



November 2022

State of the OpenCloud 2022

Disclaimers

This disclaimer applies to this document and the verbal or written comments of any person presenting it. This document, taken together with such verbal or written comments, is referred to herein as the “presentation.” This presentation is being provided for informational purposes only as part of the OpenCloud 2022 conference. Nothing herein is or should be construed as investment, legal or tax advice, a recommendation of any kind or an offer to sell or a solicitation of an offer to buy any security or offer investment advisory services with regard to securities. This presentation does not purport to be complete on any topic addressed. The information in this presentation is provided to you as of November 3, 2022 unless otherwise noted and Battery Ventures does not intend to update the information after its distribution, even in the event the presentation becomes materially inaccurate. Certain information in this presentation has been obtained from third party sources and, although believed to be reliable, has not been independently verified and its accuracy or completeness cannot be guaranteed. Certain logos, tradenames, trademarks and copyrights included in the presentation are strictly for identification and informational purposes only. Such logos, trade names, trademarks and copyrights may be owned by companies or persons not affiliated with Battery Ventures and no claim is made that any such company or person has sponsored or endorsed the use of such logos, trade names, trademarks and copyrights in this presentation. This presentation includes various examples of companies in which Battery Ventures has invested. For a complete list of all companies in which Battery Ventures has invested, please visit [here](#). Past performance is not evidence of future results and there can be no assurance that a particular Battery portfolio company will achieve comparable results to any other company.

The information contained herein is based solely on the opinions of Dharmesh Thakker, Danel Dayan, Jason Mendel, Patrick Hsu and nothing should be construed as investment advice. This presentation and the anecdotal examples throughout are intended for an audience of entrepreneurs in their attempt to build cloud-focused businesses and not recommendations or endorsements of any particular business or an offering of investment advisory services.

Battery

STILL
✓

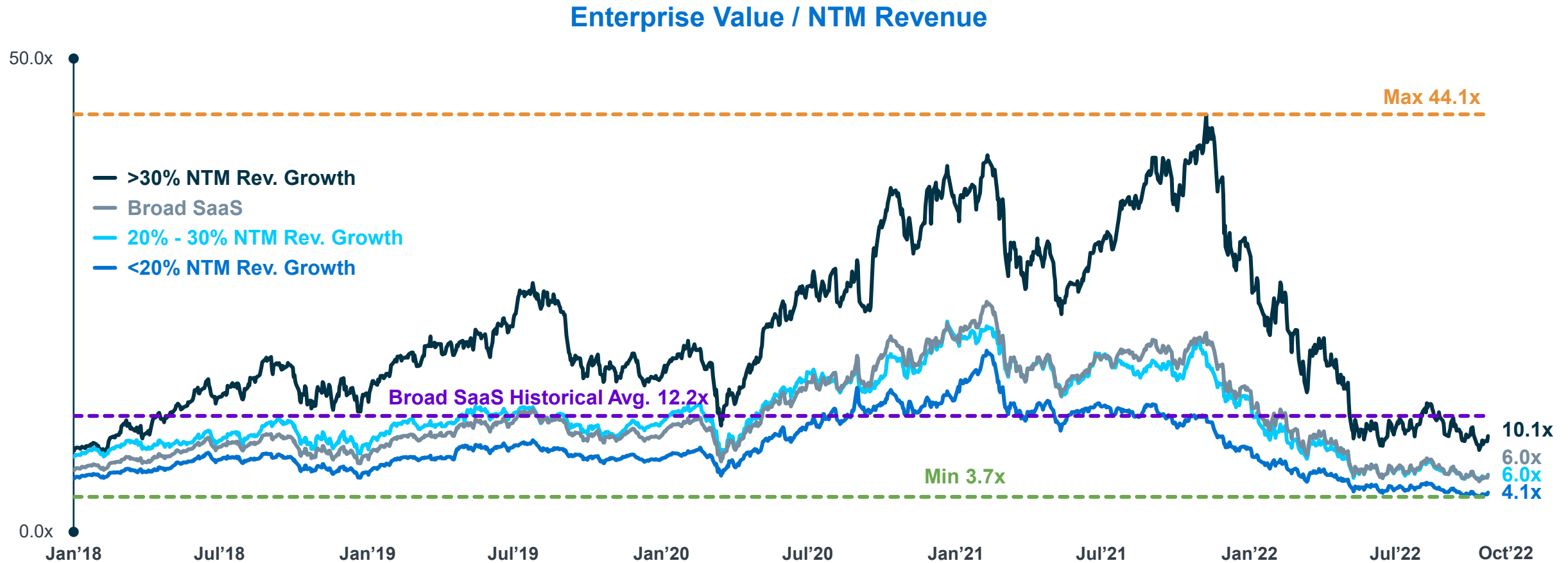
We're Long
Cloud-Infrastructure
& Open-Source Software



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

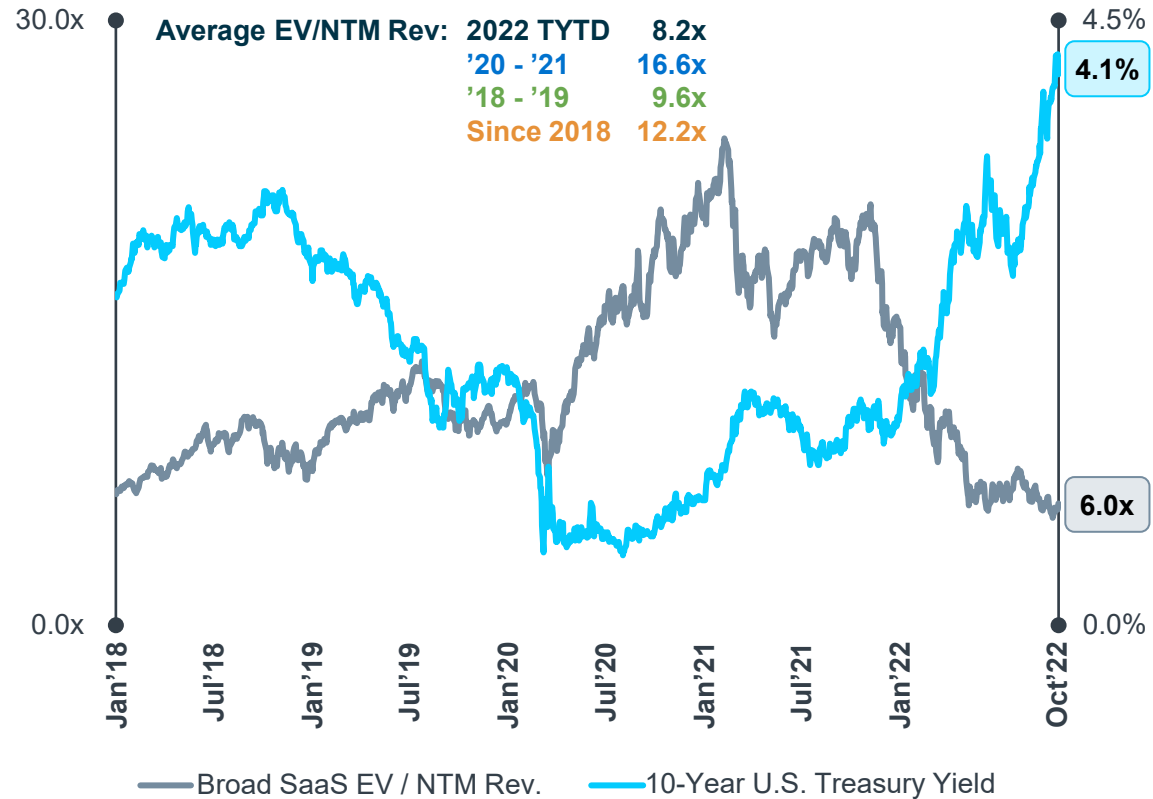
Software revenue multiples are down across the board



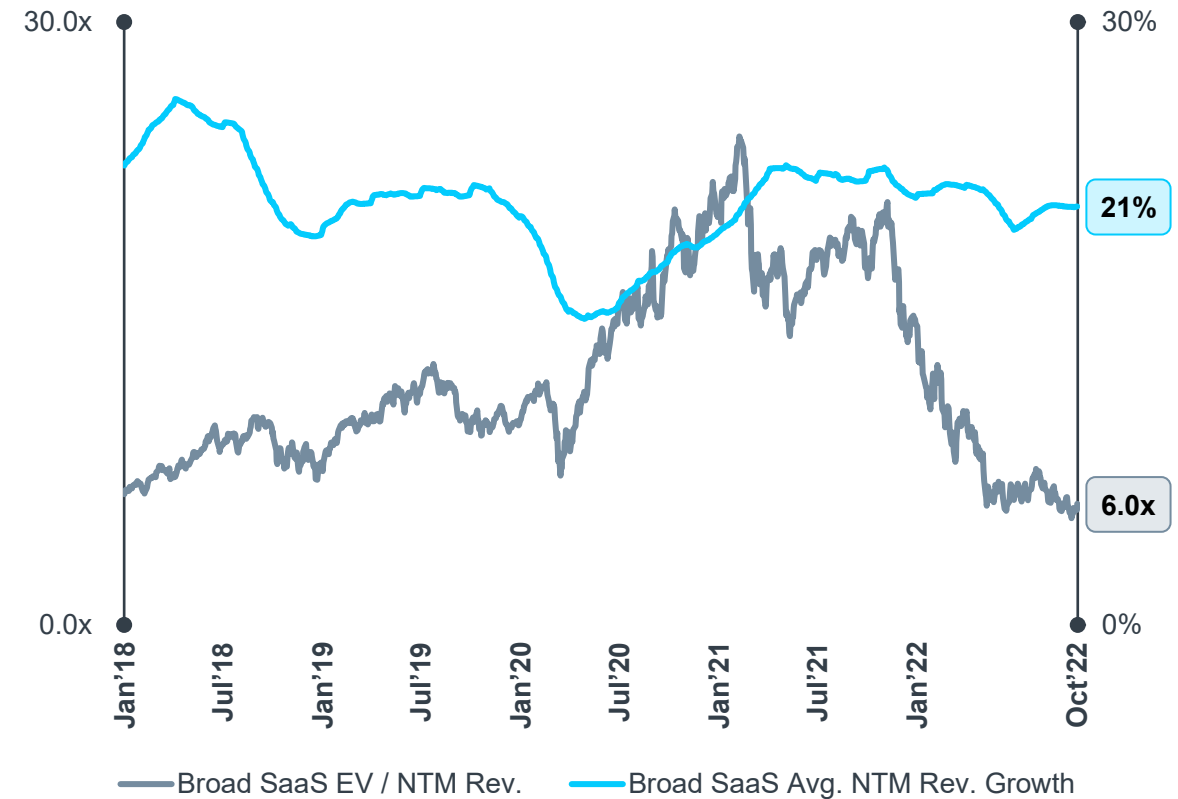
Software revenue multiples have compressed from 2021 highs to below the historical average since 2018.

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



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

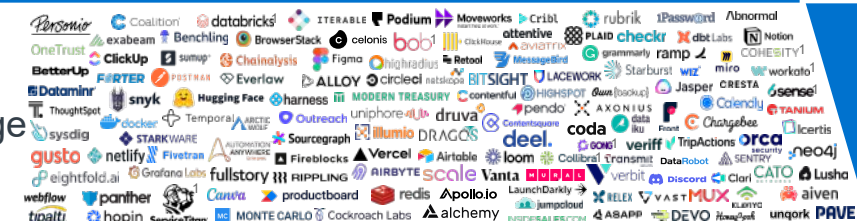
1,000+

Global unicorns
in the last 10 years



400

\$3B average
valuation



50

Valuation
of \$5B+



15

Valuation
of \$10B+



Public Software Companies

200

Public software companies
in the last 10 years



70

\$1B+ NTM
revenue



60

Valuation
of \$5B+



40

Valuation
of \$10B+

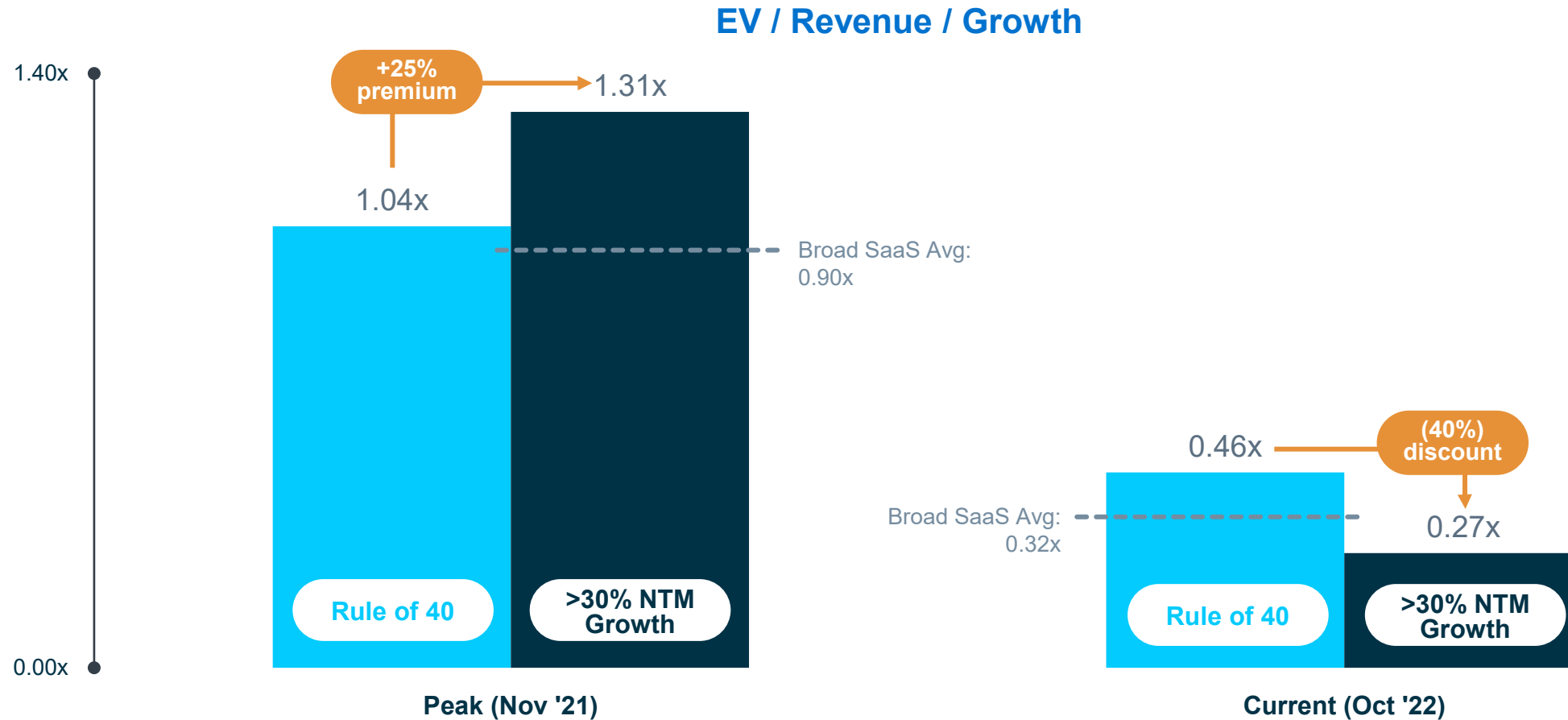


Highly-valued software unicorns have a high bar to meet to transition to successful public companies, often requiring a 10x+ revenue ramp and being mindful about margins early on.

Sources: Pitchbook, CapIQ

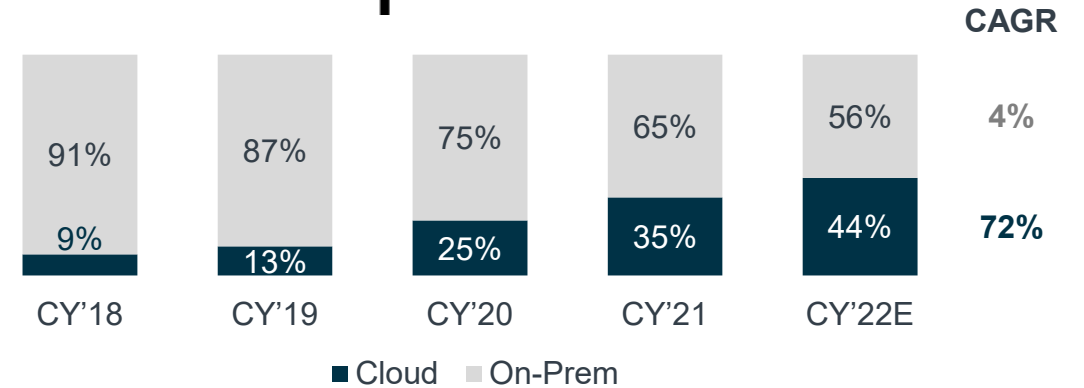
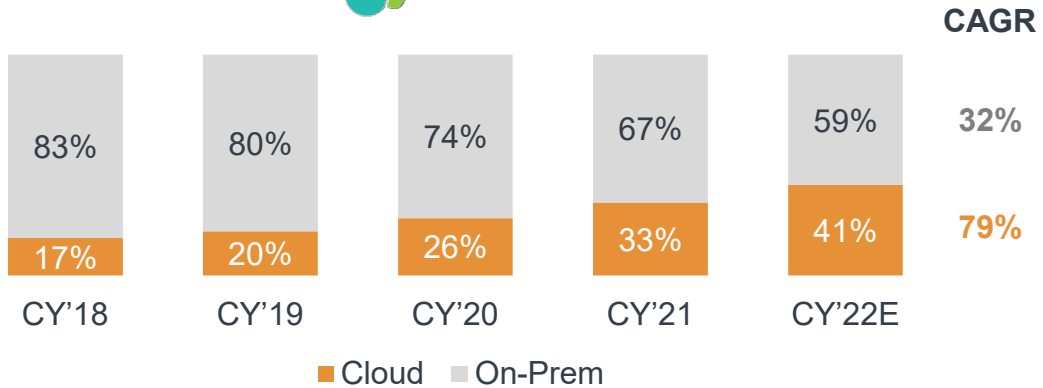
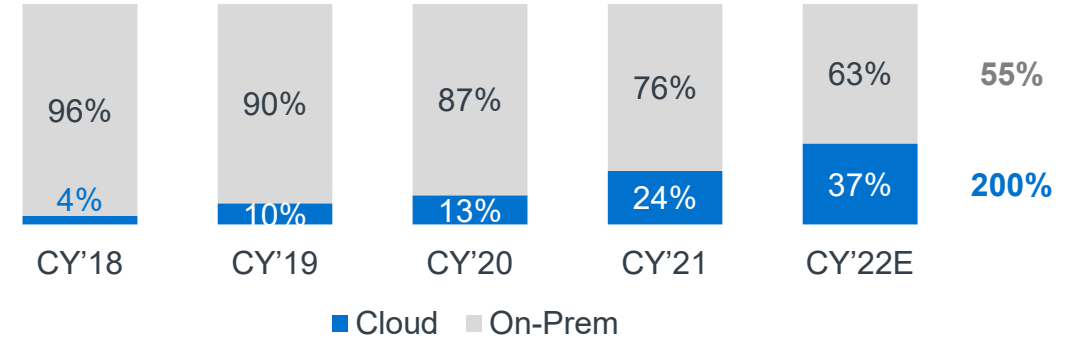
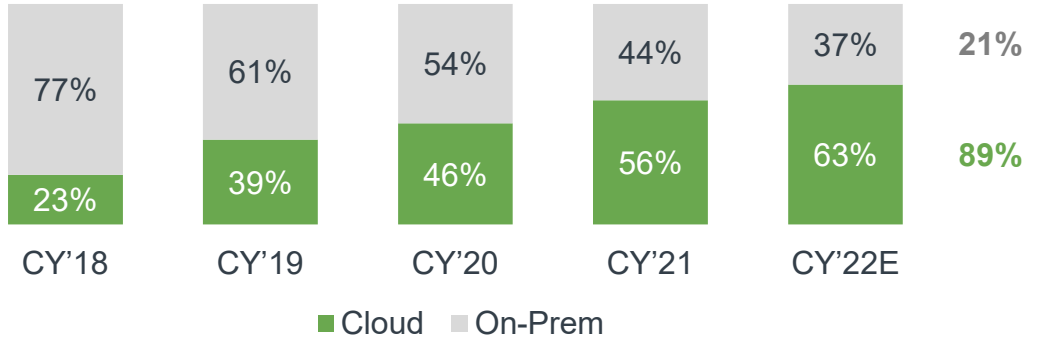
Note: ¹ Affirm, Akamai, Bob, Cohesity, Collibra, Confluent, Databricks, DataDog, Gong, Nutanix, Pendo, Postman, Sabre, ServiceTitan, Splunk, Workato and 6sense are current or past Battery portfolio companies. For a full list of all Battery investments, please click [here](#). Unicorn indicates a valuation 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



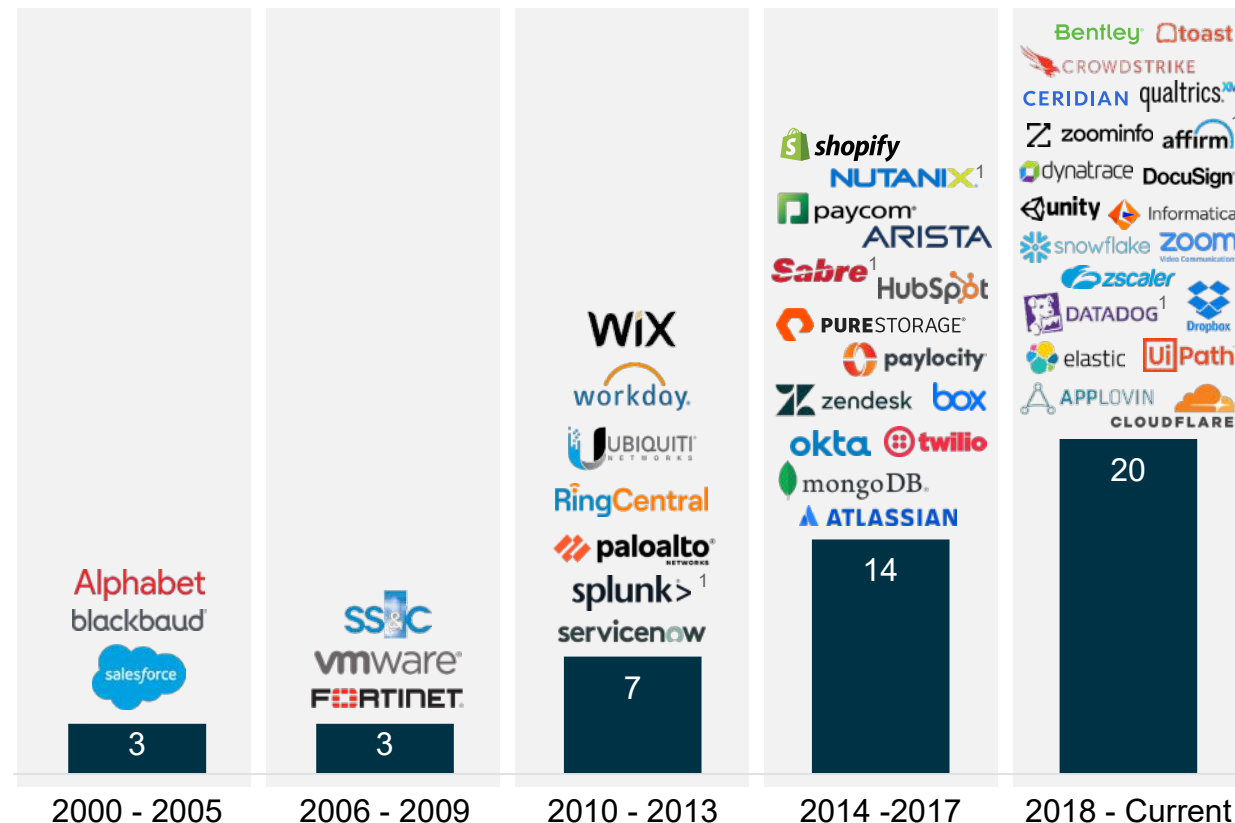
Across infrastructure-software companies, cloud revenue growth far outpaces that of on-prem, and cloud serves as the foundation for long-term sustainable growth.

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

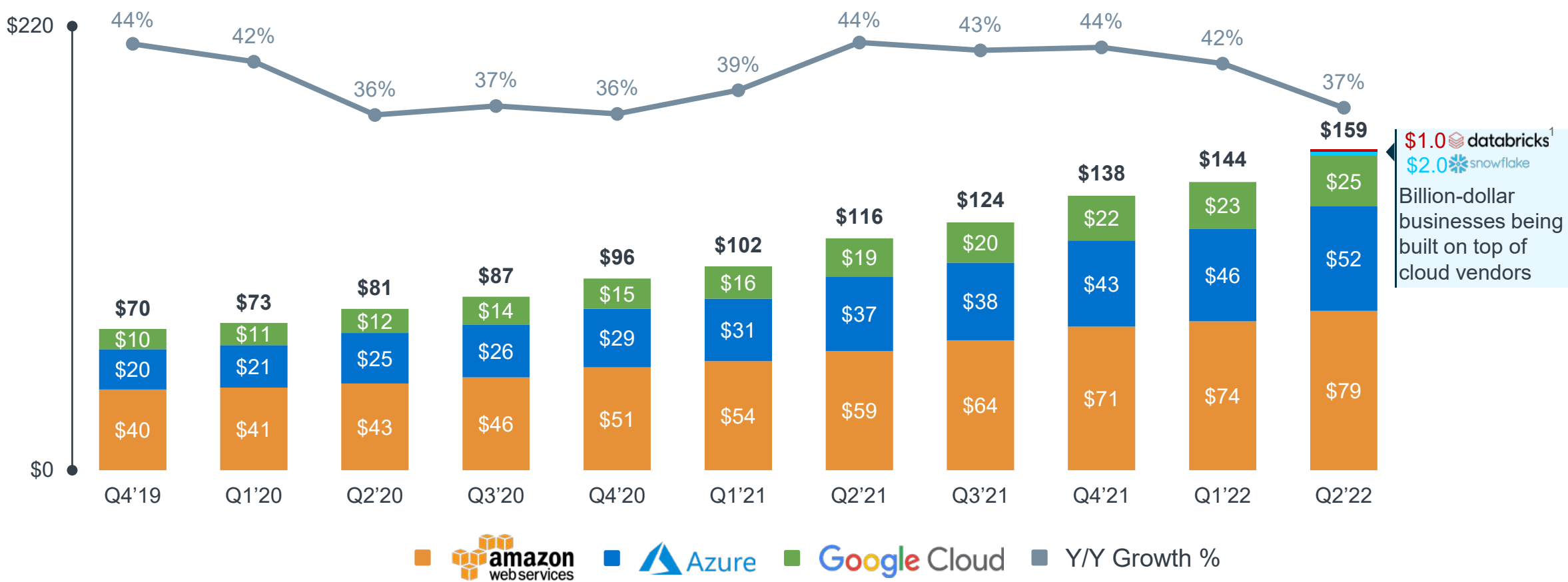
of \$1B+ NTM Revenue Software Companies by IPO Date



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



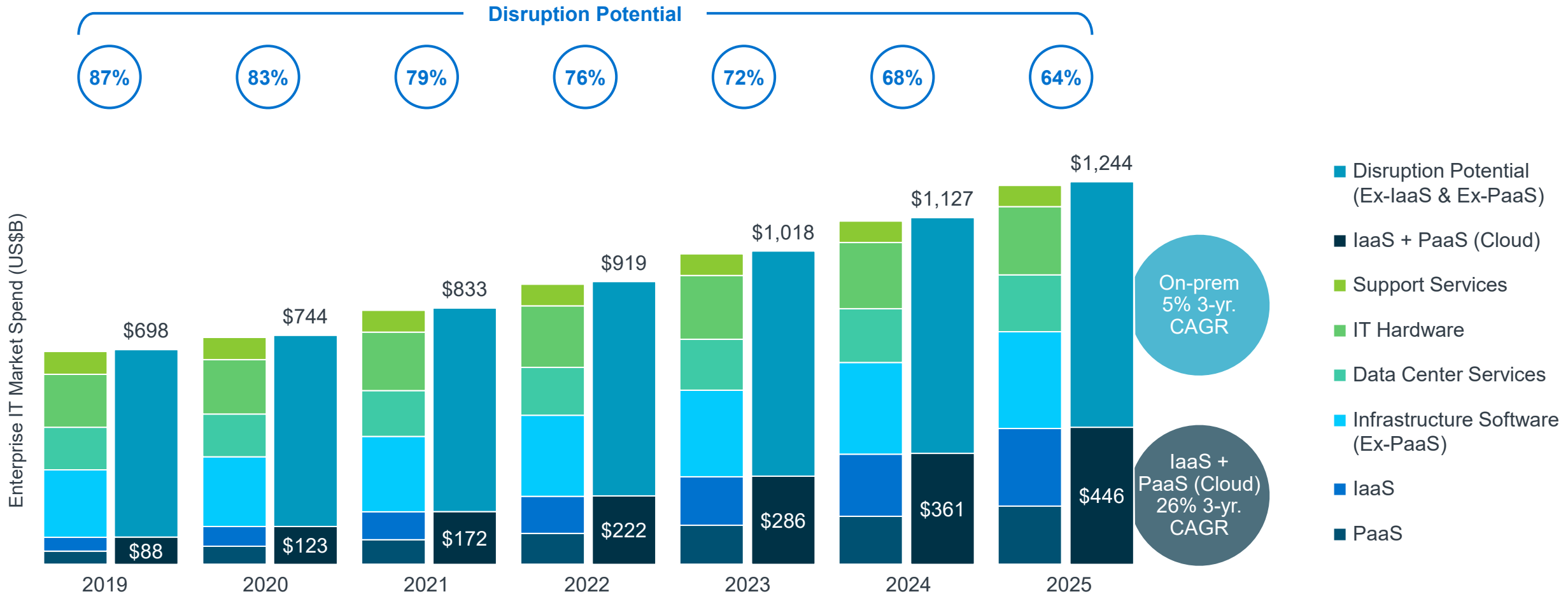
	amazon web services™			Microsoft Azure			Google Cloud		
	Q2'21		Q2'22	Q2'21		Q2'22	Q2'21		Q2'22
Annualized Cloud Revenue	\$59B	1.3x	\$79B	\$37B	1.4x	\$52B	\$19B	1.4x	\$25B
Illustrative Multiple	8.0x		8.0x	8.0x		8.0x	8.0x		8.0x
Implied Cloud Valuation	\$474B	1.3x	\$632B	\$296B	1.4x	\$414B	\$148B	1.4x	\$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

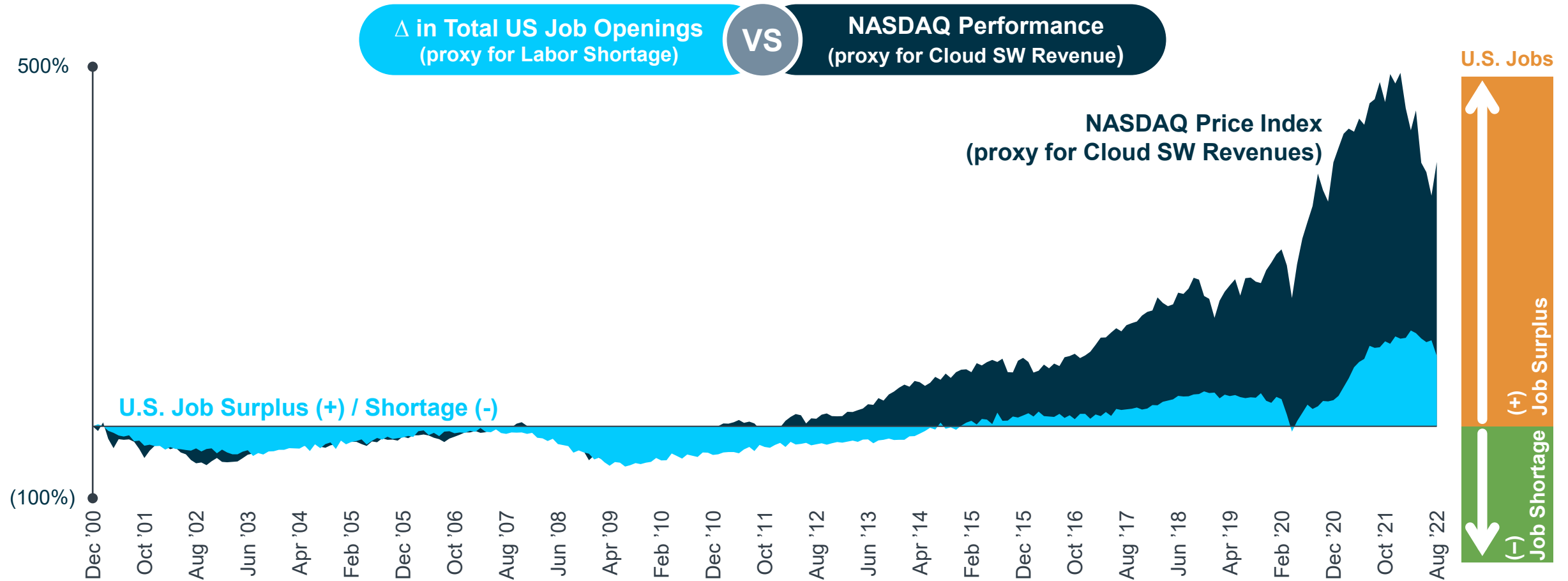


Cloud penetration is rapidly expanding with ample room to grow. In 2022, cloud spend is expected to represent ~25% of the \$919B overall infrastructure spend.

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.

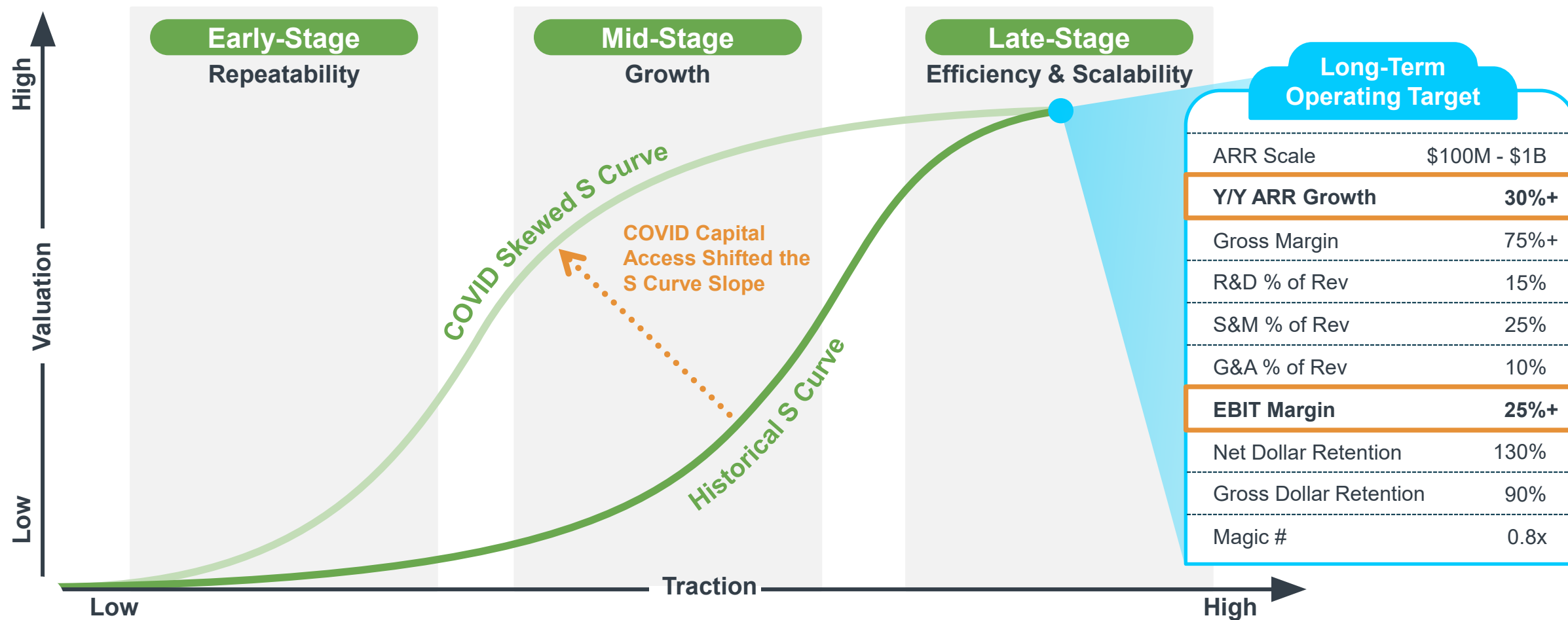


Operational Best Practices for OpenCloud Companies



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

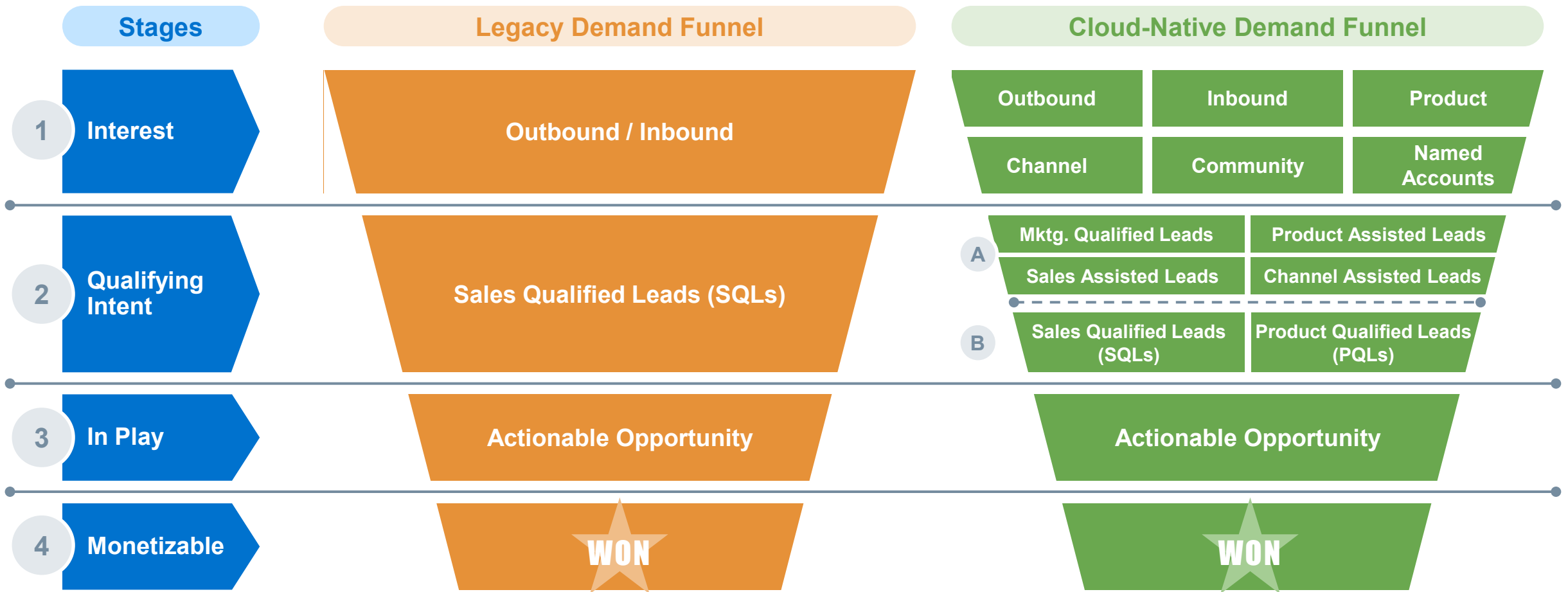
ACV & Contract Duration

Example Companies



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

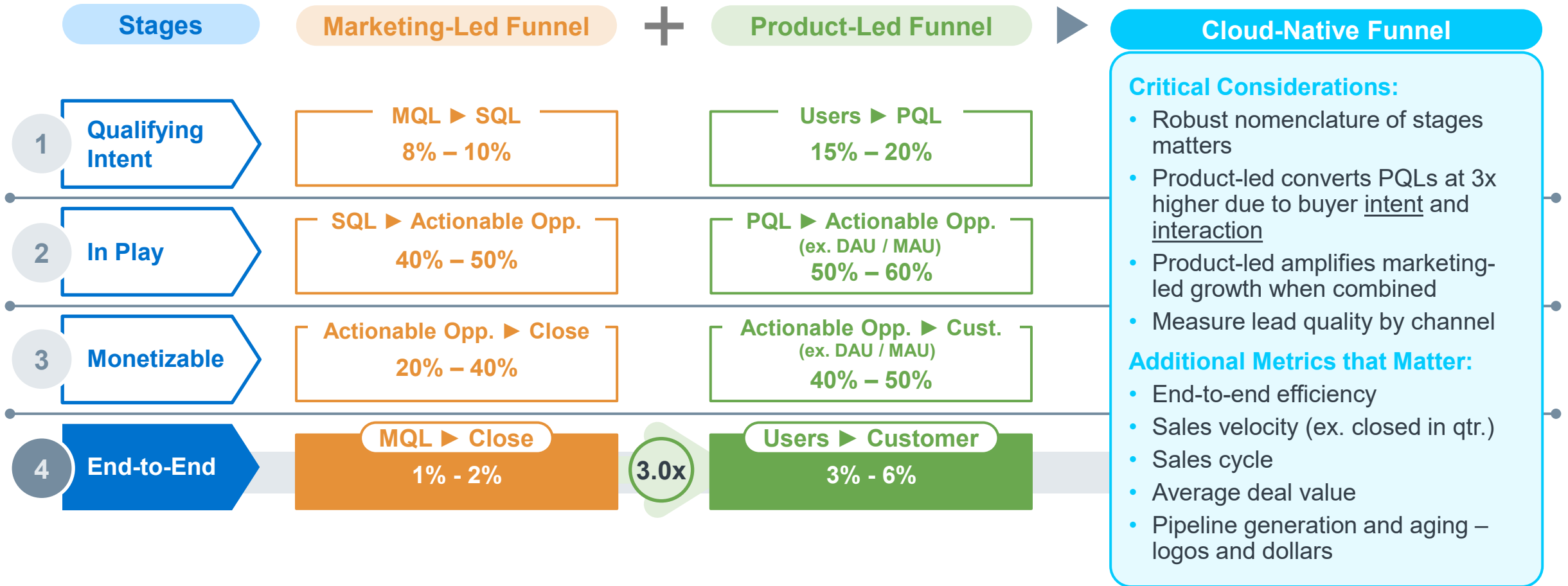
3 Rise of go-to-market strategies based on buyer preference



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

4

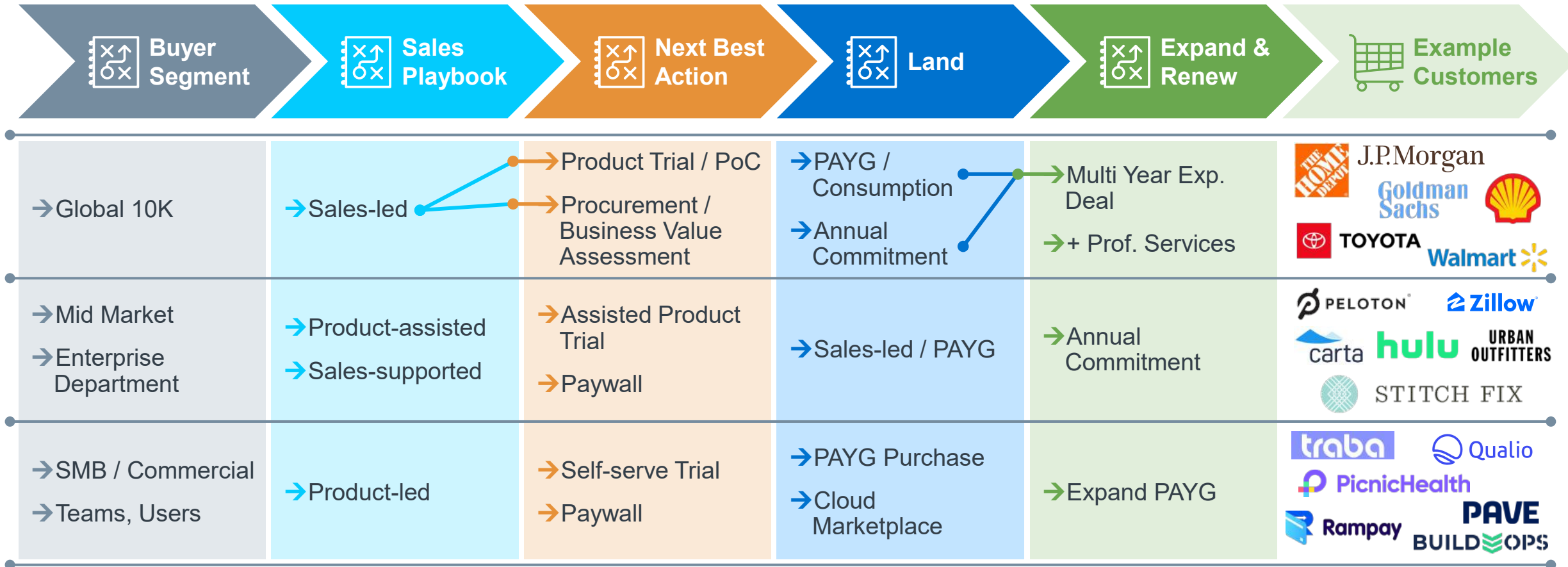
Cloud-native demand funnel can be both marketing & product driven



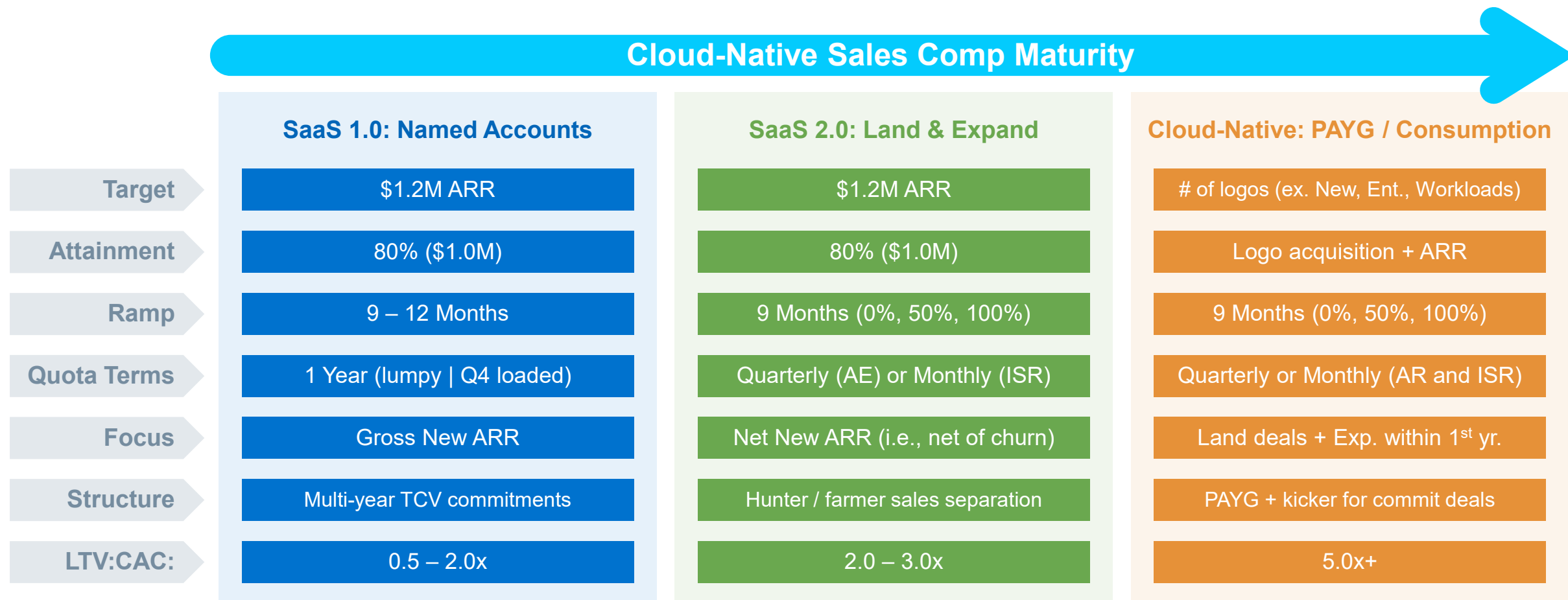
Combining marketing-led and product-led growth is a powerful force multiplier to your GTM engine with the product-led funnel converting 3x faster while being more efficient.

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.

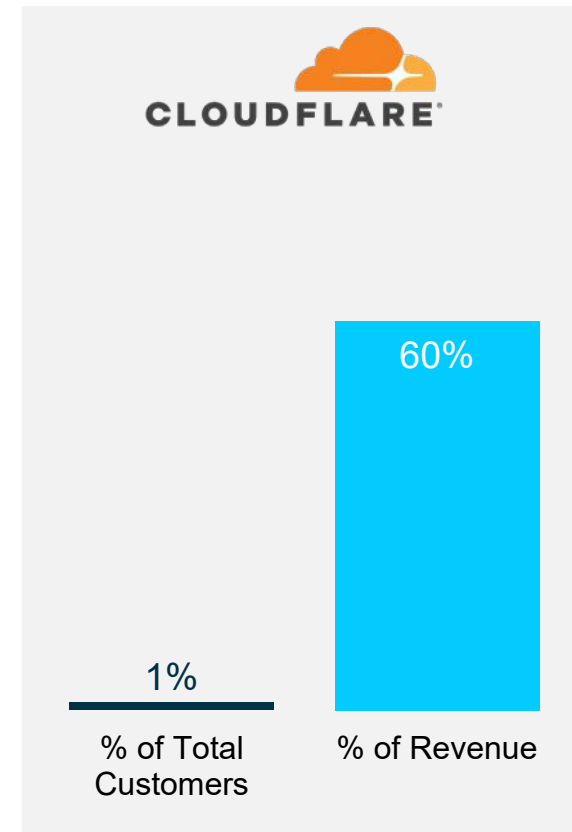
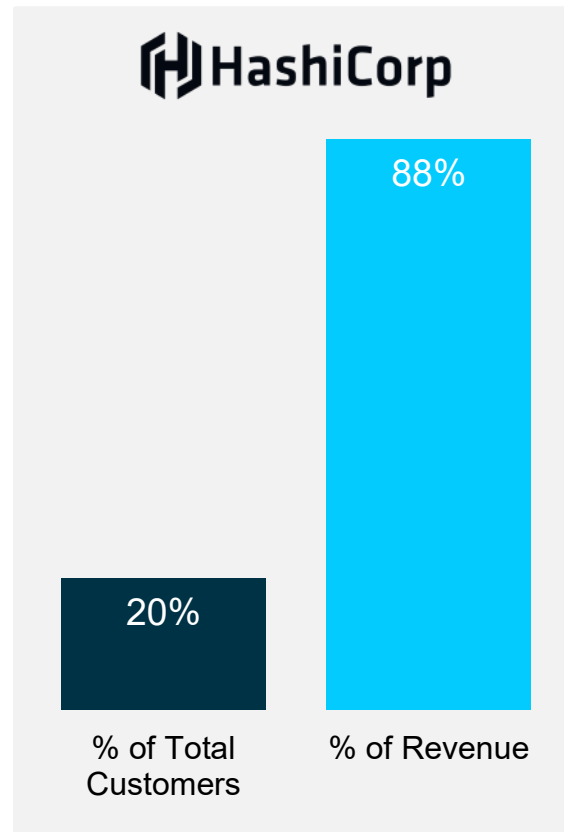
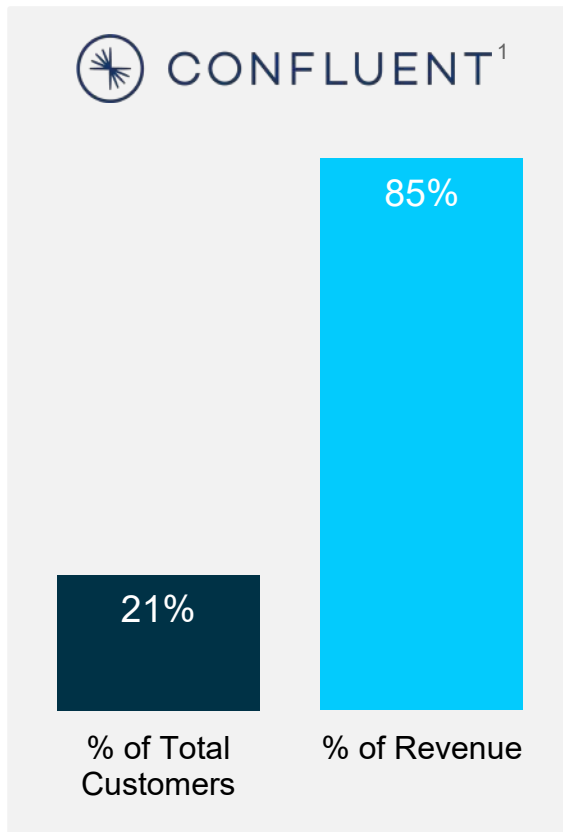
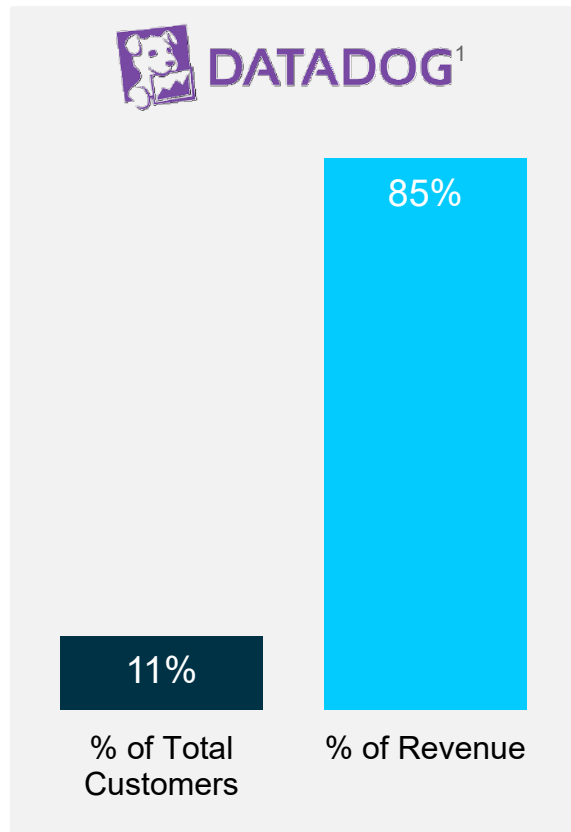


Incentivize your sales team to focus on landing and acquiring new customers with flexible deal structures. Product hooks will naturally expand usage with quick time to value.

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)



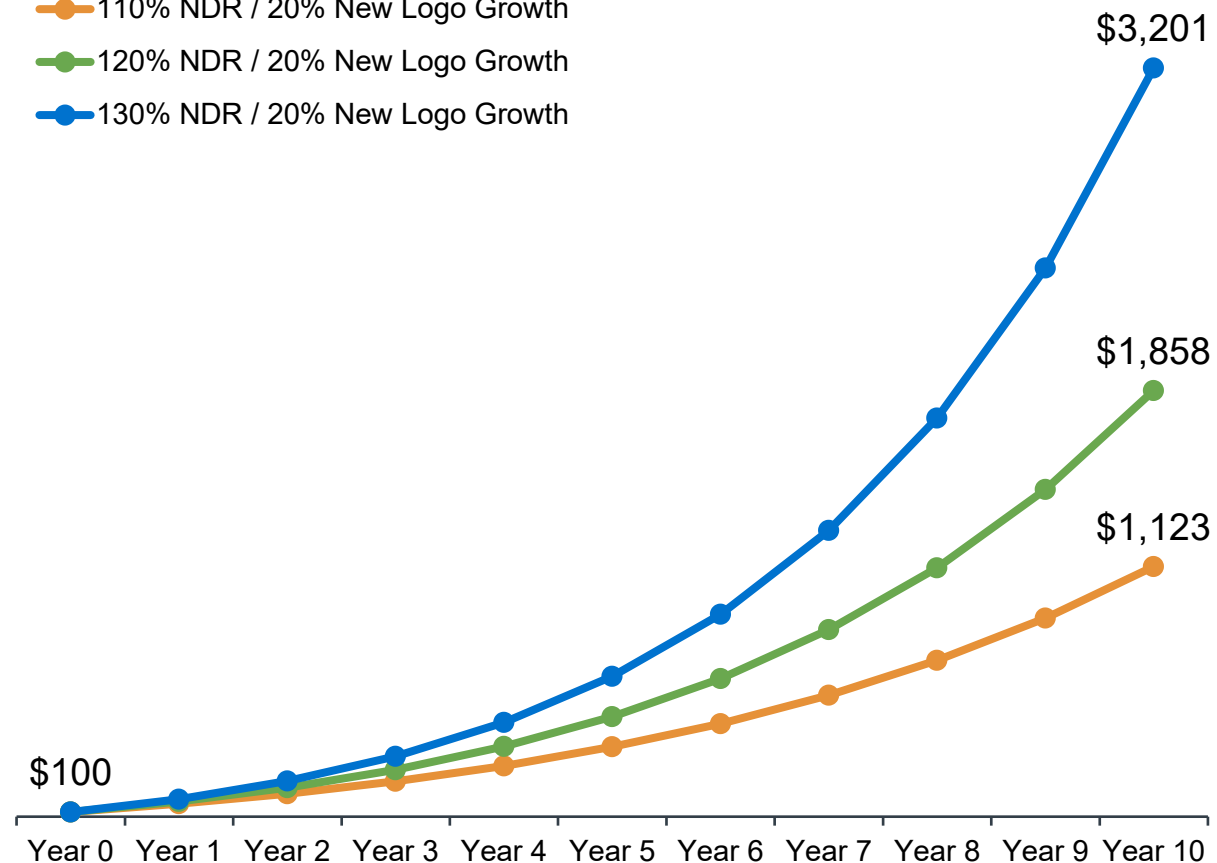
Tier 2 (120% - 130% NDR)



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.

Align pricing “unit” with customer “perceived” value



			
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

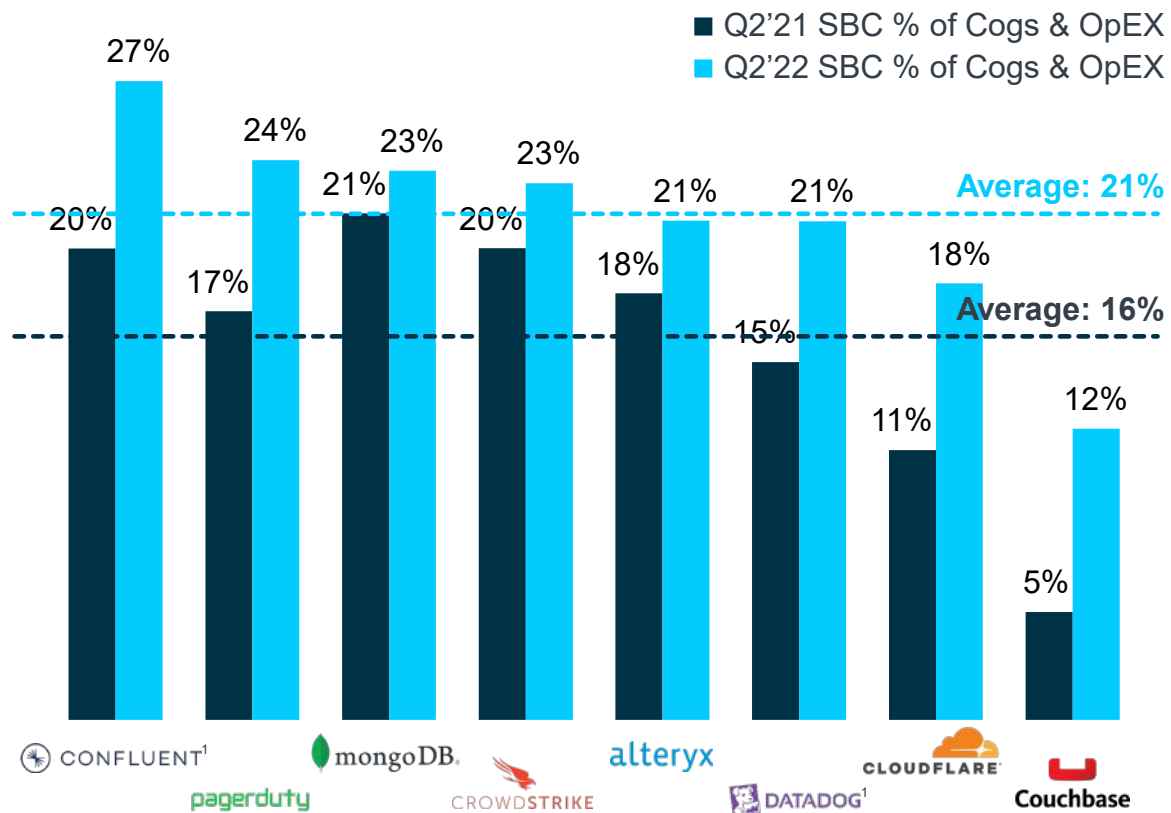
Value-based pricing lowers the barriers to adoption and drives natural expansion.

Source: Company filings.

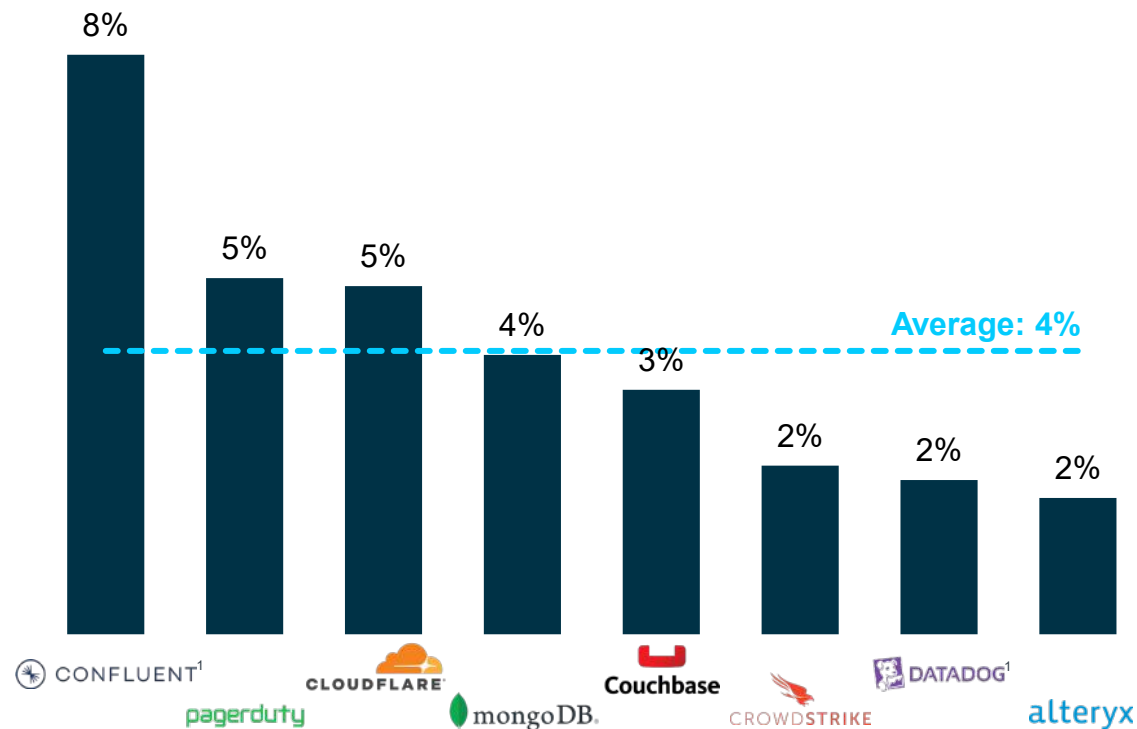
Note: ACV calculated as annualized revenue / # of customers. CRWD ACV represents subscription ACV. ¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#).

10 SBC is a real business expense

SBC % of Cogs & OpEx



Annual Dilution



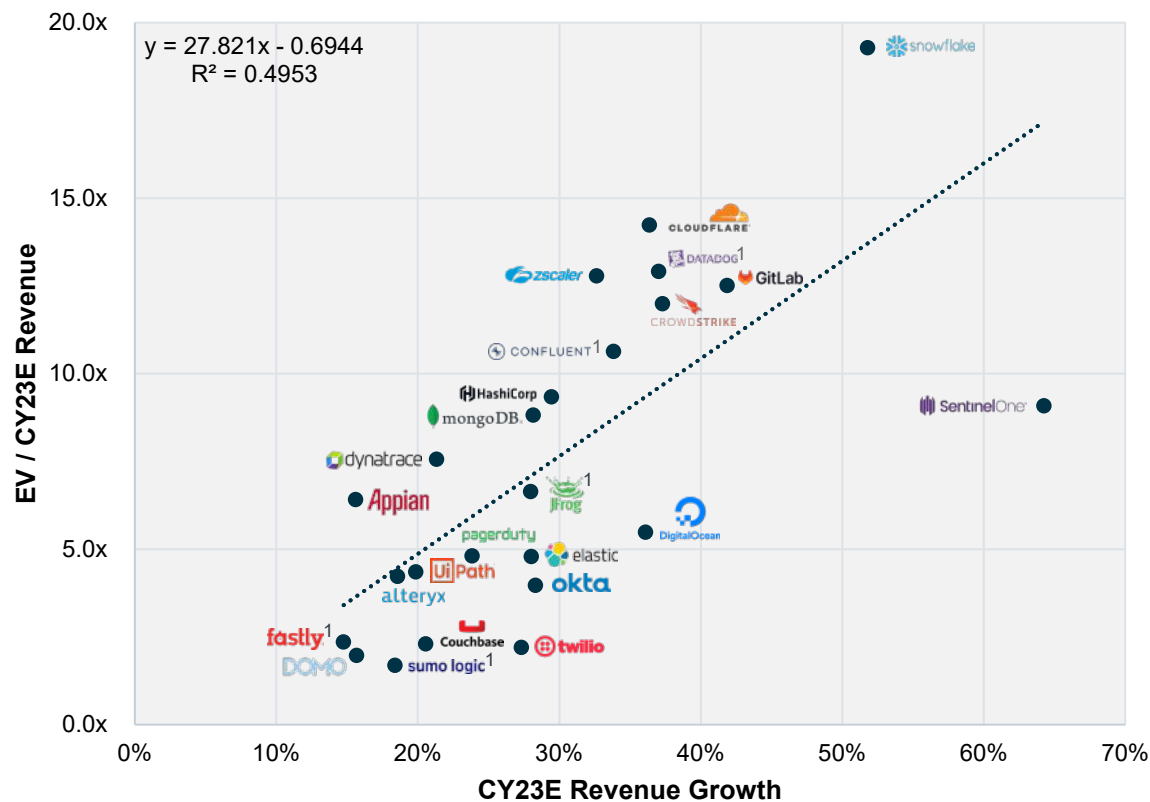
While stock-based compensation is not a cash expense, it is not free and should be managed closely to limit the dilution to existing shareholders



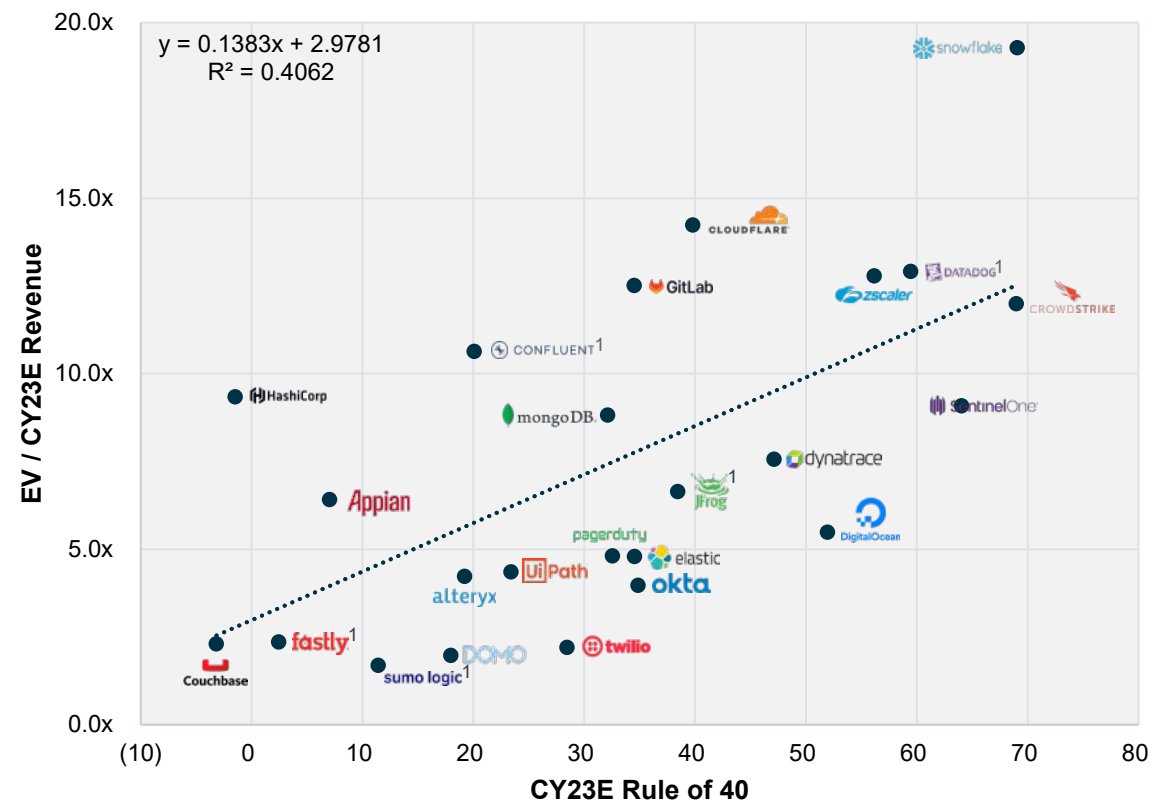
Building a Lasting Public Company: Focus on KPIs that Matter

Index to the cloud and know your cloud metrics fundamentals

EV / CY23E Revenue vs. CY23E Revenue Growth



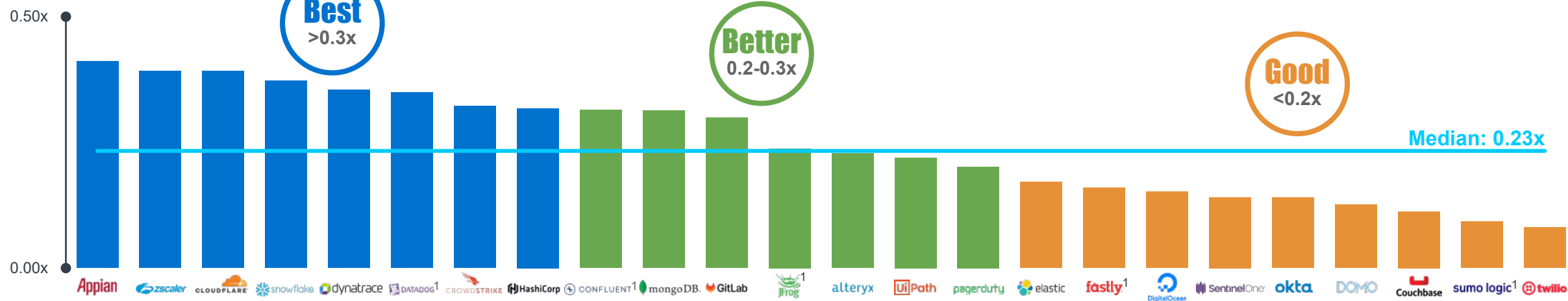
EV / CY23E Revenue vs. CY23E Rule of 40



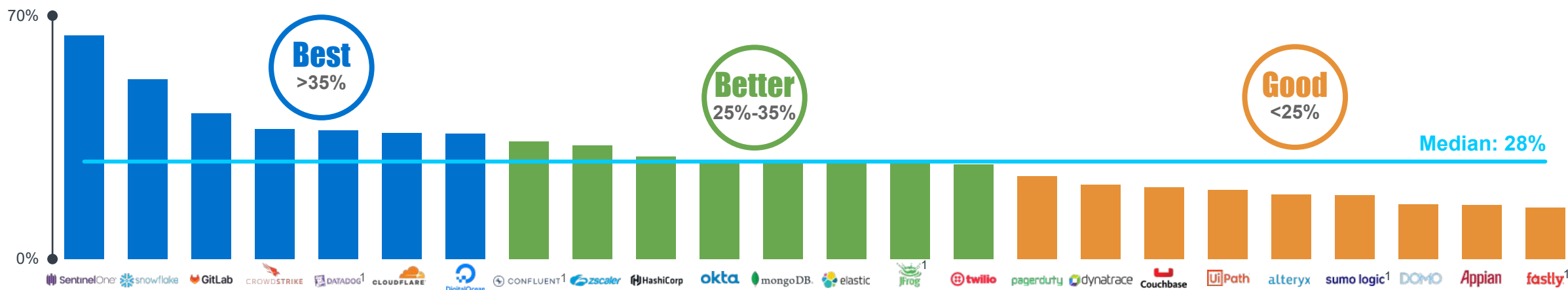
Software valuations are driven by sustainable growth with a path to profitability.

EV / revenue / growth levels the playing field

CY'23E EV / Rev / Growth

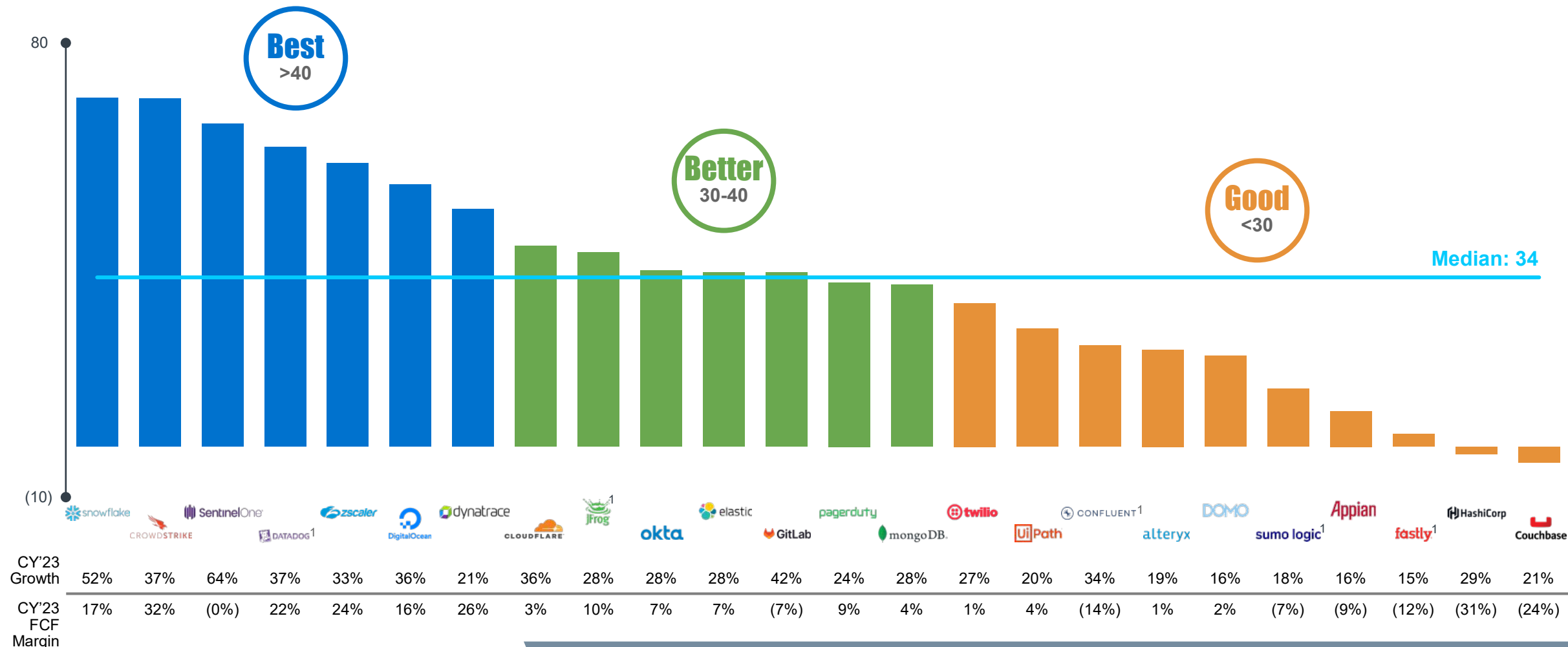


CY'23E Rev Growth



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



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

Average magic number over the last twelve months at 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.

LTV:CAC at IPO



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

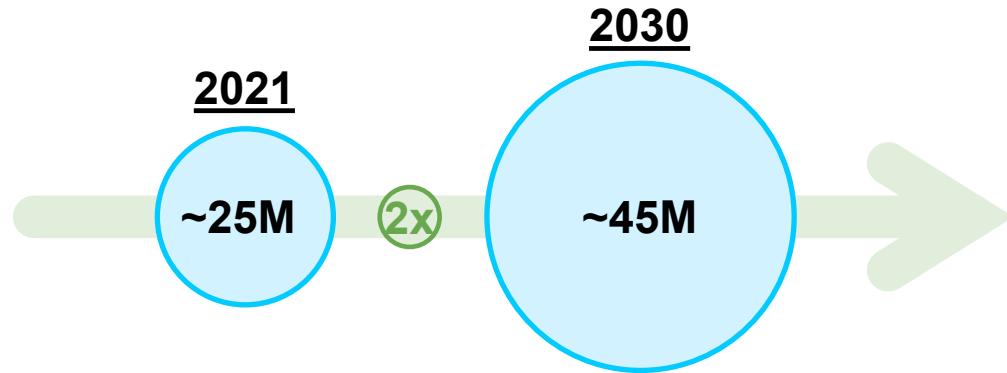
¹ Denotes a past or current Battery company. For a full list of all Battery investments, please click [here](#). Source: Company filings. Excludes ForeScout, SailPoint, Carbon Black, and Nutanix¹ due to lack of disclosed metrics. Ping Identity, Dynatrace, and SolarWinds exclude amortization/depreciation of acquired assets and restructuring costs. Talend financials based on constant currency. LTV calculated as GAAP subscription gross margin / (gross churn (est.) + 11% discount rate). CAC calculated as LTM GAAP S&M exp. / (Qo subscription revenue)*4 – (Q-4 subscription revenue)*4). ARR used instead of subscription revenue if disclosed.



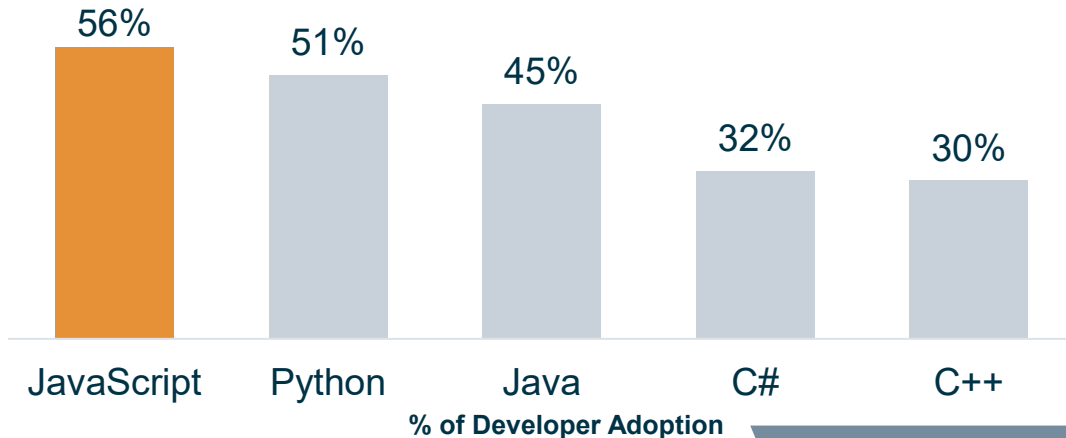
Themes of Interest

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

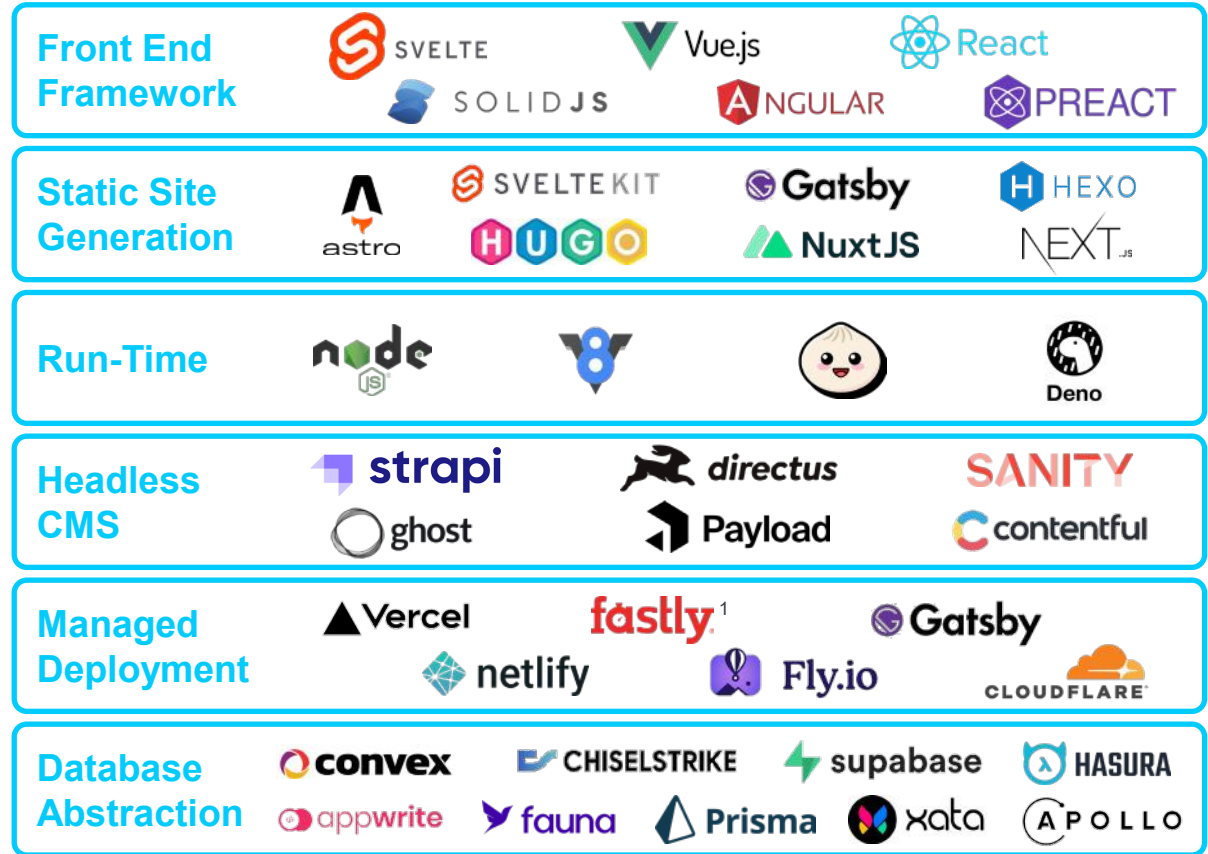
Global Professional Developer Population



JavaScript is the Most Widely Adopted Language

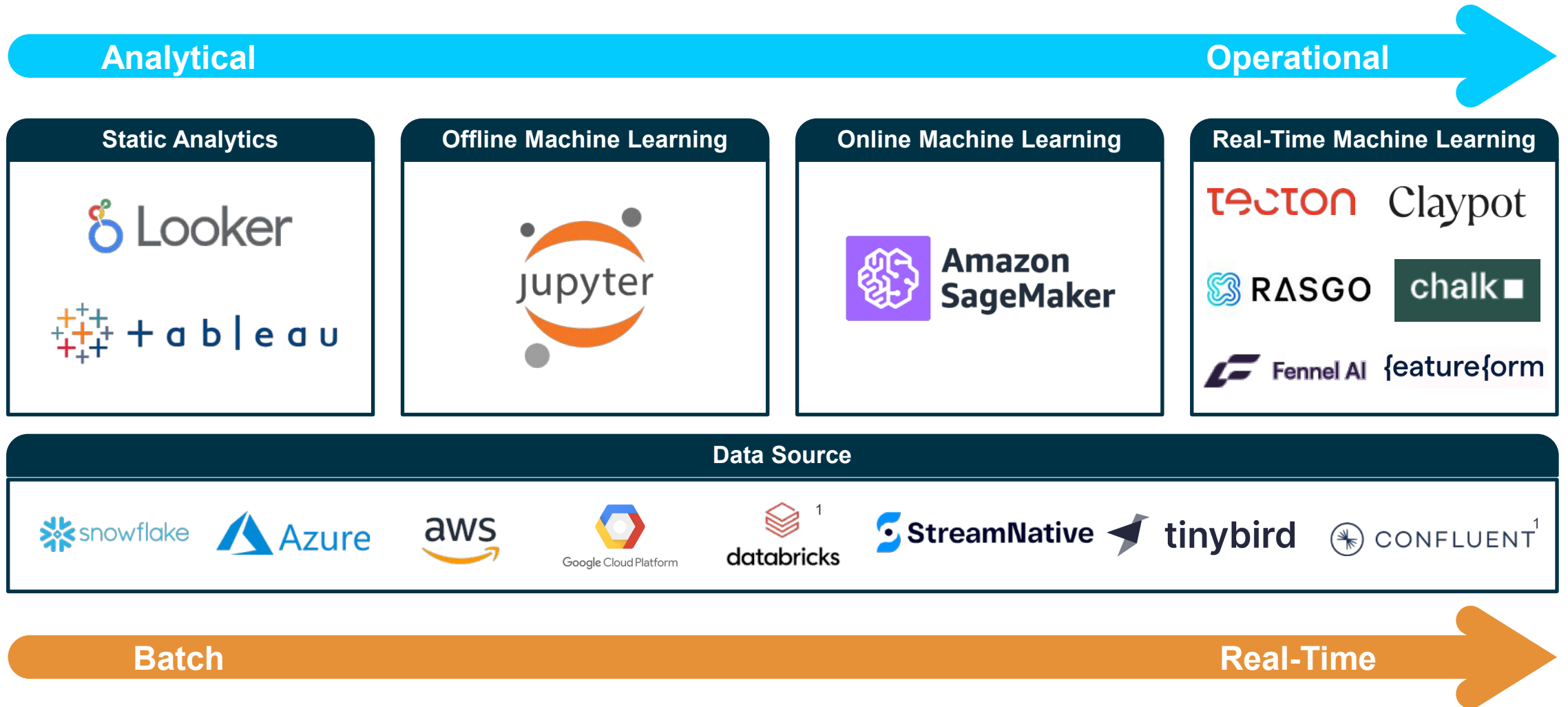


Web-Development Ecosystem



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



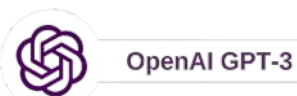
GRAPHCORE



Data-Centric AI Tooling



Fundamental Model Layer



Use Cases

Marketing

Sales

Support

Code & Documentation

Image & Video

Voice & Audio

Select Companies

copy.ai

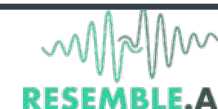


WRITER



co:here

CRESTA



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



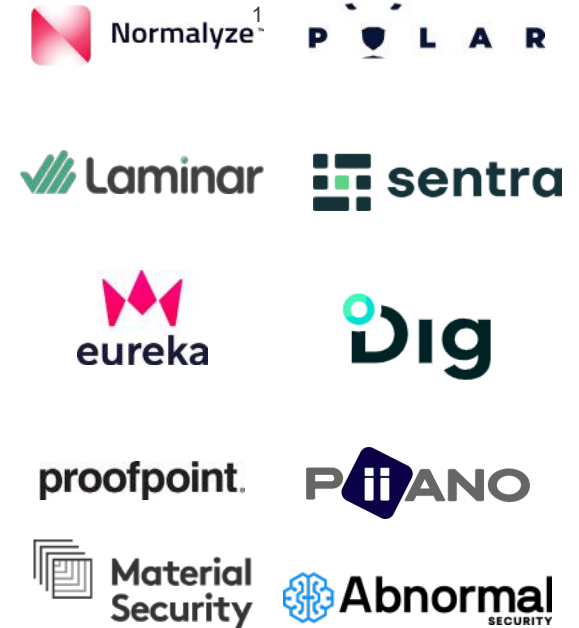
Identity & Network



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

Protocols



OPTIMISM



APTOS

Node Providers



Developer Toolkit



Hardhat



TRUFFLE



REMIX



TATUM



MORALIS

Security & Identity



Spruce



Fireblocks



Forta



argent



METAMASK



Wallet Labs

Simulation & Testing



zoltar



Waffle



KURTOSIS



CHAOS LABS



blocknative

Monitoring & Alerts



tenderly



METRIKA



EPNS
Subscribe. Notify. Earn.



Blocktorch

Dialect



Data & Analytics



nansen



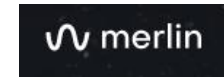
TRM



Chainalysis



Dune Analytics



merlin

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

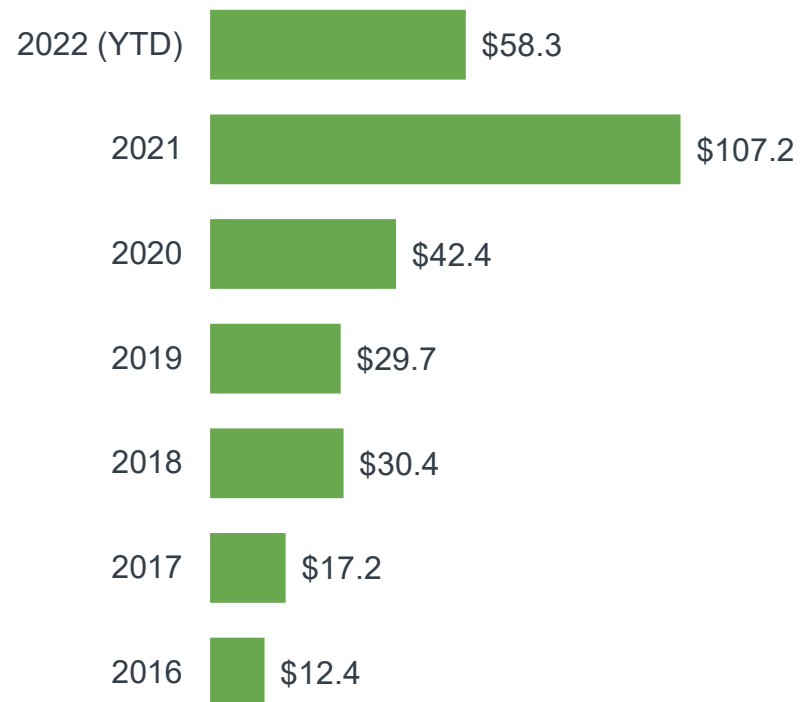


Select Private Unicorns Last Disclosed Valuation

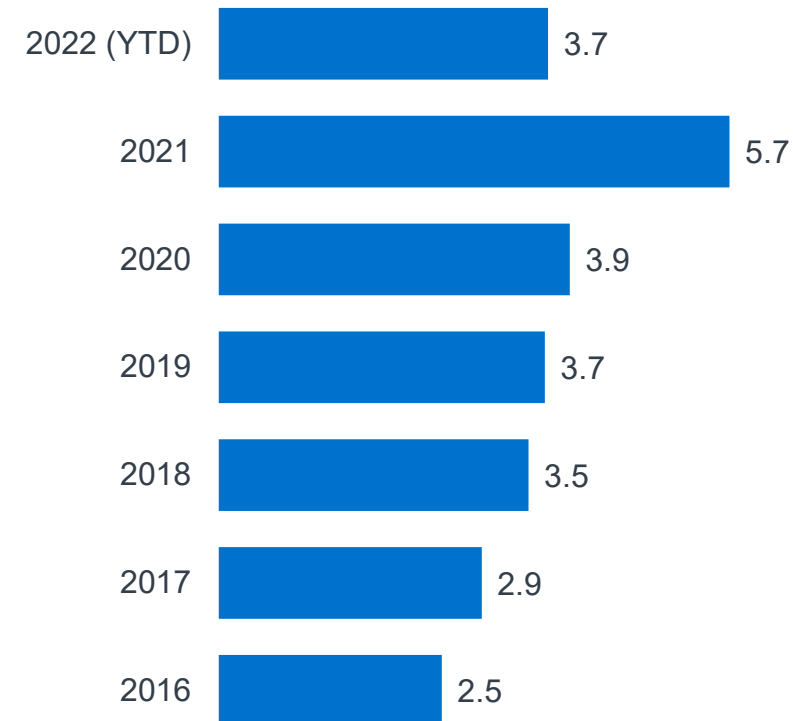
databricks ¹	\$38.0
celonis	\$13.0
TANIUM ¹	\$9.0
snyk	\$8.6
Chainalysis	\$8.6
LACEWORK	\$8.3
Fireblocks	\$8.0
netskope	\$7.5
scale	\$7.3
GONG ¹	\$7.3
1Password	\$6.8
WIZ ⁺	\$6.0
Grafana	\$6.0
workato ¹	\$5.7
Fivetran	\$5.6
POSTMAN ¹	\$5.6
Collibra ¹	\$5.3
dataiku ¹	\$4.7



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

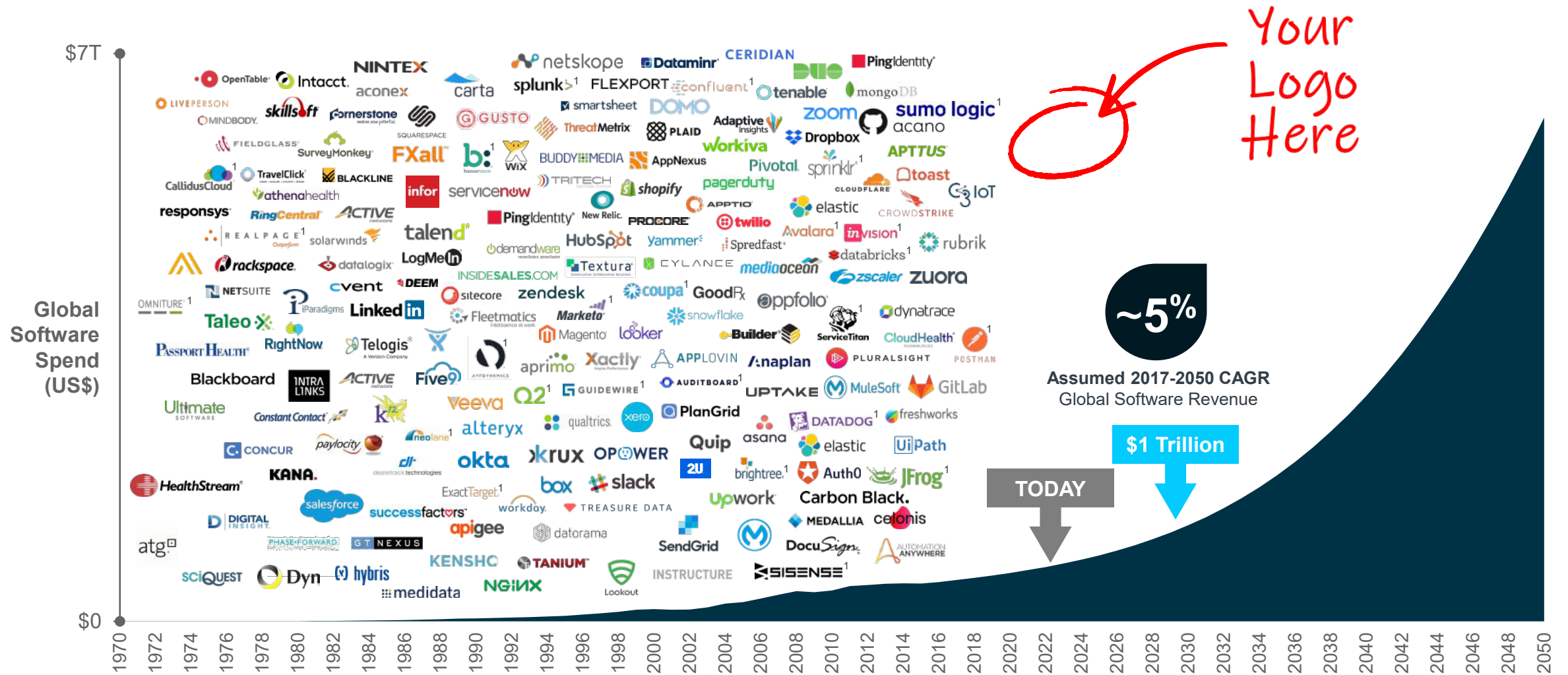


Run-Rate Revenue (\$M)						Run-Rate Revenue (\$M)					
		IPO	Current	CY23E	IPO to CY23E CAGR			IPO	Current	CY23E	IPO to CY23E CAGR
2016		237	3,773	5,534	50%	2017		142	1,215	1,697	47%
2020		533	1,989	3,548	74%	2018		195	1,000	1,458	45%
2019		322	2,141	3,414	62%	2021		308	558	863	45%
2017		195	1,807	2,506	45%	2021		150	410	793	87%
2019		333	1,625	2,431	50%	2021		233	404	664	54%
2018		180	1,272	1,878	49%	2020		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.

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

The Battery team



Dharmesh Thakker
dharmesh@battery.com



Danel Dayan
ddayan@battery.com



Jason Mendel
jmendel@battery.com



Patrick Hsu
phsu@battery.com

Download slides here: <https://www.battery.com/blog-author/dharmesh-thakker/>