HEDGEYE

H-E Software 2.0

Technology in Transition

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HEDGEYE SOFTWARE

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#HedgeyeTMT Vision

TMT Landscape 5-10 Years Ago

HEDGEYE

Global Technology, Media and Telecom (TMT)

Communication Services
(Global Internet, Media, Telecom/Cable)

Software
(Analytics, Infrastructure, Security, et. al.)

Global Tech
(Semis, Hardware, AI, Consumer Tech)
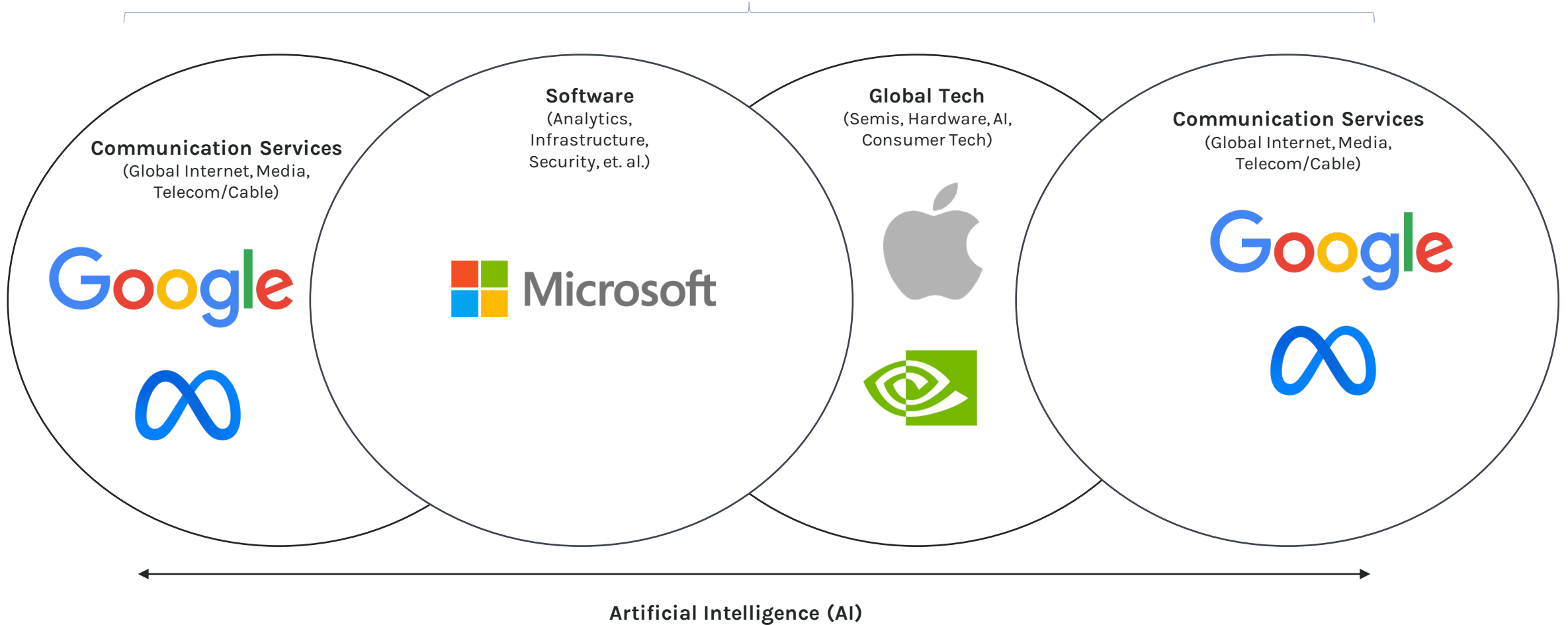
Google

Microsoft

NVIDIA
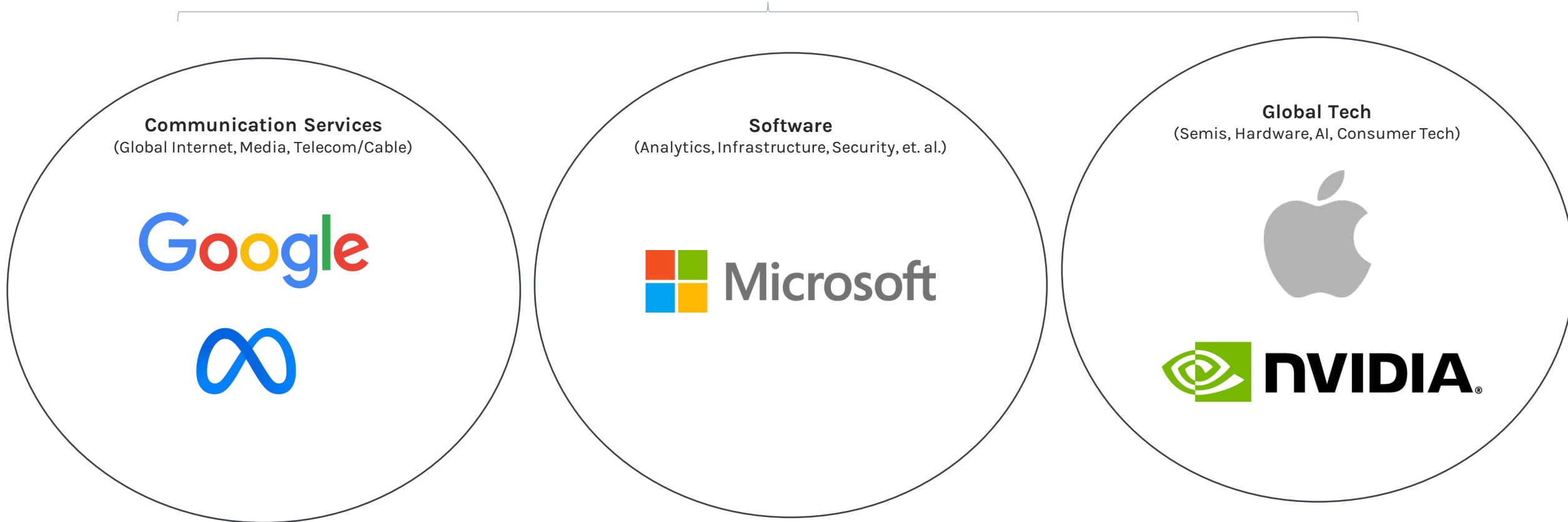
TMT Landscape Today

Global Technology, Media and Telecom (TMT)

Communication Services
(Global Internet, Media, Telecom/Cable)

Software
(Analytics, Infrastructure, Security, et. al.)

Global Tech
(Semis, Hardware, AI, Consumer Tech)

Google

Microsoft

NVIDIA

Artificial Intelligence (AI)
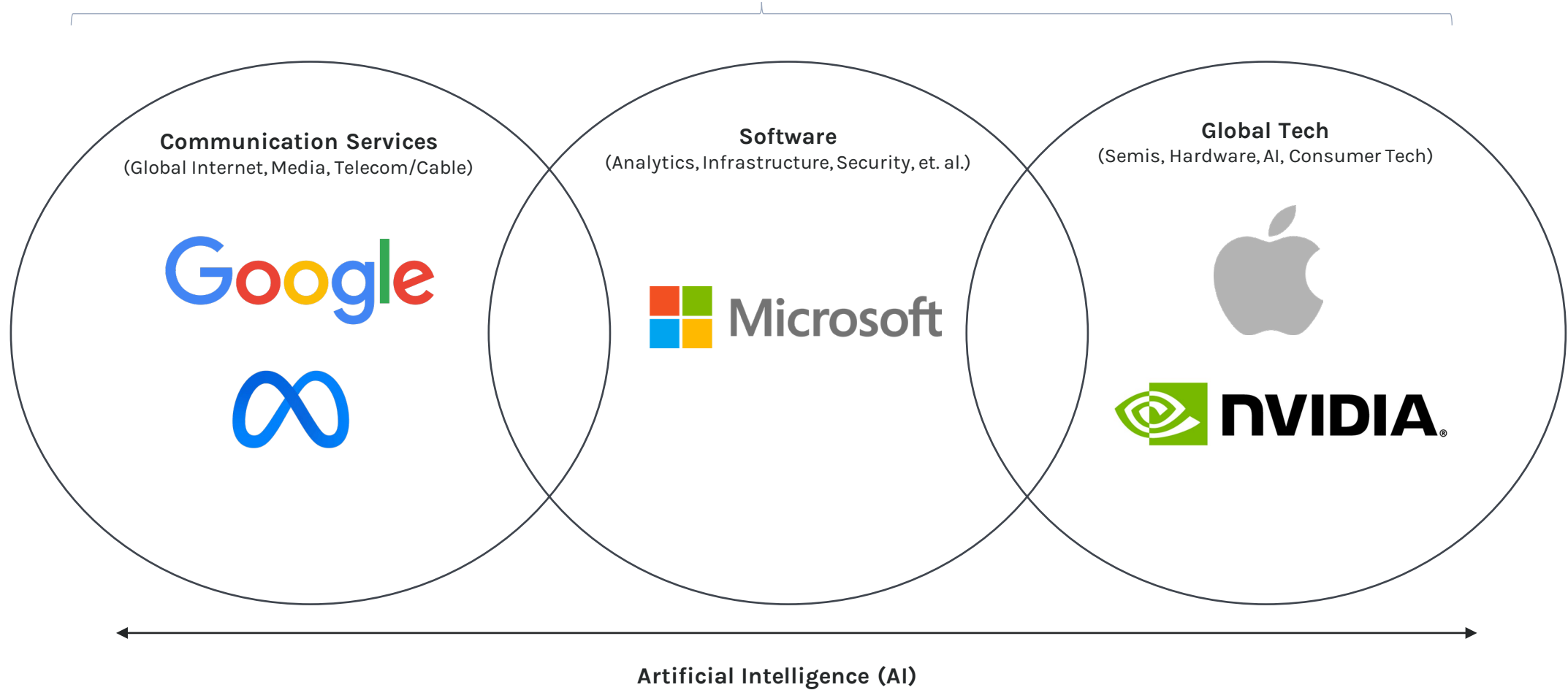
TMT Landscape 5-10 Years From Now

Global Technology, Media and Telecom (TMT)

Communication Services
(Global Internet, Media,
Telecom/Cable)

Software
(Analytics,
Infrastructure,
Security, et. al.)

Global Tech
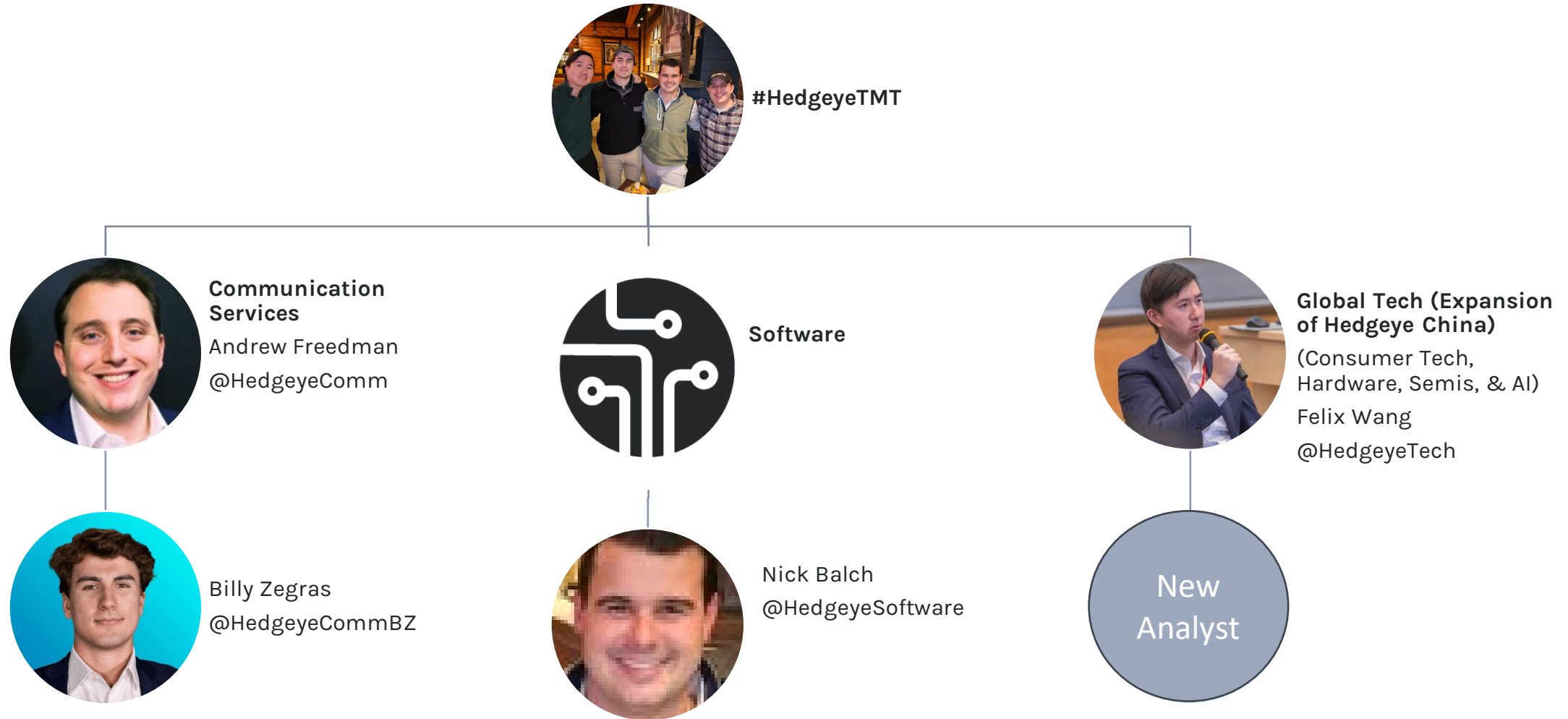(Semis, Hardware, AI,
Consumer Tech)

Communication Services
(Global Internet, Media,
Telecom/Cable)

Artificial Intelligence (AI)

Clash of the Big Tech Titans...

Slower Unit Adoption + Colliding TAMs + Faster Product Cycles = Heightened Competition

	Cloud/AI	Media	Advertising	Commerce	Consumer Tech
Alphabet	Gemini/Bard	Google, YouTube	Google Ads, YouTube Ads	Google Shopping, YouTube Shopping	Android/Pixel
amazon	AWS	Prime Music, Prime Video	Amazon Ads	Amazon.com	AWS
Apple	???	Apple Music, Apple TV	Search Ads	Apple Store	iPhone/iOS/VR
Meta	Hyperscaler Advantage+	Facebook, Instagram	Facebook Ads, Instagram Ads	Facebook Shop, Instagram Shop	VR
Microsoft	Azure Co-Pilot	Bing, LinkedIn, Activision, Xbox	Microsoft Advertising	Microsoft Shop	Xbox

Your #HedgeyeTMT Team

3 verticals with a TMT overlay (collaborate + integrate = better + faster)

#HedgeyeTMT

Communication Services
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Software

Global Tech (Expansion of Hedgeye China)
(Consumer Tech, Hardware, Semis, & AI)
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New Analyst

#HedgeyeSoftware Research Process

TMT Research Process
Software & Communications (Global Tech Will Unveil in 2024)

Research Process

1. Idea Generation
- o Thematic, macro and policy driven (...will take rifle shots too)
- o Focus on second derivative inflections in trends
- o Relative and absolute performance / Battleground stocks
- o Counter consensus screening models (short interest, ANR, etc.)
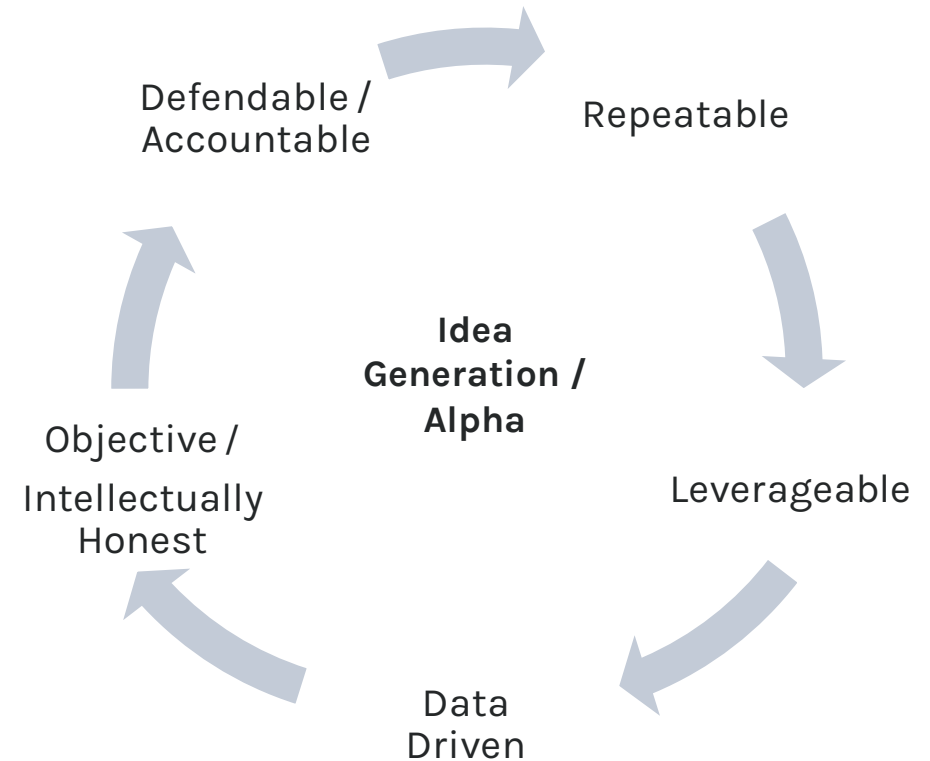- o Primary market research (professional interviews and surveys)

2. Fundamentals
- o Build out three-statement financial models
- o Model top-line growth, market share and end-market
- o Operating leverage, ROIC/Cost of Capital and free cash flow
- o Focus on balance sheet, capital structure and management
- o Consider all relevant valuation metrics (DCF, multiple, factor, etc.)
- o Assess catalyst calendar, understand event path and risk/reward

3. Data Driven
- o Narrative supported by data
- o Identify correlations, update and chart high frequency key drivers
- o Leverage alternative, proprietary and third-party data sets
- o Incorporate machine learning and data science to gain insights

Research Process Goals

Defendable / Accountable → Repeatable → Leverageable → Data Driven → Objective / Intellectually Honest → (cycle around) **Idea Generation / Alpha**

Hedgeye Software Sentiment Monitor

HEDGEYE

Business (IT, CRM, HR/Payroll, Martech)

Ticker	Score	Mkt Cap	ADV
PYCR	1	3,804	16
CDAY	4	10,484	91
PCTY	7	8,650	84
SPT	11	3,184	33
PAYC	14	11,410	224
PD	18	2,000	35
CXM	22	3,087	27
EXFY	25	196	2
LPSN	29	261	5
PEGA	32	4,250	13
PAYX	36	45,718	210
APPN	39	2,622	14
ADP	43	97,348	388
NTCT	47	1,494	14
PRGS	50	2,336	16
PATH	54	13,903	149
ORCL	57	276,157	1,110
DDOG	61	37,672	410
BRZE	64	5,313	42
HUBS	68	26,536	287
VRNT	72	1,706	16
FRSH	75	6,263	44
SWI	79	1,916	6
WDAY	82	72,785	441
SPLK	86	25,556	391
DT	89	16,663	117
WKME	93	879	1
NOW	97	146,878	707
CRM	100	248,244	1,091

Big Cap Tech

Ticker	Score	Mkt Cap	ADV
MSFT	1	2,782,490	8,624
ORCL	10	276,157	1,110
IBM	20	150,400	624
AMZN	30	1,524,058	7,295
GOOGL	40	1,658,620	3,780
AAPL	50	3,028,286	10,031
META	60	858,901	6,182
CRM	70	248,244	1,091
ADBE	80	288,505	1,550
SAP	90	185,117	119
NOW	100	146,878	707

E-Commerce / Internet Infrastructure

Ticker	Score	Mkt Cap	ADV
UPWK	1	1,941	25
SQSP	6	3,753	19
FVRR	11	1,018	19
BIGC	17	674	7
GLBE	22	5,733	52
SHOP	28	93,148	684
TTD	33	34,983	360
VRSN	39	22,136	114
WIX	45	6,148	47
PINS	50	24,365	342
SNAP	56	26,095	252
SPSC	61	6,750	25
MANH	67	13,837	88
GDDY	72	14,942	161
OPRA	78	969	9
GOOGL	83	1,658,620	3,780
AMZN	89	1,524,058	7,295
META	95	858,901	6,182
VTEX	100	1,281	3

Infrastructure Software

Ticker	Score	Mkt Cap	ADV
CFLT	13	6,899	138
HCP	13	4,085	51
MDB	25	28,372	511
ESTC	38	11,592	126
SNOW	50	63,716	727
TDC	63	4,177	37
NTNX	75	11,152	82
INFA	88	8,203	11
BASE	100	1,038	4

Collaboration / Work Management

Ticker	Score	Mkt Cap	ADV
BOX	1	3,521	42
ASAN	13	4,188	52
DBX	38	9,930	76
TEAM	38	52,338	267
DOCU	50	11,420	169
UPLD	63	137	1
GTLB	88	9,585	100
MNDY	88	8,374	132
SMAR	100	5,994	49

Security

Ticker	Score	Mkt Cap	ADV
FSLY	1	2,224	46
RPD	7	3,507	34
OKTA	13	12,730	209
NET	20	26,254	247
AKAM	27	17,395	173
CHKP	33	17,985	114
QLYS	40	7,031	58
FTNT	47	42,266	378
TENB	53	4,911	36
ZS	60	31,263	334
CYBR	67	8,326	86
CVLT	73	3,320	18
S	80	7,586	98
VRNS	87	4,855	39
PANW	93	96,349	961
CRWD	100	59,691	603

Banking / Payments Software

Ticker	Score	Mkt Cap	ADV
NCNO	1	3,290	18
BILL	8	7,513	251
WK	17	5,180	39
BL	25	3,687	30
ZUO	33	1,205	7
INTA	42	2,579	17
QTWO	50	2,205	19
STNE	58	4,772	64
AVDX	67	2,250	19
SSNC	75	14,423	58
INTU	83	166,332	746
VERX	92	4,400	13
ALKT	100	2,165	8

Industrial / Engineering Software

Ticker	Score	Mkt Cap	ADV
AZPN	1	12,693	36
ANSS	17	25,746	148
TRMB	33	11,963	75
ADSK	50	48,760	277
PTC	67	20,197	114
SNPS	83	86,241	402
CDNS	100	74,608	329

Communication Services

Ticker	Score	Mkt Cap	ADV
BAND	1	286	4
ZM	14	21,699	230
EGHT	29	442	6
TWLO	43	12,879	157
RNG	57	2,957	37
ONTF	72	306	2
FIVN	86	5,756	87
NICE	100	12,607	100

Analytics

Ticker	Score	Mkt Cap	ADV
AI	1	3,324	212
DOMO	17	328	4
AYX	33	3,224	70
PLTR	50	38,080	1,053
AMPL	67	1,364	5
PTC	83	20,197	114
MSTR	100	8,730	345

Data Product

Ticker	Score	Mkt Cap	ADV
ZI	1	6,182	105
TTGT	17	905	6
DNB	33	4,684	30
FDS	50	17,216	110
SEMR	67	1,651	2
IT	83	35,905	195
SMWB	100	390	1

Education

Ticker	Score	Mkt Cap	ADV
CHGG	1	1,222	22
TWOU	25	82	4
DUOL	50	9,514	127
COUR	100	3,150	26
UDMY	100	2,388	8

Note: Market cap and ADV (Average Daily Volume) displayed in $M

Sentiment Score:

- Short Interest
- Sell-Side Rank/ANR
- Relative Value/Multiple
- Relative Performance (to S&P 500)

1 = Contrarian Buy

- High short-interest
- Low sell-side rank
- Relative earnings multiple to S&P 500 less than one-year prior
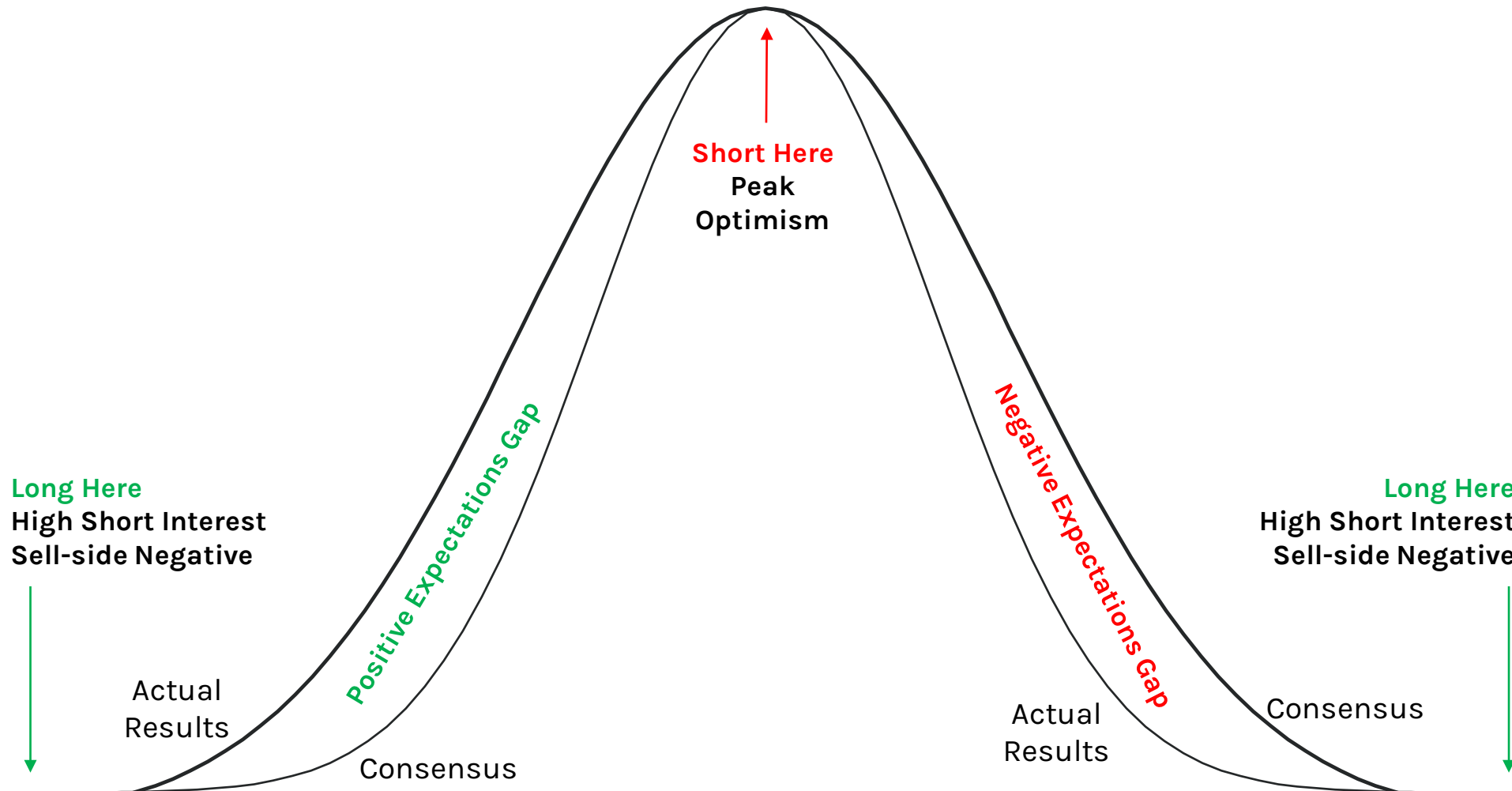- Underperformed S&P 500 on a rolling 90-day basis

100 = Contrarian Sell

- Low short-interest
- High sell-side rank
- Relative earnings multiple to S&P 500 greater than one-year prior
- Outperformed S&P 500 on a rolling 90-day basis

Data updated as of 12/10/2023

Fundamental Idea Generation

Identifying Gaps in Expectations and Inflections in Growth

Short Here
Peak Optimism

Positive Expectations Gap

Negative Expectations Gap

Long Here
High Short Interest
Sell-side Negative

Long Here
High Short Interest
Sell-side Negative

Actual Results

Consensus

Actual Results

Consensus

Hunting for Longs:

(1-3 Year Duration)

- Organic growth / adoption
- Activist / turnaround
- Fallen angel growth stocks
- High short-interest / misunderstood long thesis
- Compounders

Hunting for Shorts:

(< 1 Year Duration)

- Frauds and fads
- Balance sheet shorts
- Angels before the fall (hardest to call timing on, but often most rewarding if right)
- Buggy whips
- Melting ice cubes

Process Shortcomings:

- Early is a less bad form of wrong
- Calling quarters is hard (not impossible)
- Correlations break down

Fundamental Research Process (Software)

Assessing The Business And Product Market Fit

| Where does it fit? | Product vs. Platform | Infrastructure Assessment | Addressable Market and Competition | Market Dynamics and Growth Drivers |

Driver

- Thematic
- Macro
- Policy
- Rifle Shot

How leverageable is the work we do on this name to other tickers and/or sub-sectors?

Is there enough market cap / daily liquidity to be considered investable?

What is teams level of intellectual curiosity?

Product

- Single, defined purpose
- Stand-alone functionality
- Closed ecosystem

Platform

- System of record
- Enables others to create
- Open ecosystem

Does the product have the potential to become a platform?

How focused is the company on R&D / innovation?

How often do you work with the product? How difficult is it to replace?

Singular-focus / better mousetrap can go a long way!

Delivery

- Single Tenant vs Multi-Tenant vs On-premise?
- How many instances of the software are there? (Version control)
- Is it hosted in private vs public cloud or hybrid?

Technical Debt

- What is the code base? (Modern or dated)
- How long does it take for customers to implement and upgrade?
- What is the velocity of new feature deployment and time to ship new product?
- How well does the system scale? Cost/support to add another user or incremental resource utilization?

Size and Structure

- Business vs Consumer vs Government
- Horizontal or Vertical (niche/industry specific)

How many customers do they have and can they get? What is the ACV of each customer?

Competition

- Market share trends
- Who is the incumbent?
- Winner takes all market?
- Network effect?
- Barriers to entry?
- Switching costs?
- Bargaining power?

Why does this product exist? And why doesn't Microsoft put them out of business?

Go-to-Market

- Land vs Expand
- Greenfield vs Whitespace
- Pricing strategy
- Contract terms
- Sales Cycle (Duration)
- Sales Efficiency
- Channel Strategy

Are you selling into the C-suite or other parts of the organization? (i.e., hunting license)

Is it a free-to-paid model?

Growth Driver

- Volume vs. Price
- Acquired vs. Organic

Fundamental Research Process (Software)

Assessing If It Is An ACTIVE Long Or Short... (Or A Do Nothing)

Rate of Change and Data	Event Path / Catalyst Calendar	Business Model Assessment	Model Forecast	Valuation

Rate of Change

- What are the most important KPIs? What drives the stock price?
- What drives those KPIs and are comps easier or harder?
- Is the business getting better or worse next 3-6 months versus the last 3-6 months?
- Where is the surprise gap and where are we on the revision cycle?

Data

- What resources do we have?
- What is our ability to track business trends?

Catalyst

- Business Transformation
- New Management Team
- Capital Allocation
- Earnings Event
- Product Launch
- Market Expansion
- Accounting Misconduct
- Strategy Capitulation
- Restructuring
- M&A

What is the path to getting paid on the stock? What will be the narrative over next 3-6 months?

Are numbers going higher or lower? If so, when and by how much?

Good or Bad Business?

- Positive or negative unit economics; LTV/SAC
- Incremental margins and ROIC trajectory
- Is the business earning or exceeding its cost of capital? If not, does a path exist for it to get there?
- Free cash flow profitable
- Earnings quality (accruals + non-GAAP adjustments)
- Does bookings growth track with revenue growth?
- Stock-based-compensation and dilution
- Rule of 40

Is the business model sustainable? Or structurally broken?

5-Year Forecast

- Revenue and Earnings
- All relevant KPIs
- Balance Sheet / Cash Flow

What assumptions need to be made to hit consensus estimates? Are they realistic?

Does the TAM analysis support the growth trajectory?

What's it worth?

- Consider all relevant valuation methods
- What do we think the stock is worth and why? And how does that compare to the street?
- What valuation metric or KPI does the market care about and why? Is that right, and if not, what will be the catalyst for it to change?
- Absolute valuation methodology (DCF) when possible to establish basis
- Terminal value: How many subscribers/ customers at what price point in the future and at what margin? Discounted back to today
- Multiple relative to growth
- Pay up for quality

Risk/Reward Decision

What To Expect!

Quarterly <u>core</u> research deliverables

Themes (Once Per Quarter)

⬇

Single Stock Black Book (2-3)

⬇

Wrap Call (Monthly)
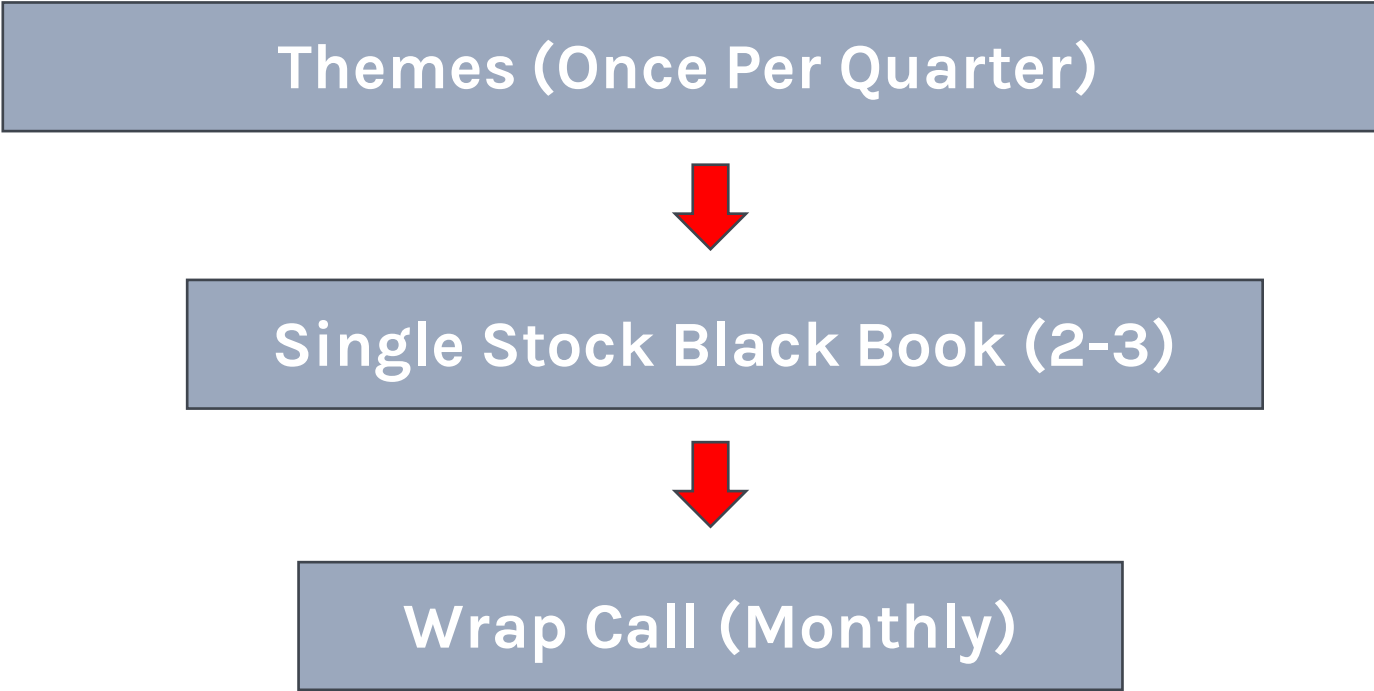
Single Stock Idea Pipeline

- New Idea (Jan 2024)

- New Idea (Feb 2024)

Big green space: +100 software names to explore

***We aim to have 1 Themes deck a quarter, which could lead us to 2-3 single-stock Black Books in the quarter. Our ideas will be able to stay fresh with our Wrap call and figure out what could also be relevant in past subsector presentations.**

Themes Under Consideration

Identify Businesses Positively/Negatively Exposed To Each Theme...

	Future of the CRM	AI Impact on Workforce Productivity	Partnerships and Defense in E-commerce & Security/Networking
Tickers	CRM, MSFT, ORCL, SNOW and others	All Software	SHOP, AMZN, META, GOOGL, NET, AKAM, FSLY, MSFT
Research Question(s)	What phase of the innovation cycle are we in CRM? And how will it evolve next 5-10 years?	How will AI impact workforce productivity and impact investment between capital and labor? What companies/products will and won't be able to capture/monetize value they create and why?	What new tools can help differentiate players in an increasingly competitive environment? Who are the recent partnerships and where could new partnerships emerge?
Hypothesis	CRM end of organic growth runway Opportunity to disrupt current CRM (Salesforce, Oracle) with a better mousetrap and use of AI to improve EDL process, lower switching costs, and get more value from existing company information	AI tools improve labor productivity and allow companies to spend resources in advanced technical roles. Not all companies will benefit from workforce productivity improvements. Positive for utilization-based revenue models and negative for seat-based/licensed models	Competitors turning into frenemies. More partnerships/acquisitions may be needed for smaller players to catch up to the big players. E-commerce competition is as fierce as ever which is helping adoption trends. Rollout of new software tools could improve retention Innovative technology is a very valuable asset in security. Finding an appropriate suitor may be difficult.
Analysis	CRM adoption model and product evolution; Value chain analysis	Productivity analysis and margin impact; # of FTEs by segment and revenue per employee; Survey and field work	Industry adoption models; Number of merchants, number of buyers, cart size; CAC/LTV study (Digital ads = the new rent); domain penetration; SMB vs large enterprises
Effect	Incumbent share loss and reduced pricing power; Commoditization of core CRM	Structurally higher industry margins AND/OR reduced labor investment in favor of capital investment; Accelerates product adoption of winners; Requires retraining of labor pool in roles currently being augmented by AI	Some shakeups could happen. Defensive tools to combat competition may become a priority

Themes Under Consideration

Identify Businesses Positively/Negatively Exposed To Each Theme...

	Death of the Point Solution	Cloud Adoption Trends	Artificial Intelligence (Consumer vs. Enterprise)
Tickers	Small/Mid Cap Software	All Software w/focus on AMZN/AWS, GOOGL and MSFT	All Software + Hardware + Consumer Internet
Research Question(s)	Is it a product or a platform? Why can't Microsoft do this and put the company out of business tomorrow?	Where are we on the cloud adoption curve (shift from on-premise to cloud by industry and company size)? What are the major drivers of utilization going forward (we have been in a period of optimization)? How will AI impact cloud utilization? Is decentralization a real threat, if so, over what duration?	Was ChatGPT the killer app? How will AI be used to drive share of consumer and enterprise applications (e.g. how will AI impact smartphone adoption if Google and Apple offer better apps and OS functionality incorporating AI? How will enterprise adoption of cloud-based services and business/enterprise applications be impacted by AI functionality?)
Hypothesis	Too Much Software / Oversaturated

Rifle shot opportunity on bad business models and lack of product-market fit.

Rationalization of IT budgets and reduction in headcount will put downward pressure on seat-based models | We are past peak growth in cloud adoption, with most medium-to-large-sized enterprises having adopted some form of cloud computing (private and public).

Growth opportunity dependent on increased utilization of cloud services; and increased investment in analytics and iterative processes to support AI workloads. Private cloud | Ability to integrate AI into its products and services to drive efficiency at scale will take market share.

Scale in and of itself will become less of a competitive advantage (Ability to deliver product/service at lowest cost)

Adoption and product cycles will be driven by how a company can leverage its data/user base to provide unique, data-driven insights to enhance productivity. |
| **Analysis** | Seat-based industry models / # of units per seat | Cloud adoption (S-curve) + Bookings model + CIO Survey + Competitive Analysis + TAM Analysis (Public vs. Private) | In-depth overview of current AI offerings (separate hype from reality); Leverage industry thought leaders and technologists; Product reviews and surveys |
| **Effect** | Higher churn / lower retention rates

Vendor consolidation and market share will accrue to the platforms that can offer the best economies of scale to users. | Accelerated shift from private to the public cloud/hyperscalers (incl. hybrid cloud)

The opportunity cost of technical debt will go exponential | M&A cycle/industry consolidation

Accelerate shift to platforms versus point solutions

Rollup models will come under pressure |

HedgeyeTech Position Monitor

Out With The Old...

Ticker (FactSet Data)	Mkt Cap ($ in Mn)	EV ($ in Mn)	Net Cash to Cap %	EV/ NTM FCF	EV/ NTM Sales	EV/ LTM Sales	LTM Sales Growth	NTM Sales Growth	YTD Performance (Incl. Div)	Price	SI % of Float	Days to Cover
Active Longs												
HCP	$4,847	$3,617	25%	620.8x	5.9x	6.7x	38%	14%	-12%	$25.00	6%	2.7x
Active Shorts												
PTC	$19,080	$20,681	-8%	28.5x	8.9x	9.9x	8%	11%	26%	$160.01	2%	2.9x
NOW	$139,919	$138,105	1%	41.9x	13.4x	16.3x	22%	22%	77%	$682.53	2%	2.2x
Bench Longs												
NET	$26,392	$26,235	1%	198.5x	17.0x	21.7x	35%	28%	77%	$78.59	7%	3.5x
CFLT	$7,297	$6,538	10%	1056.6x	7.4x	8.9x	36%	21%	8%	$23.72	10%	1.6x
SHOP	$94,009	$90,213	4%	75.2x	11.4x	13.6x	27%	19%	109%	$73.17	2%	1.6x
MNDY	$8,607	$7,617	12%	44.5x	8.8x	11.3x	46%	28%	49%	$180.30	7%	1.5x
TWLO	$12,284	$9,621	22%	26.2x	2.2x	2.3x	13%	5%	38%	$67.83	4%	1.3x
AMPL	$1,343	$1,031	23%	50.4x	3.5x	3.8x	22%	8%	-5%	$11.28	5%	5.7x
ZM	$20,587	$14,167	31%	9.9x	3.1x	3.1x	3%	2%	1%	$67.63	7%	5.6x
Bench Shorts												
MSFT	$2,769,707	$2,731,437	1%	40.7x	10.9x	12.5x	8%	15%	55%	$372.66	1%	1.9x
PLTR	$39,795	$36,745	8%	55.5x	14.5x	17.3x	16%	19%	187%	$18.28	8%	1.8x
OKTA	$11,758	$11,047	6%	24.8x	4.6x	5.1x	25%	11%	6%	$71.62	3%	2.2x
BILL	$7,434	$6,601	11%	29.8x	5.2x	5.8x	50%	12%	-37%	$69.64	6%	0.8x
ZI	$5,665	$6,428	-13%	14.8x	5.1x	5.2x	20%	3%	-51%	$14.53	5%	2.1x
GTLB	$9,300	$8,310	11%	243.9x	12.1x	15.4x	42%	27%	16%	$59.90	8%	4.5x
DBX	$9,809	$10,761	-10%	11.8x	4.2x	4.4x	8%	4%	26%	$28.87	8%	5.8x
SMAR	$6,110	$5,618	8%	41.9x	5.4x	6.5x	32%	20%	14%	$45.18	2%	2.5x
DUOL	$9,213	$8,538	7%	49.3x	13.1x	17.6x	43%	35%	205%	$219.14	7%	2.0x
FROG	$3,042	$2,564	16%	39.0x	6.4x	7.8x	25%	22%	32%	$29.00	2%	1.5x
PATH	$14,078	$12,318	13%	39.9x	8.4x	10.2x	17%	21%	99%	$24.84	9%	5.9x

HEDGEYE'S "BENCH" REPRESENTS HEDGEYE'S OUTLOOK ON COMPANIES CURRENTLY UNDER HEDGEYE'S REVIEW, OR FOR WHICH TIMING IS NOT RIGHT FOR GREATER COVERAGE. HEDGEYE MAY OR MAY NOT PROVIDE FURTHER COMMENTARY ON ANY OR ALL COMPANIES REPRESENTED ON THE BENCH AND REPRESENTATION OF A COMPANY ON THE BENCH DOES NOT FORECAST WHETHER HEDGEYE WILL OR WILL NOT ISSUE ANY ADDITIONAL MATERIAL ON THAT COMPANY.

(Data as of 12/4/23)

Hedgeye Software Position Monitor

In With The New!

Active - Longs LONG		Sentiment Score*	Market Cap (bill)	Price	Trend	Tail	Active - Shorts SHORT		Sentiment Score*	Market Cap (bill)	Price	Trend	Tail
Active Longs							**Active Shorts**						
Long Bias (Bench) / Passive							**Short Bias (Bench) / Passive**						
MSFT	Microsoft Corporation	1	$ 2,782.5	$ 374.4	---	---	DBX	Dropbox, Inc. Class A	38	$ 9.9	$ 29.0	---	---
MNDY	monday.com Ltd.	88	$ 8.4	$ 181.5	---	---	ORCL	Oracle Corporation	57	$ 276.2	$ 103.0	---	---
SHOP	Shopify, Inc. Class A	28	$ 93.1	$ 73.9	---	---	NOW	ServiceNow, Inc.	97	$ 146.9	$ 715.6	---	---

Research Bullpen					
HCP	HashiCorp, Inc. Class A	FROG	JFrog Ltd.	SNOW	Snowflake, Inc. Class A
TWLO	Twilio, Inc. Class A	PATH	UiPath, Inc. Class A	DOCU	DocuSign, Inc.
AMPL	Amplitude Inc Class A	ESTC	Elastic NV	CRM	Salesforce, Inc.
CFLT	Confluent Inc Class A	SPT	Sprout Social, Inc. Class A	CXM	Sprinklr, Inc. Class A
WDAY	Workday, Inc. Class A	HUBS	HubSpot, Inc.	ADBE	Adobe Incorporated
NET	Cloudflare Inc Class A	MDB	MongoDB, Inc. Class A	TEAM	Atlassian Corp Class A
DUOL	Duolingo, Inc. Class A	FSLY	Fastly, Inc. Class A	IBM	International Business Machines Corporation
OKTA	Okta, Inc. Class A	DDOG	Datadog Inc Class A	DT	Dynatrace, Inc.
KVYO	Klaviyo, Inc. Class A	CRWD	CrowdStrike Holdings, Inc. Class A	ZI	ZoomInfo Technologies Inc

Market cap data as of 12/13/2023

Sentiment score as of 12/13/2023

*Hedgeye Software Sentiment Score is a stock's relative percentile rank within its own sub-sector, calculated by factoring the stock's short interest, sell-side ranking, relative forward earnings multiple to the S&P 500 over a rolling 12-mo basis and relative performance to S&P 500 over a 90-day period. A Sentiment Score of 1 represents high short interest, negative sell side rating, relative underperformance and multiple compression. A Sentiment Score of 100 represents low short interest, positive sell side rating, relative outperformance and multiple expansion.

Disclaimer: Hedgeye's "bench" represents Hedgeye's outlook on companies currently under Hedgeye's review, or for which timing is not right for greater coverage. Hedgeye may or may not provide further commentary on any or all companies represented on the bench and representation of a company on the bench does not forecast whether Hedgeye will or will not issue any additional material on that company

Hedgeye Software Ticker Touchpoints

Position Monitor Changes

HashiCorp (HCP)	ServiceNow (NOW)	Twilio (TWLO)	Oracle (ORCL)
Position Change	**Position Change**	**Position Change**	**Position Change**

HashiCorp (HCP)

Position Change

Former HedgeyeTech Best Idea Long ->

Moving to the Bullpen

While we can see the long-term opportunity in "infrastructure as code," the product-market fit isn't there today & we don't have a catalyst to drive accelerated adoption over the intermediate term.

HCP's recently reported quarter flashed some signs that the company's adoption curve is regaining steam, but this was offset by lower $s per contract (which is in part a function of HCP having to compete with their own free open source). The s-t bear case is still stronger, and many HCP KPIs deteriorated while the rest of tech improved.

3QCY23(FY24) Earnings

- Big deceleration in RPO. RPO typically up 13% sequentially in Q3, was -1% this q.
- RPO billings -23% Y/Y.
- NTM RPO billings only +3% Y/Y.
- Revenue decel. License rev neg y/y for first time.
- Billings miss. And grew only 6% y/y.
- Rev guide only in-line. Guiding for 10% growth means will be low-teens likely to exit the year. Bad implication given comp gets 10 pts easier. Would have seemed unlikely they guide below that for 2024CY but NTM RPO billings +3% leaves that option open.
- Flashed a FCF positive q.

ServiceNow (NOW)

Position Change

Former HedgeyeTech Best Idea Short ->

Moving to the Short Bench

ServiceNow is a current focus of ours. The landing zone is saturated and ServiceNow has been adding fewer and fewer customers each year since 2019; and was already 50% penetrated among the G2k at the end of 2018 (>85% F500).

However, a lack of direct competitors, a sticky product (ITSM), and a successful upsell strategy (CSM, HRSM) have supported a long history of >20% organic growth (> 120% net expansion rates).

The stock screens as a consensus long on our Hedgeye Sentiment Monitor, which is understandable given strong profitability/FCF generation (> 25% margin) and accelerating cRPO growth LTM.

Our initial primary research suggests high levels of technical debt among the older cohorts and a limited ability to grow ACV – which already stands at $4.4M as of 4Q23.

Ultimately we question the company's ability to sustain > 20% billings growth long-term (skeptical of AI upsell) and at 56x 2024 P/E any deceleration in RPO billings is likely to be a problem for the stock (tougher comps 2H23).

We are working on a project/analysis that allows us to better model/track customer and product adoption. The outcome of this will determine what we do next. Stay tuned!

Twilio (TWLO)

Position Change

Former HedgeyeTech Bench Long ->

Moving to the Bullpen

The company is being pressured by activist investors to sell its data and analytics business. Twilio pivoted to data and analytics in response to the structural challenges facing its core communications business (~90% of revenue).

In addition to SMS facing challenges from 2FA and spam messaging, business-to-consumer messaging is increasingly shifting to major internet platforms – for example, Meta now offering tools to businesses to reach and engage consumers directly through Messenger and WhatsApp, a competitive threat to both the core and also the data/analytics business. Meanwhile, the head of Twilio's data and analytics business just left after less than a year in the seat.

Given these structural and competitive concerns, if the activist angle or takeout falls flat – the long case comes down to cyclical dynamics, and timing what will likely be a ROC acceleration in the core going into 2024 in part due to the political cycle (which is less exciting to us).

Meanwhile, we don't view TWLO as being a "good business" – fundamentally speaking.

Oracle (ORCL)

Position Change

Adding to the Short Bench (NEW)

I (Freedman) covered HealthcareIT from 2014 – 2019. One of our more successful calls was short CERN based on a saturated EHR market post-government stimulus and increased competition from Epic Systems.

While I have some catching up to do, I suspect many of the challenges facing Cerner today are the same (if not more pronounced). Which over time, will weigh on Oracle's organic growth rate and make the $28B look expensive.

Meanwhile, market share losses to Hyperscalers and niche players like MongoDB and Snowflake could pose a challenge to Oracle's F26 revenue goals that rely heavily on cloud adoption.

Among the big cap tech "bucket", ORCL screens as a consensus short.

Software Buckets

Looking For Hidden Gems And Broken Models

HEDGEYE

Key Software Buckets

Big Cap Tech	Security, Networking, Compute Software	Analytics	Infrastructure Software	Business Process Software	Collaboration / Work Management	E-commerce, Internet Infrastructure
Microsoft (MSFT)	Cloudflare (NET)	Amplitude (AMPL)	Mongodb (MDB)	Appian (APPN)	Asana (ASAN)	Verisign (VRSN)
IBM (IBM)	Fastly (FSLY)	Alteryx (AYX)	Confluent (CFLT)	ServiceNow (NOW)	Box (BOX)	Klaviyo (KVYO)
Adobe (ADBE)	DigitalOcean (DOCN)	Domo (DOMO)	Teradata (TDC)	UiPath (PATH)	Dropbox (DBX)	Fiverr (FVRR)
SAP (SAP)	Juniper (JNPR)	Micro Strategy (MSTR)	Couchbase (BASE)	Pegasystems (PEGA)	Gitlab (GTLB)	Upwork (UPWK)
Salesforce (CRM)	Rackspace (RXT)	Palantir (PLTR)	Elastic NV (ESTC)	Progress (PRGS)	Monday.com (MNDY)	BigCommerce (BIGC)
ServiceNow (NOW)	Backblaze (BLZE)	C3.ai (AI)	Nutanix (NTNX)	Walkme (WKME)	Smartsheet (SMAR)	Shopify (SHOP)
Oracle (ORCL)			Vmware (VMW)	DocuSign (DOCU)	Atlassian (TEAM)	MercadoLibre (MELI)
			Oracle (ORCL)		Upland (UPLD)	SPS Commerce (SPSC)
			HashiCorp (HCP)			Manhattan Associates (MANH)
			Informatica (INFA)			Squarespace (SQSP)
			Snowflake (SNOW)			VTEX (VTEX)
						Wix.com (WIX)
						Global-E (GLBE)

Additional Areas Of Exploration

Observability & IT Management - SWI, SPLK, DDOG, DT, NEWR, NTCT, PD

Traditional Security - CHKP, CRWD, CYBR, FTNT, OKTA, PANW, QLYS, TENB, RPD, S, VRNS, ZS, CVLT

CRM, Customer Service, Marketing Tech – CRM, CXM, NOW, FRSH, HUBS, LPSN, SPT, VRNT, BRZE

Communication Services - ZM, BAND, FIVN, ONTF, RNG, TWLO, EGHT, NICE, SINCH

Education - COUR, UDMY, DUOL, TWOU, CHGG

Data Product Companies - SEMR, SMWB, ZI, DNB, FDS, IT, TTGT

Industrial / Engineering Software - ADSK, ANSS, CDNS, PTC, SNPS, AZPN, TRMB, DSY-FR

HR, Payroll - ADP, CDAY, PAYC, PAYX, PCTY, WDAY, PYCR

Banking & Payments Software - ALKT, BL, INTU, NCNO, PRO, BILL, QTWO, SSNC, VERX, WK, ZUO, STNE, INTA, AVDX

Average Revenue & Growth Rate By Bucket

Big Cap Tech, Communication Services, & Data Products Are The Underperformers.

Average Revenue Growth

■ CY2023 Average Revenue   ■ YoY Revenue Growth
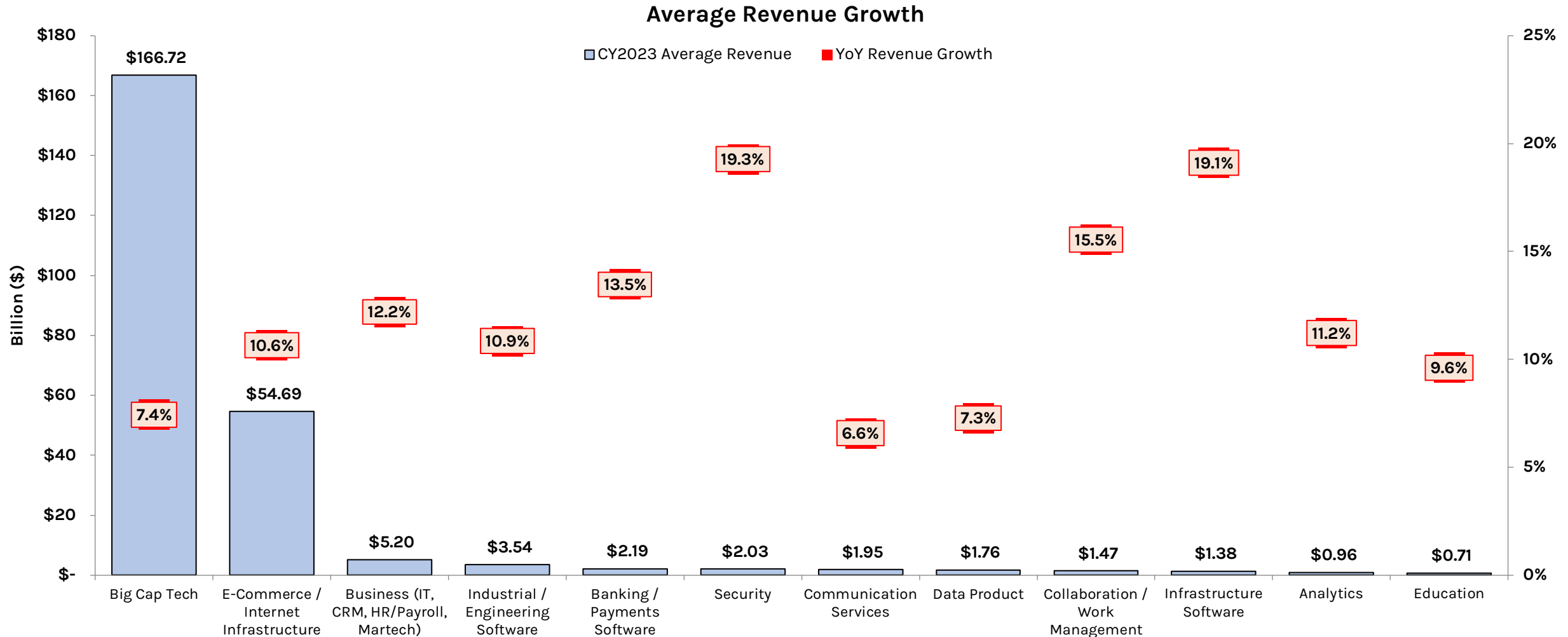
Method: Using the buckets (refer to sentiment score slide for the breakdown of buckets), we aggregated CY2022 revenue and CY2023 street estimated revenue.

Big Cap Software

Large Cap Software Overview

Large Cap Technology

Sub-Sector Description
- Large cap tech with some product overlap but mostly unique swim lanes.
- MSFT: All-inclusive enterprise and consumer tech. 3 segments (% excluding ATVI): 1) Productivity and business processes (33%): includes Office, LinkedIn, Dynamics; 2) Intelligent cloud (43%): includes mainly Azure and other cloud services, 3) More personal computing (24%): includes Windows, Devices, Xbox/Gaming, and search / advertising.
- ADBE: Creative, marketing, and document software. Creative cloud (60%) of the business includes photoshop, illustrator, firefly, and more. Experience cloud (25%) includes marketing and commerce software. Document cloud (14%) includes pdf and e-signature solutions.
- IBM: Software, hardware, infrastructure, & consulting company. Software (43%) includes hybrid platform + transaction processing. Infrastructure (22%) includes hardware. Consulting (34%) includes business transformation, tech consulting, and application operations.
- CRM: Provider of CRM, customer service, marketing, commerce, PaaS, and analytics solutions. Sales Cloud (23%), Service (25%), Platform (21%), Marketing + Commerce (15%), & Data (15%).
- SAP: Provider of ERP/HCM/CRM software and in transition from on premise to cloud.
- See Infrastructure and Business Process Management sections for ORCL & NOW respectively.

Sub-Sector Themes / Trends / Research Questions
- MSFT: Most important line item is direction of Azure growth and investors are increasingly focused on bps of contribution from AI offerings, incremental capex investments required to service AI products, and margin growth despite dilution from ATVI.
- MSFT: What portion of the base will adopt CoPilot AI? And what will be the productivity benefits?
- ADBE: Will Adobe's acquisition of Figma go through? And what is the growth trajectory of creative cloud if the acquisition is rejected?
- ADBE: Can the company be a leader in CDP given its synergies and marketing focus?
- CRM: Now that growth has seemingly troughed, how much more operating leverage can the company drive? And more importantly, outside of price increases and GenAI, which product areas will Salesforce focus on most going forward?
- SAP: Will SAP continue divesting assets or after the recent acquisition of LeanIX return to its M&A strategy?

Market Cap (Largest to Smallest)

Company	Market Cap (Billion)
MSFT	$2,757.8
ADBE	$285.7
ORCL	$284.6
CRM	$244.6
SAP	$194.7
IBM	$150.3

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)

Company	Score
MSFT	1
ORCL	10
IBM	20
AMZN	30
GOOGL	40
AAPL	50
META	60
CRM	70
ADBE	80
SAP	90
NOW	100
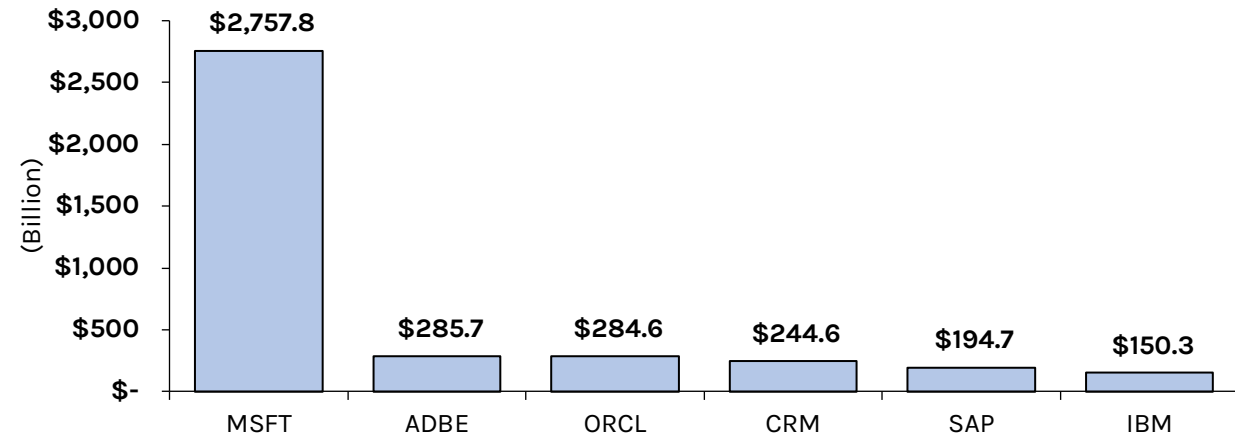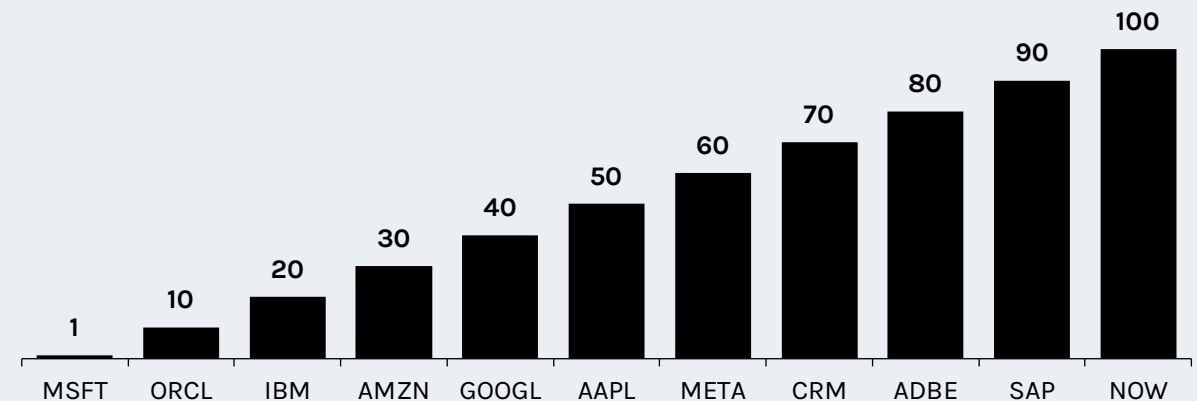
Subsector Market Cap

The Giants Move The Industry

Market Cap By Bucket

Big Cap Tech: $11.08
E-Commerce / Internet Infrastructure: $4.28
Business (IT, CRM, HR/Payroll, Martech): $1.08
Security: $0.34
Industrial / Engineering Software: $0.28
Banking / Payments Software: $0.22
Infrastructure Software: $0.14
Collaboration / Work Management: $0.10
Analytics: $0.08
Data Product: $0.07
Communication Services: $0.06
Education: $0.02
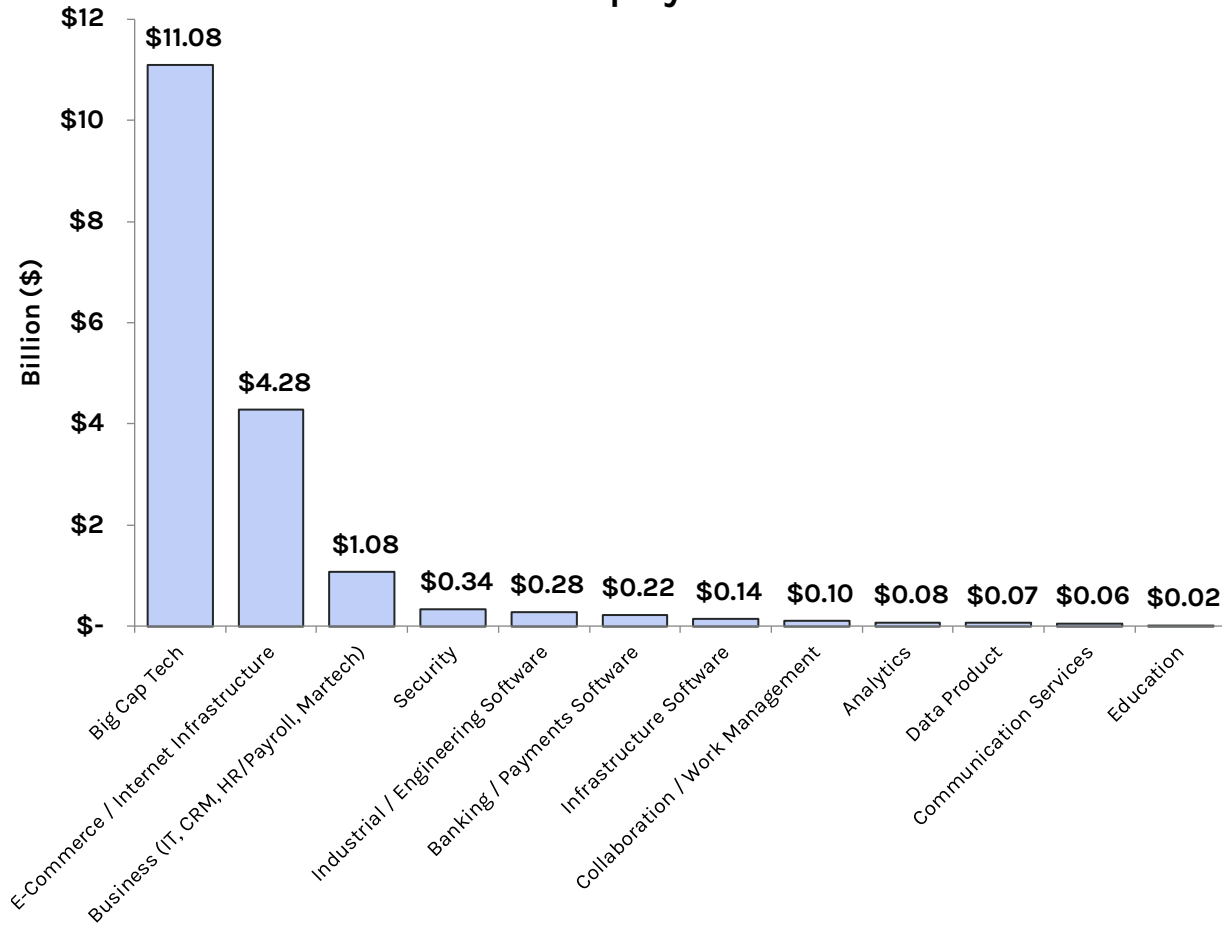
% Of Software Market (x-Big Tech)

- E-Commerce / Internet Infrastructure — 42.6%
- Business (IT, CRM, HR/Payroll, Martech) — 26.0%
- Security — 8.3%
- Industrial / Engineering Software — 6.7%
- Banking / Payments Software — 5.3%
- Infrastructure Software — 3.4%
- Collaboration / Work Management — 2.5%
- Analytics — 1.8%
- Data Product — 1.6%
- Communication Services — 1.4%
- Education — 0.4%
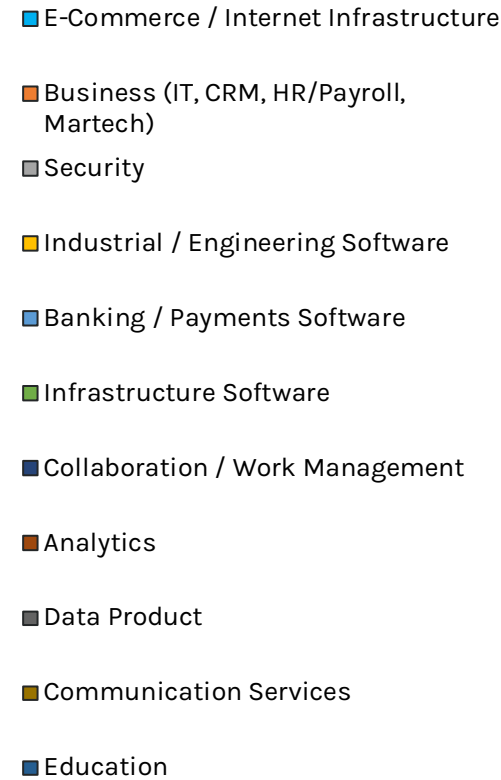
Software Industry RPO

$947B RPO 3Q23; Top 17 Companies Represent ~87% Of RPO -> MSFT/AMZN/GOOGL = ~44%
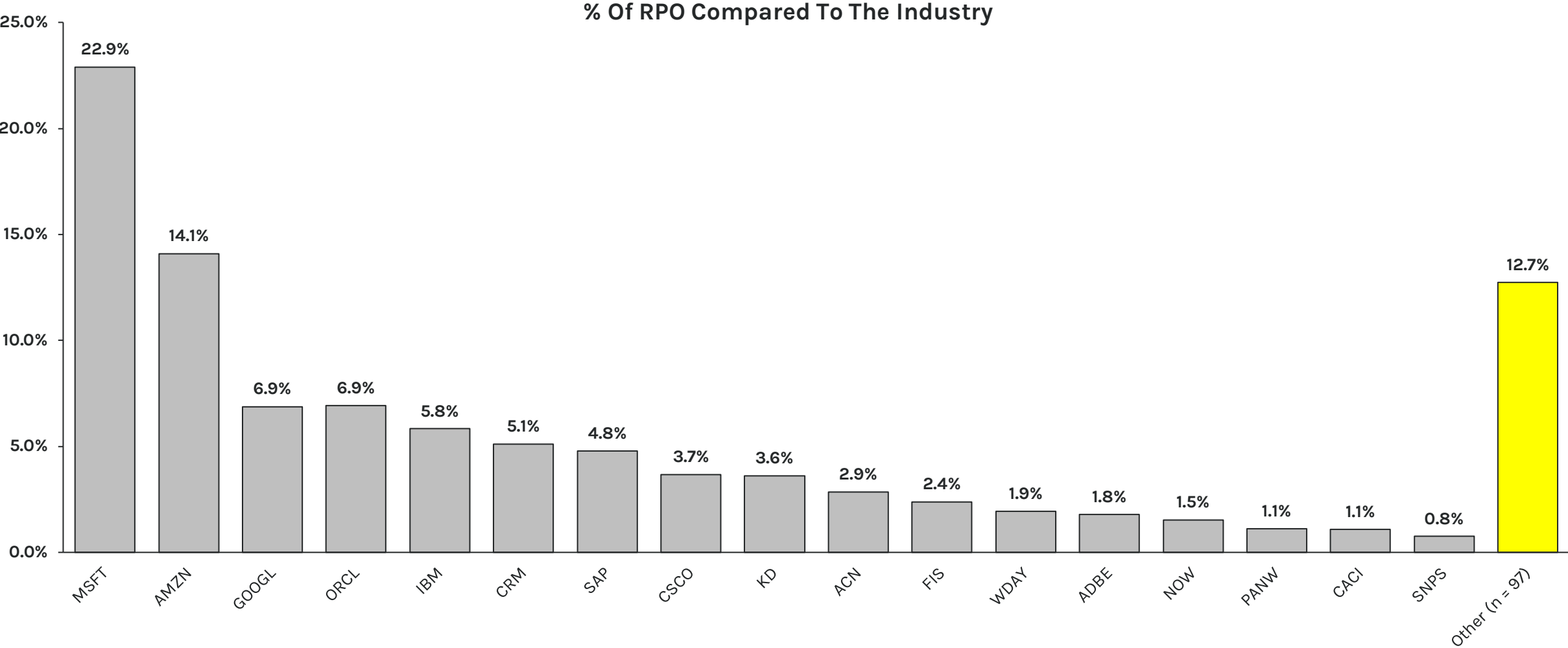
% Of RPO Compared To The Industry

Bar chart values:
- MSFT: 22.9%
- AMZN: 14.1%
- GOOGL: 6.9%
- ORCL: 6.9%
- IBM: 5.8%
- CRM: 5.1%
- SAP: 4.8%
- CSCO: 3.7%
- KD: 3.6%
- ACN: 2.9%
- FIS: 2.4%
- WDAY: 1.9%
- ADBE: 1.8%
- NOW: 1.5%
- PANW: 1.1%
- CACI: 1.1%
- SNPS: 0.8%
- Other (n = 97): 12.7%
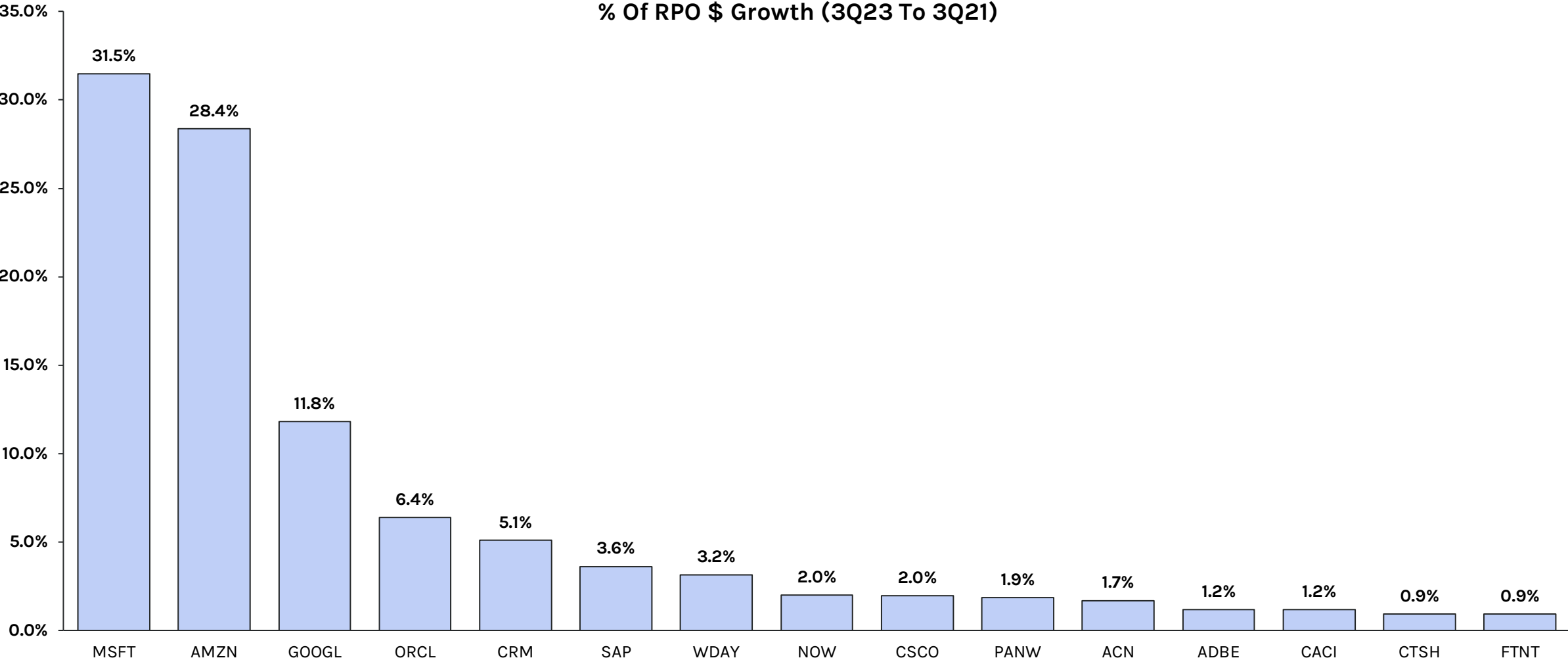
Tech Sector RPO and Growth

HEDGEYE

Market share accruing to the largest companies that offer benefits of scale...

Tech Sector RPO (106 Companies)

Legend: Total RPO | Total RPO x MSFT | Y-Y | Y-Y (x-MSFT)

YoY % RPO Breakdown

Legend: RPO Less Top 17 YoY % | Total RPO YoY % | RPO Less MSFT YoY % | MSFT RPO YoY %
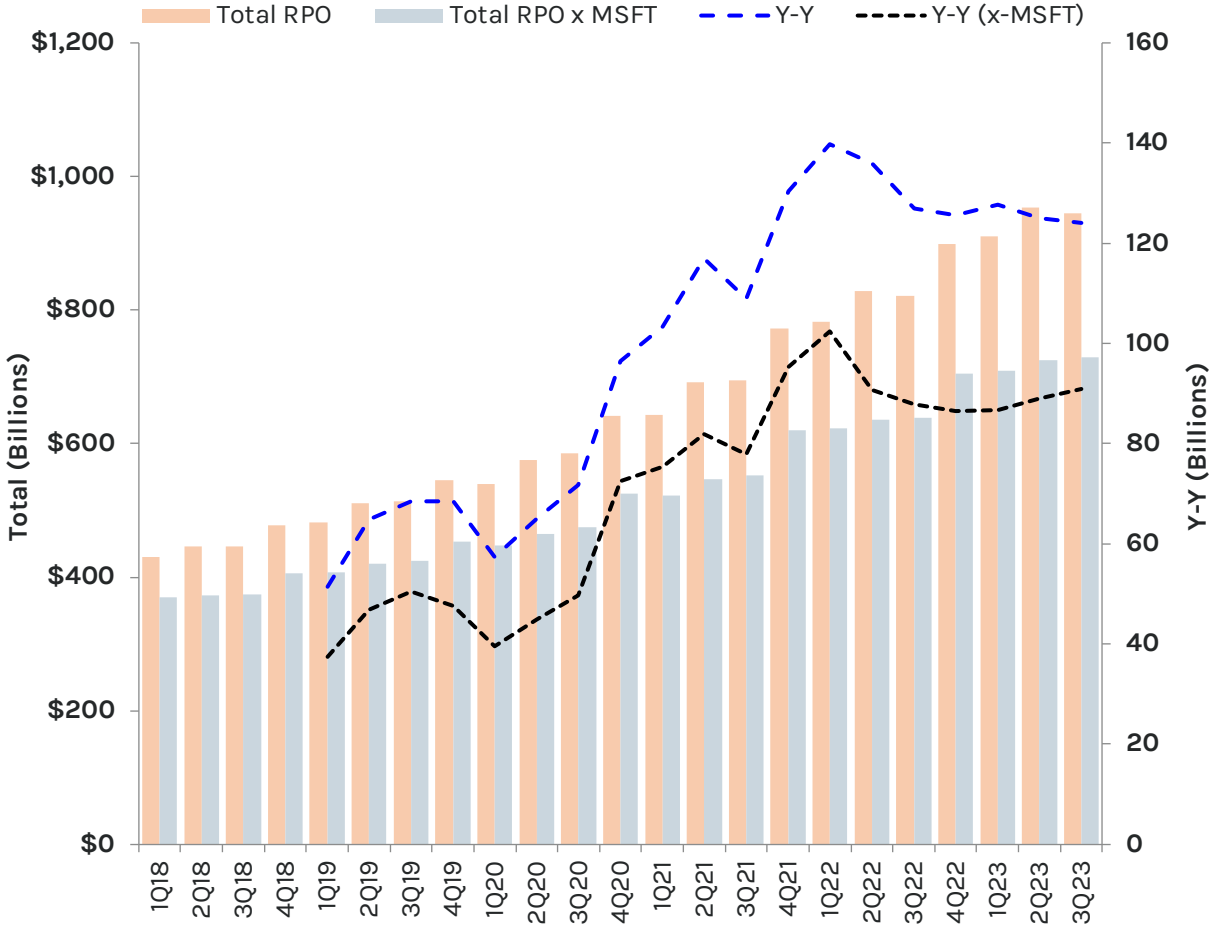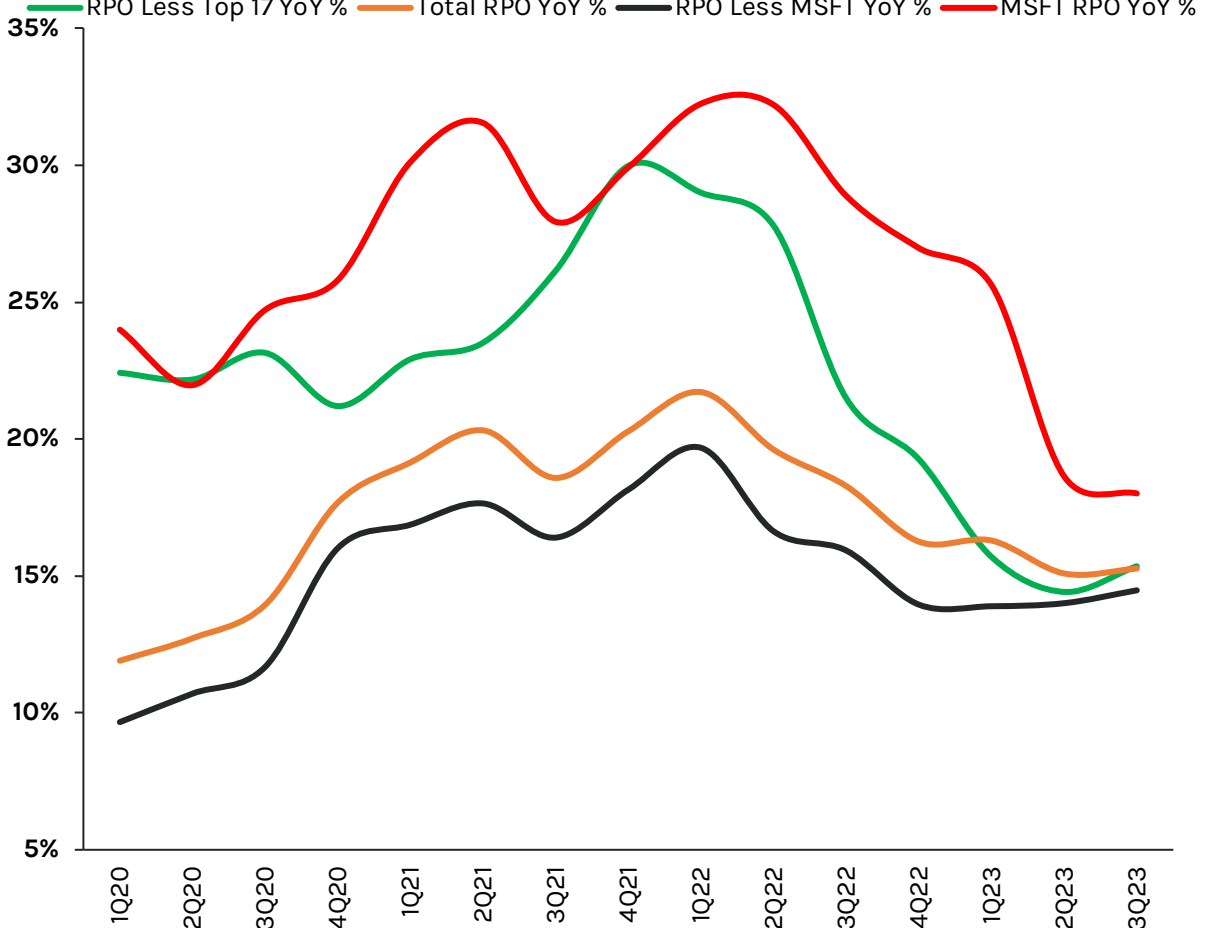
Revenue From The Big Three As It Relates To The Industry

Revenue Estimates For IaaS Against Street Estimates For Enterprise Tech
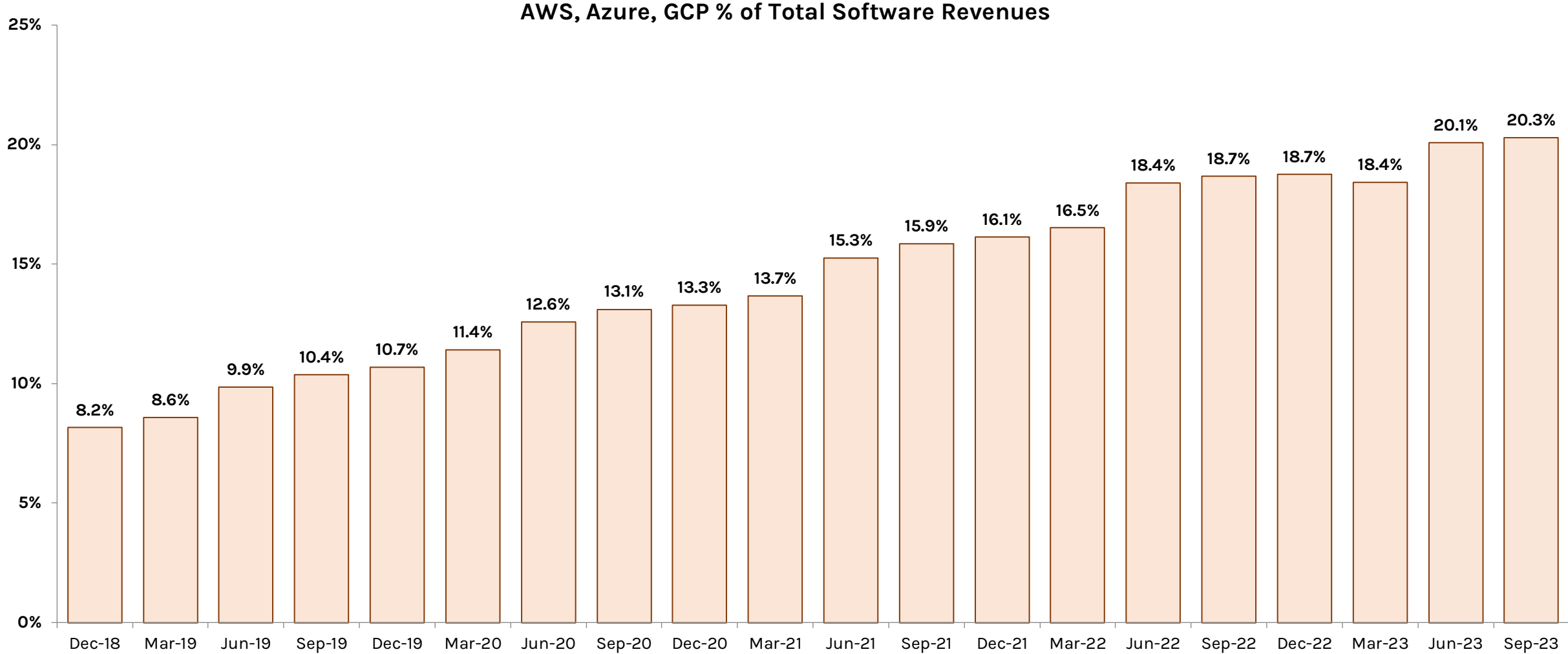
AWS, Azure, GCP % of Total Software Revenues

Date	Value
Dec-18	8.2%
Mar-19	8.6%
Jun-19	9.9%
Sep-19	10.4%
Dec-19	10.7%
Mar-20	11.4%
Jun-20	12.6%
Sep-20	13.1%
Dec-20	13.3%
Mar-21	13.7%
Jun-21	15.3%
Sep-21	15.9%
Dec-21	16.1%
Mar-22	16.5%
Jun-22	18.4%
Sep-22	18.7%
Dec-22	18.7%
Mar-23	18.4%
Jun-23	20.1%
Sep-23	20.3%
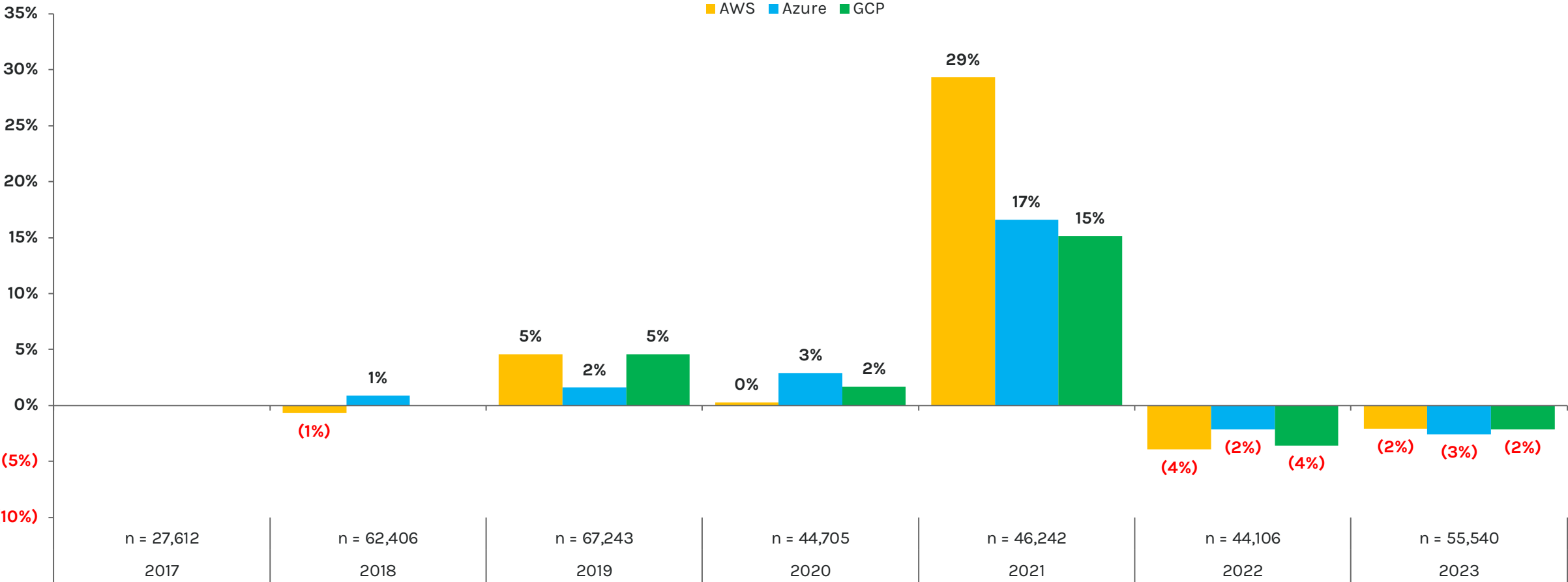
Short Term Demand For AWS, GCP, Microsoft

Professional Services Demand For Public Cloud Has Decelerated In 2H23

Short Term Professional Services Postings Mentioning IaaS Providers, WW

Y/Y%
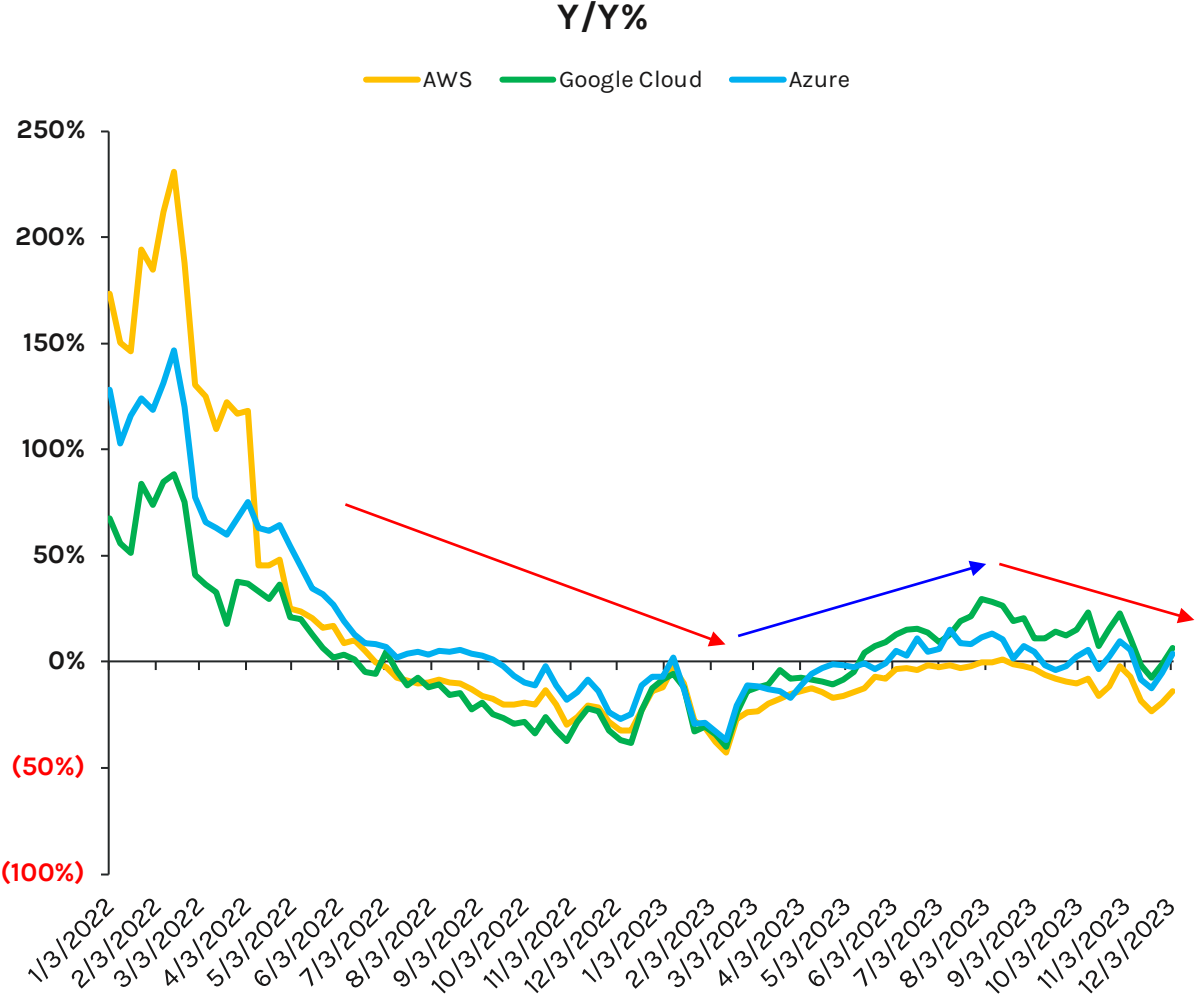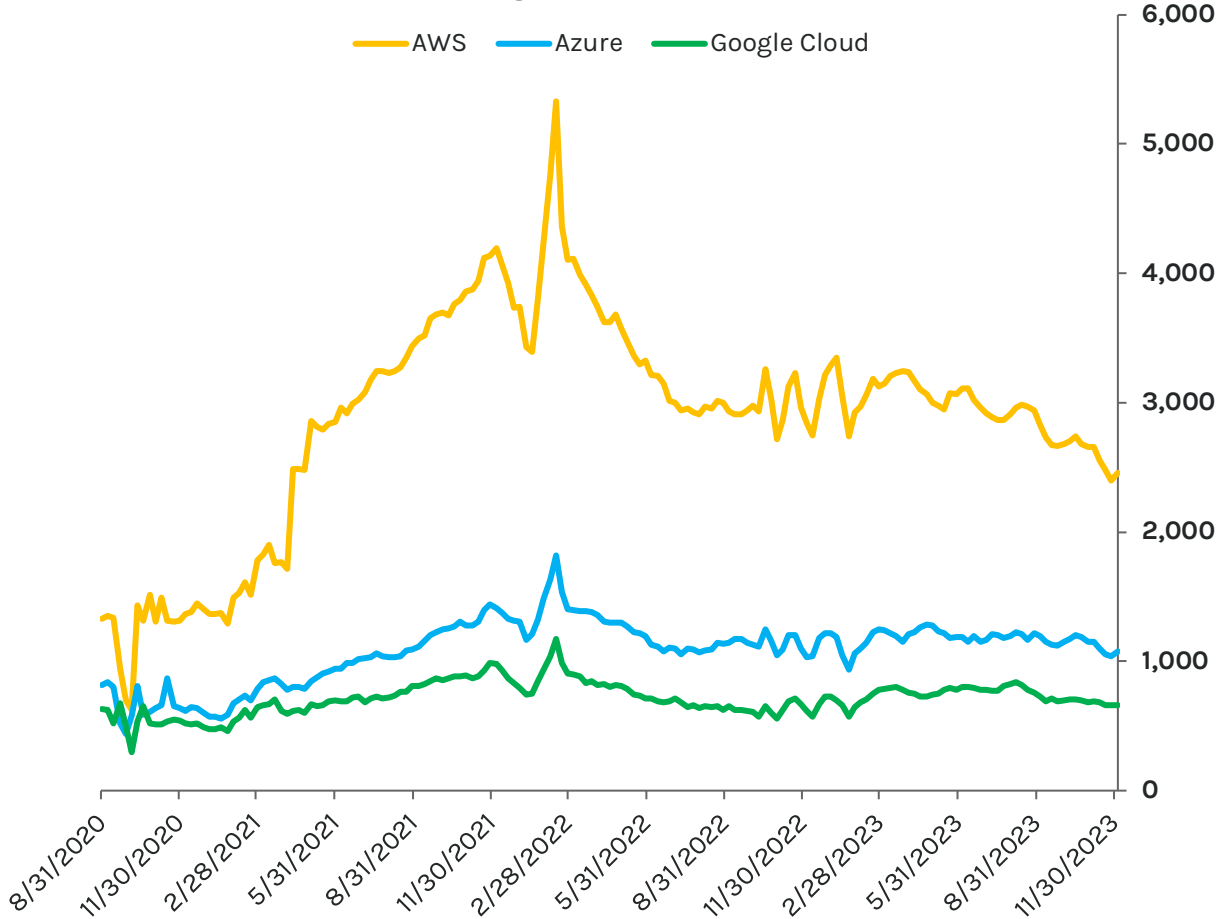
U.S. Job Postings

U.S. Job Postings Peaked In February Of 2022 & Have Been In Decline Since.

US Job Postings Index

- - - - Total Jobs   ——— Software Development
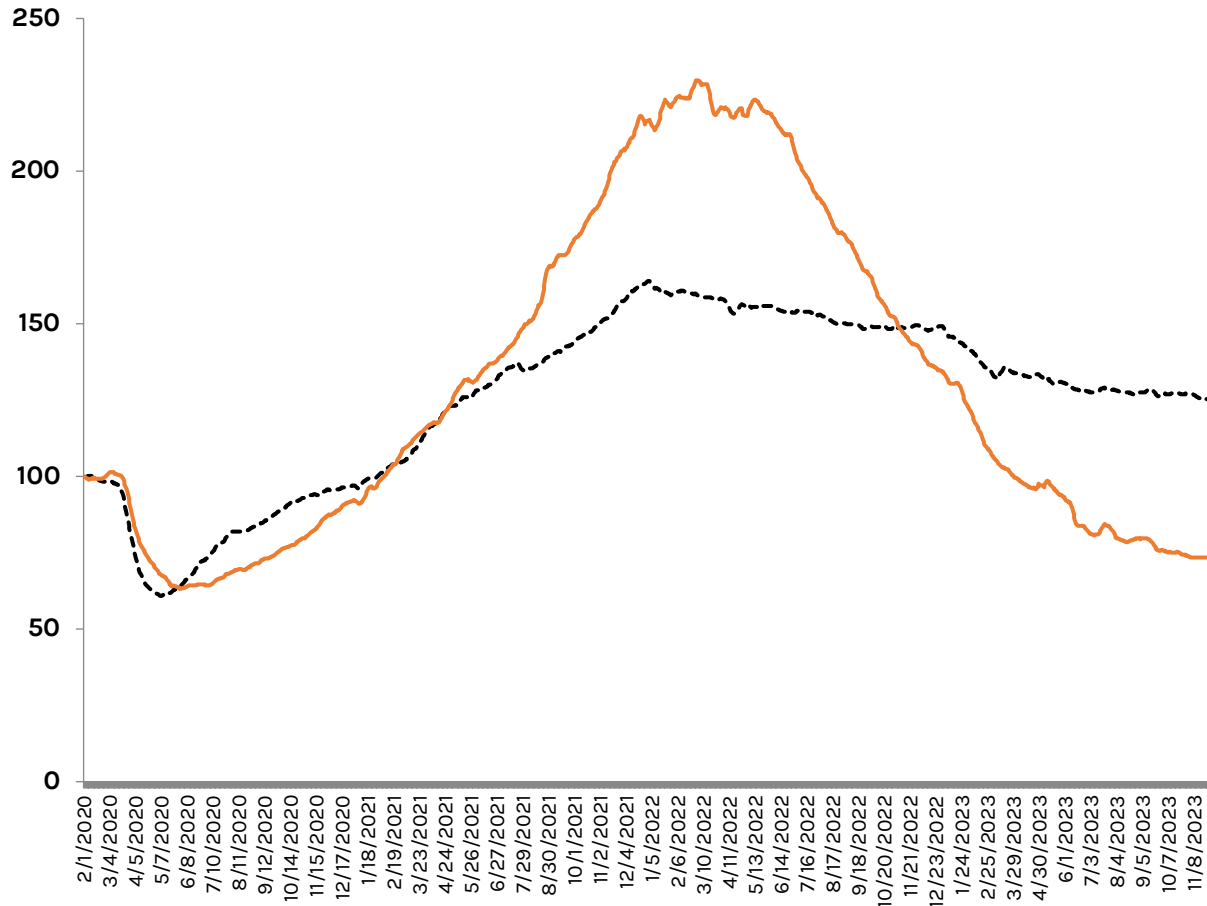
US Job Postings Index Y/Y %
(As of The End Of CY3Q23)

Category	Y/Y %
Software Development	-54.4%
Marketing	-36.9%
Human Resources	-36.5%
IT Operations and Helpdesk	-34.2%
Accounting	-24.6%
Project Management	-24.5%
Production and Manufacturing	-21.6%
Sales	-20.7%
Customer Service	-17.8%
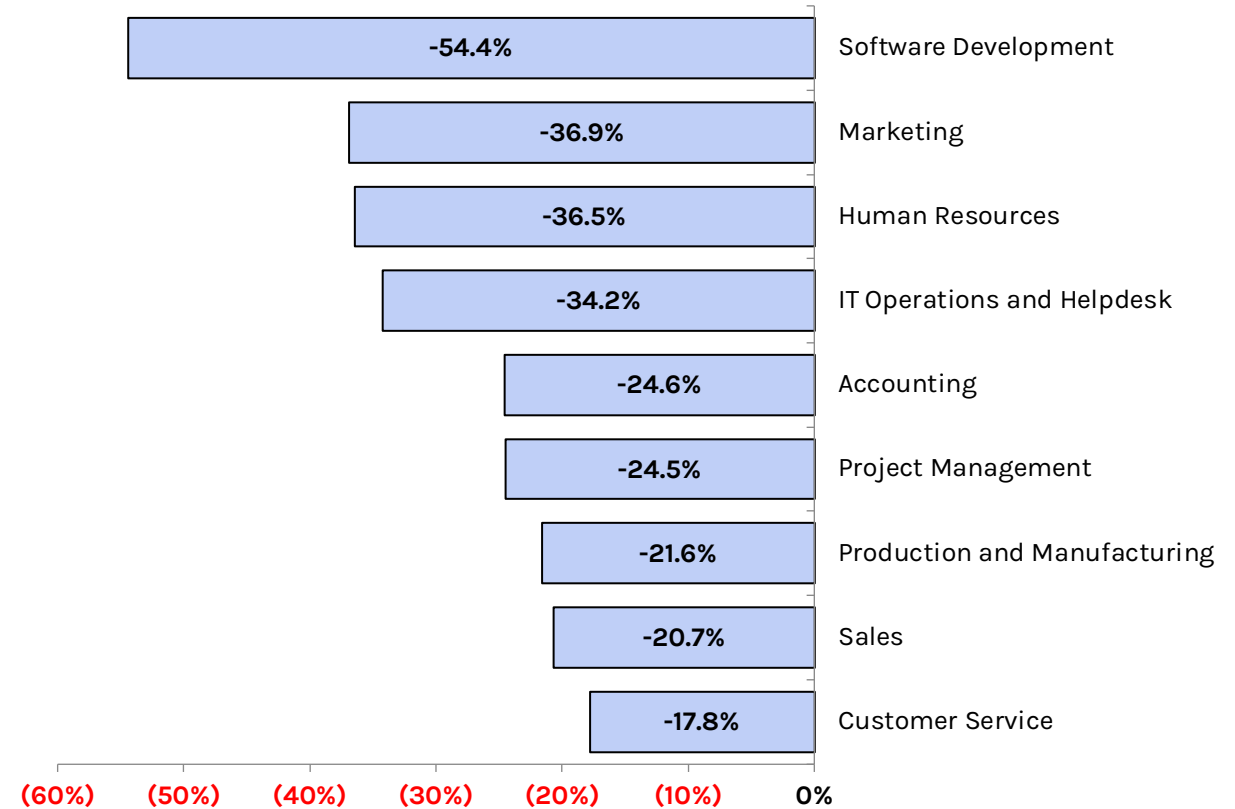
Microsoft Downloads By App

Microsoft Downloads Re-Accelerating

MSFT Downloads By App
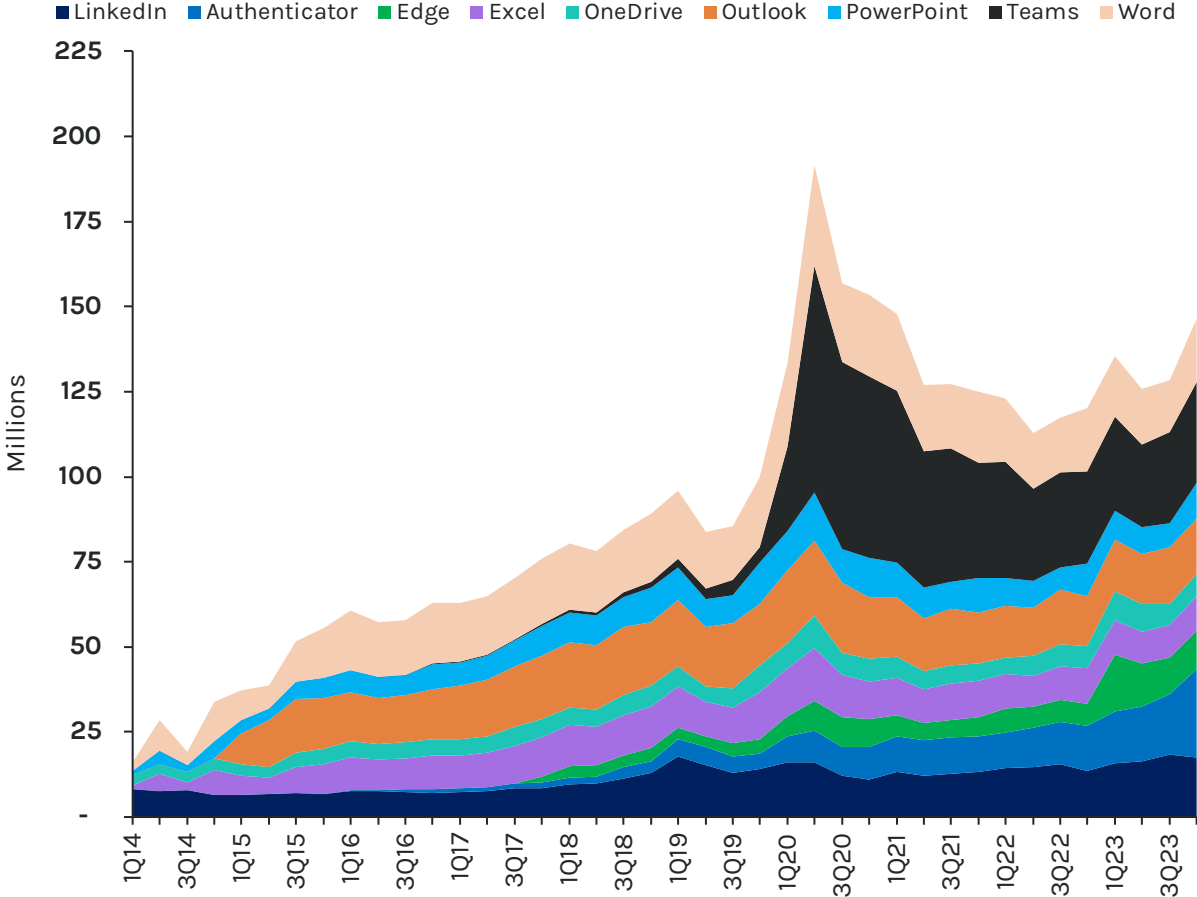
MSFT Downloads By App x-Teams
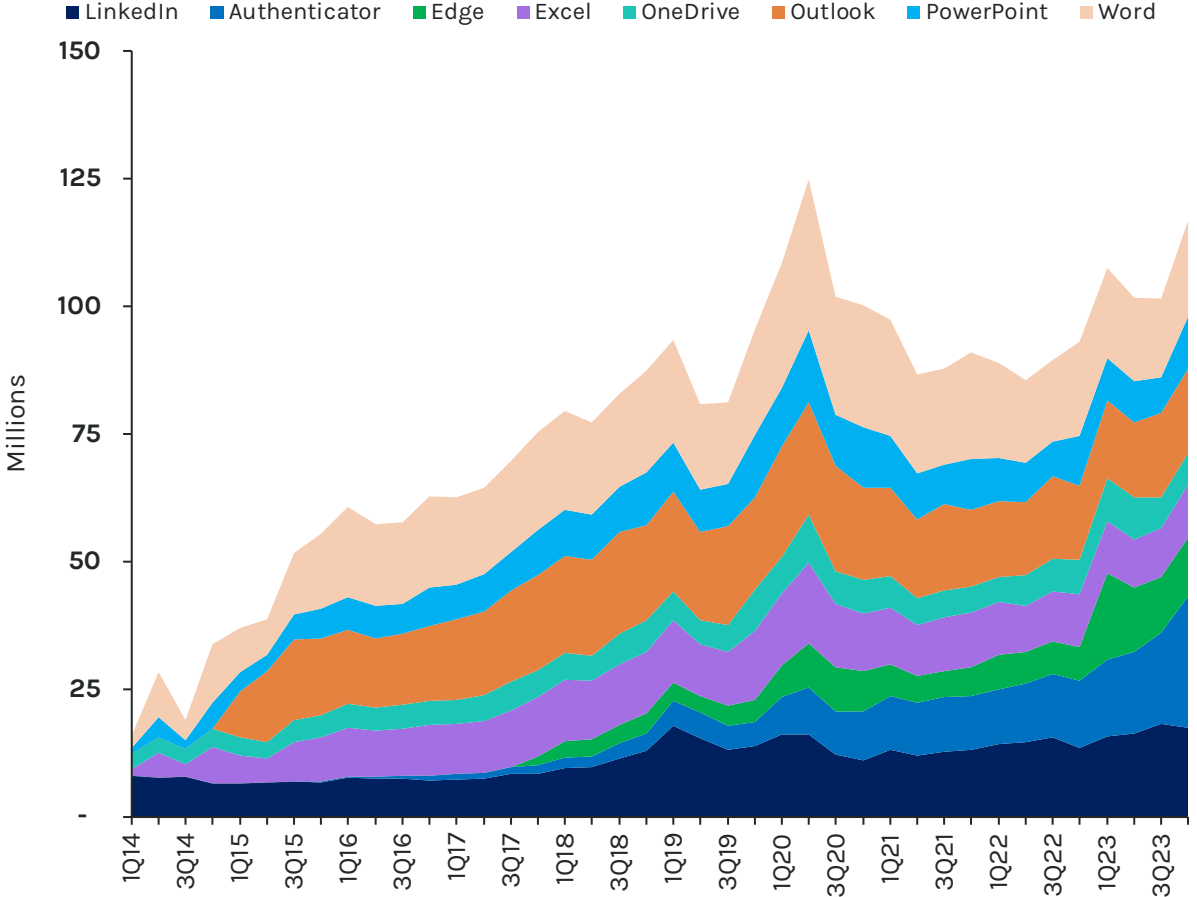
Microsoft Downloads By App

6 Out Of 9 Microsoft Apps Are Growing

YoY % Change (2022 vs. 2023E)
(2023E Based On Data Through 12/10/23)
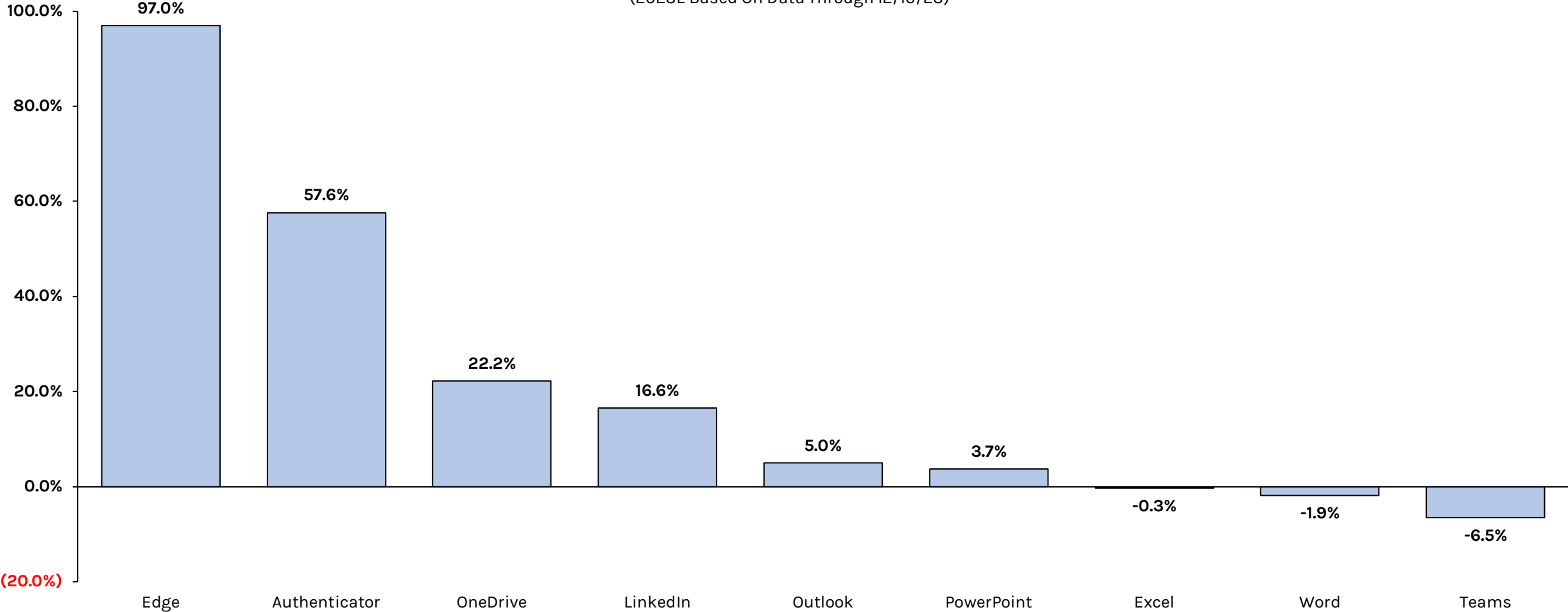
Software Current Look Pre-4Q23 EPS

Minimal Multiple Expansion Off The Trough

Y/Y % Total Enterprise Technology Revenue ($B) & Average NTM EV/S For Group

—— Actual & Street Revenue Y/Y %   —— Mean NTM EV/S (Forward Est. Based on Historical EV/S/G x-Outliers & Street Forward Growth Estimates)
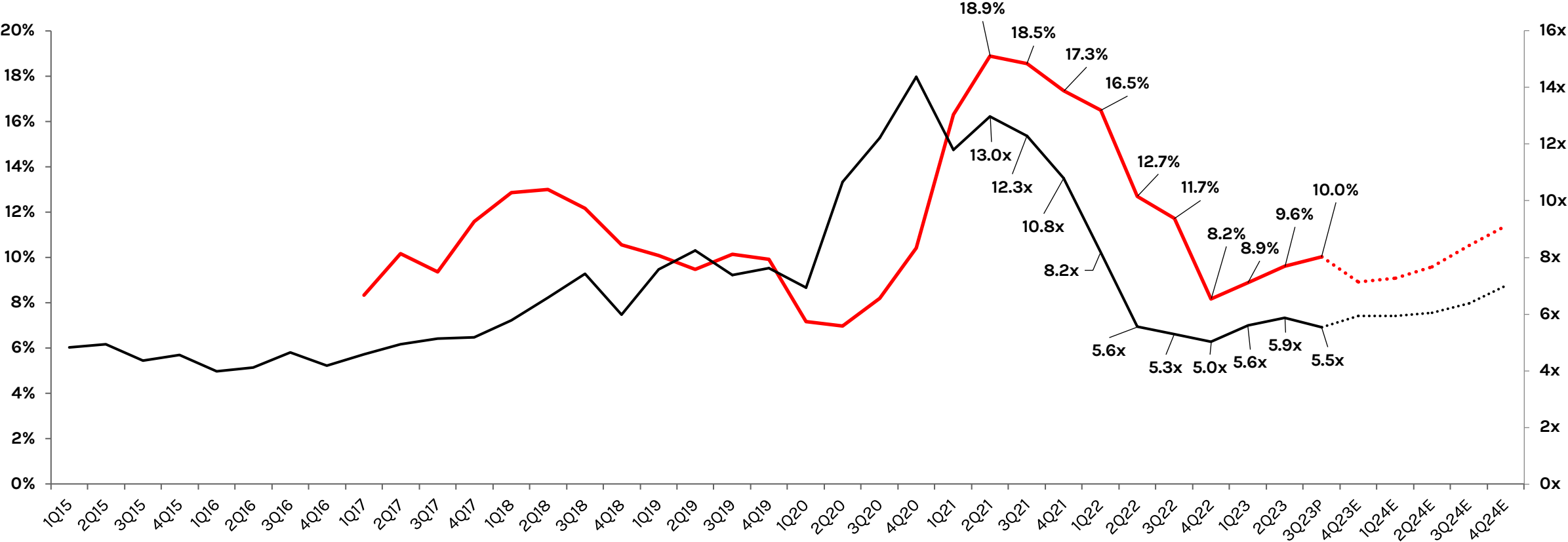
Software Revenue Growth Rate Vs. EV/Sales

Total Enterprise Technology Revenue Growth (NTM) Over EV/Sales (NTM)
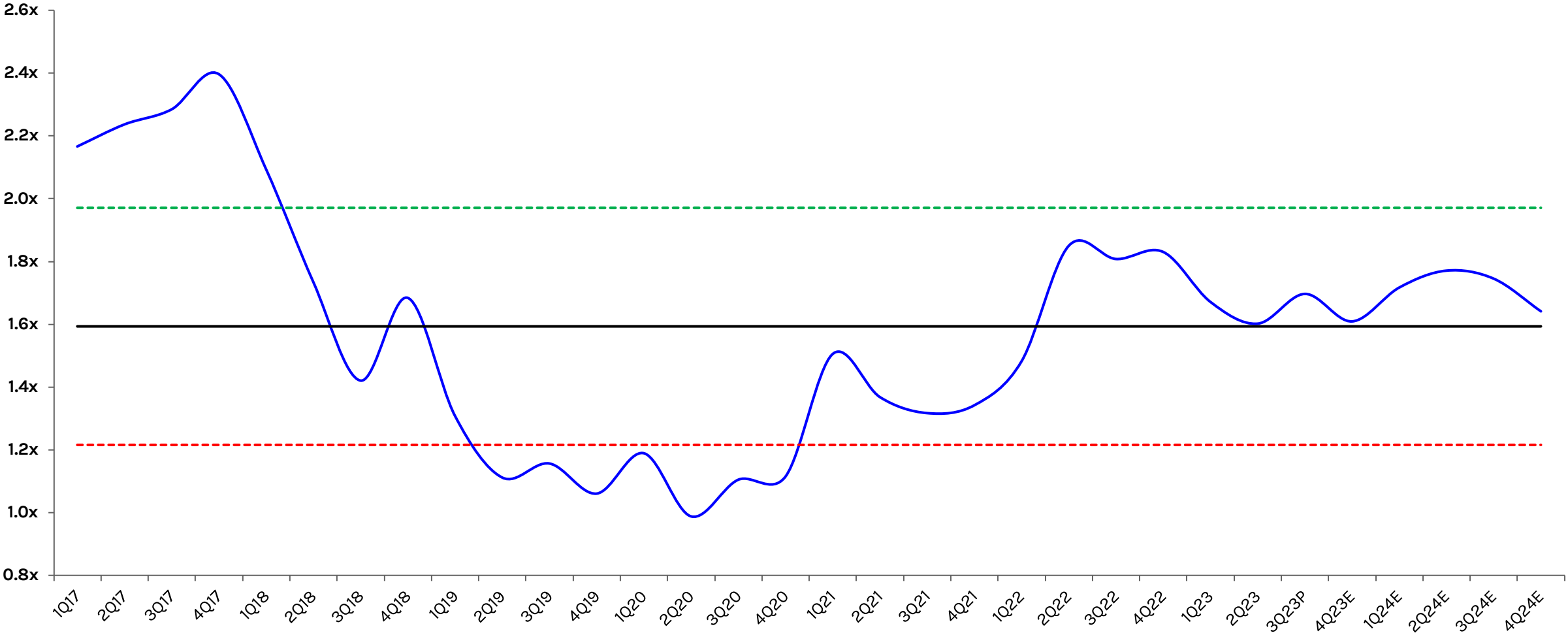
Software Companies EV/R & Revenue Growth

25%+ Growth In Software Is Becoming More Exclusive

Software Companies: EV/Sales & NTM Sales Growth % (12/4/23)
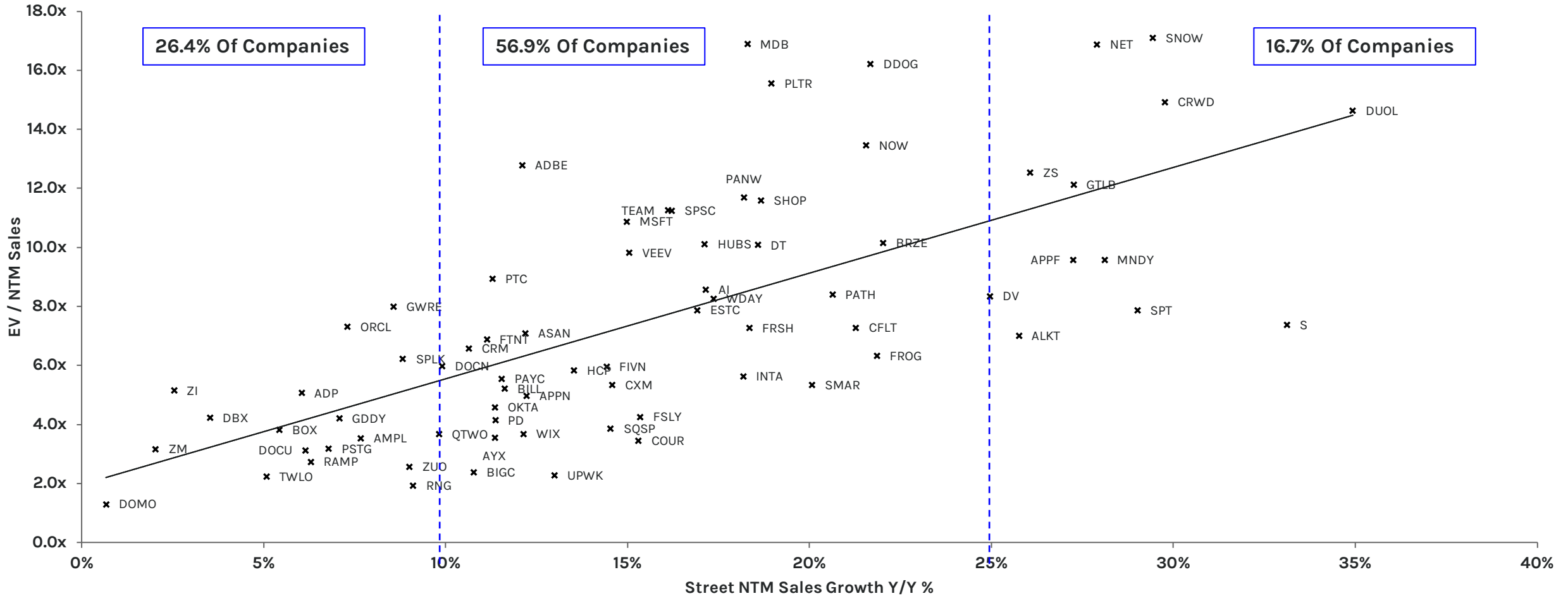
Software Companies EV To FCF & REV Growth

FCF More Important Than A Year Ago But Growth Still Priority Number 1

Software Companies: EV / NTM FCF & NTM R Growth % (12/5/23)
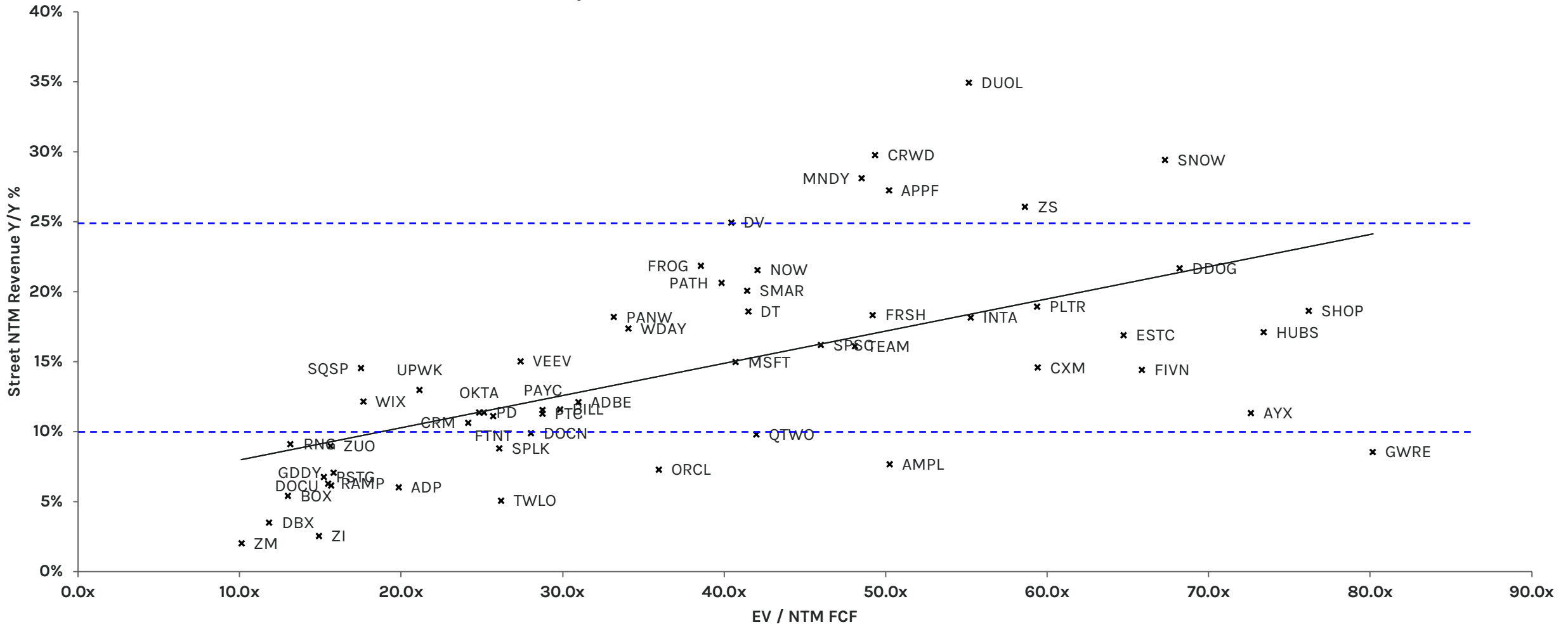
E-commerce & Internet Infrastructure

HEDGEYE

E-Commerce

Sub-Sector Description
- The e-commerce software ecosystem consists of several layers:
- VeriSign (VRSN) and GoDaddy (GDDY) sit at the internet infrastructure layer managing domain names and enabling companies to purchase them.
- Above the internet infrastructure providers sit the website builders which enable website design and creation, these include Wix (WIX) and Squarespace (SQSP).
- After the web builders are the e-commerce engines, which principally include Amazon (AMZN) and Shopify (SHOP), followed by small providers like BigCommerce (BIGC), and VTEX in LATAM.
- Finally, there are several point solutions which sit above e-comm like Klaviyo (KVYO) for email marketing and Global-e (GLBE) for cross-border selling.
- Adjacent to e-comm sits 1) SPS Commerce (SPSC) and Manhattan Associates (MANH) which provide EDI, inventory and warehouse management software for the B2B segment and 2) Upwork (UPWK) and Fiverr (FVRR) which enable rapid access to professional talent online.

Sub-Sector KPIs
- GMV, Merchants, Payments Penetration

Sub-Sector Themes / Trends / Research Questions
- Are there structural factors that will limit e-commerce penetration of total retail in the US?
- Who are the recent partnerships and where could new partnerships emerge?
- Global expansion strategies
- SHOP: is there any downside to the new BWP integration?
- SHOP: price increases vs churn
- SHOP: consequences and benefits of eliminating in-house logistics solution
- If email marketing (KVYO) and cross-border (GLBE) were big enough market opportunities, why wouldn't Shopify more aggressively push its own offerings in those spaces as opposed to these partnerships?

Market Cap (Largest to Smallest)

Ticker	Market Cap (Billion)
SHOP	$92.1
VRSN	$22.0
GDDY	$14.9
MANH	$13.7
KVYO	$8.0
SPSC	$6.8
WIX	$6.0
GLBE	$5.8
SQSP	$3.8
UPWK	$1.9
VTEX	$1.3
FVRR	$1.0
BIGC	$0.7

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)

Ticker	Score
UPWK	1
SQSP	6
FVRR	11
BIGC	17
GLBE	22
SHOP	28
TTD	33
VRSN	39
WIX	45
PINS	50
SNAP	56
SPSC	61
MANH	67
GDDY	72
OPRA	78
GOOGL	83
AMZN	89
META	95
VTEX	100
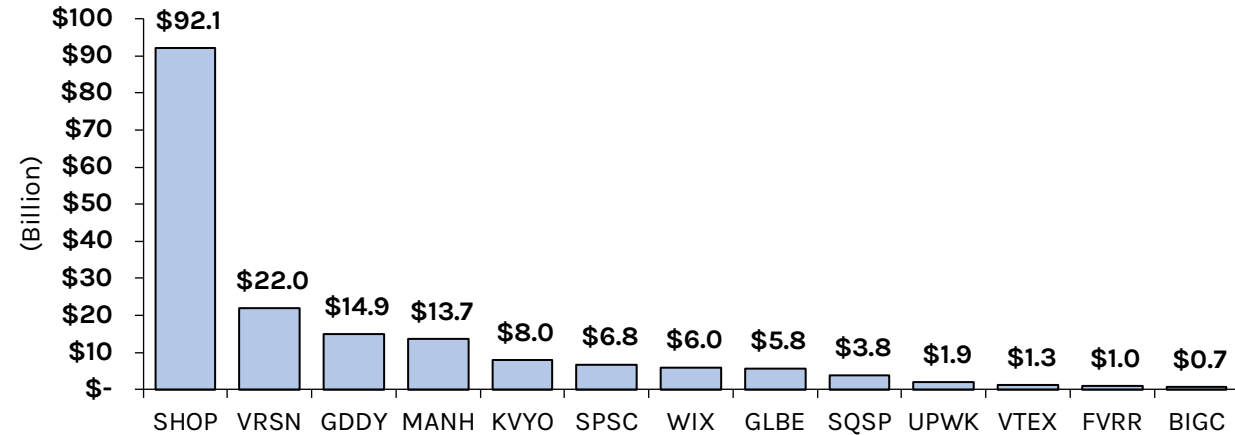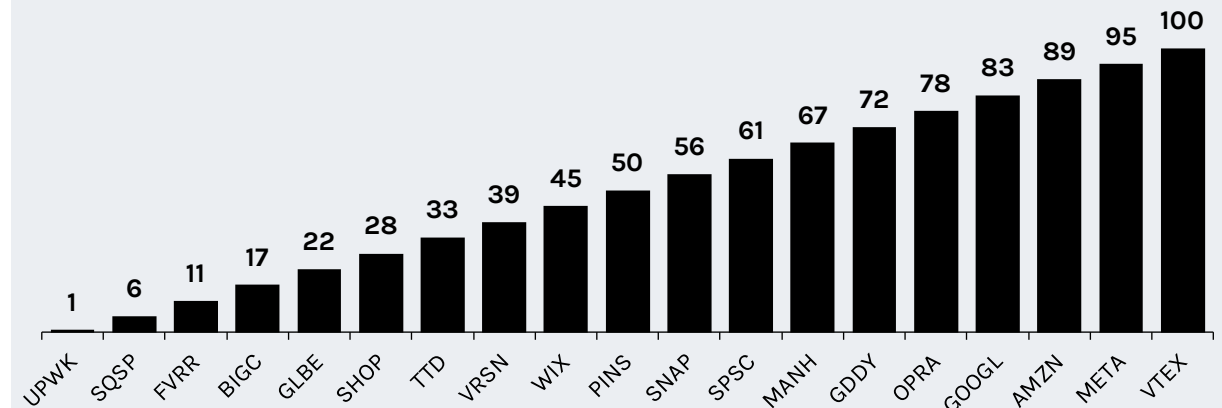
Key Players In E-Commerce & Internet Infrastructure

Market Cap (Largest to Smallest)
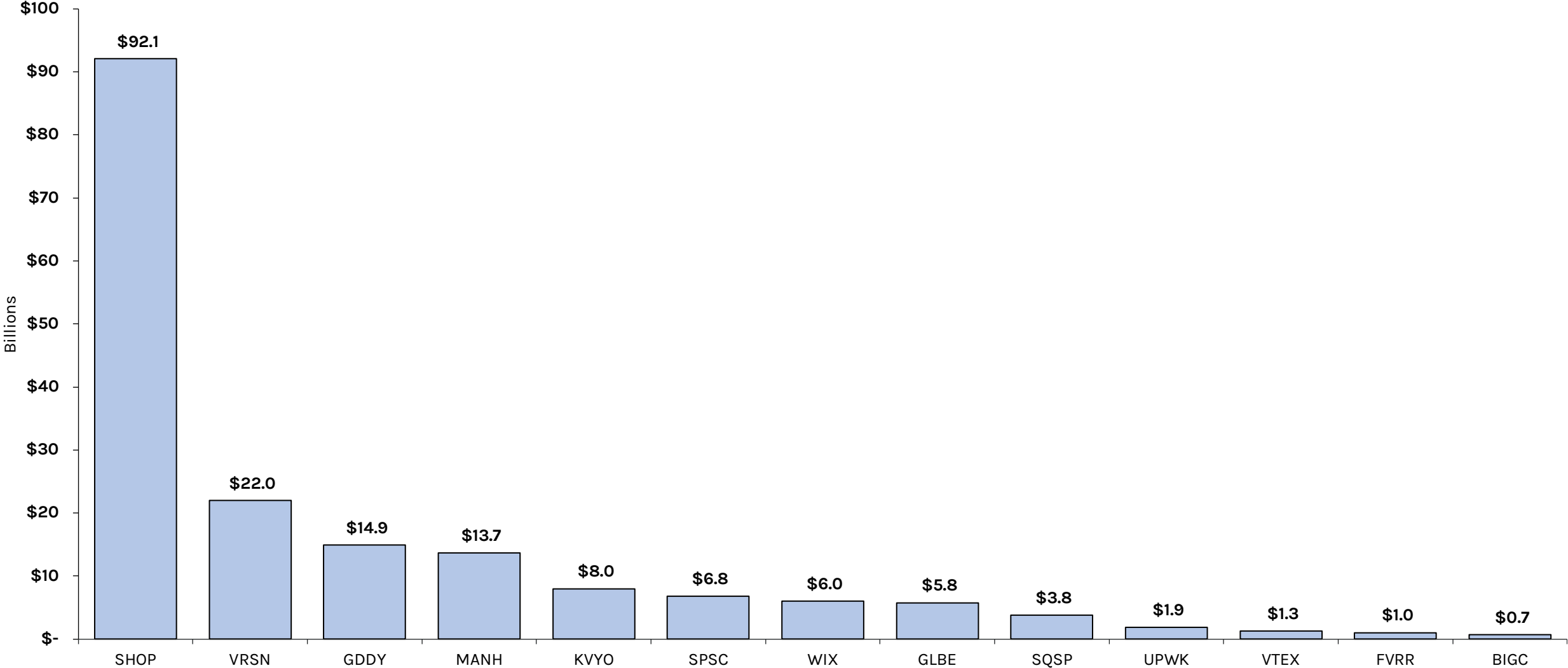
Online > Offline Since December 2021

© Hedgeye Risk Management LLC.
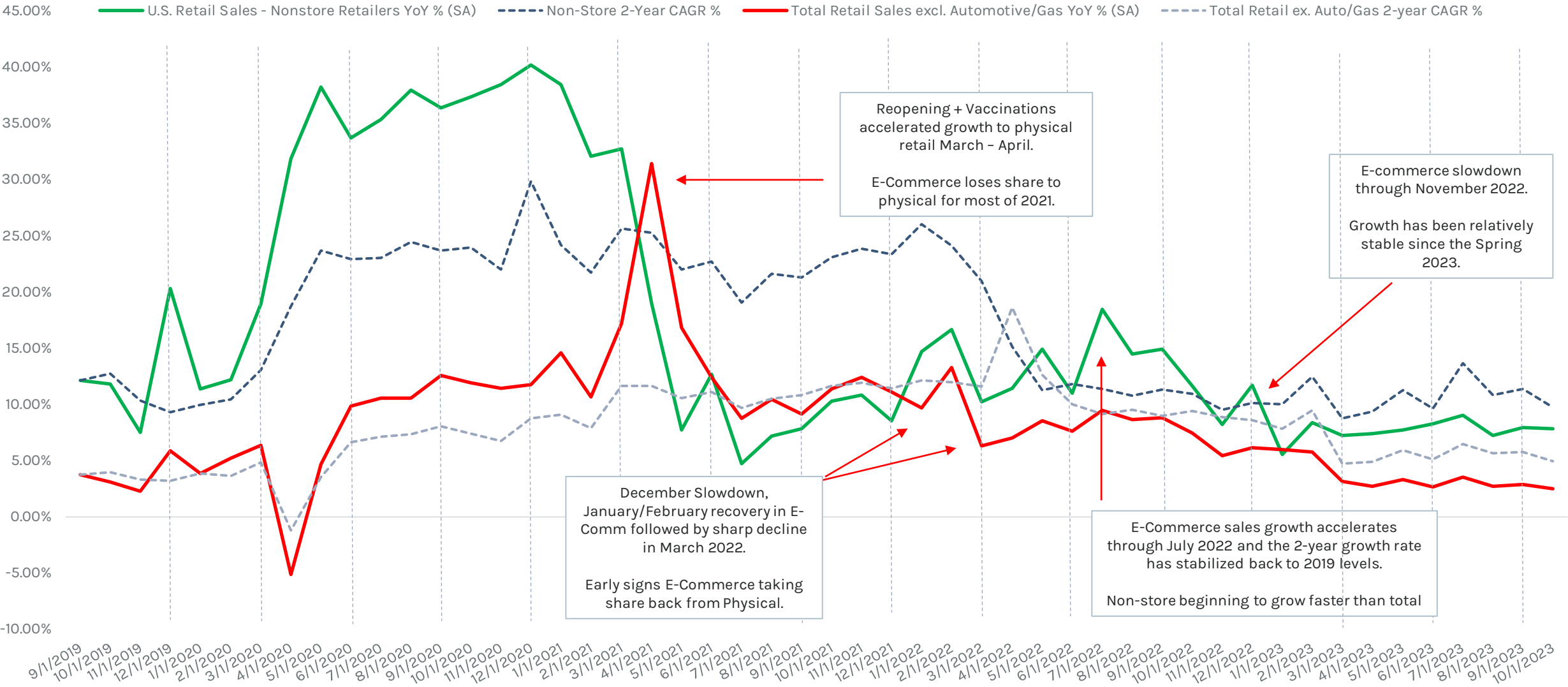
US E-commerce Penetration Peaking Soon?

HEDGEYE

Nonstore TTM Market Share (bps) — Nonstore Retailers % of Total Retail ex-Auto/Gas

Average +121 bps

Average +453 bps

Average -91 bps

Average +108 bps
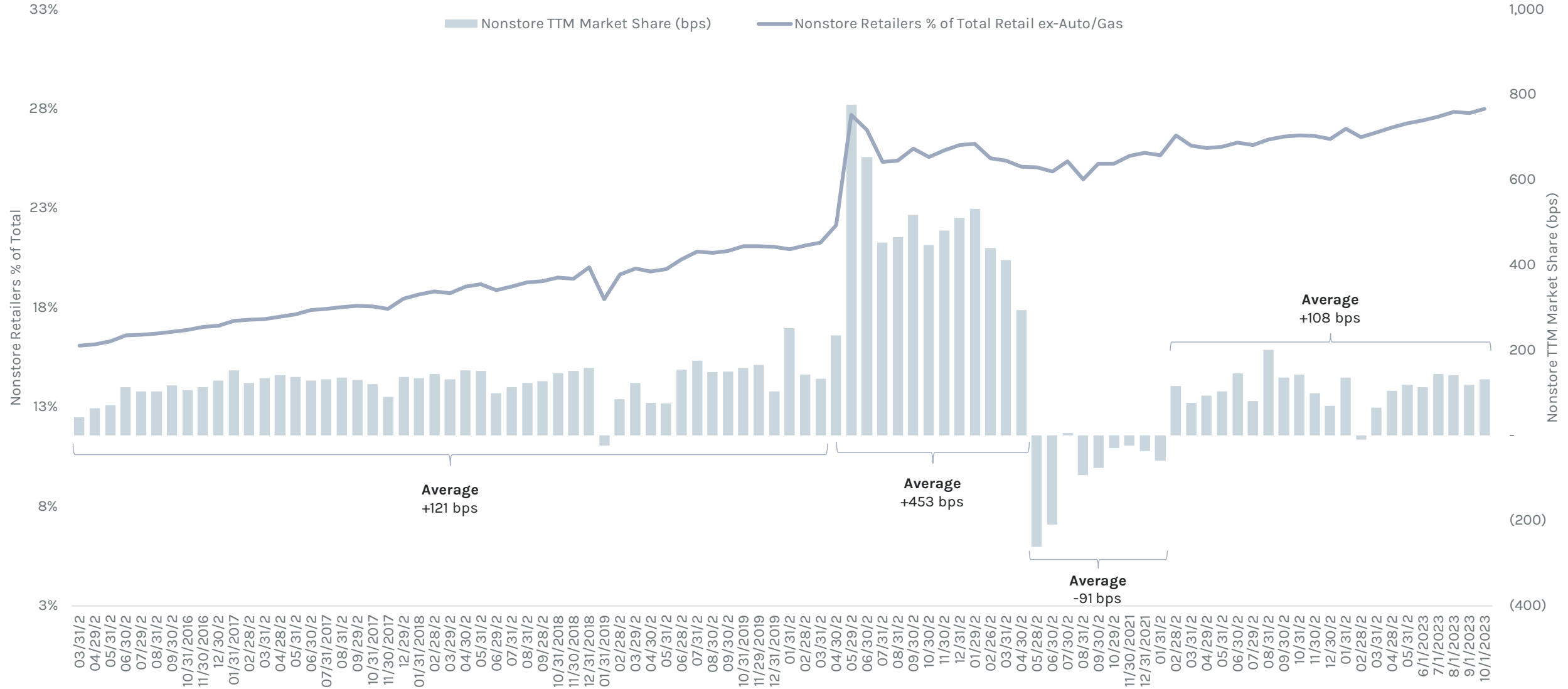
E-Commerce Growth vs. Digital Advertising

Welcome to the 'Ratchet' phase...

Legend:
- Total E-Commerce YoY % (AMZN, SHOP, W, ETSY, EBAY)
- META + GOOG (Search/Other) YoY %
- META: Advertising YoY %
- GOOGL: Search and Other YoY %

Digital advertising growth continued to slow as 1H22 budget cuts went into effect 2H22 following rapid slowdown in revenue/demand trends.

Digital advertising growth bottomed 3-4 quarters after the tough in e-commerce revenue growth.

Consensus estimates assume ratchet phase, but we think the Q4 acceleration will be more significant.

Where are we today?

The market has come around to our view that digital advertising spending is on track to accelerate past e-commerce revenue growth in 2H23.

Of course, this is after META gave the stronger-than-expected 2H guide, and now everyone's checks are coming back unanimously positive.

We think the ratchet phase is likely to persist through 1Q24 before transitioning to the reallocate phase in late Q1/early Q2.

4Q23/1Q24 are likely to be the peak growth rates for META and GOOGL, but we think the peaks are likely to be higher than what the street is currently forecasting.

E-Commerce vs. Digital Advertising

Stimulus began to roll off 3Q21 + supply chain headwinds + inflation

E-Commerce GMV/Revenue ($B) - Global

Legend: AMZN - Retail, SHOP, AMZN - 3P, EBAY, W, ETSY

3Q21 was down QoQ when seasonally it is higher than Q2.

1Q21/2Q21 still saw boost from stimulus and pandemic-driven demand.
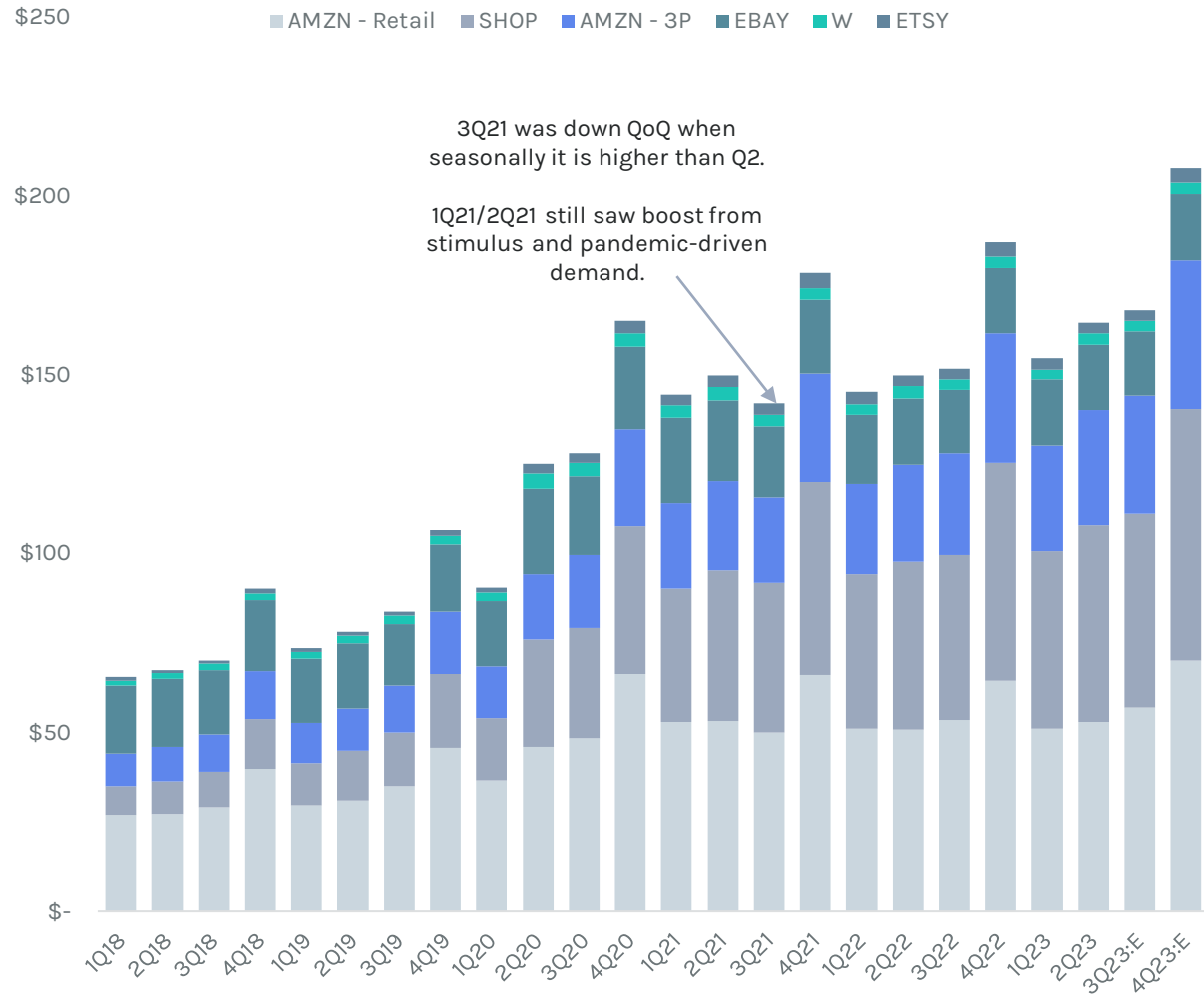
Digital Advertising Revenue ($B) - Global

Legend: Facebook, Google Search and other, YouTube, Snapchat, Pinterest, Twitter

Digital advertising continued to grow in aggregate in 3Q21, despite declines with social.
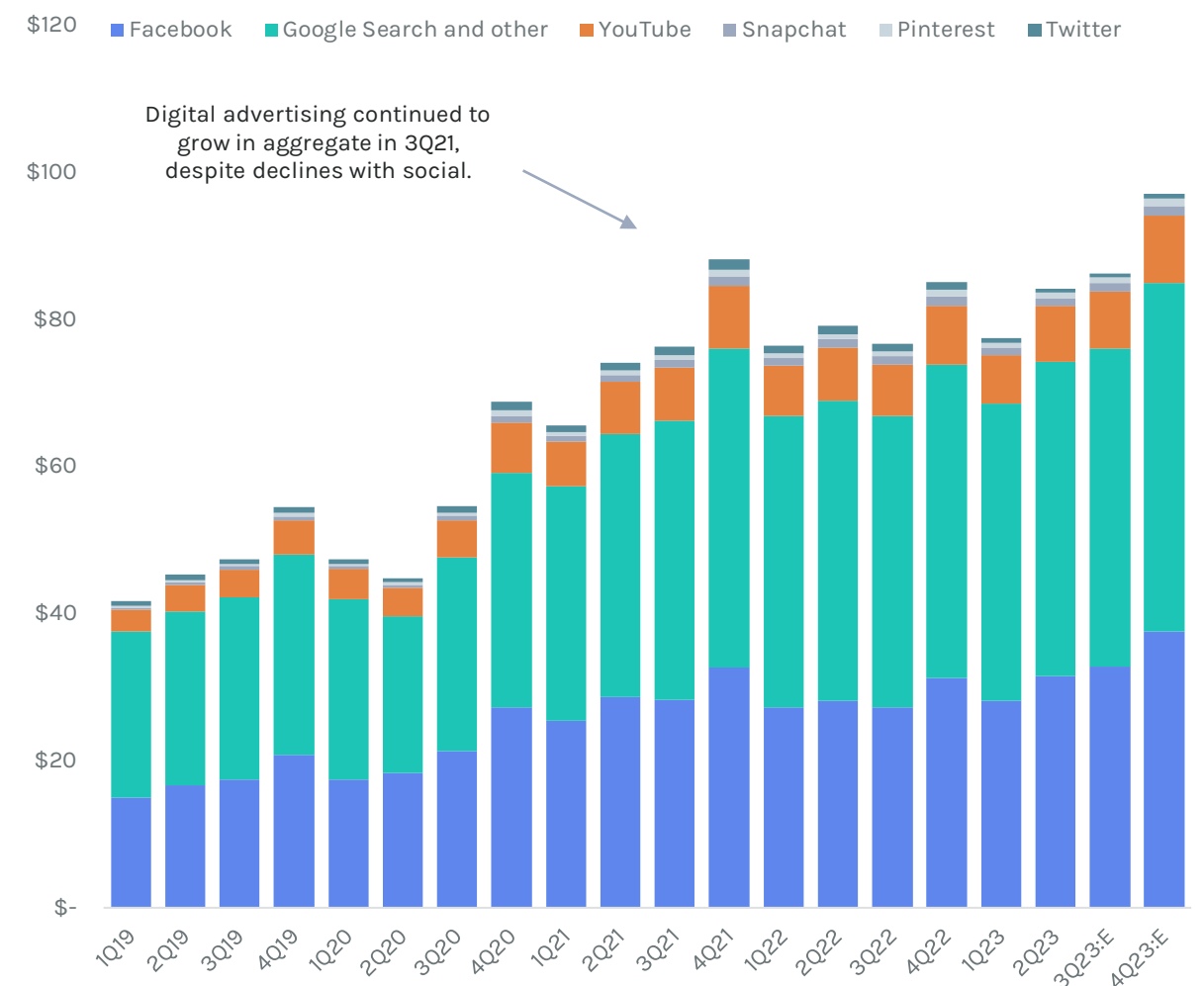
Tracking Social and Search Advertising Growth (DR)

HEDGEYE

September moderation after 5-months of accelerating ad spend growth...

Total Advertising (Search + Social) Spend and Revenue YoY %

Advertising Spend YoY %
Revenue YoY %

Nov 2020
Strong Holiday + Digital Shift

May 2020
Stimulus + Digital Shift

Mar/Jun 2021
Reopening + Goods Shift + Stimulus

2H21
Supply chain + inflation headwinds emerge + ATT/IDFA headwinds

January 2023
Stronger than expected January

Nov 2021
Difficult Cyber 5 Comparisons in for Digital

May-Aug 2023
Spring/Summer Acceleration

Mar 2022
Russia/Ukraine

March 2020
COVID

September 2023
September moderation

July/August 2022
Summer Acceleration

May/Jun 2022
Ad Spend growth below Revenue = Focus on Efficiency (Reduce)

Return on Ad Spend (ROAS) YoY %

ROAS YoY %
Rolling 3-Mo YoY %

Data Source: Advertising Agency

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46
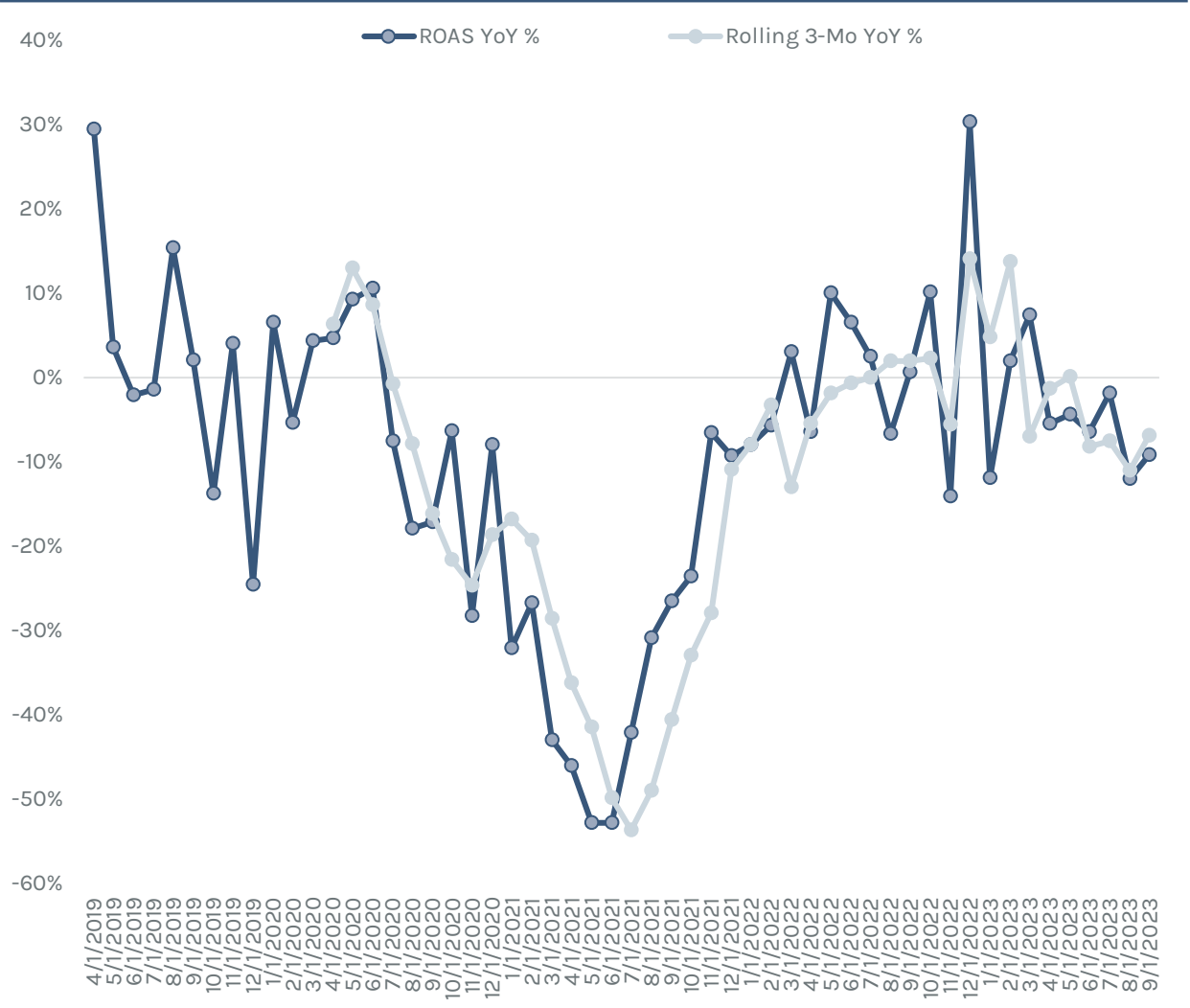
Advertising Agency A – Field Notes

HEDGEYE

$1B+ Performance Marketing Agency | Primary Exposure: Retail and E-Commerce (Enterprise)

December/January 2022

"Q3 [U.S.] advertising spend was up 15-20%. Things didn't really start go nuts until after Halloween. We were up about 10% through end of November - cyber 5 was roughly flat - and the week leading to Christmas this year into the shipping data shutoff was much softer. We will probably finish up somewhere between flat to positive 7%."

"Back in October, we were encouraged by the trends we were seeing as a possible sign of a strong 2H [of Q4] into Cyber 5. However, Cyber 5 ended up being about flat compared to last year."

"All of the supply chain headlines and concerns from late summer caused the consumer to do their shopping earlier. Knowing what we know now, we would have been more aggressive in late October and early November."

"For this Q1 and Q2, we are hoping to see 10-15% growth versus last year. Highly caveated that no more shutdowns happen and that is very regional in the U.S., our expectations for NY are going to be different in SE vs CA. Evenly distributed across the U.S."

"There is a lot more competition, and so weakened our efficiency threshold to capture more of the revenue. For example, we will say we are okay with a 2:1 rather than a 3:1 [ROAS]."

March/April 2022

""We are starting to see a return to some type of normalcy – pandemic effect has fizzled out."

"We came into the year strong from YoY perspective. We were seeing trends mimic 2021 in terms of spend and revenue. Highest level of spend and demand we saw all quarter."

"Consumer sentiment from our research really started to go negative around the time Russia invaded Ukraine. We saw conversion rates down, but average order value was the offset on revenue that made up for it."

"Inflation is definitely a factor, even from a service cost perspective."

"Q1 ended up pretty flat YoY for revenue and spending. January was relatively strong, which made up for March declines, and we didn't see declines until the last two weeks of March. Q2 we are hoping for 0% growth but predicting negative 10%."

"We are seeing a lot of leadership be hyper-focused on efficiency. We are already pulling some [budget] for Q3 and Q4 for this year. No one is optimistic about consumer spending. Our largest client is cutting somewhere around 15%, have a smaller client that said they are going dark on the entire budget until they see consumer spending pick up. Branding is getting cut first."

June/July 2022

"The last week or two really started seeing declines, the softest demand from YoY perspective probably in the last 3 years. We are attributing it to consumer sentiment, inflation, and gas prices."

"Q2 spend finished down 15% YoY and revenue was down 11% YoY. We are down 20% to start Q3, and hopefully not down more than 10-15% in Q4. Clients are cutting the fat, focusing on profitability and efficiency. I could see us going down 30%."

"Excluding marketplaces, April was flat and then we started to fall off a cliff early May to down 10% and June was the steepest drop off we have seen with median retail advertiser down 20%. ROAS is up because revenue is only down 10%."

"Q3 will be down compared to Q2, with social likely down more than search. In my opinion, there won't be much of a back-to-school late July into August this year. Back-to-school shopping got moved to this past week with Target and other early promotions."

"We are seeing a big pullback in top and mid-funnel campaigns. Pretty much any campaign tied to awareness initiatives and brand advertising is getting cut. A good amount of pullback in social channels and display."

August 2022

"We saw inflation cool down in August, and from a consumer spending perspective – we saw trends improve – hoping we are seeing some type of normalization."

"We didn't see the same type of spike from back to school that we would normally see. But trends stabilized to improved in August compared to July, and we are starting to see a slight pickup – the pickup that we thought we would see in July is happening in August."

"Demand is still trending down 10% YoY, but it is better than the +20% decline we were seeing in June/July. Conversion rates have improved, but that is more of a function of advertisers honing in on their top-performing sectors/programs."

"There isn't a huge appetite for testing right now, that even includes things like Reels. Experimental budgets are either non-existent or very tight compared to where we were this time last year going into Q4."

"A lot of our display media is shifting into social media – programmatic is getting slashed and reallocated. We are also seeing some of the money from OTT go back to social. So again, more of the top-of-funnel money going back to more mid-funnel objectives."

September 2022

"We are in the last days of the month, but it went as well as we could have hoped for. We did see a lot of volatility in the last 10 days of the month across most metrics like conversion rates and site traffic – we don't have much reasoning for it."

"Traffic, efficiency, demand was kind of all over the place in the last 10 days of the month. We usually see more consistent trends week to week."

"We ended up being more efficient than we were forecasting, which means demand wasn't as strong as we had hoped."

"ROAS was strong, we did see some revenue come through, but overall demand/site traffic fluctuated more than it typically does. August/September overall investment was up 20% relative to June/July."

"We are starting to think through 2023 budgets and overall sentiment is higher today than it was mid-year. Clients are pitching for more investment dollars for upper funnel in 2023, and some of our larger clients are starting to think about what recovery could look like in 2023."

E-commerce Related Jobs Not Hot

Professional Services Jobs - E-Commerce, WW
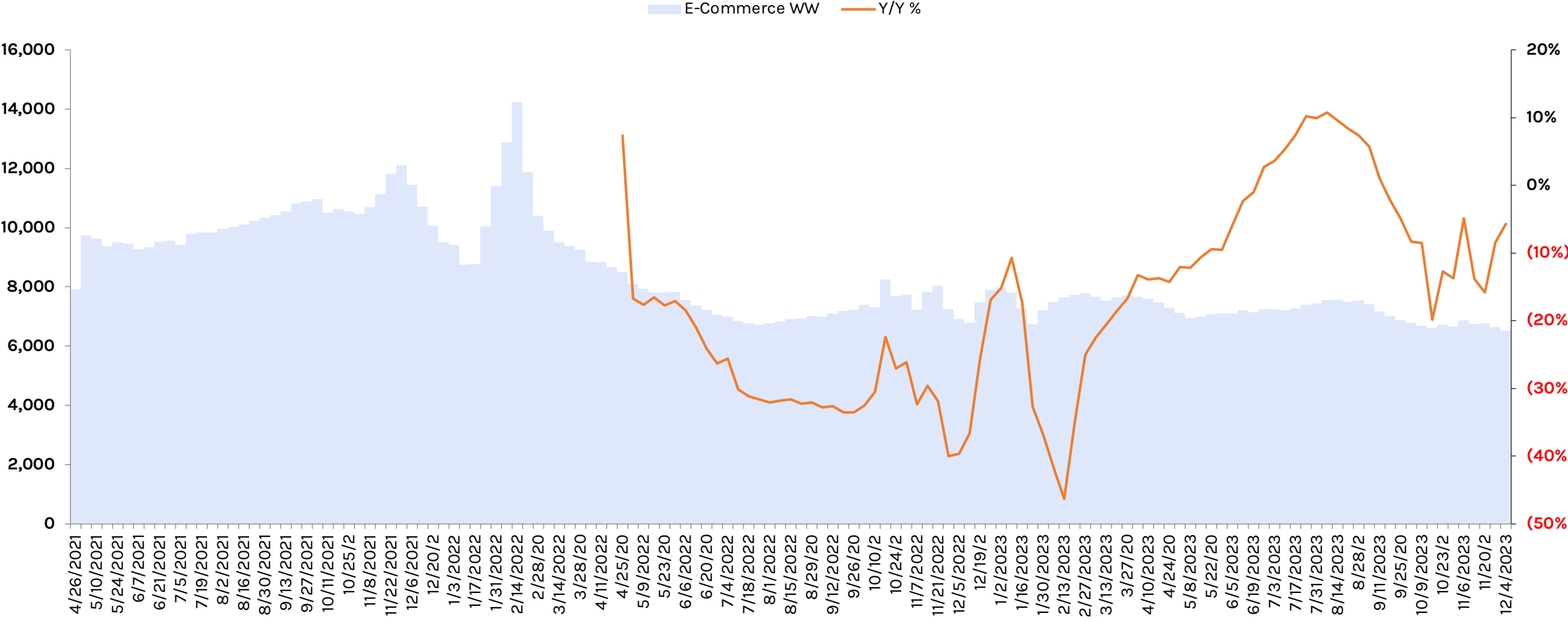
Key Topics For Shopify (SHOP)

1. BWP (Buy with Prime) –Amazon as a frenemy

2. Price increases vs churn

3. Penetration %

4. Pathway for Shopify Payments

5. Battling the Chinese disruptors

6. Global expansion strategy

7. Appeal of emerging solutions (Markets Pro, Audiences, Shop Pay)

8. Getting out of the "small" tag

9. Elimination of in-house fulfillment network

10. Could SHOP explore a marketplace concept?

SHOP | BFCM Positive Surprise

Consumer KPI Continue To Rise; However, No New Leadership In Top Grossing Categories Or Top Grossing Cities

Shopify BFCM Merchant Sales and Y/Y %

Legend: BF Cyber Monday Sales ($MM GMV) — Y/Y %

24%
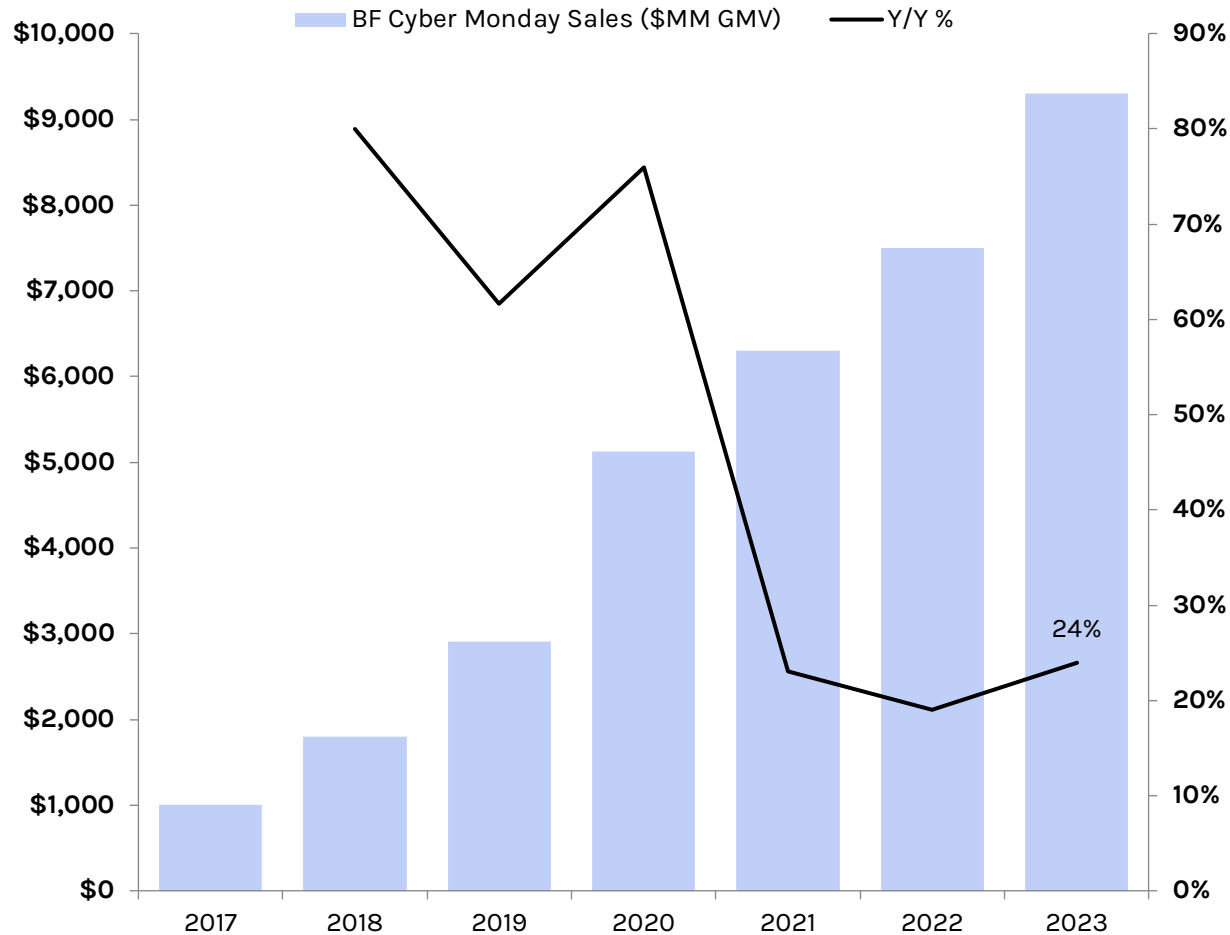
Shopify BFCM Consumers (MM) and Sales per Consumer

Legend: BFCM Consumers (MM) — Sales per Consumer
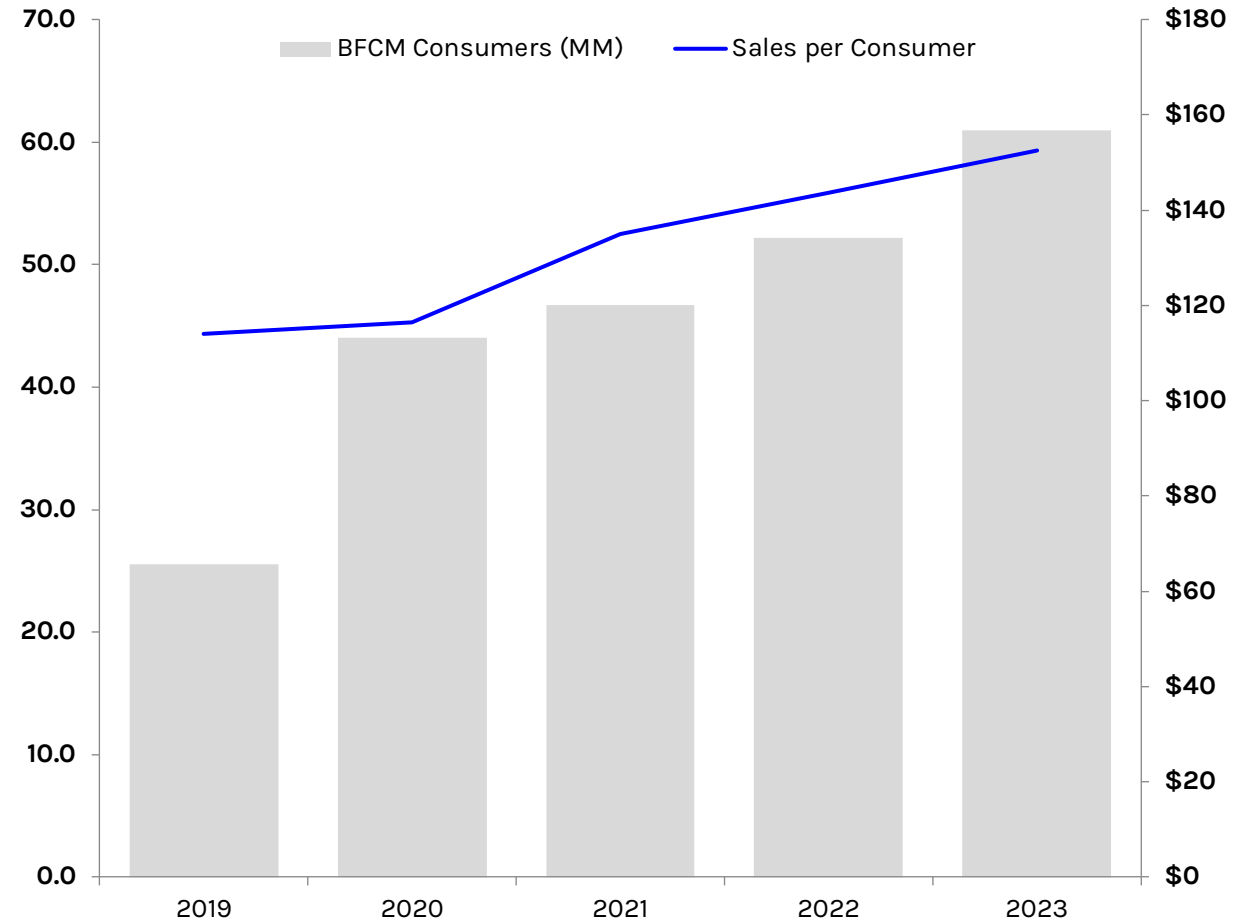
SHOP | Organic Traffic Declining

On Pace To Be Down 19% (Y/Y) In 4Q23

Shopify.com Monthly Organic Traffic (MM) & Y/Y %
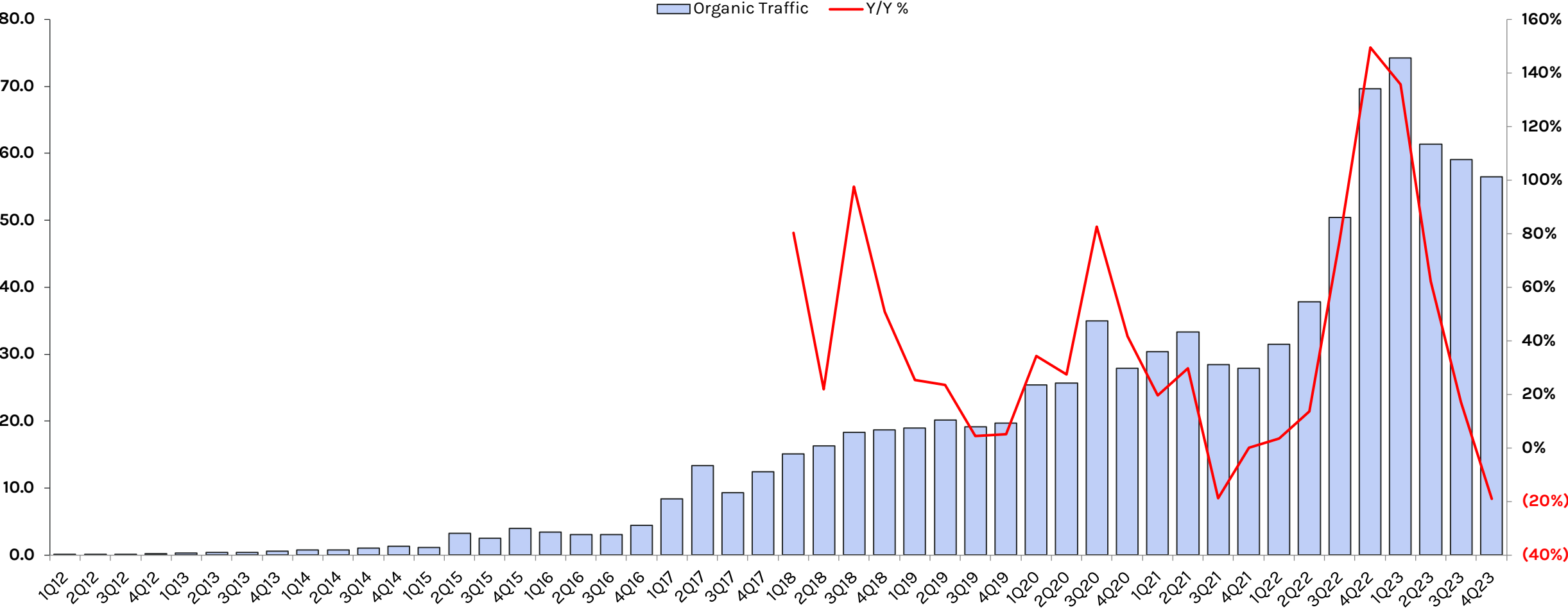
SHOP | Stable Internet Market Share

% of Internet Sites Detected Using CMS by Provider (Quarterly)

Legend: Shopify, Wix, Squarespace

Shopify values: 1.6%, 1.7%, 1.9%, 2.1%, 2.5%, 2.9%, 3.2%, 3.4%, 3.7%, 4.0%, 4.4%, 4.4%, 4.2%, 4.1%, 3.8%, 3.8%, 3.9%, 4.0%, 4.1%

Quarters: 2Q19, 3Q19, 4Q19, 1Q20, 2Q20, 3Q20, 4Q20, 1Q21, 2Q21, 3Q21, 4Q21, 1Q22, 2Q22, 3Q22, 4Q22, 1Q23, 2Q23, 3Q23, 4Q23
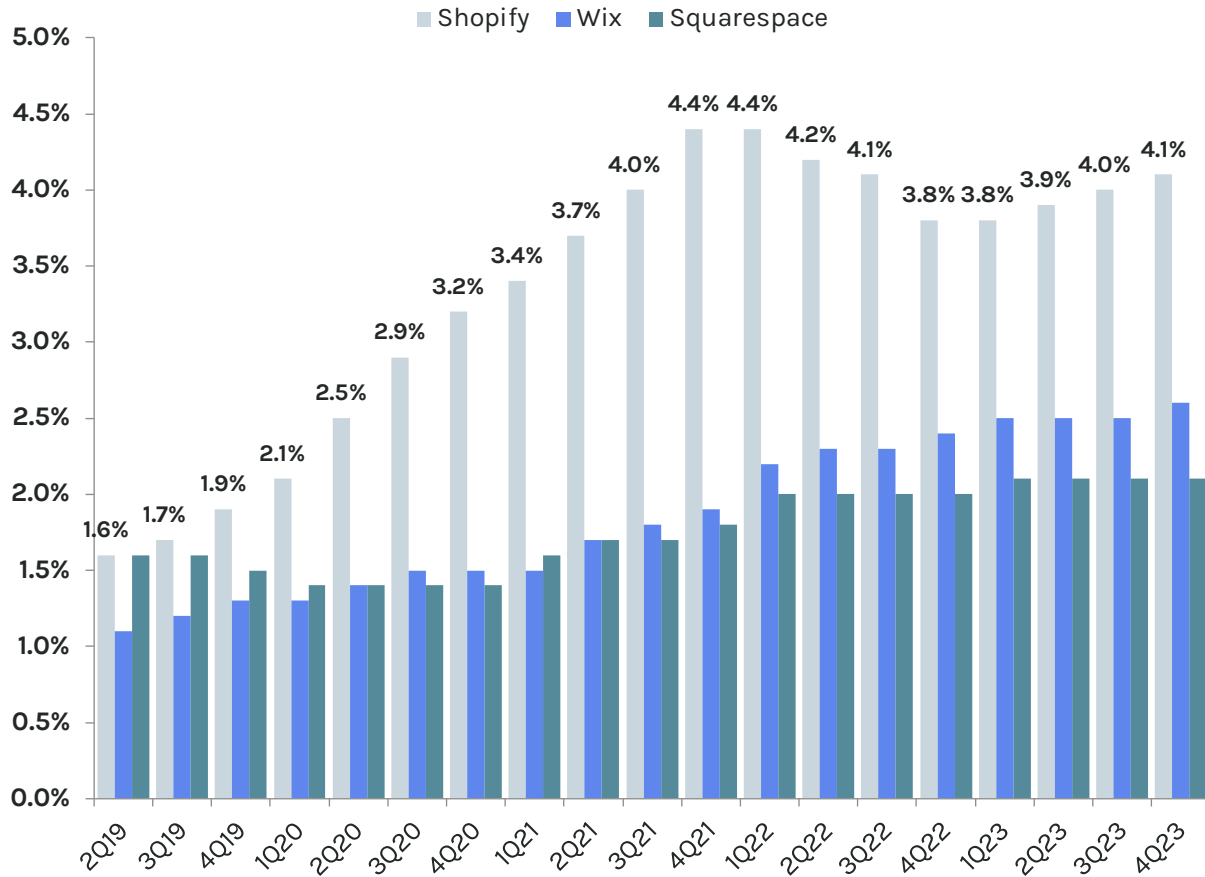
% of Internet Sites Detected Using CMS by Provider (Monthly)
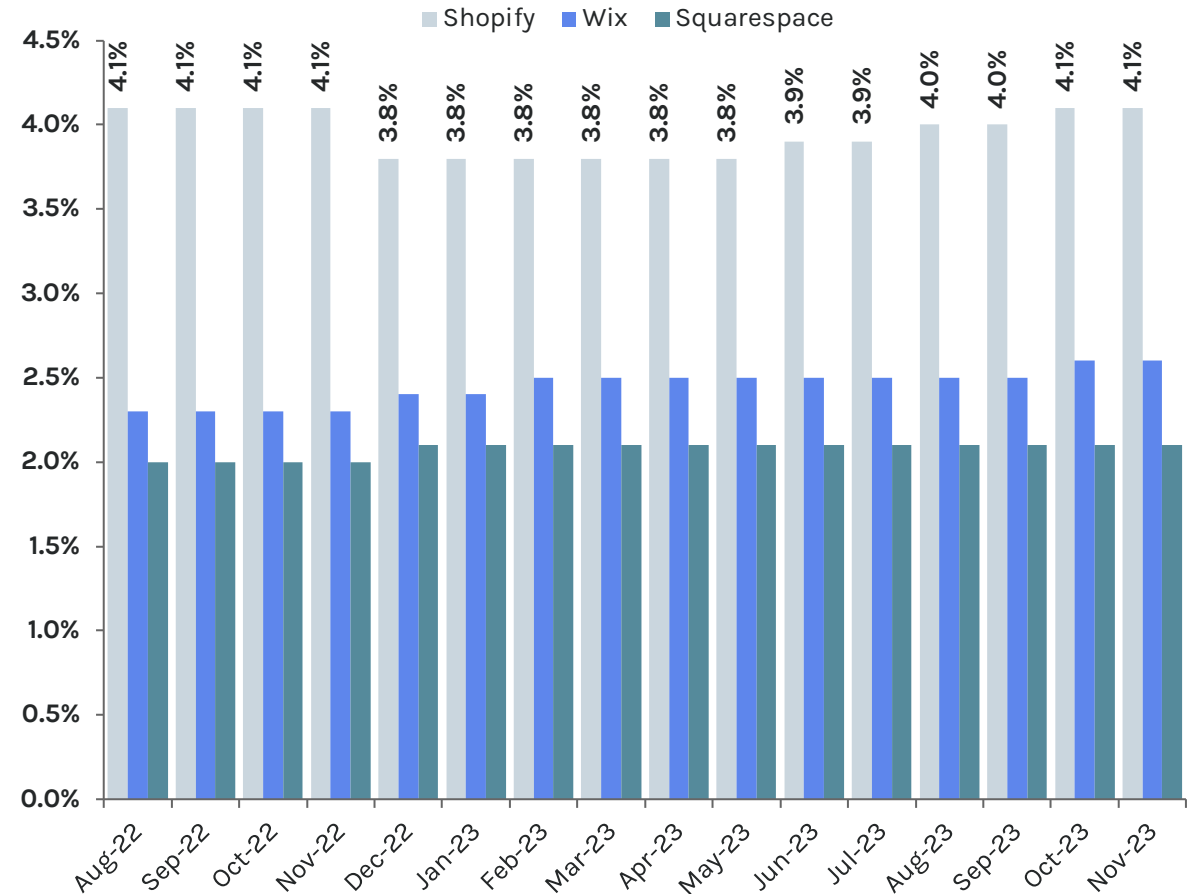
Legend: Shopify, Wix, Squarespace

Shopify values: 4.1%, 4.1%, 4.1%, 4.1%, 3.8%, 3.8%, 3.8%, 3.8%, 3.8%, 3.8%, 3.9%, 3.9%, 4.0%, 4.0%, 4.1%, 4.1%

Months: Aug-22, Sep-22, Oct-22, Nov-22, Dec-22, Jan-23, Feb-23, Mar-23, Apr-23, May-23, Jun-23, Jul-23, Aug-23, Sep-23, Oct-23, Nov-23

Security, Networking, & Compute Software

Security, Networking, & Compute Software Overview

Networking, Security, Compute

Sub-Sector Description
- These companies are the backbone of the modern internet with a focus on networking, connectivity, and security.
- Cisco (CSCO), Arista (ANET), and Juniper (JNPR) make up the hardware backbone primarily by providing networking solutions such as routers and switches.
- Akamai (AKAM) and Fastly (FSLY) mostly focus on the delivery of media and other content to end users via a CDN (Content Distribution Network).
- Cloudflare (NET) is a software provider focused the security and performance of the broader internet. Core business is Cisco-as-a-Service and increasingly competes with AWS.
- Digital Ocean (DOCN) and Backblaze (BLZE) provide cheaper compute and storage solutions.

Sub-Sector KPIs
- PoPs (points of presence) = physical hardware presence within Data Centers.
- Reverse Proxy Market Share = % of internet sites using a reverse proxy like Cloudflare.
- Size of developer ecosystem
- Revenue, billings, RPO, cRPO, GM%, OPM%, EPS, FCF.

Sub-Sector Themes / Trends / Research Questions

- NET: Inference & Edge AI – what are the implications for Workers AI? Is it hyped or just getting started?
- NET: Does Cloudflare Workers have enough legs?
- NET: How can it better compete with Akamai & AWS?
- NET: Can Cloudflare further penetrate product categories outside of WAF and CDN?
- NET: Is Cloudflare making ground on new GTM strategies? How to drive sales efficiencies and growth with +50 products?
- FSLY: Is Fastly more like Cloudflare or Akamai?
- FSLY: Is the company still a technology innovator in the space?
- DOCN: Can Digital Ocean, now under new leadership, take market share as top competitor Linode was recently acquired by Akamai?

Market Cap (Largest to Smallest)

Values in Billion:
- CSCO: $193.8
- ANET: $66.4
- NET: $22.7
- AKAM: $17.3
- JNPR: $9.2
- DOCN: $2.6
- FSLY: $2.2

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)

- FSLY: 1
- RPD: 7
- OKTA: 13
- NET: 20
- AKAM: 27
- CHKP: 33
- QLYS: 40
- FTNT: 47
- TENB: 53
- ZS: 60
- CYBR: 67
- CVLT: 73
- S: 80
- VRNS: 87
- PANW: 93
- CRWD: 100
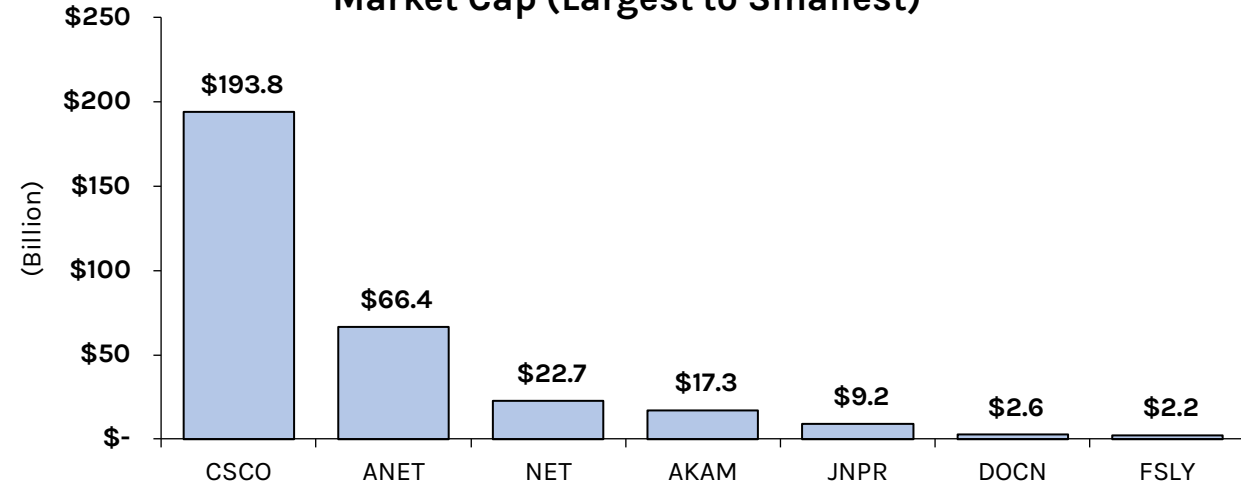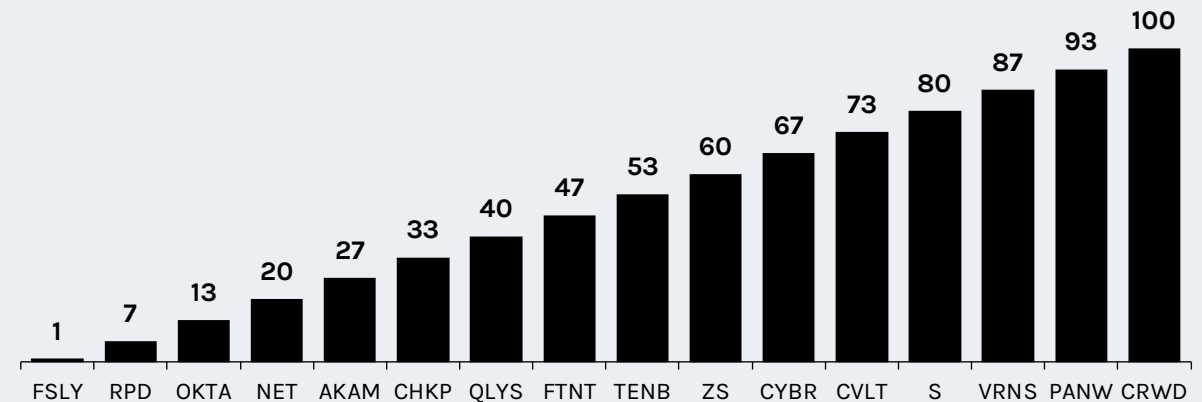
Key Players In Security & Networking

Market Cap (Largest to Smallest)

Bar chart showing Market Cap in billions:
- CSCO: $200.2
- ANET: $71.1
- NET: $26.1
- AKAM: $17.4
- JNPR: $9.4
- DOCN: $2.7
- FSLY: $2.2

Y-axis: (Billion), scale from $- to $250
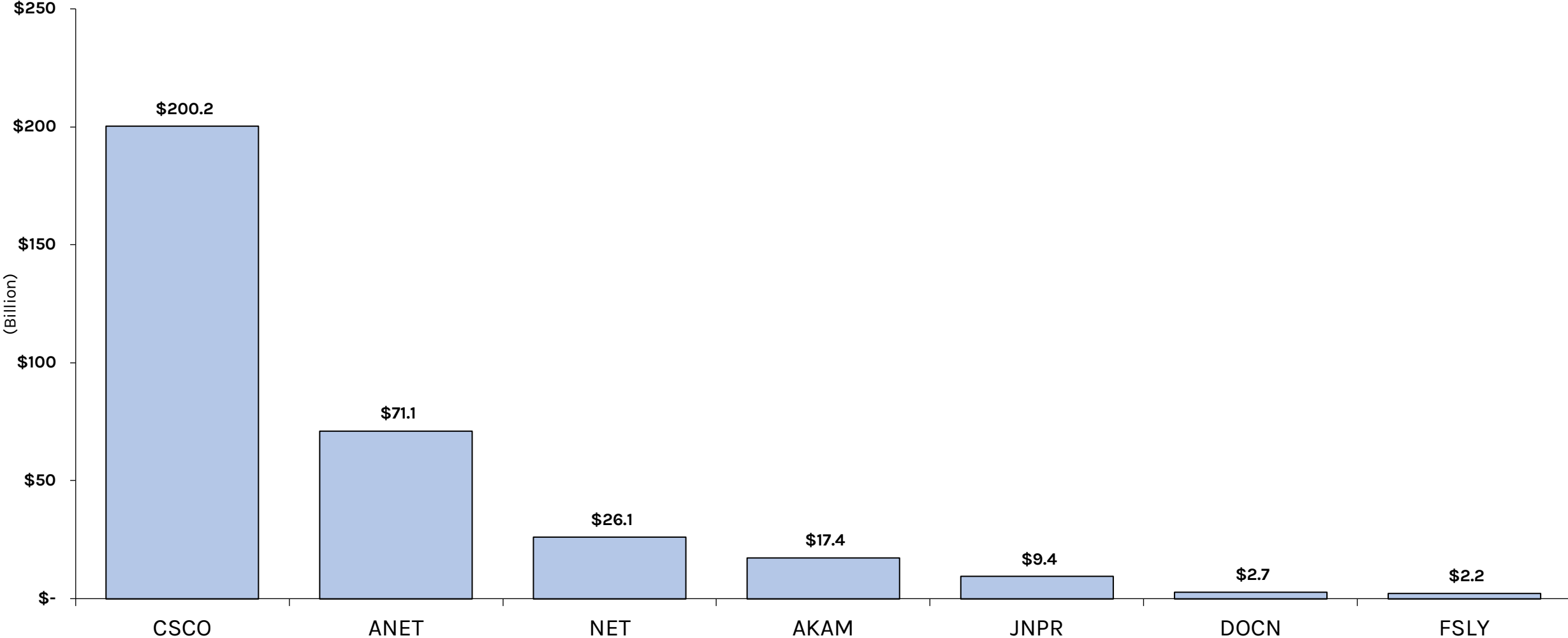
Key Questions For Cloudflare (NET)

HEDGEYE

1. Inference & Edge AI – what are the implication? Is it hyped or just getting started?

2. Does Cloudflare Workers have enough legs?

3. How can it better compete with Akamai (AKAM) & AWS (AMZN)?

4. Can Cloudflare further penetrate product categories outside of WAF and CDN?

5. Is Cloudflare making ground on new GTM strategies? How to drive sales efficiencies and growth with +50 products

6. Where is the latest adoption trend for big enterprise customers and impact on RPO?

7. What's the mood for enterprise IT spending?

8. Is hiring picking up or flatlining?

9. What needs to happen for NET to reach Investor Day long-term targets: 20-30% operating margins and 25% FCF margins and $5bn ARR by 2027?

10. High valuation premium justified?

NET | Room To Grow, Conceptually, In Several Directions

Cloudflare App Services Revenue vs. Akamai Total Revenue ($MM)

— Akamai Total Revenue   — Cloudflare App Services Revenue

+13% 10YR CAGR

+18% 5YR CAGR

+17% 3YR CAGR
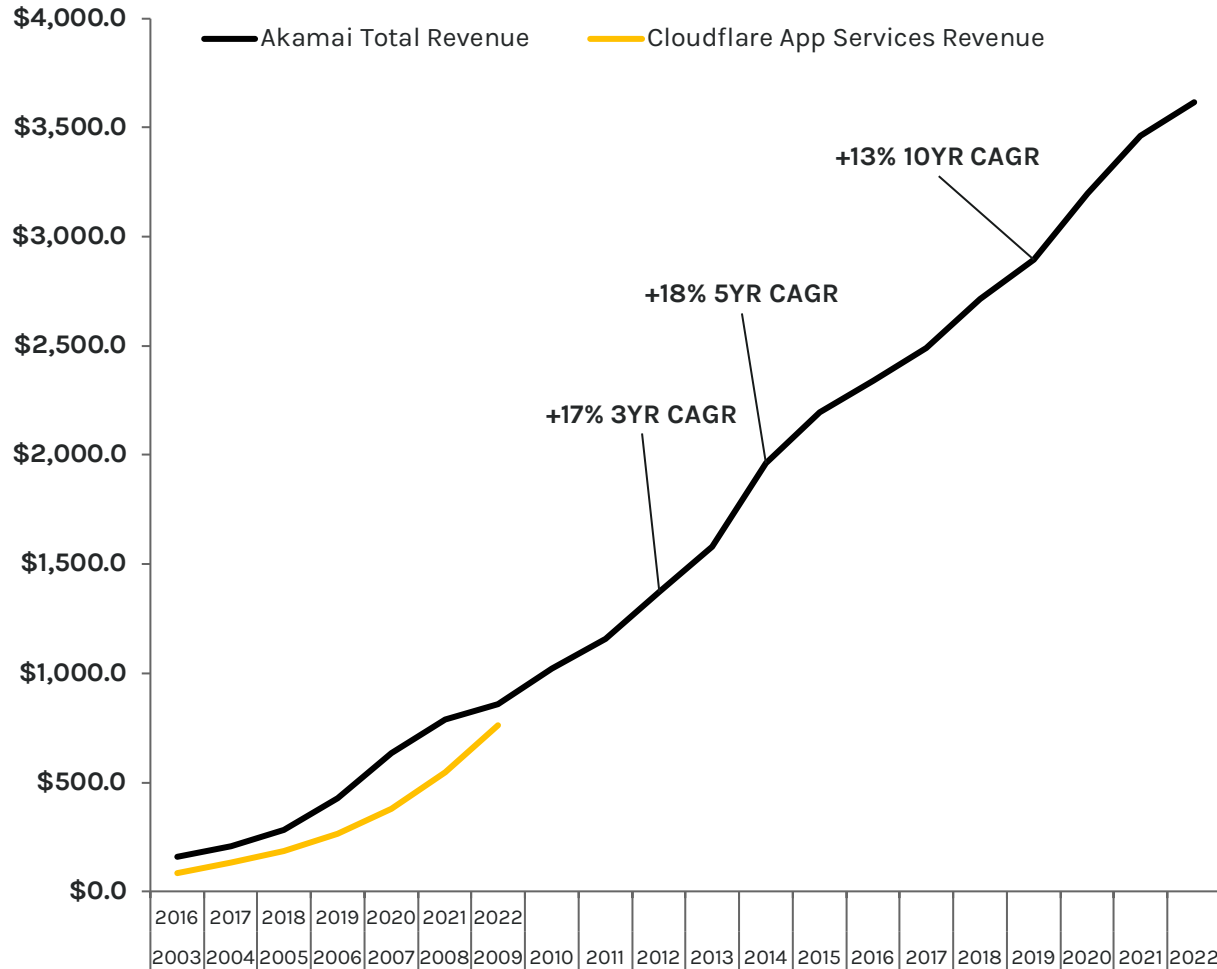
Cloudflare vs. AWS Quarterly Revenue (with Estimates)

— Cloudflare

– – Cloudflare Forward Estimate (Assuming % of AWS Revenue Holds at 25%)

— AWS
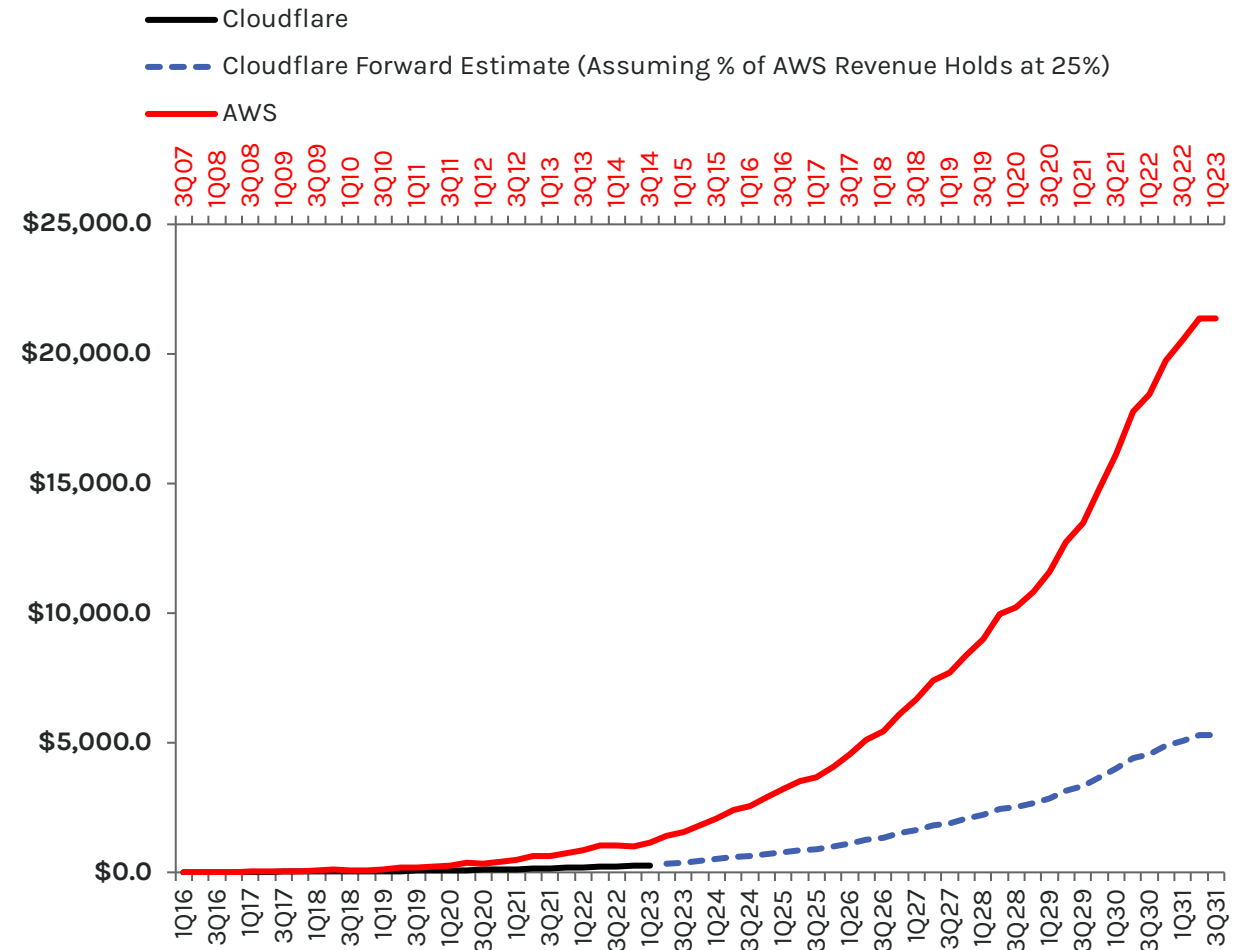
Back To Increasing Internet Presence

% of Internet Sites Using Specified Reverse Proxy Services

Reverse Proxy Usage by Provider
(as of 11/30/23)

Legend: Dec-15, Dec-16, Dec-17, Dec-18, Dec-19, Dec-20, Dec-21, Mar-22, Jun-22, Sep-22, Dec-22, Mar-23, Jun-23, Sep-23, Nov-23
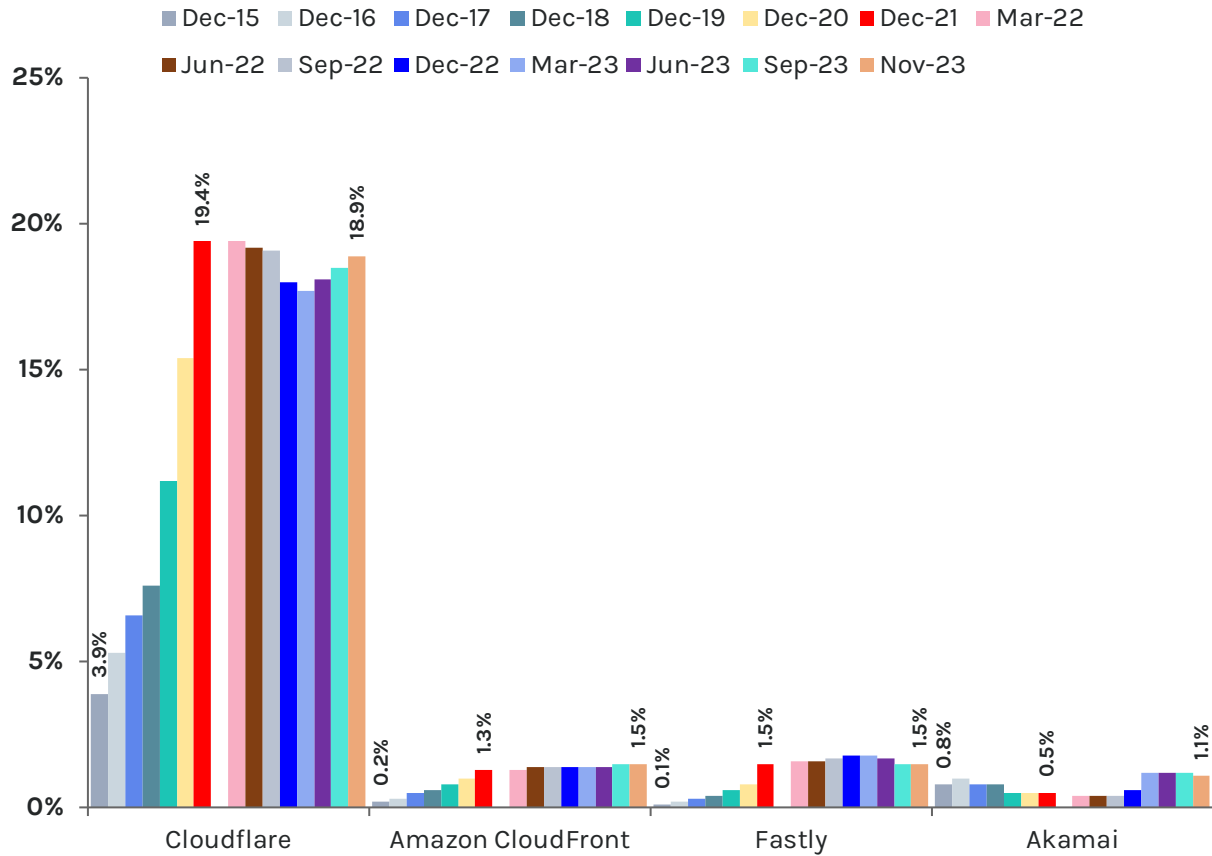
% of Internet Sites Using Cloudflare Reverse Proxy
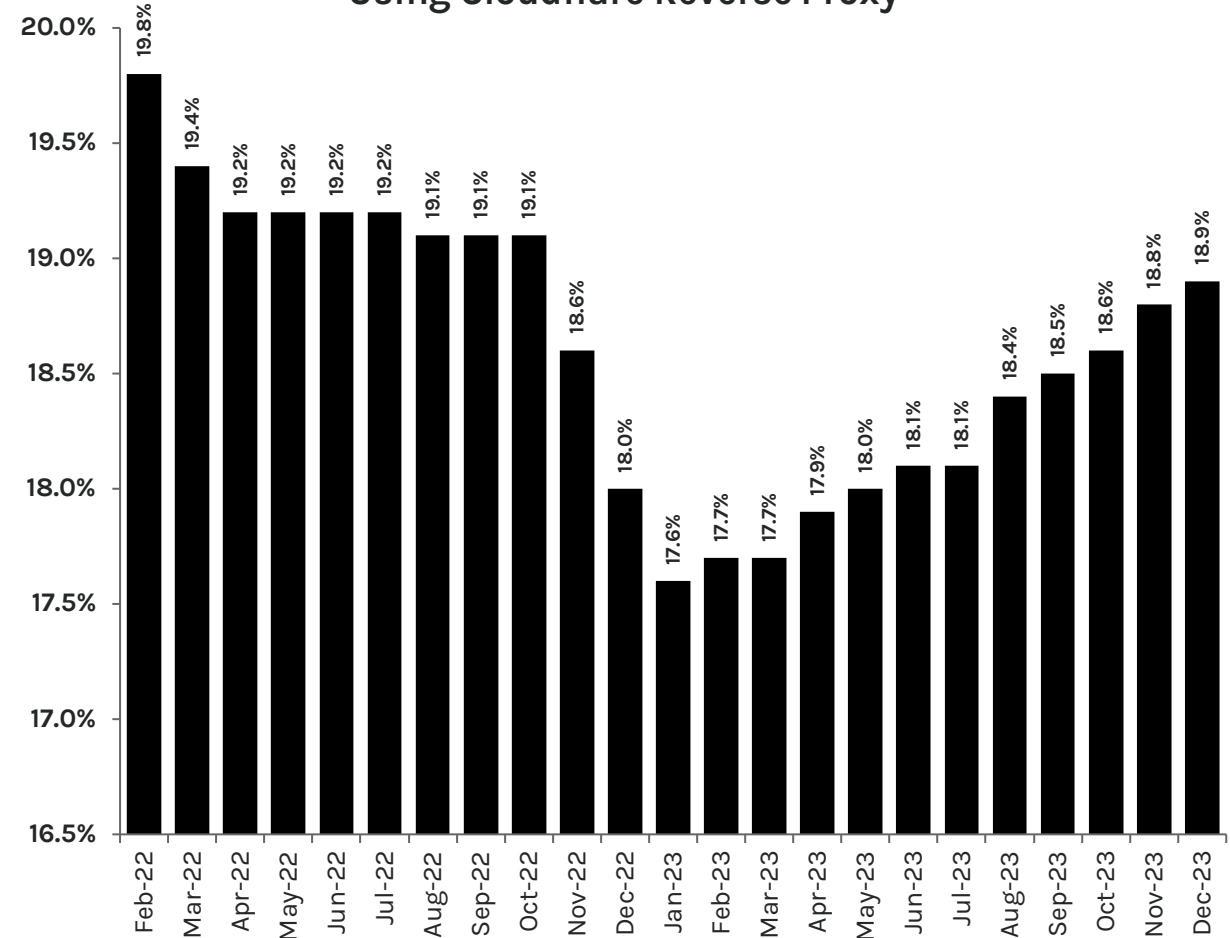
NET | Core Downloads Slowing

HEDGEYE

Cloudflare API NPM Downloads YoY Change

- Q2 2022: 87%
- Q3 2022: 50%
- Q4 2022: 65%
- Q1 2023: 61%
- Q2 2023: 29%
- Q3 2023: 48%
- Q4 2023 (to date): 30%
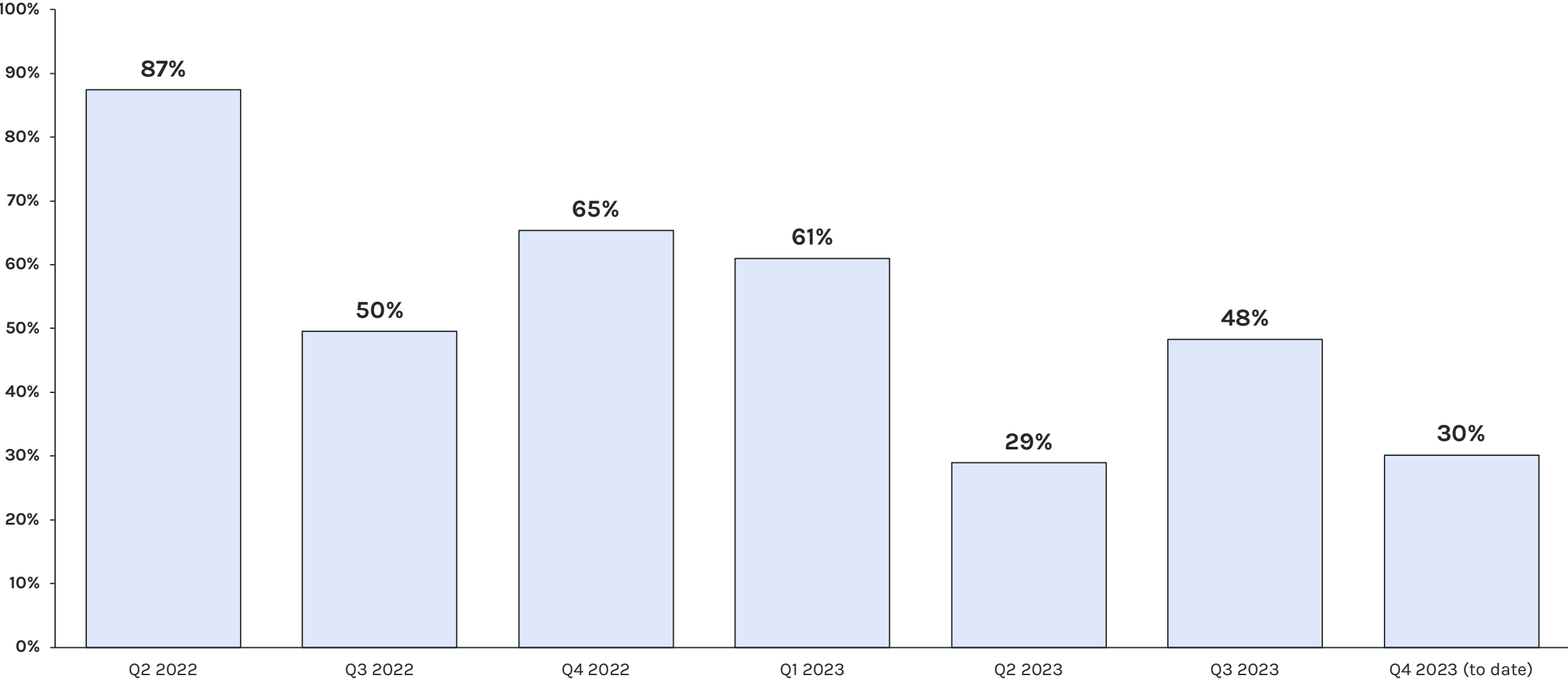
NET | Workers Driving The New Growth

Cloudflare Workers KV NPM Downloads YoY Change
(4Q23 As Of 12/12/23)
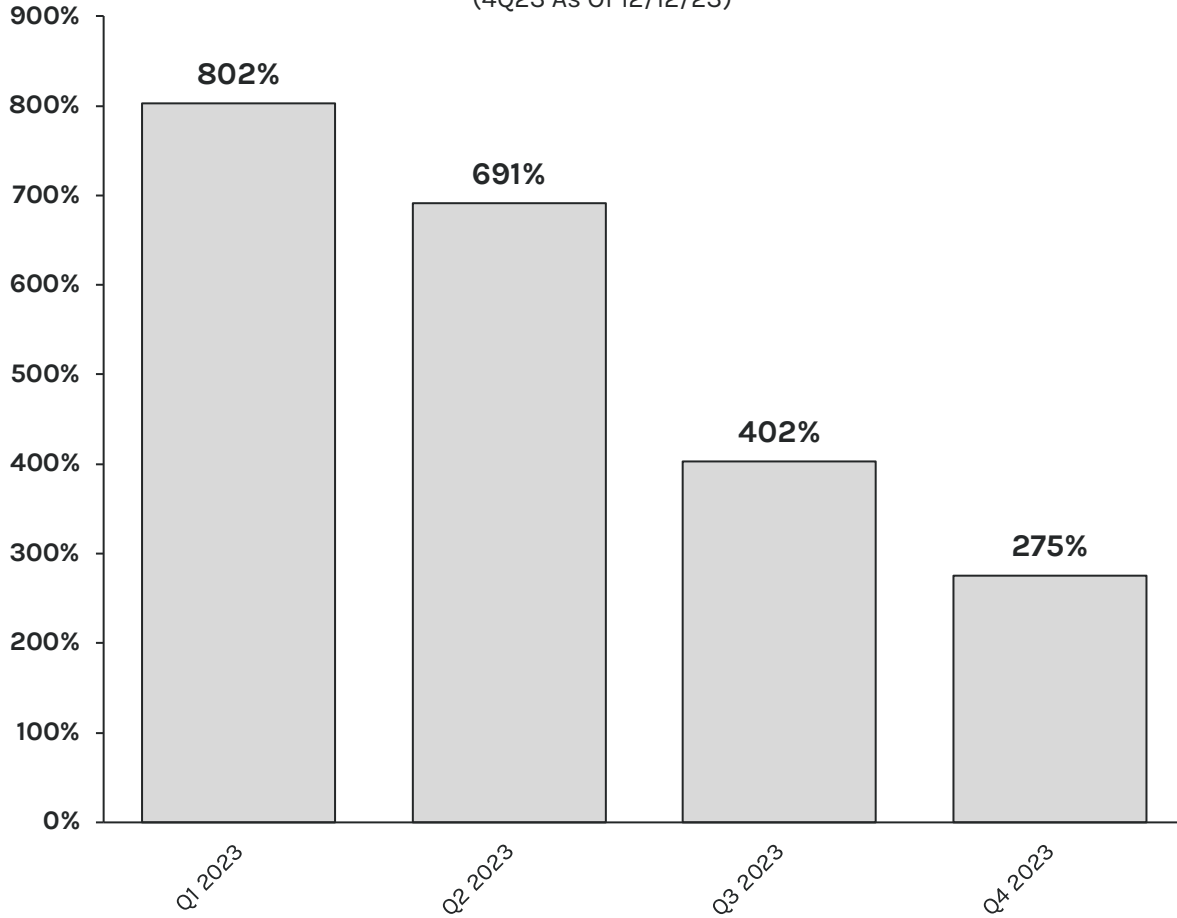
Cloudflare Workers NPM Downloads
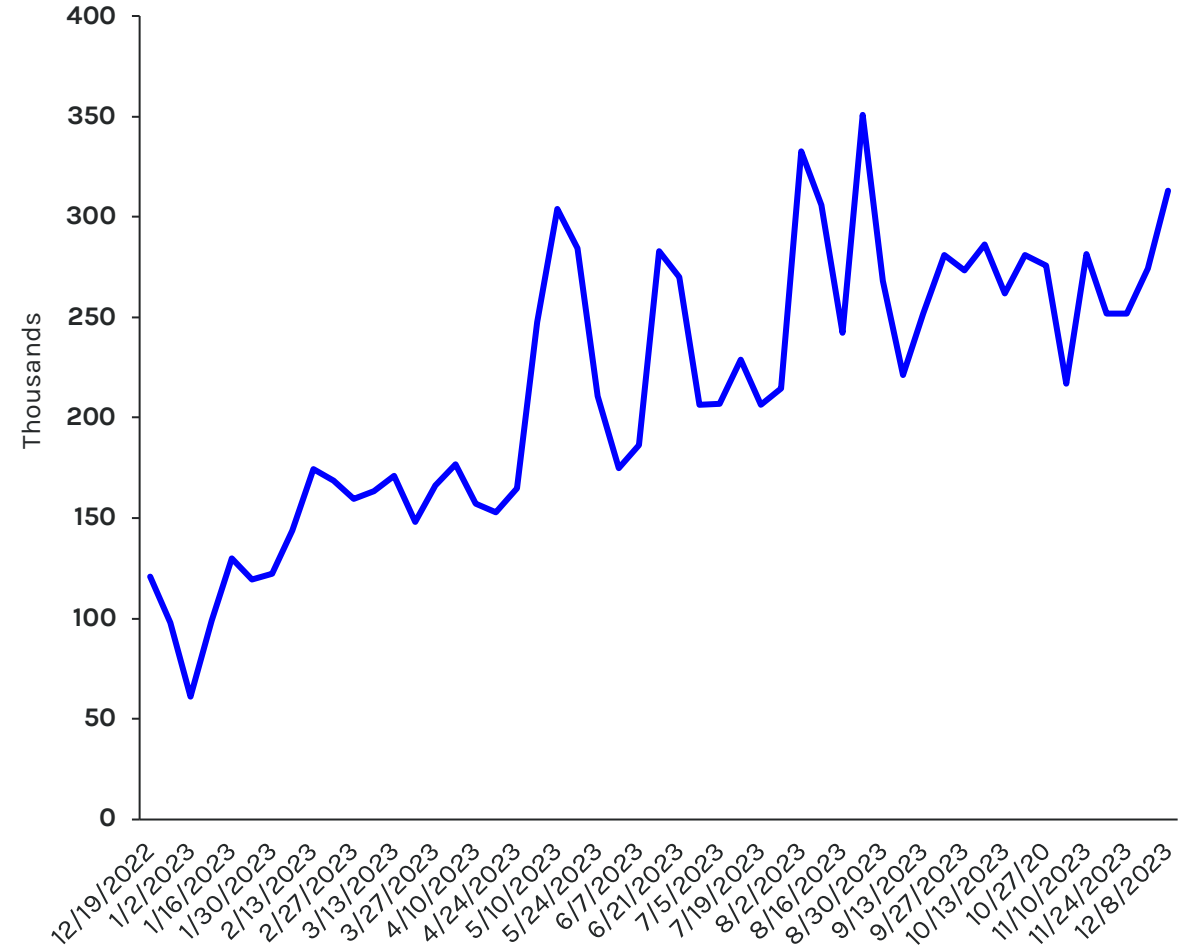
And $5 Billion ARR By 2027

Long-Term Operating Model

Unit economics support 20%+ long-term operating margins.

	2020	2021	2022	Q1 2023		Long-Term Model
Gross Margin	78 %	79 %	78 %	78 %	Leverage efficiency and elasticity of our network and ingress/egress dynamics	75% - 77%
Sales & Marketing (% of revenue)	46 %	45 %	42 %	42 %	Scale go-to-market operations with a focus on improving productivity	27% - 29%
Research & Development (% of revenue)	21 %	20 %	19 %	18 %	Continue to prioritize product innovation	18% - 20%
General & Administrative (% of revenue)	18 %	15 %	14 %	12 %	Benefit from economies of scale and automation	8% - 10%
Operating Margin	(8)%	(1)%	4%	7%		20%+
Free Cash Flow Margin	(21)%	(7)%	(4)%	5%		~25%+

CLOUDFLARE   Note: Metrics shown are Non-GAAP. See Appendix for GAAP financial measures and GAAP to Non-GAAP reconciliation.

Analytics

Analytics Overview

Data Analytics and Business Intelligence

Sub-Sector Description
- This subsector includes companies who provide platforms for customers to enable analytics on their data estate. Companies here typically specialize on type of customer or use-case.
- Palantir (PLTR) and C3.ai (AI) are the most generalized platforms though the former grew out of its usage parsing battlefield data to locate targets and is currently attempting to increase its relevance in the enterprise while the latter has a strong toehold with energy and mining co's.
- Some companies are specific to use cases such as Amplitude (AMPL) with product analytics and Domo (DOMO) with high level company performance KPI.
- Alteryx (AYX) is more of a data-prep and analytics tool for every-day business users while Microstrategy (MSTR) is a legacy BI product, increasingly used as a BTC holding investment.

Sub-Sector KPIs
- Customer growth (by type)
- Size of user base / community
- Events monitored / data processed

Sub-Sector Themes / Trends / Research Questions
- Within this group, Palantir is by far the most generalized analytics platform. As 'AI' has come to dominate board meetings and product roadmaps across tech and the enterprise broadly, many companies, especially in legacy industries have been quick to hit the "easy button" of contracting Palantir, and to a lesser extent, C3, to enable AI-use cases within their products / internal operations.
- Conversely, the companies who have attempted to differentiate by focusing on specific product areas such as Amplitude with product analytics or Domo with high-level analytics for executives have struggled to prove their relevance beyond their niche or to evangelize a broader market opportunity for themselves. Meanwhile a company like Alteryx has tried to be an easy-button for the every-day business user to conduct business analytics but instead has remained an expensive, difficult to learn tool, for which the competition has become free Python, a more powerful and extensible option.
- AMPL: unique technology is there, at what point does it get acquired?
- PLTR: how sustainable is Palantir's current traction?

Market Cap (Largest to Smallest)

Company	Market Cap (Billion)
PLTR	$38.7
MSTR	$8.7
AI	$3.3
AYX	$3.2
AMPL	$1.4
DOMO	$0.3

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)
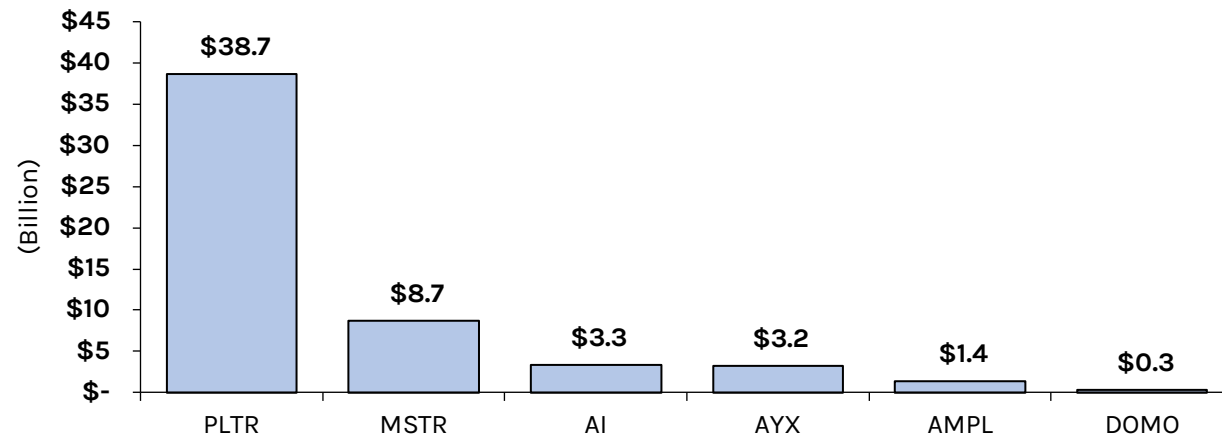
Company	Sentiment Score
AI	1
DOMO	17
AYX	33
PLTR	50
AMPL	67
PTC	83
MSTR	100
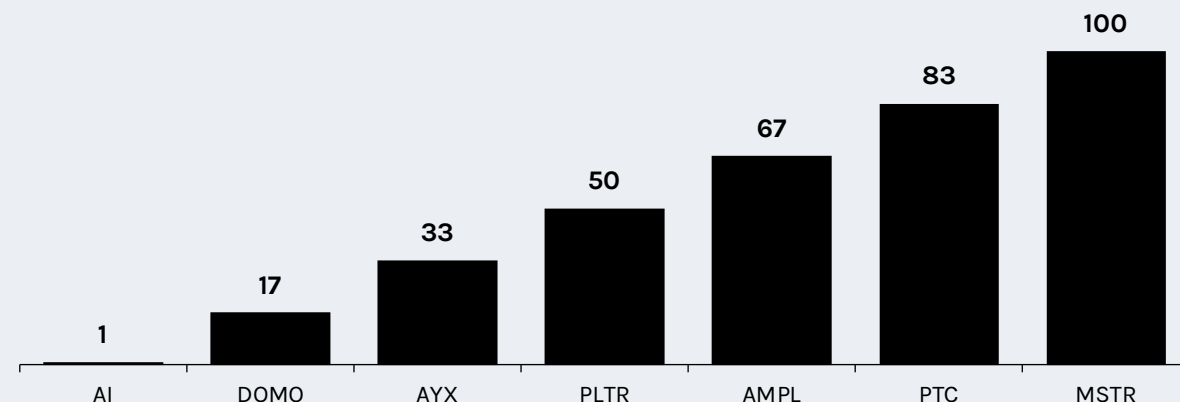
AMPL | Strength Fading

Amplitude Monthly Digital Signups
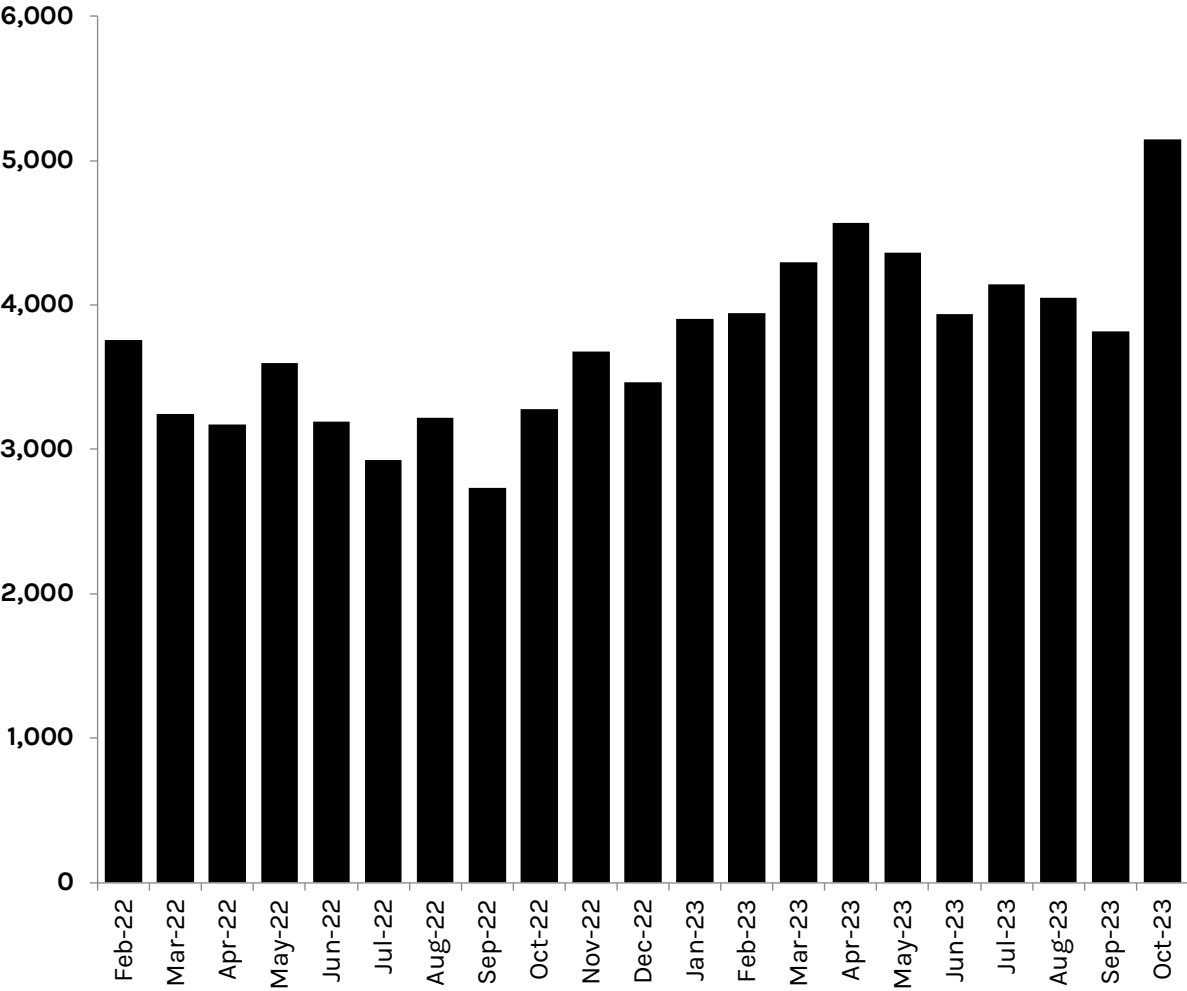
Monthly Digital Signups: Product Analytics Peers
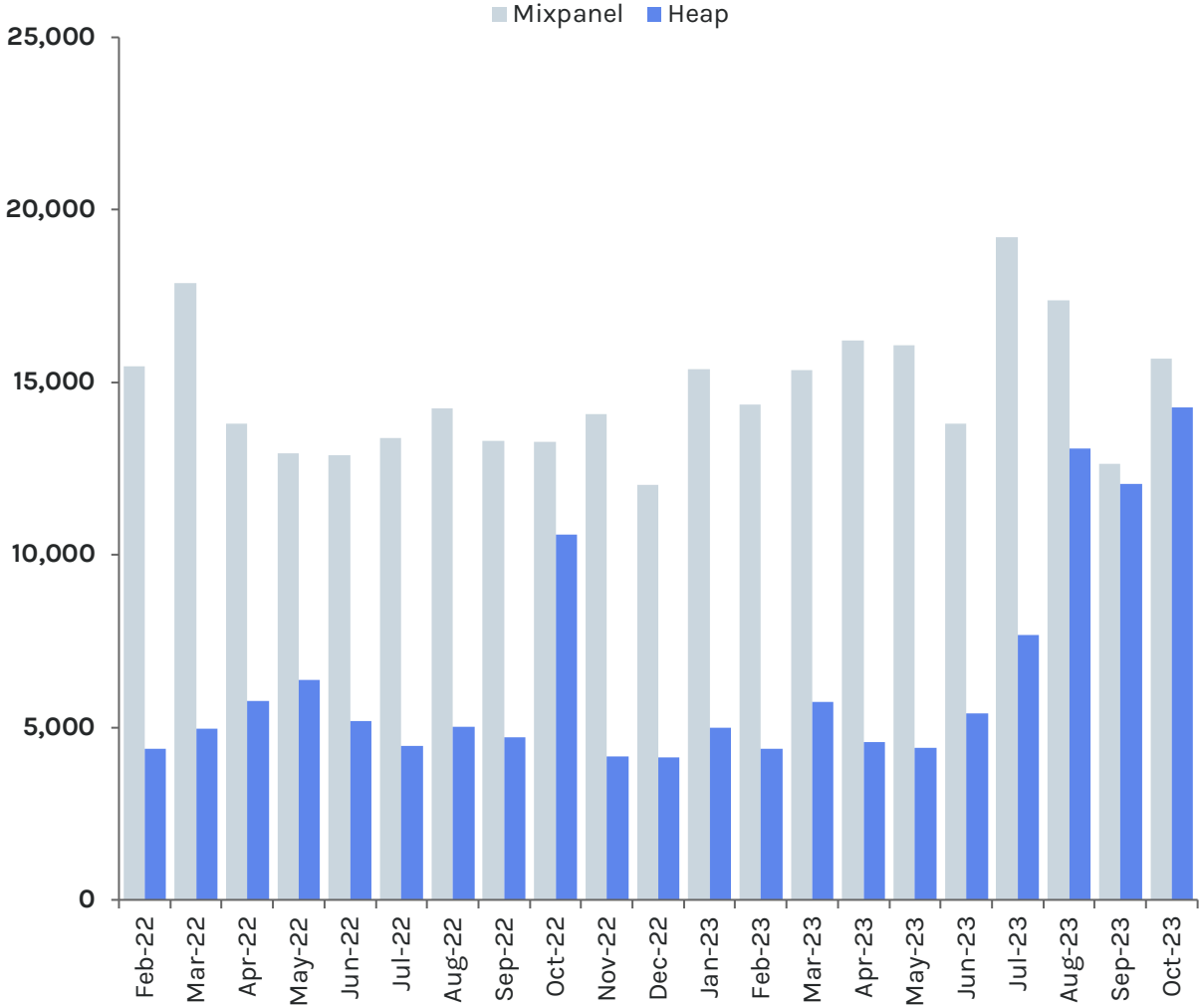
Mixpanel Heap
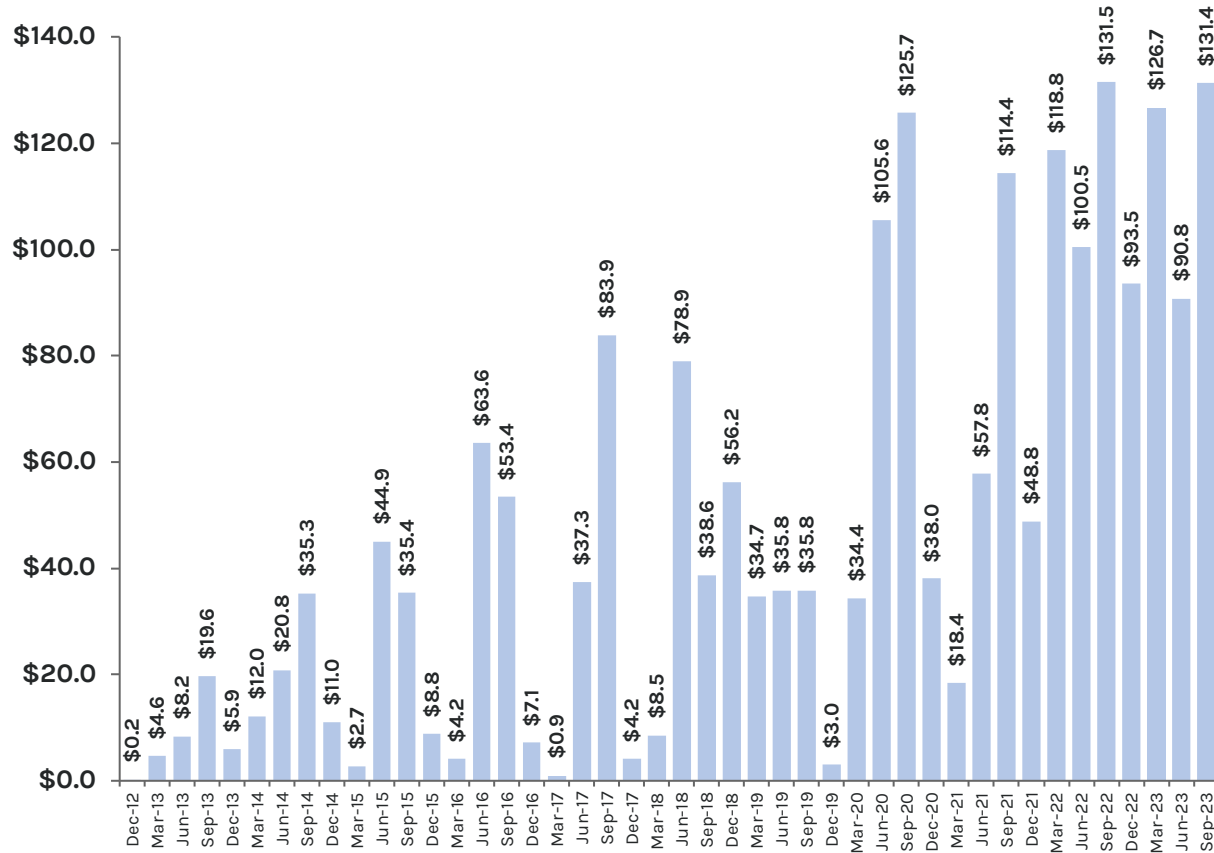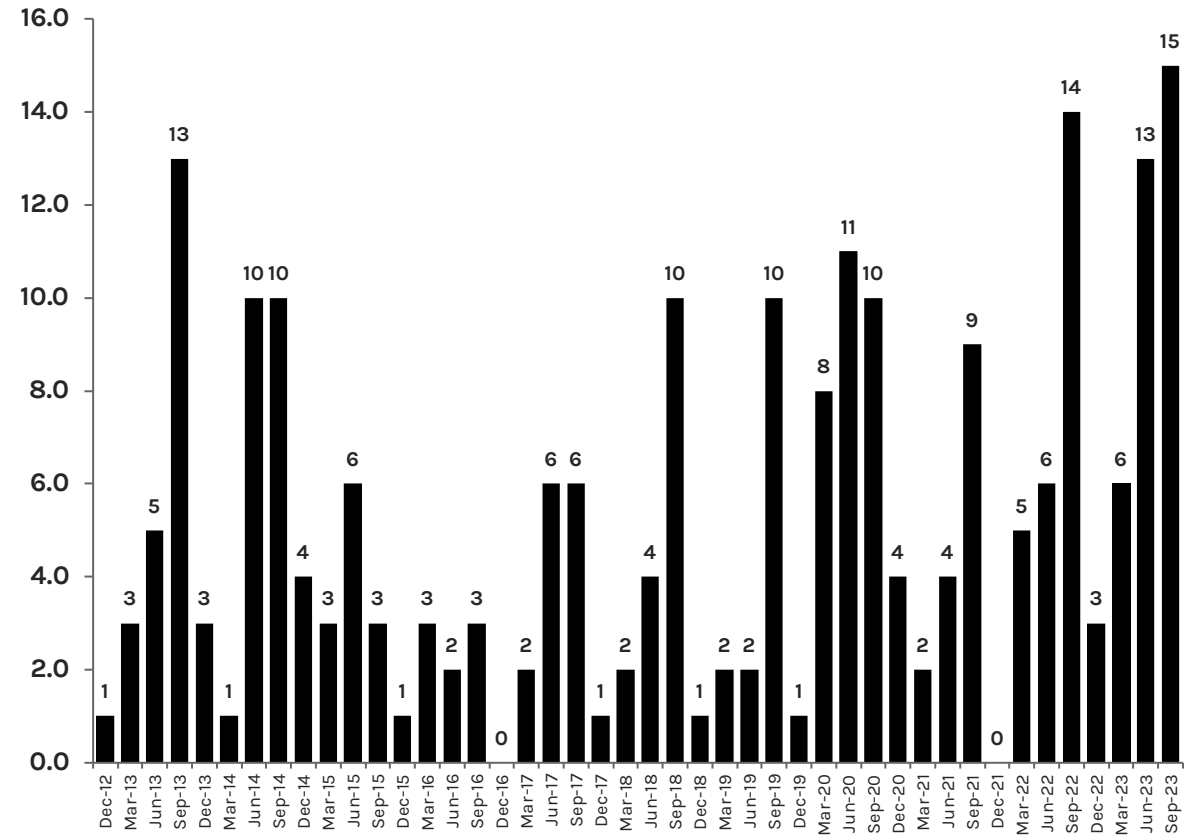
Sub-Sector Overview | Analytics

The Most Significant Companies In This Group Are C3.Ai and Palantir. C3.Ai And Palantir are similar platforms. Palantir Facilitates The Visualization Of Data Connections. C3 enables analytics for legacy industry companies such as in energy and mining. Analytics Is Likely To Benefit The Most In The Short Term From AI. Still, While These Companies Offer A Head Start In Leveraging AI, They Might Become Less Necessary In The Long Term As AI Technology Advances.

Single Stock One-Liners:

- **Amplitude (AMPL) -** Amplitude provides a software solution that enables product analytics. It is designed to allow product teams to see where users are running into roadblocks during the product use or buying experience and then to suggest changes to the product flow. Unique underlying technology but inefficient product in its nature due to the fact that it is priced on an events basis, so it becomes expensive to constantly monitor your products and how they are used as opposed to monitoring only when you think there is a problem or want to do a one-time exploration.

- **Alteryx (AYX) -** Alteryx enables everyday business users to conduct analytical queries on their data. Alteryx helps with the process of getting data from storage, transforming it, prepping it for analysis, conducting the actual analysis, enabling collaboration and security features on top of the data, scheduling any recurring flows, and then sending those packages off to other applications, or documents etc.

- **Domo (DOMO) -** Domo provides business analytics and visibility into operations for executives. They recently launched a low-price offering to try to stimulate customer activity.

- **Micro Strategy (MSTR) -** Data analytics and business intelligence platform. Increasingly used as a bitcoin holding strategy. Currently in the process of transitioning to cloud.

- **Palantir (PLTR) –** data analytics for large enterprise and government / military. Palantir's software was famously used in the battlefield when the military would get tons of different intel on a target, and they would have to parse the "web" of it to find answers / locate targets. They took this concept and brought it to enterprise. They try to be everything for everyone and often speak poorly of the rest of the tech landscape.

- **C3.AI (AI) -** C3 enables analytics for legacy industry companies such as in energy and mining.

Infrastructure Software

Infrastructure Software Overview

Infrastructure Software

Sub-Sector Description
- One of the core elements of the infrastructure stack is the database layer which includes Oracle (ORCL), MongoDB (MDB), and Couchbase (BASE), among many others. This is where applications store + interact with their data (Oracle = Relational, MongoDB = Document-based).
- Outside of the database layer there are use-specific technologies like Confluent (CFLT) and Elastic (ESTC) which underlie event-streaming and search/security cases, respectively.
- Companies like VMware (VMW, now AVGO), Nutanix (NTNX), and HashiCorp (HCP) sit at the infrastructure automation and provisioning layers.
- Finally, Snowflake (SNOW), Teradata (TDC), and Informatica (INFA) deal with data storage and data cleanse/prep in the context of analytics enablement.

Sub-Sector KPIs
- Customers / Downloads
- SNOW: Queries, stable edges
- CFLT: Events processed

Sub-Sector Themes / Trends / Research Questions
- Infrastructure decisions are some of the stickiest in software. That makes this group an important focus for bulls and bears. For bulls, it's many years of sustaining growth (e.g. if you believe MDB can slowly unseat ORCL in relational DBs). For bears, it's that you see investors getting all hyped up about a major architecture change, but you can see that competition or open-source is playing a larger-than-understood role in disrupting it (e.g. what seems to be happening with HCP).
- Will MDB have success unseating Oracle with transactional (traditionally relational) DB use cases?
- To what extent can point solutions like HCP and CFLT compete with the combination of cloud native versions of their solutions, their open-source alternatives, and new age disruptors?
- Is Snowflake's adoption curve still alive and how much optimization is left to do?

Market Cap (Largest to Smallest)

	SNOW	MDB	ESTC	NTNX	INFA	CFLT	TDC	HCP	BASE
(Billion)	$63.3	$28.6	$11.7	$11.3	$9.2	$7.0	$4.3	$4.2	$1.0

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)

CFLT	HCP	MDB	ESTC	SNOW	TDC	NTNX	INFA	BASE
13	13	25	38	50	63	75	88	100
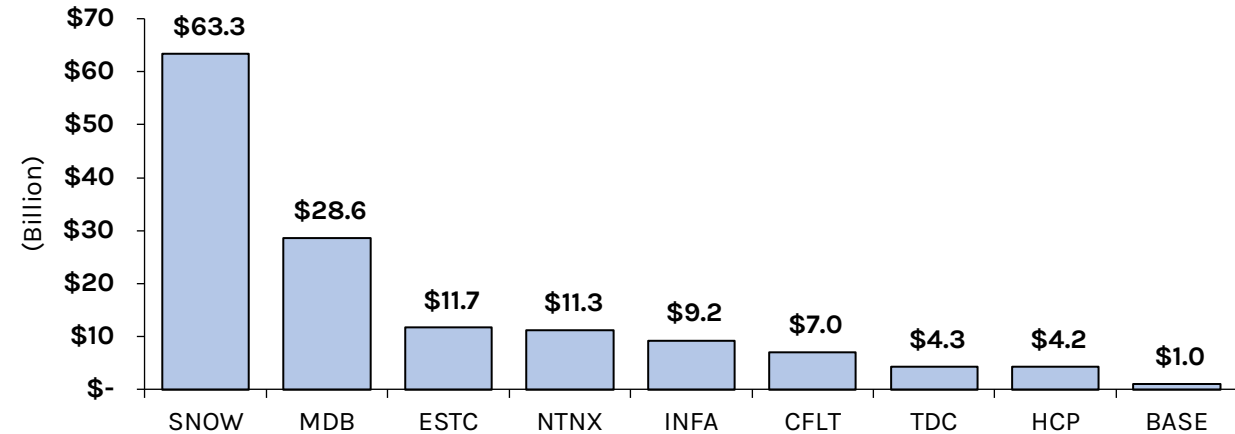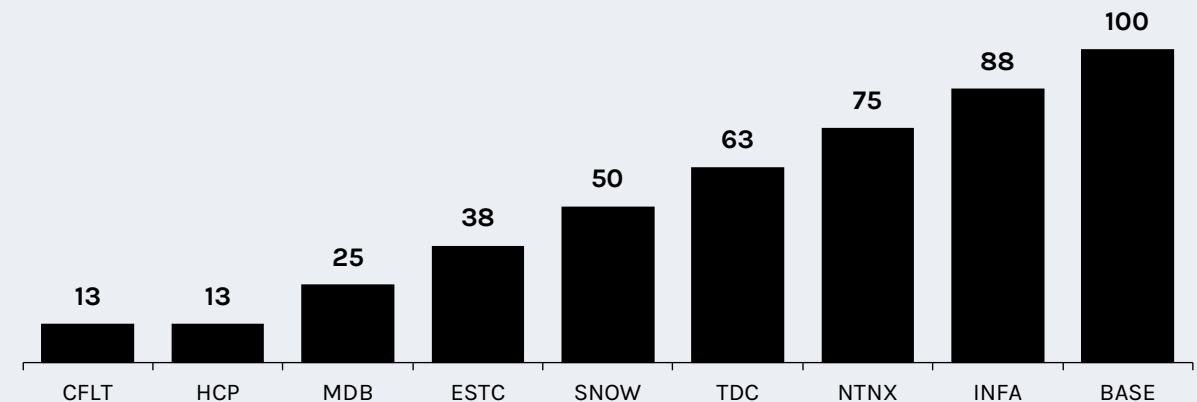
Database Management System Popularity Ranking

L3M Y/Y % Popularity (DB-Engines Score)

— Y/Y % (L3M Sum)
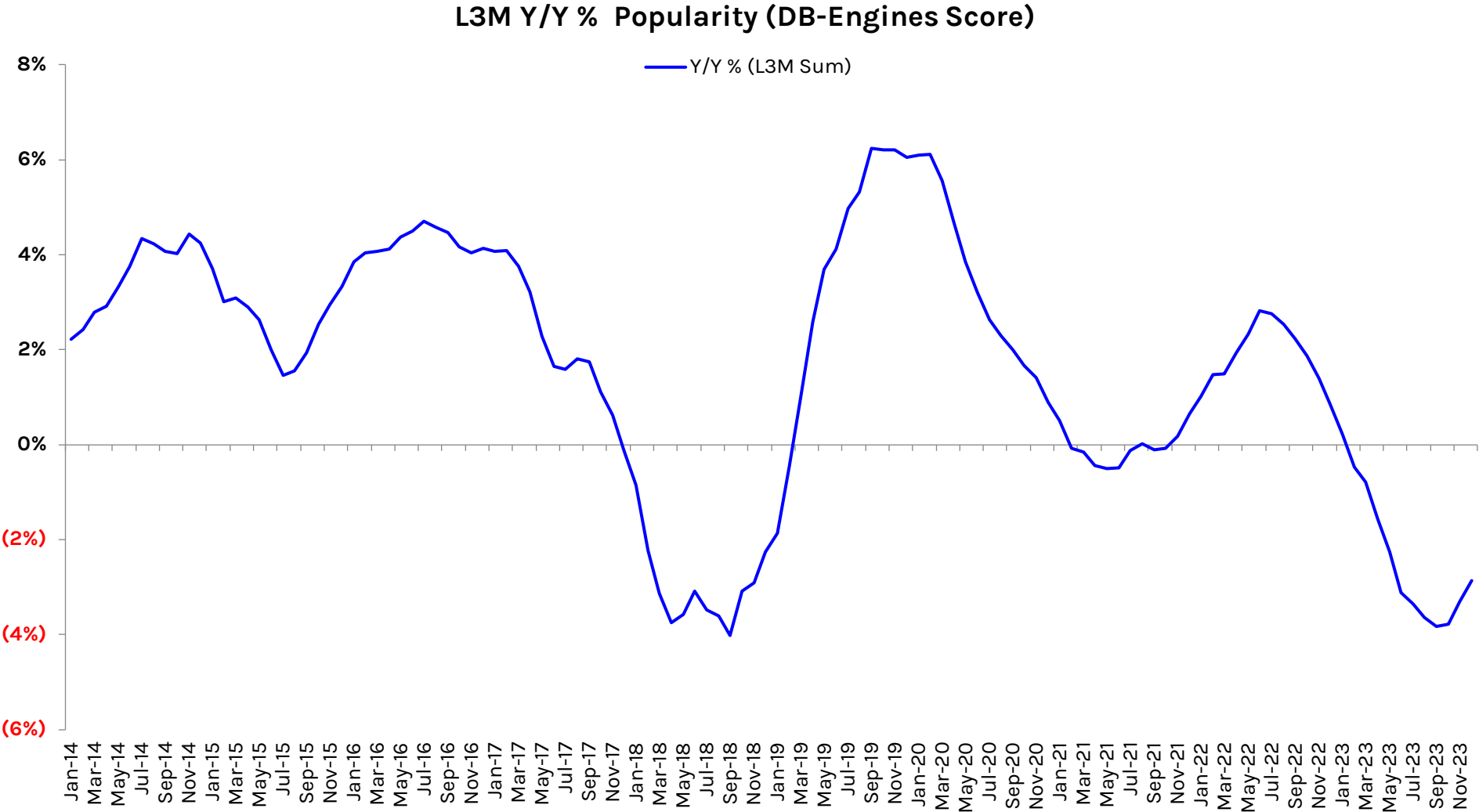
Top Rated Database Management Systems

1) Oracle
2) MySQL
3) Microsoft SQL Server
4) PostgreSQL
5) MongoDB
6) Redis
7) Elasticsearch (8 Last Yr.)
8) IBM Db2 (7 Last Yr.)
9) Microsoft Access
10) Snowflake (11 Last Yr.)
11) SQLite (10 Last Yr.)
12) Cassandra
13) MariaDB
14) Plunk
15) Microsoft Azure SQL Database (16 Last Yr.)
16) Amazon DynamoDB (15 Last Yr.)
17) Databricks (19 Last Yr.)
18) Hive (17 Last Yr.)

MongoDB's Rating Is Underperforming

MongoDB's Rating Is Down 11% Y/Y While The Top 18 Systems Are Down 2.6% Y/Y.

MongoDB Popularity (DB-Engines Score)
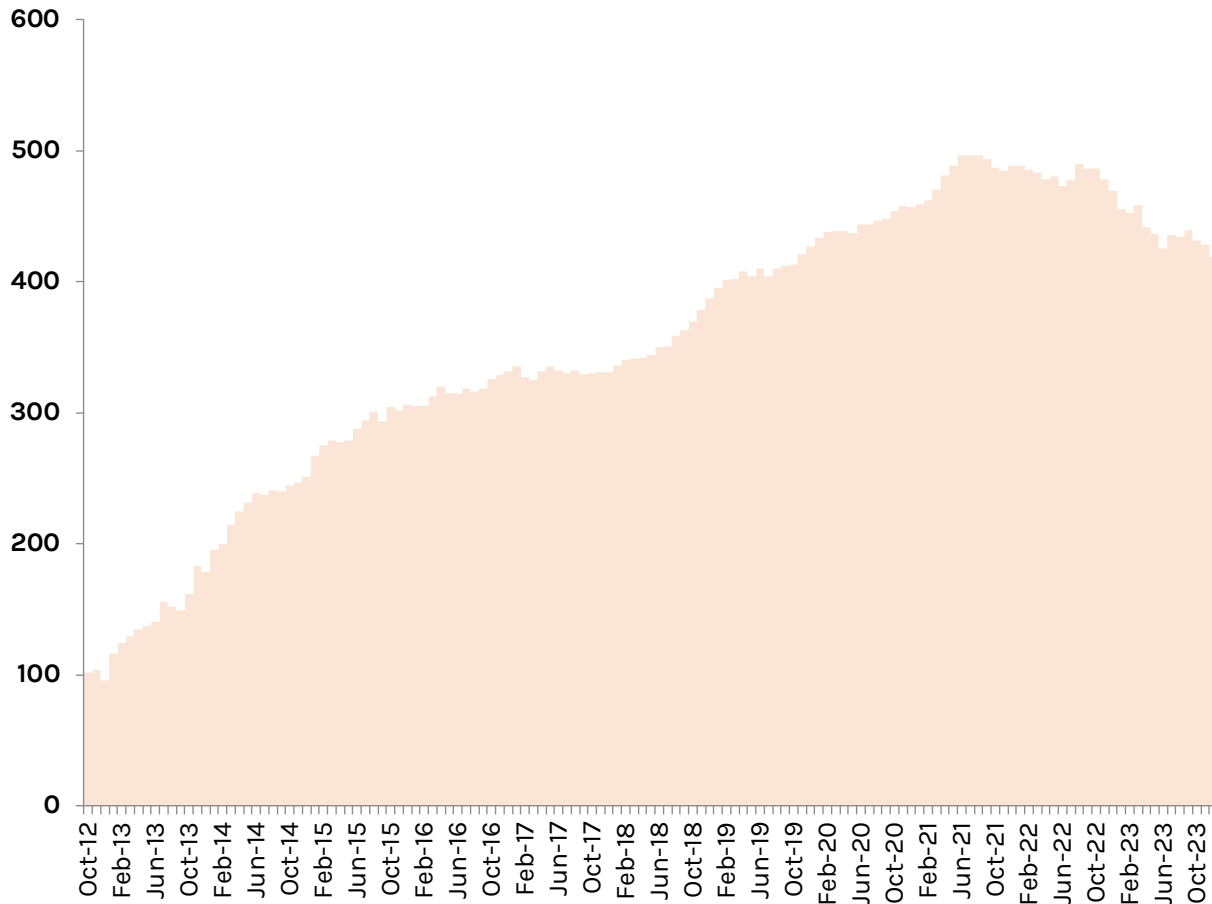
Y-Y & Y/Y % MongoDB Popularity (DB-Engines Score)
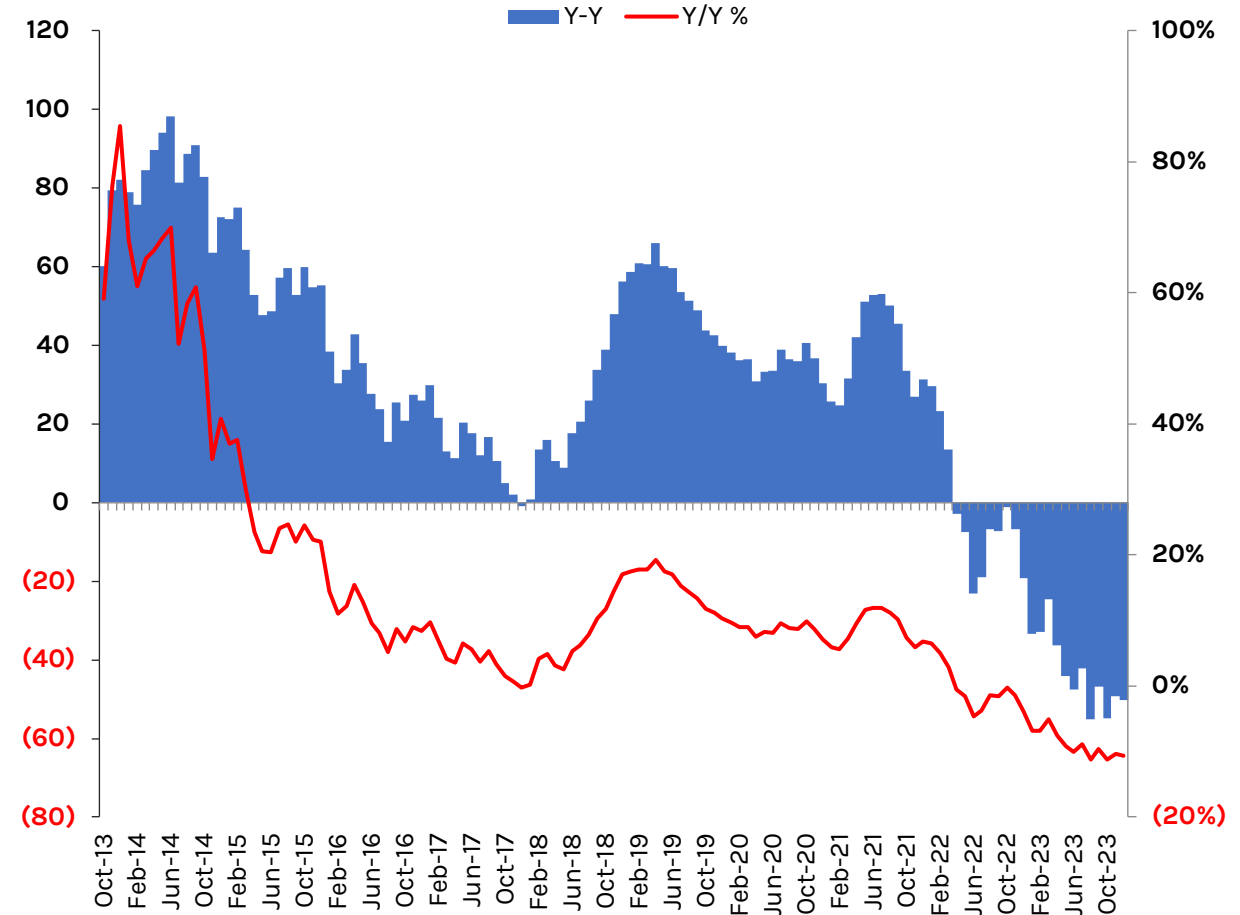
Snowflake Datasets In The Data Cloud

Snowflake Has Seen A 32.4% Increase In Datasets Running On Their Data Cloud.

Datasets in Snowflake Data Marketplace
(Select Datapoints, Introduced Private Preview June 2019)
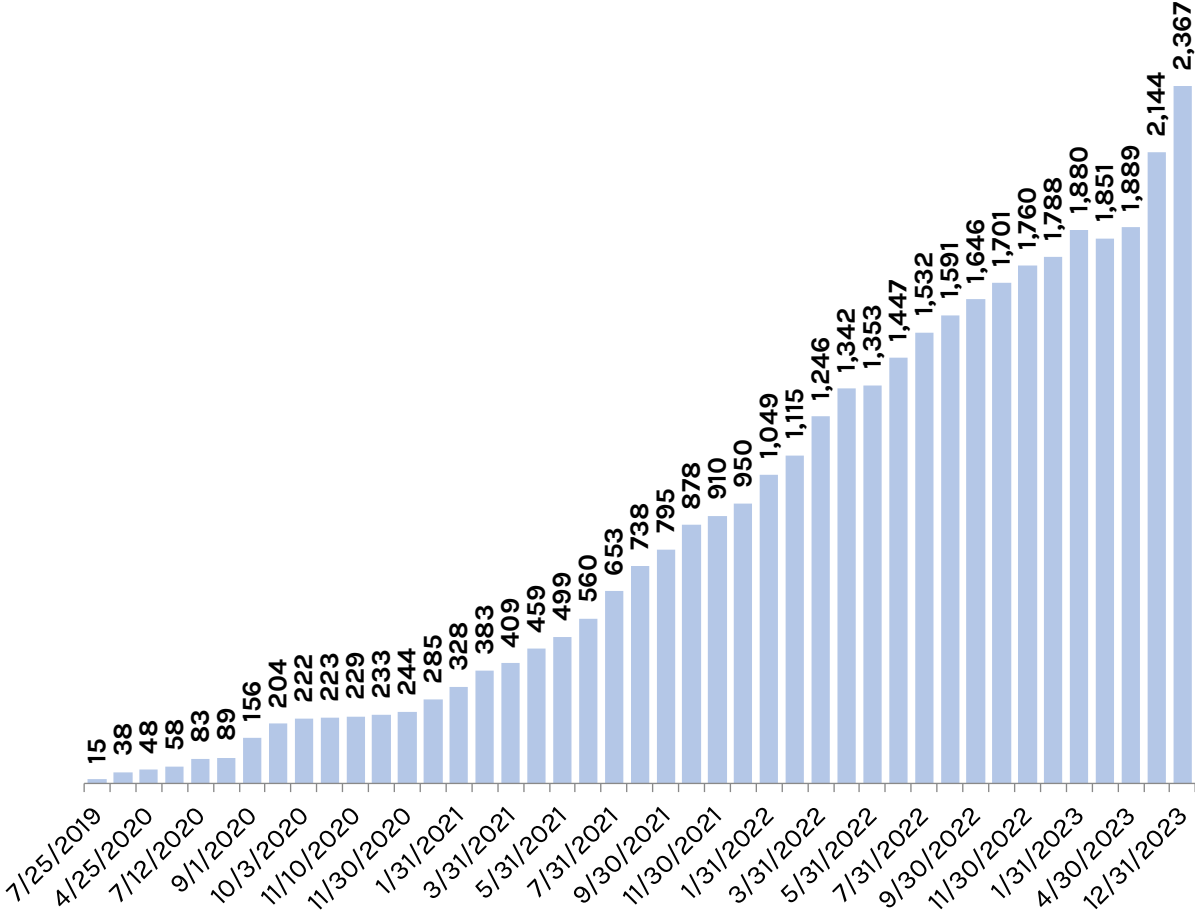
Datasets in Snowflake Data Marketplace
(Actual-Time Spaced Axis)
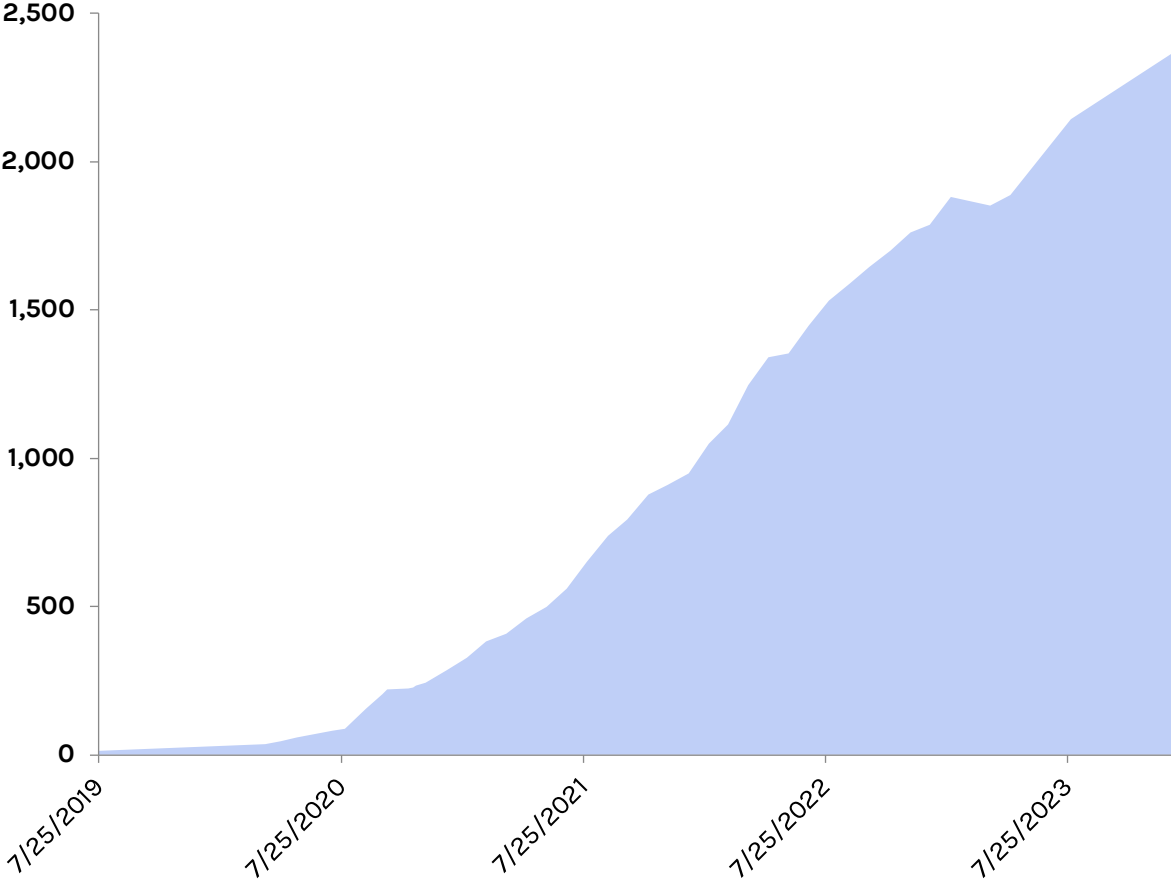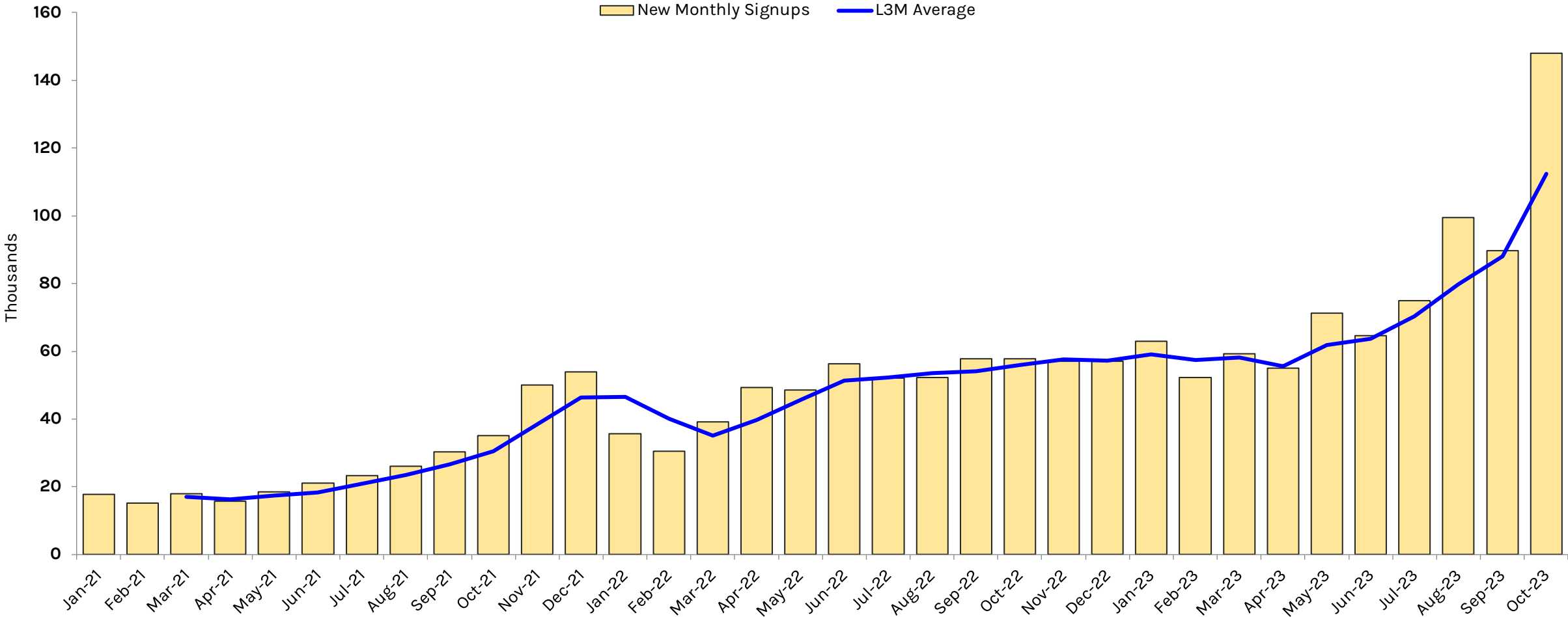
Sub-Sector Overview | Infrastructure Software

HEDGEYE

Infrastructure Decisions Are Some Of The Stickiest In Software. That Makes This Group An Important Focus For Bulls And Bears. For Bulls, It's Many Years Of Sustaining Growth, While For Bears, It's You See Investors Getting All Excited About A Major Architecture Change, But You Can See That Competition Is Already Playing A Role In Disrupting It.

Single Stock One-Liners:

- **MongoDB (MDB) -** document-model form of database. Core for building modern applications.

- **Confluent (CFLT) -** Confluent is the creator of open source Apache Kafka which is an event-processing database technology.

- **Teradata (TDC) -** traditional data warehouse for analytics. On premise / multi-cloud version of Snowflake.

- **Couchbase (BASE) -** Couchbase provides a NoSQL document-oriented database.

- **Elastic NV (ESTC) -** Elasticsearch offers real-time large scale enterprise search. Primarily deployed for 3 use cases: 1) search, 2) security, 3) observability.

- **Nutanix (NTNX) -** Nutanix is a more modern version of VMware, not tied to virtualization and slightly better fit for hybrid multi-cloud.

- **VMware (VMW) -** Provider of virtual machines and virtualized infrastructure. Innovation was separating software from underlying hardware. Evolved from there into private cloud.

- **Oracle (ORCL) -** database, infrastructure, and application software across enterprise use cases.

- **HashiCorp (HCP) -** HashiCorp provides solutions for automated infrastructure management via infrastructure as code.

- **Informatica (INFA) –** Informatica focuses on data management and data integration.

- **Snowflake (SNOW) -** Snowflake is a cloud data warehouse and cloud data platform. "Allows for rapid data retrieval during query processing."

Data Source: Hedgeye   © Hedgeye Risk Management LLC.   74

Business Process Software
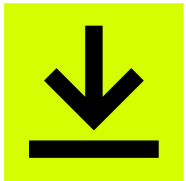
Business Process Overview

Business Process Management Software

Sub-Sector Description
- This subsector deals with automating complex business processes, creating apps and automating workflows.
- ServiceNow (NOW) is the biggest player in the space and deploys a ticket-based ITSM model as its core offering.
- UiPath (PATH), Appian (APPN), and Pegasystems (PEGA) deal with robotic process automation (automating workflows), and low-code complex application creation (Appian & Pega).
- Progress (PRGS) and WalkMe (WKME) provide digital experience (external) and digital adoption (internal) platforms, respectively.
- DocuSign (DOCU) enables e-signature and contract lifecycle management.

Sub-Sector KPIs
- Customers by workflow
- Robots per customer
- Online transactions / envelopes

Sub-Sector Themes / Trends / Research Questions
- ServiceNow dominates this category at the enterprise level, and disruption to ServiceNow likely won't come from players in this subsector but instead from those in the CRM or collaboration/work-management categories like TEAM, FRSH, or MNDY.
- ServiceNow has historically benefitted from organizational and technological bloat, to what extent do new AI solutions alleviate that problem for customers?
- Will customers adopt ServiceNow's new AI-based SKU at a 60% ASP increase?
- If ServiceNow goes down the acquisition path, whom will they acquire?
- Why has low-code not become a mainstream phenomenon?
- To what extent is DocuSign's core business being commoditized by Adobe and Pandadoc?
- Is there any possibility that DocuSign can move further into adjacencies?

Market Cap (Largest to Smallest)

Ticker	Market Cap (Billion)
NOW	$144.9
PATH	$14.1
DOCU	$11.1
PEGA	$4.3
APPN	$2.6
PRGS	$2.3
WKME	$0.9

Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)

Ticker	Score
PYCR	1
CDAY	4
PCTY	7
SPT	11
PAYC	14
PD	18
CXM	22
EXFY	25
LPSN	29
PEGA	32
PAYX	36
APPN	39
ADP	43
NTCT	47
PRGS	50
PATH	54
ORCL	57
DDOG	61
BRZE	64
HUBS	68
VRNT	72
FRSH	75
SWI	79
WDAY	82
SPLK	86
DT	89
WKME	93
NOW	97
CRM	100
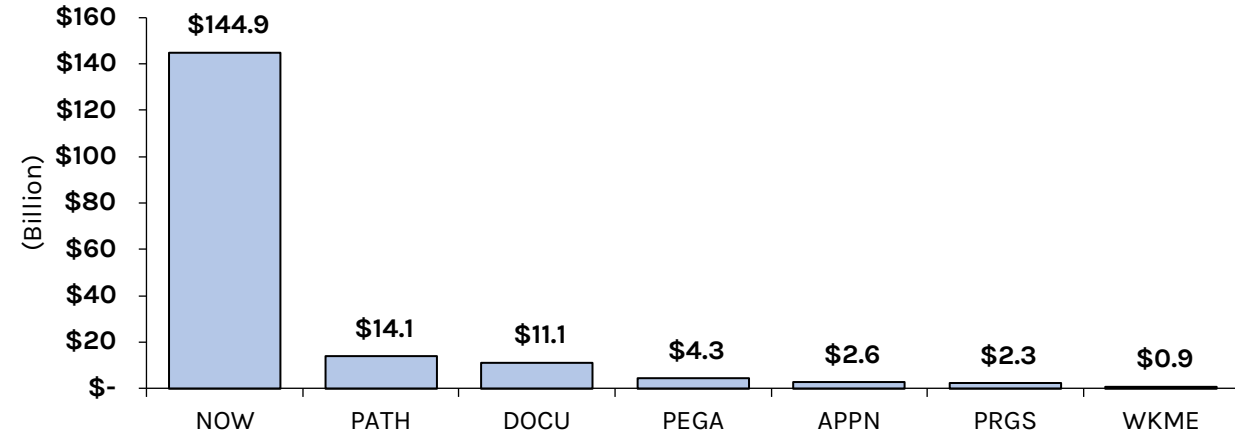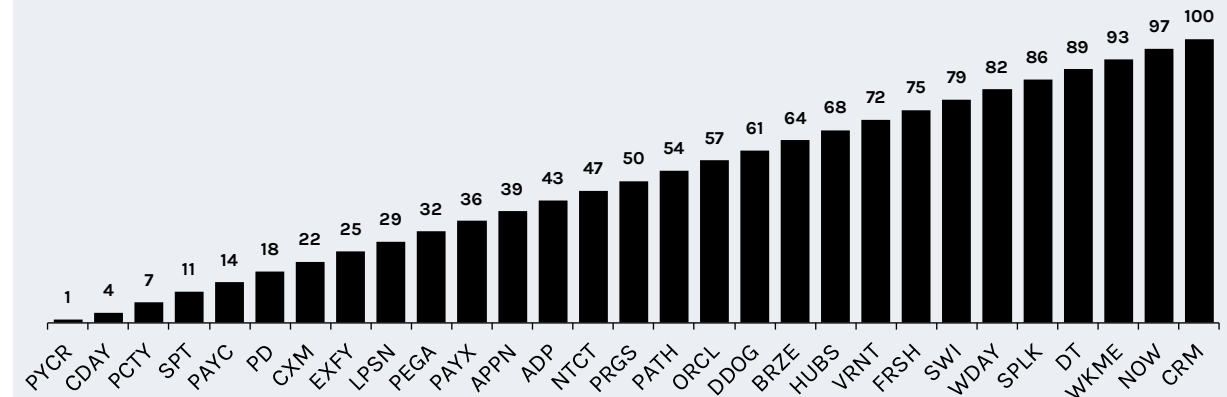
ServiceNow Cohort Breakdown

NOW Is Tapping The Older Cohorts For Current Expansion

ServiceNow Expansion from Initial ACV, by Cohort

Legend: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
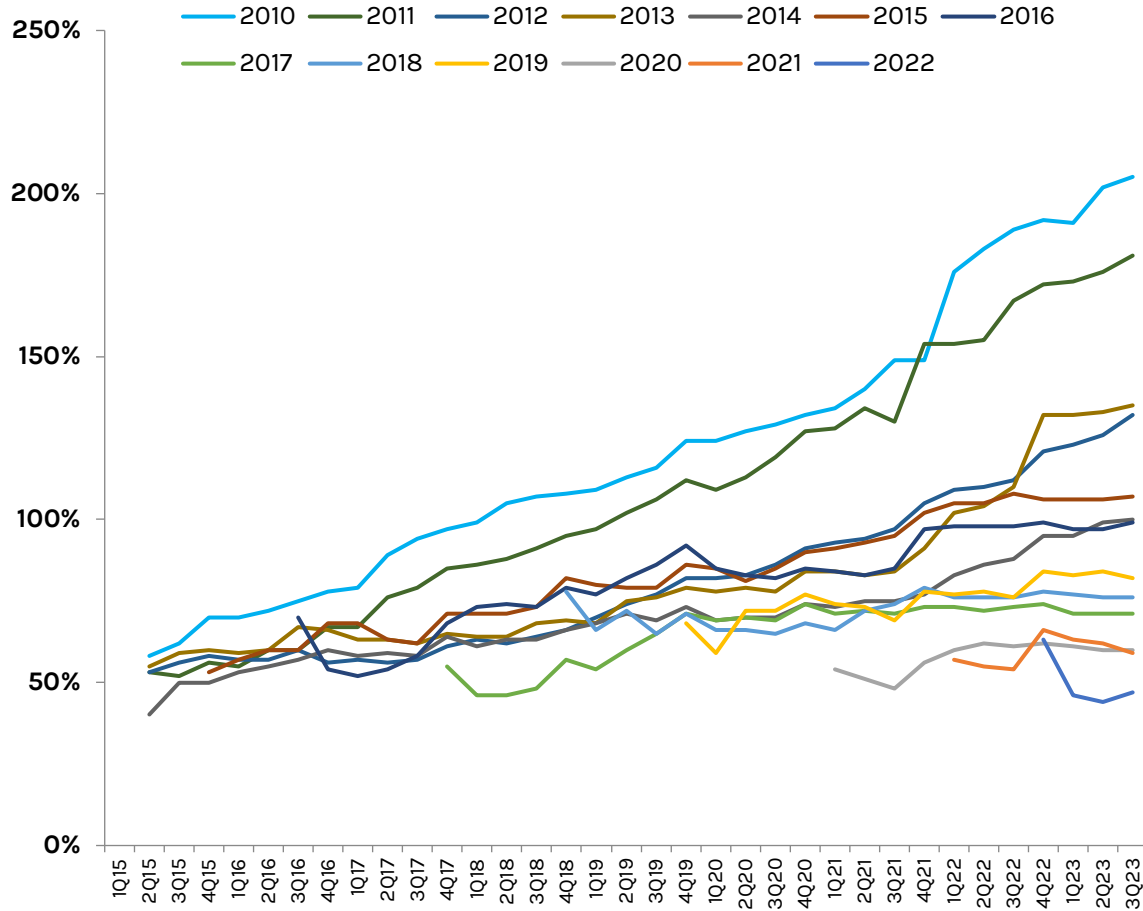
ServiceNow Cohort Expansion Breakdown

	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
2022				63%	46%	44%	47%
2021	57%	55%	54%	66%	63%	62%	59%
2020	60%	62%	61%	62%	61%	60%	60%
2019	77%	78%	76%	84%	83%	84%	82%
2018	76%	76%	76%	78%	77%	76%	76%
2017	73%	72%	73%	74%	71%	71%	71%
2016	98%	98%	98%	99%	97%	97%	99%
2015	105%	105%	108%	106%	106%	106%	107%
2014	83%	86%	88%	95%	95%	99%	100%
2013	102%	104%	110%	132%	132%	133%	135%
2012	109%	110%	112%	121%	123%	126%	132%
2011	154%	155%	167%	172%	173%	176%	181%
2010	176%	183%	189%	192%	191%	202%	205%

IT Operations & Helpdesk U.S. Job Postings

Job Postings In The IT Industry Have Been On Decline Since May Of 2022.

US Job Postings Index

IT Operations and Helpdesk
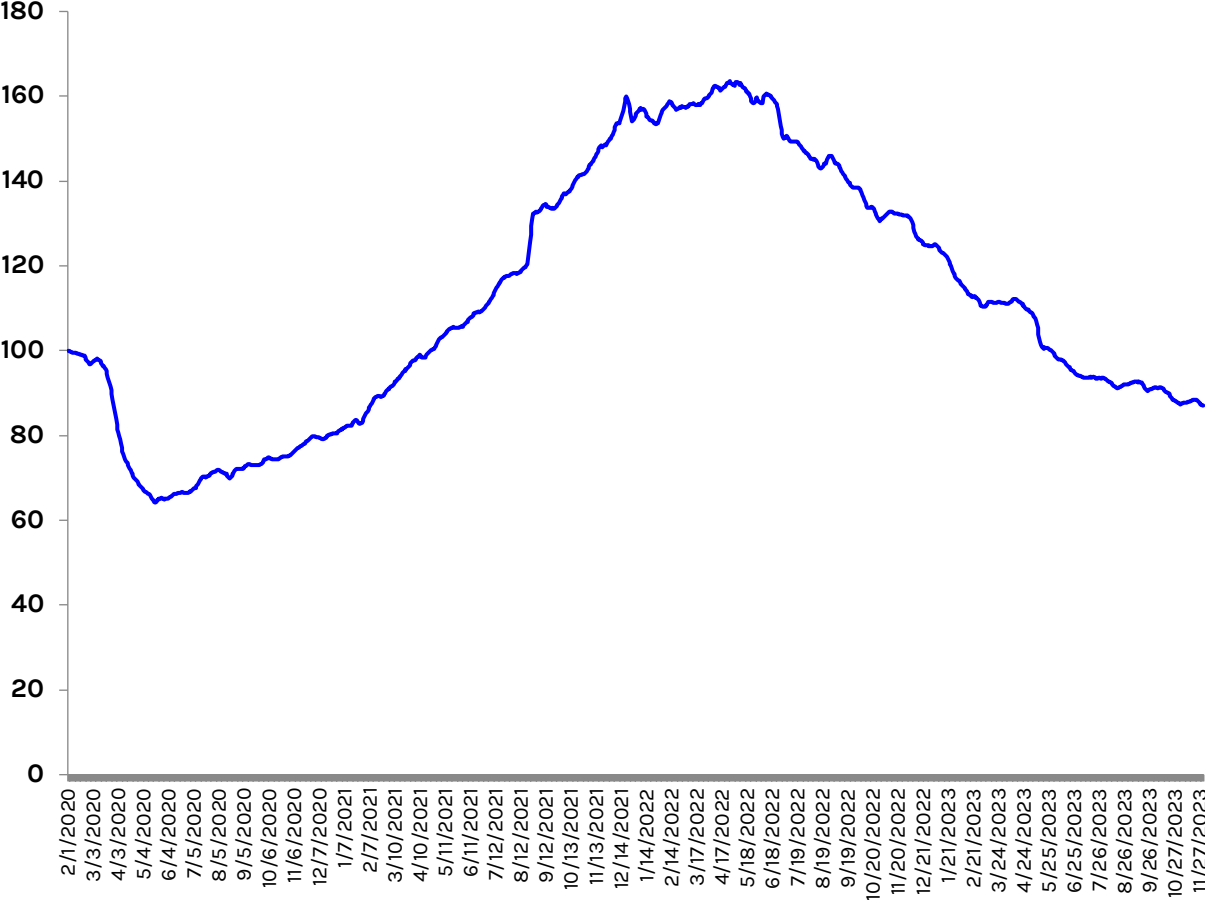
US Job Postings Y/Y %

IT Operations and Helpdesk
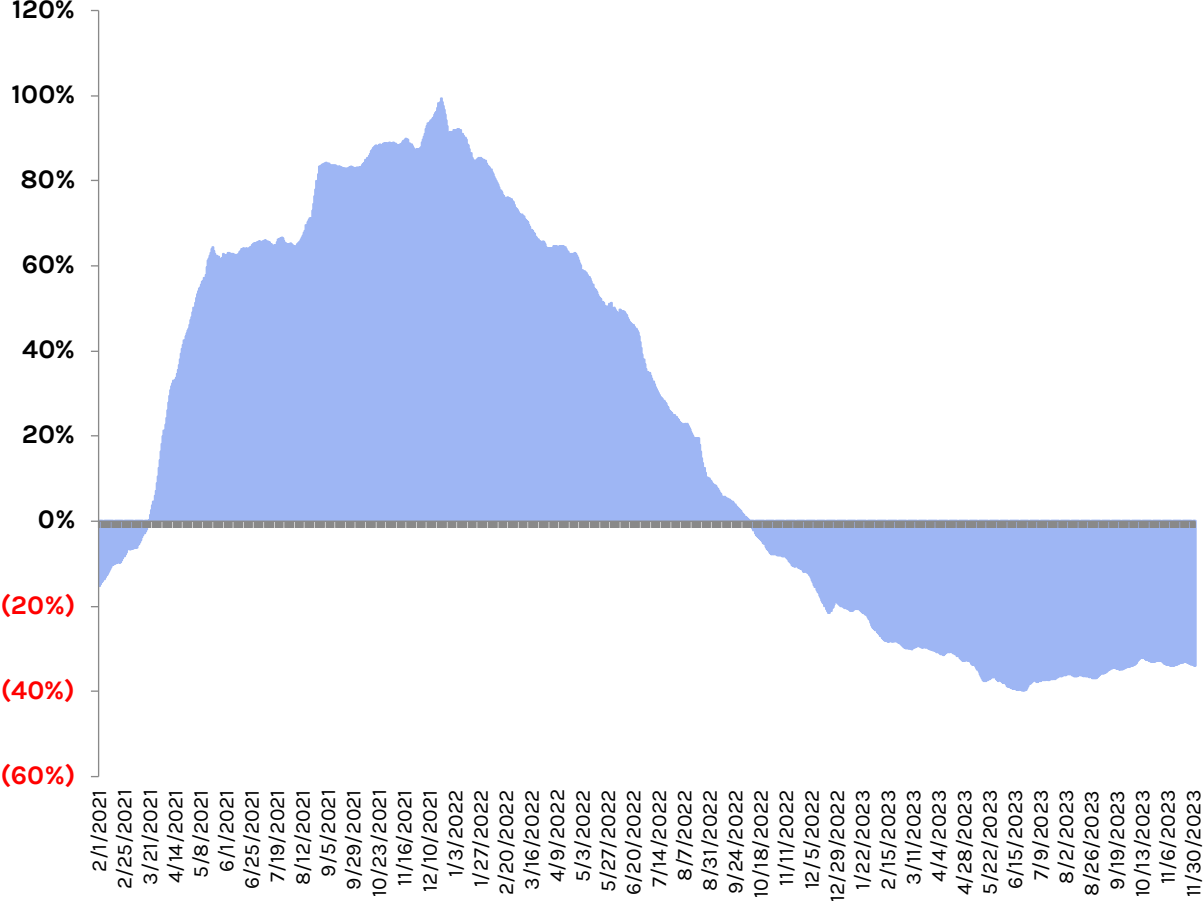
ServiceNow (NOW) Key Points of Debate

BULL

- History of consistent high organic growth at scale. The company has had consistent >97% renewal rates and >120% net expansion rates from its customer base. ServiceNow has successfully upsold its products outside of ITSM+ITOM with each of CSM, HRSM, and Creator clouds now making up ~10% of ACV.

- Powerful and sticky product that benefits from tech bloat. ServiceNow is the only serious ITSM solution for large enterprises and continues to displace legacy solutions from BMC, MicroFocus (OTEX), and CA (AVGO). The product aims to integrate with most of an enterprise's apps and internal processes making it increasingly sticky, and nearly impossible to remove.

- Lack of direct competition. While there is some competition from FreshWorks and Asana at the low end of the market and Atlassian's Jira for mid-market companies with heavy Atlassian implementations, there is really no strong modern alternative to ServiceNow at the enterprise level.

- Strong profitability and FCF generation (>25% margin) while avoiding the tech layoff crunch.

BEAR

- 2023 benefitting from 3 price increase moves, with ServiceNow attempting to drive a 60% higher price SKU into 2024. At the end of 2022, ServiceNow removed grandfathering for customers choosing to remain on older SKUs (10% impact on affected customers), the company added a 10% "Impact" (services) charge to customers renewing their contracts, and the company more aggressively pushed the transition of customers from standard to pro. We estimate that the combination of these factors led to a 5-7pt uplift in ServiceNow growth in 2023, which the company now has to comp in 2024. We also think that customers will be reluctant to step up to the Pro+ SKU at a 60% higher ASP after taking on the higher prices from the aforementioned moves.

- Likely to make an acquisition (or several) to sustain growth trajectory. ServiceNow has historically made only small acquisitions, yet in late 2021 the company attempted to acquire Celonis, which would have carried a high-single digit Billions price tag. In July of 2023 ServiceNow quietly acquired G2K group for ~$500MM, its largest acquisition to date. We think there will be significant multiple degradation as the company continues to make mid-size acquisitions or attempts to acquire something larger.

- Landing zone is saturated. ServiceNow has been adding fewer and fewer customers each year since 2019 and was already almost 50% landed with the G2K at the end of 2018 and is currently >85% landed with the F500.

- Expansion is focused on older cohorts (highest spenders). An analysis of ServiceNow cohort data reveals that the company is having uneven success driving expansion spend with customers landed since 2016.

- Susceptible to category disruption. We have discovered anecdotes of companies using more modern non-ITSM platforms, such as Monday.com, for common ITSM use cases.

Sub-Sector Overview | Business Software Management

ServiceNow Is The Only One That Truly Matters Because When You Think About The Important Rising Competitors To ServiceNow They Won't Come From This Group Of Names But Rather Will Come From Atlassian And FreshWorks Or Someone Brand New. Companies Need To Reduce Their Tech Bloat Via Automation. Conversely, Providers Like ServiceNow Benefit From Bloat Because It Makes Them Impossible To Remove.

Single Stock One-Liners:

- **Appian (APPN) -** Appian provides a low-code platform for business process automation. Heavily used in legacy industries like manufacturing and government. Typically adopted to create apps that will let you de-commission legacy systems.

- **ServiceNow (NOW) -** ServiceNow is the leader in ITSM (IT service management). A digital system to handle any internal process from end to end.

- **UiPath (PATH) -** UiPath provides robotic process automation software. You define a repetitive task without code, and the computer does it for you.

- **Pegasystems (PEGA) -** Pegasystems is a business process automation solution and a low code platform with a specific focus on CRM. Focused more on process automation than on application creation, and heavily tied to vertical/industry focus and customer-service use case. Currently involved in trade secrets lawsuit with Appian. Pega is older and bigger but they are each others biggest comps.

- **Progress (PRGS) -** Progress is a digital experience platform. One place to create / store / manage content on the web. Highly acquisitive application creation platform.

- **WalkMe (WKME) –** WalkMe is a digital adoption platform. Sits on top of your company's technology stack and shows where employees are running into friction. Helps improve software adoption, reduce unnecessary steps.

- **DocuSign (DOCU) -** e-signature solution increasingly trying to own contract lifecycle management.

Collaboration & Work Management

Collaboration & Work Management Overview

Collaboration and Work Management

Sub-Sector Description
- The collaboration and work management category includes tools that enable document storage, task tracking, collaboration and more.
- The dominant players in this space are MSFT and GOOGL, however there are many point solutions occupying substantial territory.
- At the document storage and access layer sit Box (BOX) and Dropbox (DBX), with the former having a greater enterprise product skew.
- Within the task coordination and collaboration bucket, players include Asana/ASAN (stronghold with marketing teams), Monday.com/MNDY (suitable for larger teams across departments but specifically in sales and product), and Smartsheet/SMAR (most similar to blank google sheets and used largely at the managerial level). Upland (UPLD) provides productivity tools for various departments.
- GitLab (GTLB) and Atlassian (TEAM) have the strongest foothold with DevOps and engineers.

Sub-Sector KPIs
- Customers / users

Sub-Sector Themes / Trends / Research Questions
- This sub-sector has by far the widest seat TAM in that the most generalizable products in the space can pursue the 1b+ knowledge worker seat TAM.
- In reality, other than MSFT and to a lesser extent the storage providers, most products don't generalize well in that they have a natural bias to a specific persona from the start and tend to add features that reinforce the commitment to that particular user base. That is why, for instance, ASAN/MNDY/SMAR have had a difficult time tapping into seat markets outside of sales/marketing/finance.
- Space is very competitive, has tons of new entrants all the time.
- In late 2023, MSFT launched Loop which was really its first coordinated attempt to get into the work management space. Watching the success of Loop will be important as until now, these peers have mostly been shielded from direct MSFT competition.
- Can MNDY succeed with their full-scale CRM and Dev products?
- Can TEAM with its service management product challenge ServiceNow?
- Will GTLB's take price model backfire as competitor GitHub is table stakes for most developers at this point?

Market Cap (Largest to Smallest)
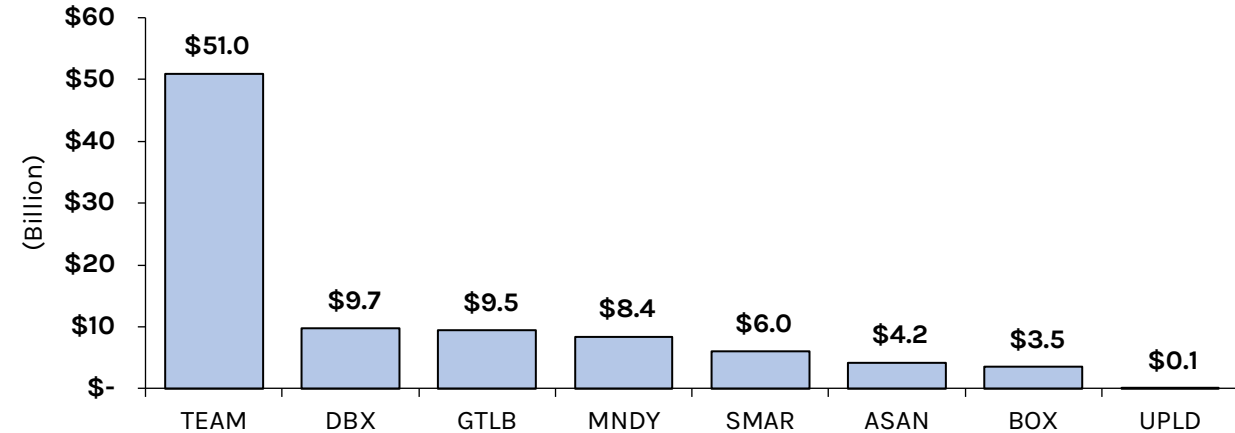
Sentiment Score
(1 = Contrarian Buy; 100 = Contrarian Sell)
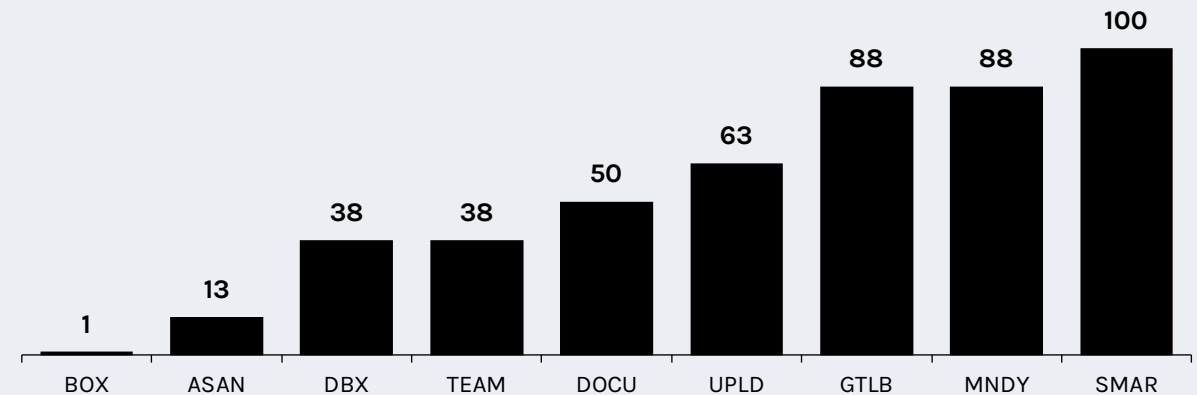
New Monthly Signups for GitHub and GitLab

GitHub Signups Stable To Down; GitLab Up In September & October

GitHub Cumulative Signups (MM, Left) & M-M Users Added (MM, Right)
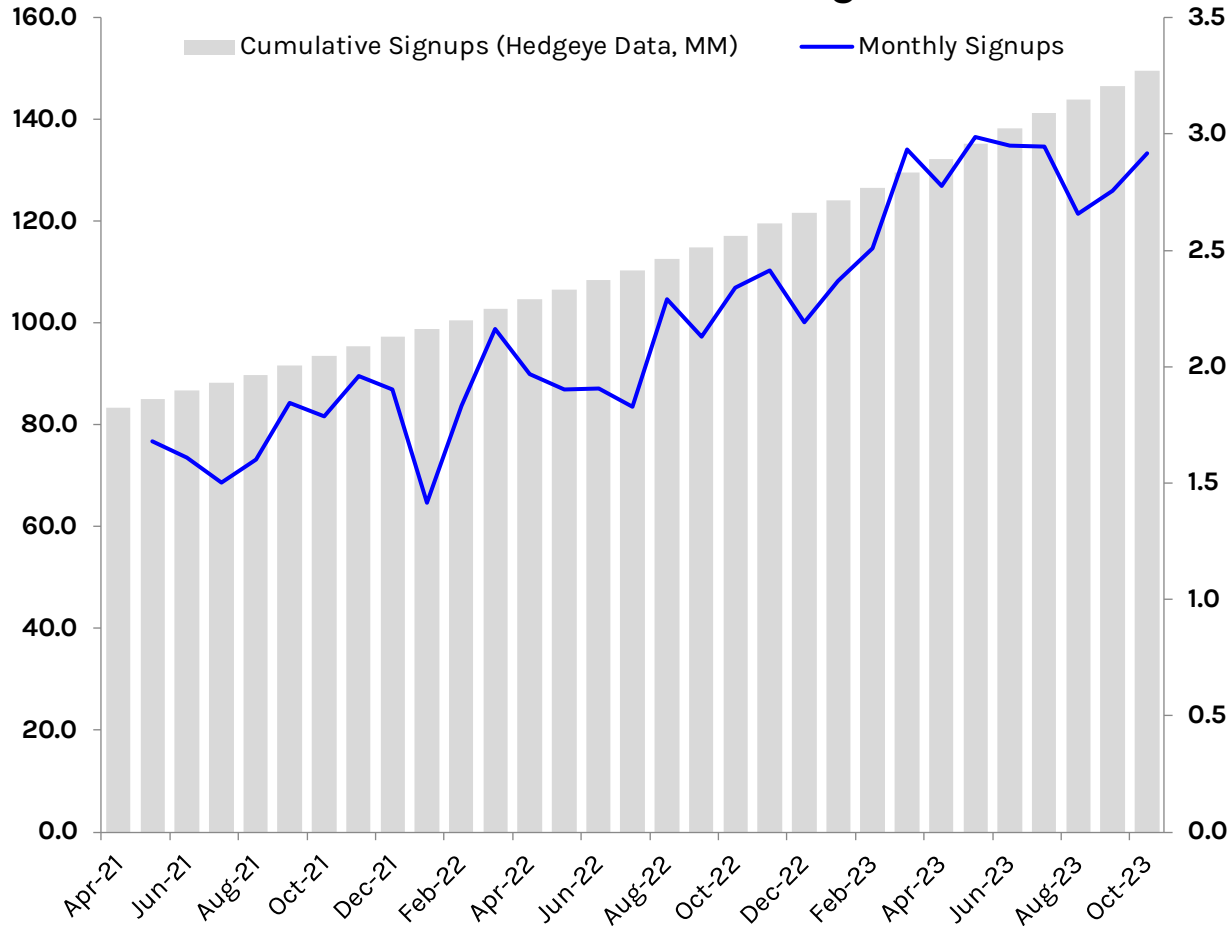
GitLab Cumulative Signups (MM, Left) & M-M Users Added (MM, Right)
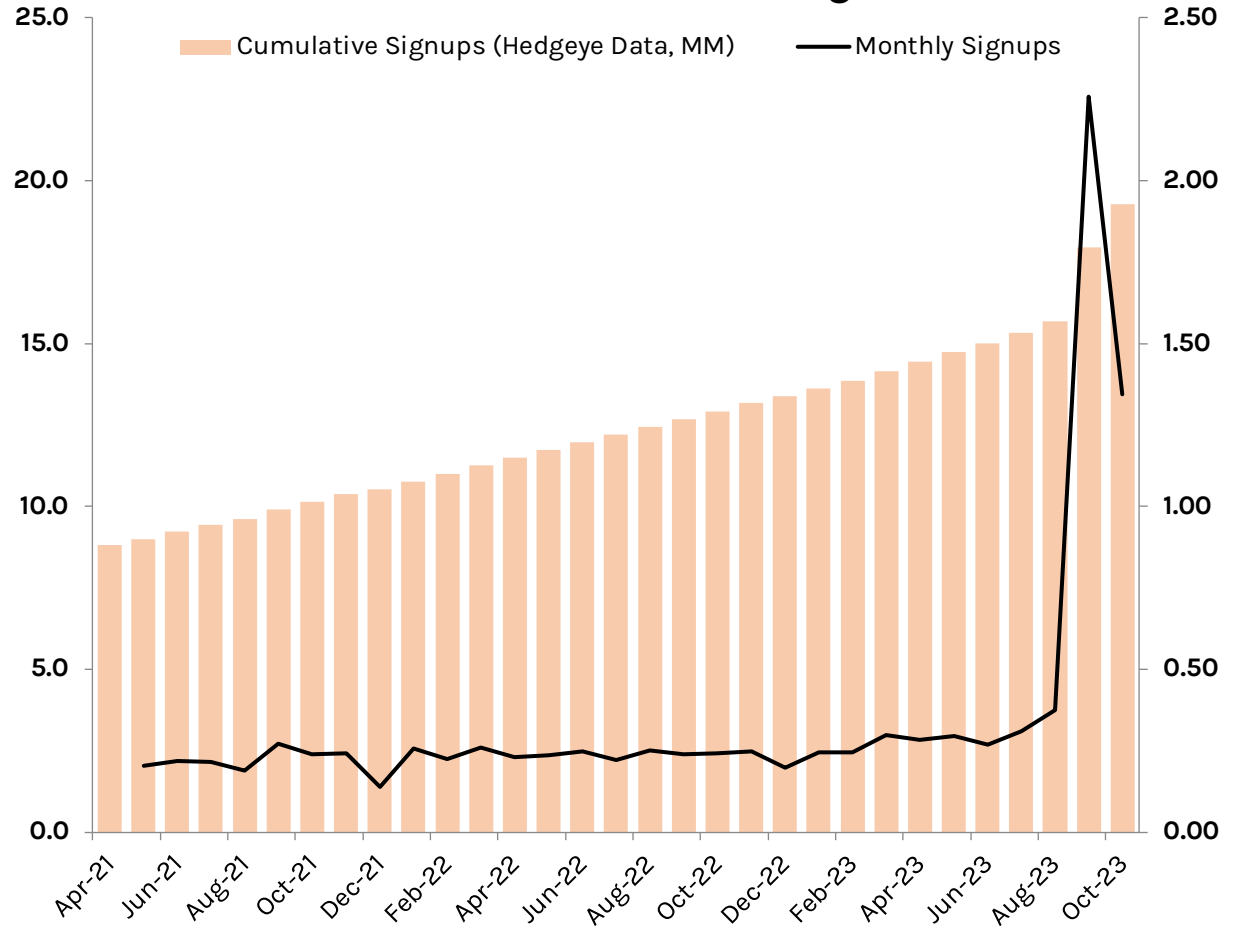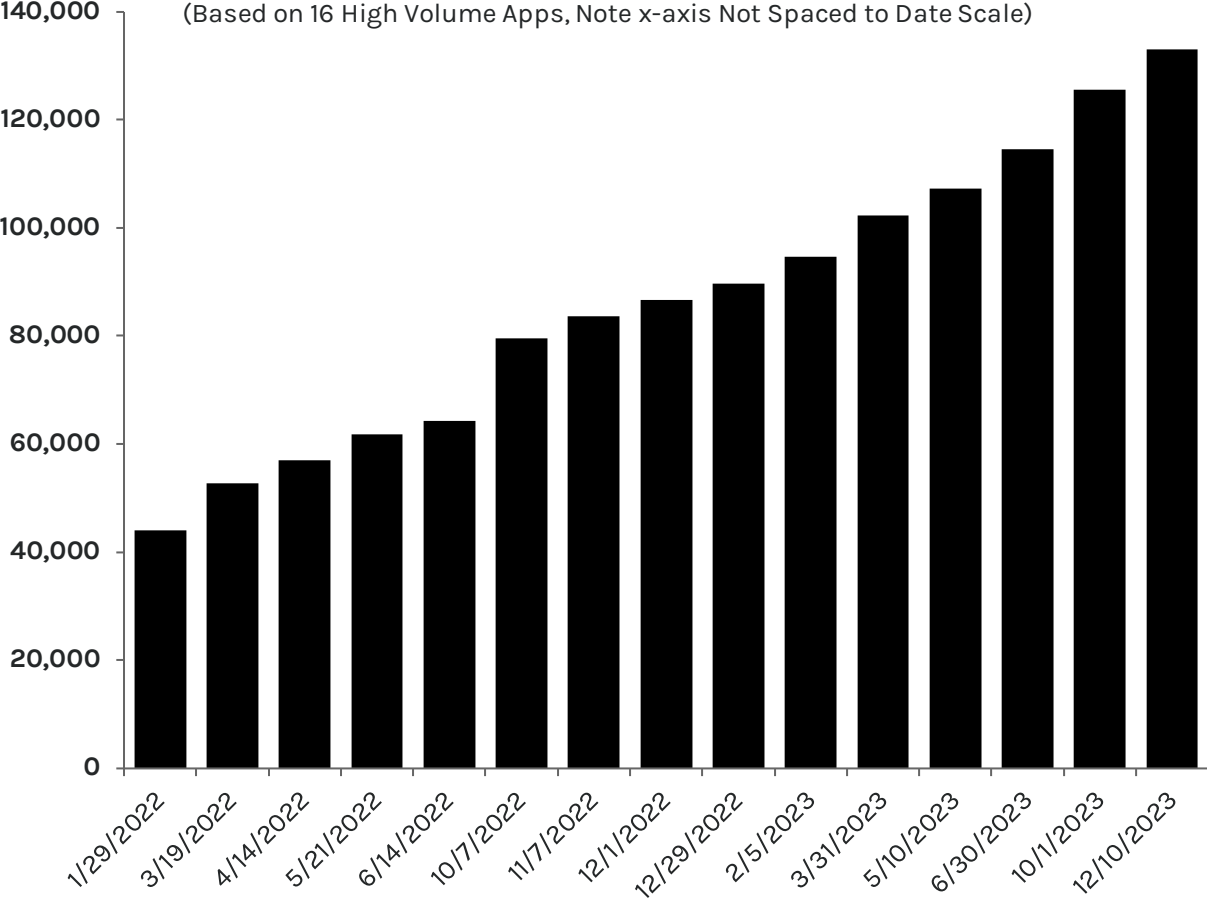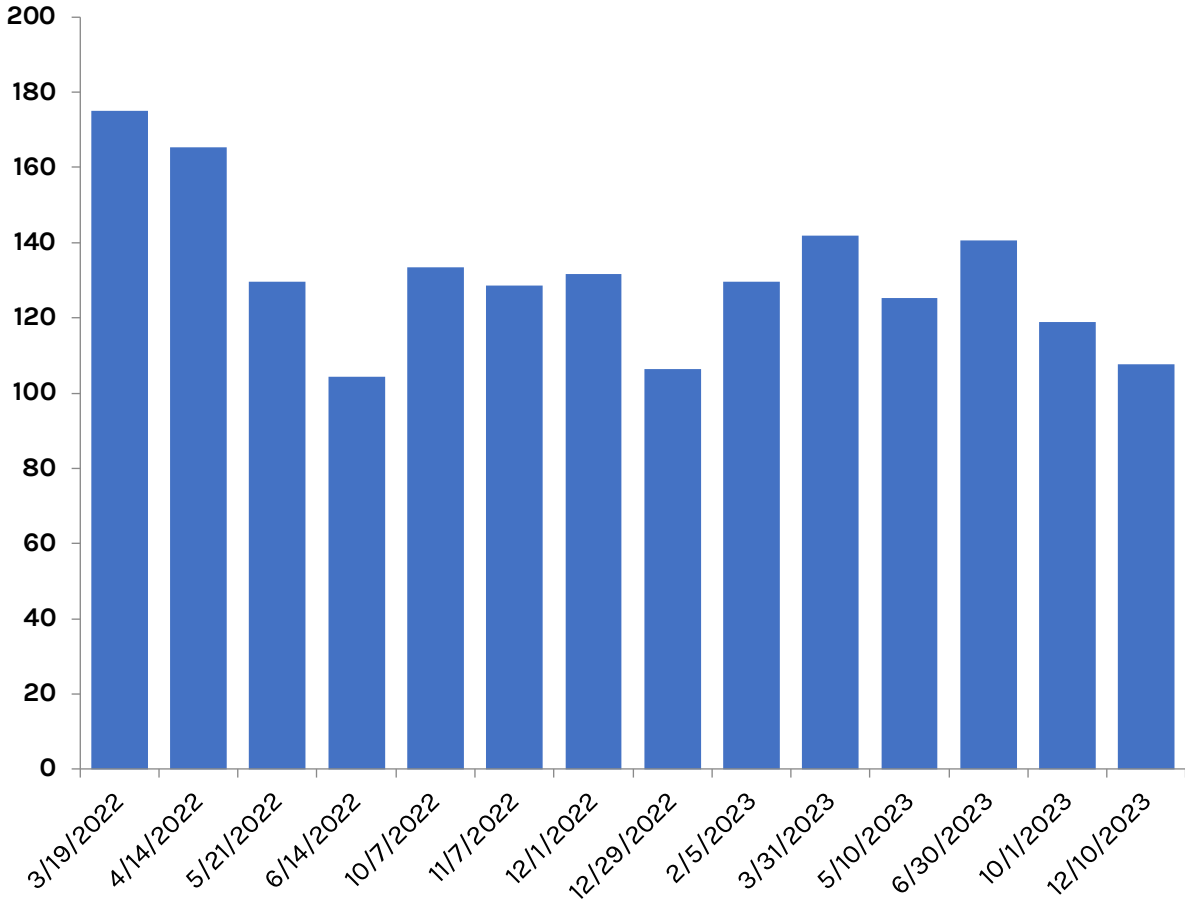
DevSevOps Periodic Table

Sub-Sector Overview | Collaboration & Work Management

The Subsector's Greatness Lies In Its Broad Total Addressable Market (TAM), As The Tools Function As Versatile Blank Documents Applicable To All Businesses And Departments. In Contrast To Specialized Tools Like Datadog Used Only By IT Teams, These Tools, Exemplified By MNDY And TEAM, Are More Universal. The Competitive Space Sees Frequent New Entrants, With Second-tier Players Including GTLB, & ASAN. Due To Its Impact On Individual Seats, This Sector Boasts Better Data Accessibility.

Single Stock One-Liners:

- **Asana (ASAN) -** Asana is a work management solution specifically targeted to marketing teams.

- **Box (BOX) -** Box is an enterprise work storage and collaboration solution. Competes with Dropbox or OneDrive. Has been in activist discussions over the last few years.

- **Dropbox (DBX) -** Dropbox is a consumer storage and collaboration solution increasingly focused on adjacencies such as document signing and move into enterprise. Competes with google drive / one drive.

- **Gitlab (GTLB) -** GitLab is a Devops solution mostly used to store source code and increasingly in the security elements of Devops. Primarily a competitor to GitHub (MSFT).

- **Monday.com (MNDY) -** Monday.com is a work management tool mostly for SMBs, with a flexible solution increasingly breaking into CRM and other specific use cases. Has proven to be one of the best / most flexible from this group.

- **Smartsheet (SMAR) -** Smartsheet is a work management tool primarily aimed at project managers. Basically just excel.

- **Atlassian (TEAM) -** Atlassian is a work management tool for developers. Jira is a ticketing and workflow coordination tool. Main products are Jira (engineering ticketing) and Confluence (collaboration zone).

- **Upland (UPLD) -** productivity tools for various departments. Highly acquisitive model.

**FOR MORE INFORMATION,
CONTACT US AT:**

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