machine learning is going real time



As ML adoption continues to mature, more companies are deploying models to power mission-critical operational use cases, driving the need for real-time capabilities for greater accuracy / reliability and a shorter feedback loop.

ML and AI shifting from predictive to generative, disrupting existing application workflows

Infrastructure

Compute / Hardware



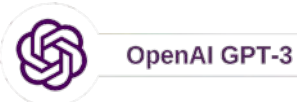
GRAPHCORE



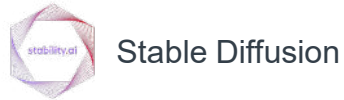
Data-Centric AI Tooling



Fundamental Model Layer



BLOOM



OpenAI **DALLE-2**

AI21 labs



Use Cases

Marketing

Sales

Support

Code & Documentation

Image & Video

Voice & Audio

Select Companies

copy.ai Jasper copysmith **WRITER**

LAVENDER Smartwriter.ai regie.ai

co:here **CRESTA** Typewise Forethought

tabnine GitHub Copilot replit Stenography Mintlify

runway Fliki synthesia TAVUS

boomy descript RESEMBLE.AI coqui

Generative AI is at an inflection point, and advancements across core infrastructure / models have created an opportunity at the application layer to upend existing workflows.

The cloud is upending the security stack



Infrastructure

Identity & Network

Applications

Data

Governance & Compliance

The cloud is shifting security closer to core software development primitives - infrastructure, applications, people, and data.

The new wave of Web3 tooling is shifting from building the network and protocol infrastructure to reading and acting on it

Building networks / protocols

Understanding and acting on insights



Growing interest and adoption of Web3 has made it critical to continuously monitor and interpret what is happening on the blockchain and act on it in near real time.



Future of OpenCloud

The emerging set of open-source and cloud-native companies are promising



Select Private Unicorns

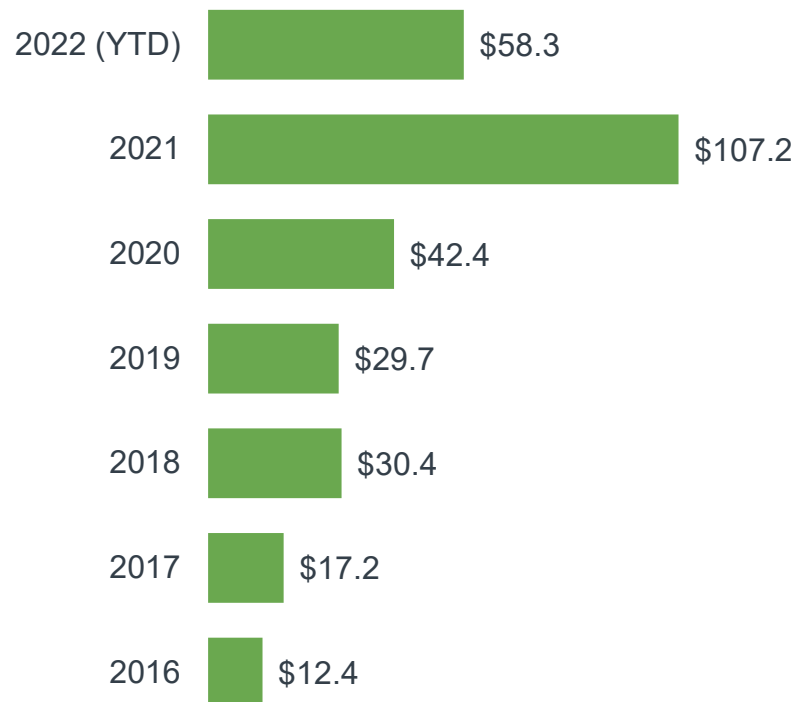
Last Disclosed Valuation

databricks ¹	\$38.0
celonis	\$13.0
TANIUM ¹	\$9.0
snyk	\$8.6
Chainalysis	\$8.6
LACEWORK	\$8.3
Fireblocks	\$8.0
netskope	\$7.5
scale	\$7.3
GONG ¹	\$7.3
1Password	\$6.8
WIZ ⁺	\$6.0
Grafana	\$6.0
workato ¹	\$5.7
Fivetran	\$5.6
POSTMAN ¹	\$5.6
Collibra ¹	\$5.3
dataiku ¹	\$4.7



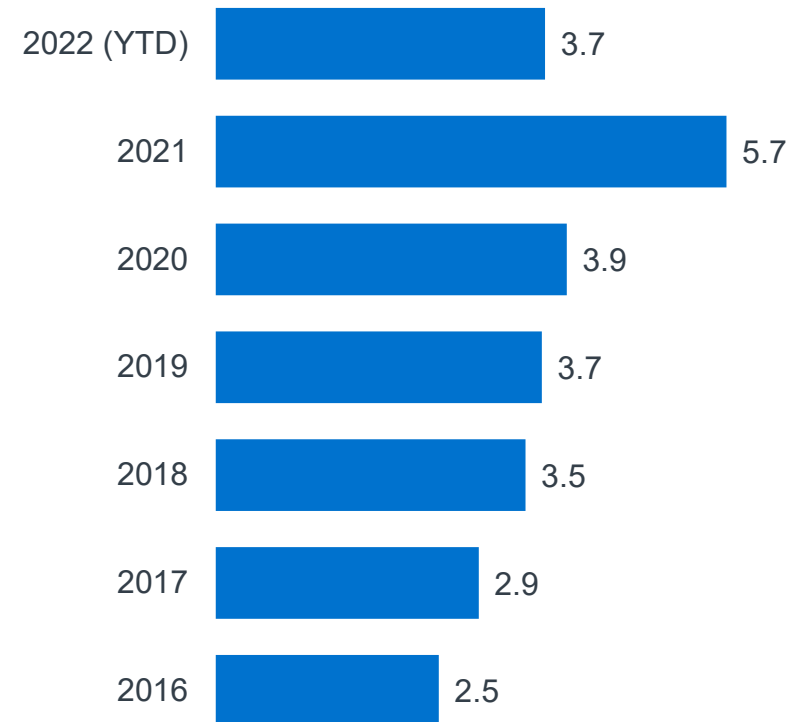
Financing Deal Value

\$ in Billions



Financing Deal Volume

Volume in Thousands

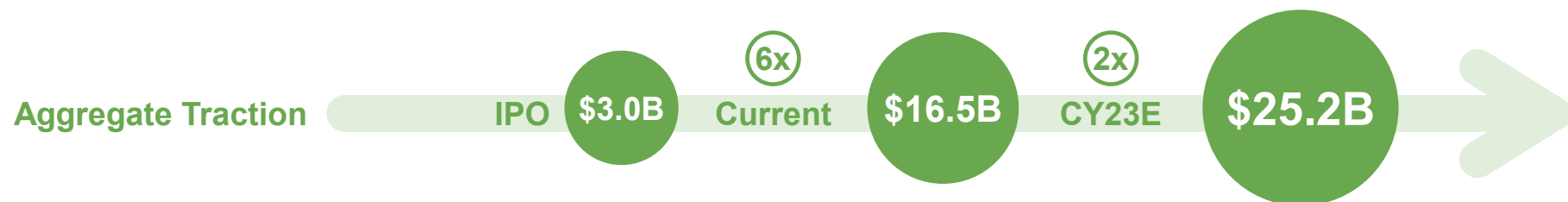


Open-source and cloud financings have continued to accelerate, and there is a healthy backlog of private company unicorns gearing up for IPO.

Source: Pitchbook data as of 10/11/2022. Select Private Unicorns based on private companies that are enterprise infrastructure-focused with valuations of \$4.0B or greater as of October 2022.

Note: ¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#).

Open-source and cloud-native companies continue to grow at healthy rates

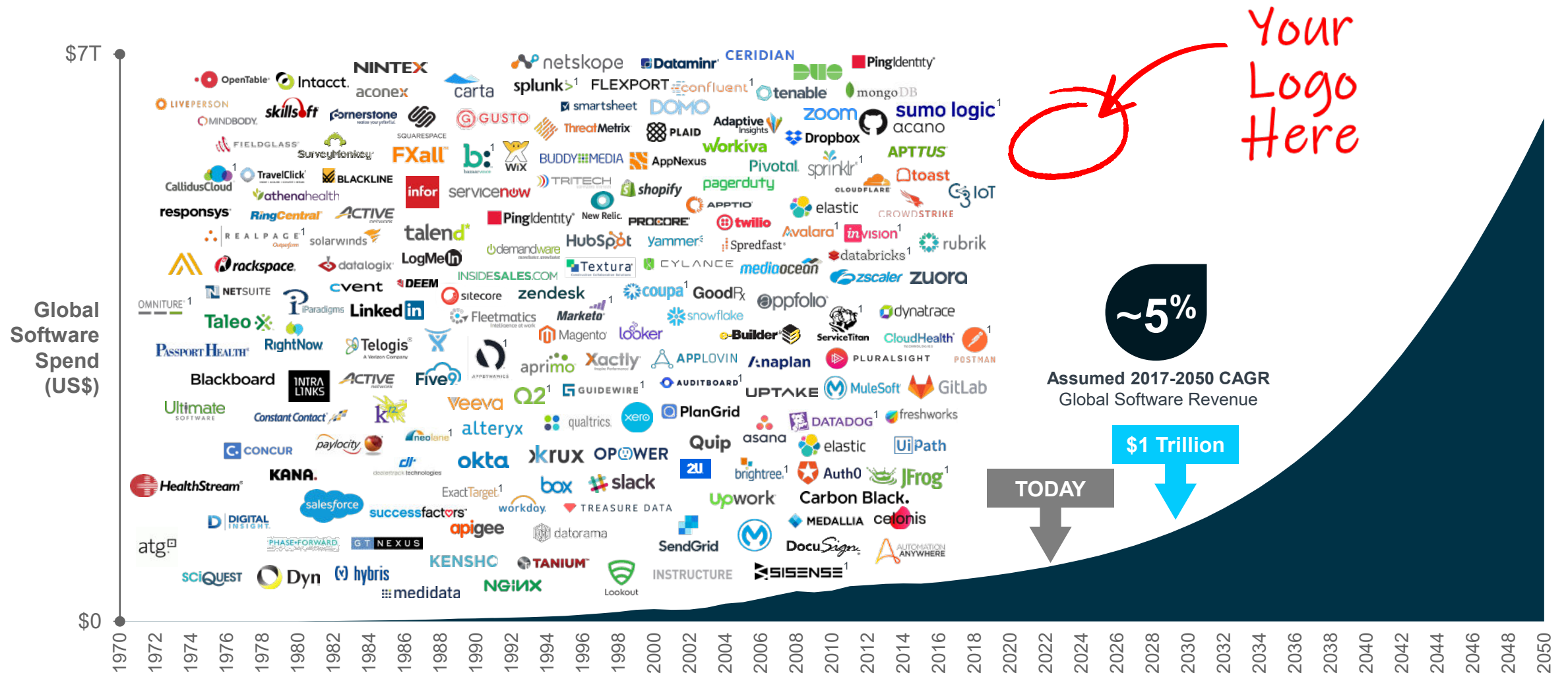


		Run-Rate Revenue (\$M)						Run-Rate Revenue (\$M)			
		IPO	Current	CY23E	IPO to CY23E CAGR			IPO	Current	CY23E	IPO to CY23E CAGR
2016	twilio	237	3,773	5,534	50%	2017	mongoDB.	142	1,215	1,697	47%
2020	snowflake	533	1,989	3,548	74%	2018	elastic	195	1,000	1,458	45%
2019	CROWDSTRIKE	322	2,141	3,414	62%	2021	CONFLUENT ¹	308	558	863	45%
2017	okta	195	1,807	2,506	45%	2021	SentinelOne™	150	410	793	87%
2019	DATADOG ¹	333	1,625	2,431	50%	2021	GitLab	233	404	664	54%
2018	zscaler™	180	1,272	1,878	49%	2020	JFrog ¹	146	271	397	33%

○ Date of IPO

The last few years have created multiple open-source and cloud-native companies that have grown rapidly since IPO and are expected to double Y/Y to \$25B in cumulative revenue run rate by 2023.

We're still in the early innings for OpenCloud



Source: Battery Ventures; Forrester; Gartner; the Yankee Group; BEA.gov; Input Research.
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