

## Server &amp; Enterprise Software

# Previews: ESTC – Focus is Cloud; GTLB – FY25 revenue guide could be tricky

Price Objective Change

## ESTC: All eyes on Cloud's performance...again

Reiterate Buy and raise PO to \$150 (was \$125), as we carry a positive bias heading into Elastic's F3Q24 earnings report, which is scheduled for Thursday 2/29. We believe **the key metric is Cloud revenue growth**, where we forecast \$140.8mn (+27.2% y/y), compared to the Street at \$142.2mn (28.4% y/y). On a sequential net-new Cloud revenue basis, we forecast +\$5.8mn, compared to the Street at +\$7.2mn. Our +\$5.8mn new-new forecast is 58% lower than the net-new revs added in F2Q24 of +\$13.8mn. We believe overall sentiment is positive on ESTC, but also believe the bar is high for F3Q24 Cloud revenue performance. A similar level of net-new Cloud revenue as F2Q24, would imply a F3Q24 Cloud revenue growth of +34.4%, or \$148.8mn, which could be required to be a catalyst. From a LT view, we believe the debate on vector search/databases and retrieval augmented generation (RAG) technology differentiation has slowed down. Moreover, we believe Elastic is increasingly being viewed as a strategic layer for next-gen AI stacks, which should drive healthy demand trends over the medium-term. No change to our forecast. Our \$150 PO is based on a 11.0x EV/CY24E rev multiple (was 9.2x), higher for increased confidence in Elastic's end-market positioning.

## GTLB: F4Q rev upside important & FY25 guide looks tricky

Reiterate Buy and raise PO to \$88 (from \$74), as we believe GitLab will report strong F4Q revenue and PF op income above consensus of \$158.0mn and \$5.7mn, respectively, on Monday 3/4. We believe the **key metrics are F4Q total revenue upside and the initial FY2025 revenue growth guidance**. For total revenue, we believe a single digit revenue beat of 3-5% above Street (i.e., \$162.7-165.8mn) could be the bar. Initial FY2025 guidance could be tricky. Last year, initial FY2024 guidance was +25% y/y (below Street), and this could happen again this year, with the Street view at +27.4%. Recent infrastructure stock performance when guidance was below Street has been lackluster. However, with multiple growth drivers, a +25% FY2025 guide could be considered very conservative, creating a beat-and-raise scenario. Recent checks suggest that GitLab demand is consistent and perception of its DevSecOps platform offering is positive. We look for demand (plus any pull-forward demand) commentary on [Duo \(AI add-on\)](#), which became generally available in late Dec 2023. While the accelerated pace of tech layoffs to begin 2024 is somewhat concerning given its seat-based model, we believe broader demand for developers remains historically high, which should result in healthy demand. Our \$88 PO is based on 18.7x EV/CY24E revs (15.5x prior). Higher multiple for increased conviction for revenue upside potential. No change to estimates.

## Average infra stock performance post results is +9.2%

In this report, we display recent quarterly performance from six infrastructure companies (AMPL, CFLT, DDOG, DT, INFA, & FROG), where the average next trading day stock performance post print was +9.2%. We also display key charts for Elastic & GitLab. From a short interest perspective, as of 2/16/24, ESTC's short interest decreased 6% compared to 12/1/23, while GTLB decreased 25%. ESTC's short ratio is 2.4 as of 2/16/24, a decrease of 27% from 12/1/23, whereas GTLB's short ratio is 2.0, down 65%.

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Refer to important disclosures on page 9 to 12. Analyst Certification on page 7. Price Objective Basis/Risk on page 6.

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### Exhibit 1: PO changes in this report

Raise POs for ESTC and GTLB

	New Rating	New PO	Old Rating	Old PO
ESTC	No Change	\$150	Buy	\$125
GTLB	No Change	\$88	Buy	\$74

Source: BofA Global Research

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LT = long-term

# PO changes for Elastic and GitLab

## Exhibit 2: PO changes for ESTC and GTLB. Ratings remain the same, ESTC at Buy and GTLB at Buy

We increase our ESTC PO to \$150 (from \$125) and our GTLB PO to \$88 (from \$74)

	New Rating	New PO	Old Rating	Old PO
ESTC	No Change	\$150	Buy	\$125
GTLB	No Change	\$88	Buy	\$74

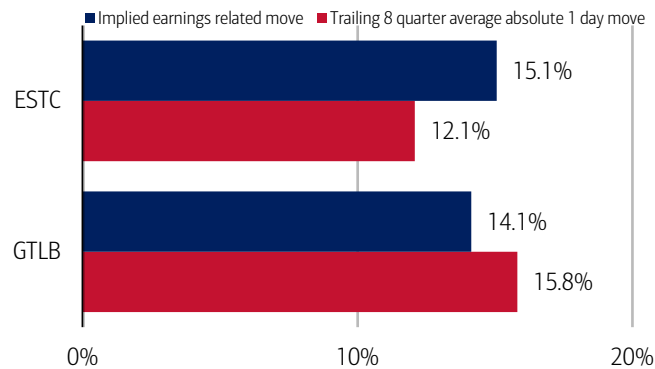
Source: BofA Global Research

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## 4 charts heading into ESTC/GTLB prints

### Exhibit 3: Implied earnings move vs. trailing 8 quarter average absolute 1-day move

GTLB's implied 1 day move is 14% and ESTC's is 15%

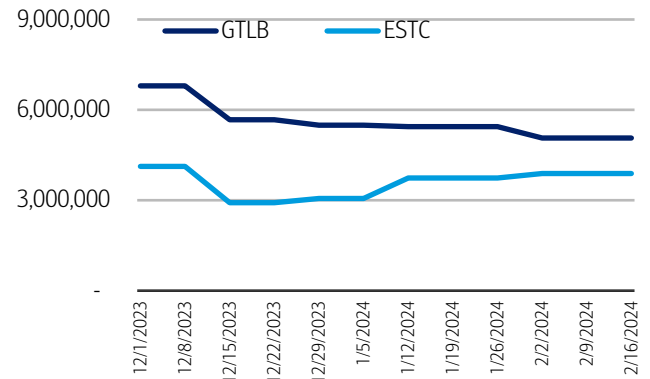


Source: Bloomberg, BofA Global Research

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### Exhibit 4: Short interest for GTLB and ESTC, 12/1/23 to 2/16/24

Short interest decreased 25% for GTLB and 6% for ESTC

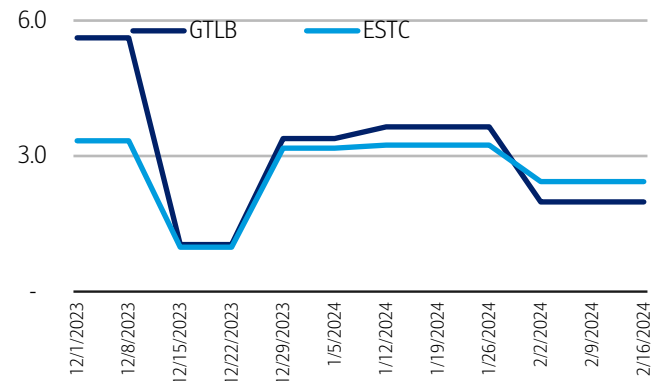


Source: BofA Global Research, Bloomberg

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### Exhibit 5: Short interest ratio for GTLB and ESTC, 12/1/23 to 2/16/24

The short interest ratio for GTLB and ESTC declined 65% and 27%, respectively

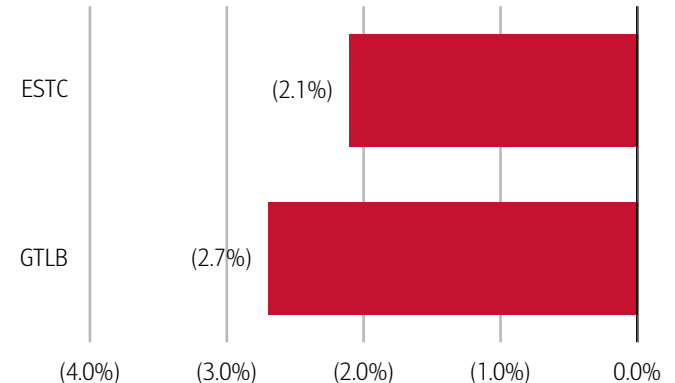


Source: BofA Global Research, Bloomberg

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### Exhibit 6: BofA vs Consensus estimates for CY2024 total revenue

We are currently 2.1% below Street for Elastic, and 2.7% below Street for GitLab



Source: Visible Alpha, BofA Global Research estimates

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# Recent infrastructure company fundamental & stock performance

**Exhibit 7: We present a quick analysis of recent fundamental and stock performance from recent infrastructure software company quarterly reports**  
 Confluent (CFLT) displayed the highest next trading day performance of +34%, while Amplitude (AMPL) had the weakest performance being down 16%

Company	Ticker	Quarterly revenue actual (\$mn)	Consensus estimate (\$mn)	Quarterly revenue upside/downside to Street	Quarterly PF op income or adj. EBITDA actual (\$mn)	Consensus estimate (\$mn)	PF operating income upside/downside to Street	Next trading day stock performance	Key guidance metric
Amplitude	AMPL	71.4	71.5	(0.2%)	2.3	1.6	41.6%	(16.1%)	2024 rev guide of \$291.5-294.5 was <b>below</b> the \$297.4mn Street
Confluent	CFLT	213.2	205.5	3.7%	11.2	1.0	973.5%	34.1%	2024 rev guide of ~\$950mn was <b>above</b> the \$939mn Street
Datadog	DDOG	589.6	569.7	3.5%	166.7	132.6	25.7%	3.4%	2024 rev guide of \$2.56-2.58bn was <b>below</b> the \$2.59bn Street
Dynatrace	DT	365.1	357.9	2.0%	104.6	95.9	9.1%	(7.6%)	<b>Lowered</b> FY24 ARR growth rate by 100bps
Informatica	INFA	445.2	432.2	3.0%	166.4	151.7	9.7%	12.7%	<b>Reiterated</b> 2024 Cloud ARR growth rate of +35% y/y
IFrog	FROG	97.3	93.0	4.5%	16.2	10.4	54.8%	28.4%	2024 rev guide of \$424-428mn was <b>above</b> the \$422mn Street
Average				2.8%			185.7%	9.2%	
Median				3.3%			33.6%	8.1%	
High				4.5%			973.5%	34.1%	
Low				(0.2%)			9.1%	(16.1%)	

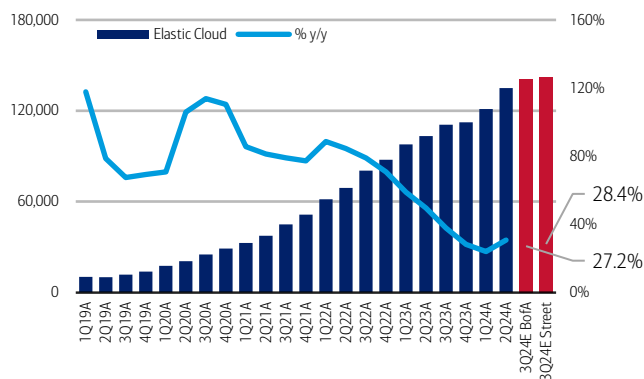
Source: Company filings, Bloomberg, BofA Global Research estimates

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## Elastic specific charts

**Exhibit 8: Elastic Cloud revenue and year/year growth, BofA/consensus estimates for F3Q24E and historical F1Q19-F2Q24**

We estimate F3Q24 cloud revenue growth of +27.2% y/y, which is a lower growth estimate than the 28.4% Street view

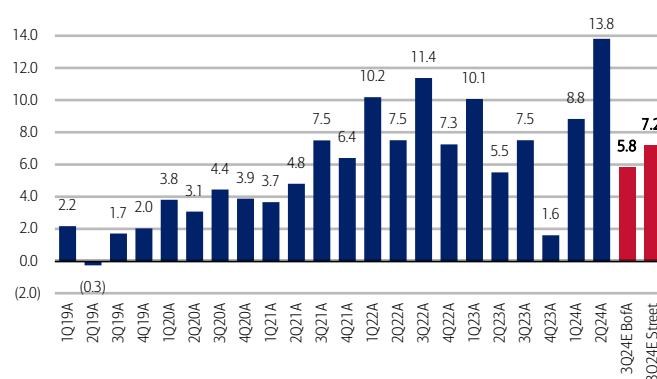


Source: Visible Alpha, Company filings, BofA Global Research estimates

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**Exhibit 9: Elastic Cloud net-new revenue, BofA/consensus estimates for F3Q24E, and historical F1Q19-F2Q24**

We estimate \$5.8mn in net-new Cloud revenue for F3Q24E, which is lower than the consensus of \$7.2mn



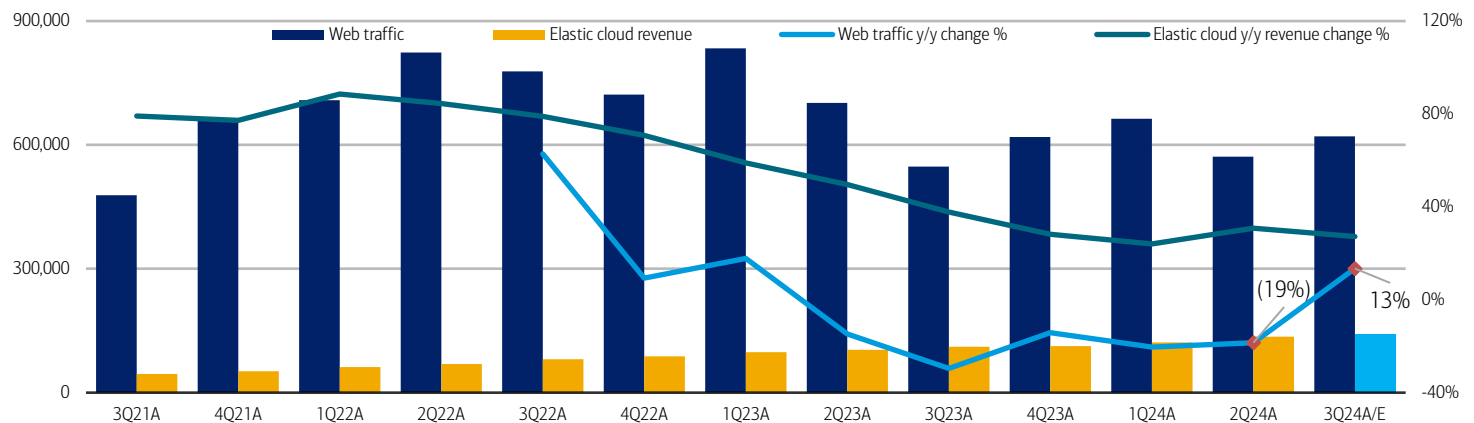
Source: Visible Alpha, Company filings, BofA Global Research estimates

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**Exhibit 10: Web traffic compared to Elastic Cloud revenue**

We display web traffic and compare it to our forecast for Elastic Cloud revenue and historicals. We note that web traffic volume was +13% y/y for Elastic's F3Q24 quarter, which is a notable improvement from the down 19% volume from last quarter.

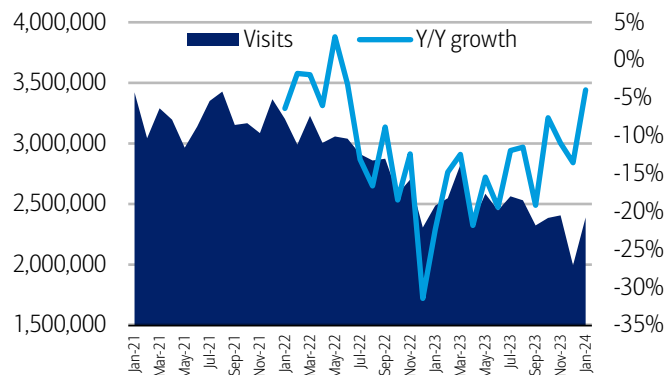


Source: Similarweb, BofA Global Research estimates, company filings

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**Exhibit 11: Web traffic to Elastic's main webpage (elastic.co)**

Web visits for the Elastic landing page were down 3.9% in January 2024. However the website traffic deceleration impact has slowed, and improved on a monthly sequential basis in January 2024

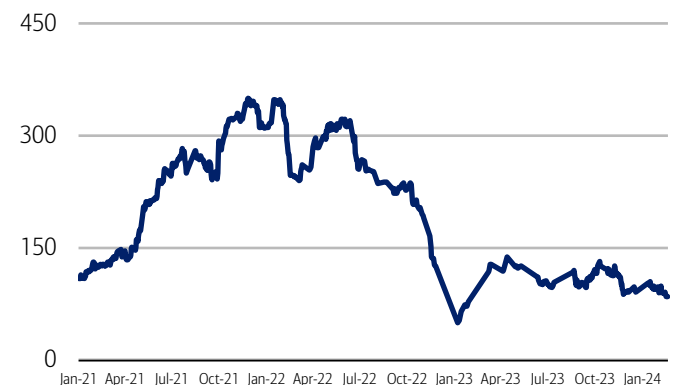


Source: SimilarWeb, BofA Global Research

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**Exhibit 12: Elastic job postings. Our take: neutral to positive**

Job postings currently stand at approximately 85, and has been somewhat rangebound over the past several months, suggesting stable demand and headcount growth at a steady and predictable pace.



Source: Thinknum, BofA Global Research estimates

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**Exhibit 13: Elastic – BofA versus consensus estimates**

Our F3Q24 revenue estimate is 0.1% below consensus

	3Q24E			4Q24E			FY24E			FY25E		
	BofA est.	Consensus	BofA vs consensus	BofA est.	Consensus	BofA vs consensus	BofA est.	Consensus	BofA vs consensus	BofA est.	Consensus	BofA vs consensus
Total Revenue	320,061	320,372	(0.1%)	325,567	326,699	(0.3%)	1,249,993	1,251,436	(0.1%)	1,449,883	1,476,569	(1.8%)
Y/Y change %	16.6%	16.7%	(11bps)	16.3%	16.7%	(40bps)	16.9%	17.1%	(14bps)	16.0%	18.1%	(213bps)
Guidance (mn)	319-321						1,247-1,253					
Elastic Cloud	140,827	142,177	(0.9%)	144,877	146,291	(1.0%)	541,865	544,630	(0.5%)	663,694	699,483	(5.1%)
Y/Y change %	27.2%	37.7%	(1055bps)	29.0%	32.1%	(314bps)	27.8%	28.4%	(65bps)	22.5%	28.4%	(595bps)
Billings (calculated)	373,668	358,551	4.2%	402,226	412,176	(2.4%)	1,357,681	1,303,771	4.1%	1,545,749	1,606,329	(3.8%)
Y/Y change %	18.8%	14.0%	481bps	12.5%	15.2%	(278bps)	16.6%	11.9%	463bps	13.9%	18.3%	(446bps)
Income (Loss) from Operations	37,883	37,835	0.1%	23,669	25,053	(5.5%)	131,892	133,183	(1.0%)	181,368	188,238	(3.7%)
Operating Margin	11.8%	11.8%	3bps	7.3%	7.7%	(40bps)	10.6%	10.6%	(9bps)	12.5%	12.7%	(24bps)
Guidance	11.5-12.0%						10.25% - 10.75%					
Adjusted EBITDA	42,522	41,527	2.4%	28,122	28,364	(0.9%)	150,765	149,897	0.6%	189,960	200,854	(5.4%)
Adjusted EBITDA margin	13.3%	13.0%	32bps	8.6%	8.7%	(4bps)	12.1%	12.0%	8bps	13.1%	13.6%	(50bps)

**Exhibit 13: Elastic – BofA versus consensus estimates**

Our F3Q24 revenue estimate is 0.1% below consensus

EPS (Pro Forma)	\$0.31	\$0.31	(1.1%)	\$0.14	\$0.19	(33.7%)	\$1.07	\$1.12	(4.8%)	\$1.44	\$1.47	(2.6%)
Guidance	\$0.30-\$0.32						\$1.06-\$1.15					
Adjusted Cash Flow from Operations	43,684	41,169	5.8%	58,468	58,545	(0.1%)	149,436	135,183	9.5%	200,514	199,098	0.7%
Adj. OCF margin	13.6%	12.9%	80bps	18.0%	17.9%	4bps	12.0%	10.8%	115bps	13.8%	13.5%	35bps
Adjusted free cash flow	42,084	50,345	(19.6%)	56,840	49,563	12.8%	144,680	143,813	0.6%	196,436	207,431	(5.6%)
Adj. FCF margin	13.1%	15.7%	(257bps)	17.5%	15.2%	229bps	11.6%	11.5%	8bps	13.5%	14.0%	(50bps)

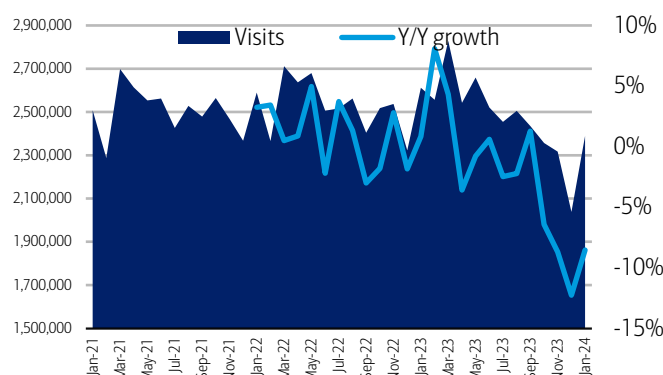
Source: Company filings, Visible Alpha, BofA Global Research estimates

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## GitLab specific charts

**Exhibit 14: Web traffic to about.gitlab.com**

Traffic to the GitLab landing page was down 8.5% y/y in January 2024, but has rebounded sequentially since 2023 year-end.

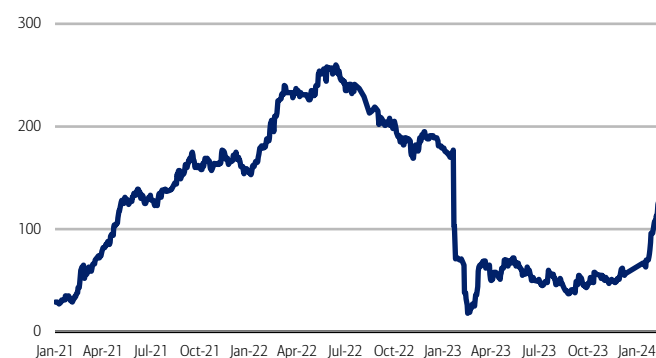


Source: SimilarWeb, BofA Global Research

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**Exhibit 15: Gitlab job postings. Our take: Positive**

Job postings are up meaningfully since the beginning of the year, which could signal improving demand trends and accelerating product development, which are positives in our view.

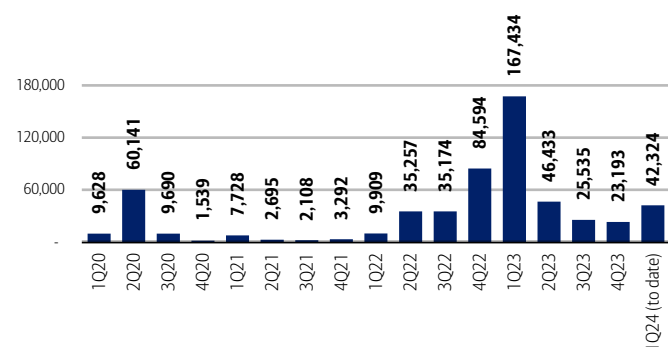


Source: Thinknum, BofA Global Research estimates

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**Exhibit 16: Number of tech employees laid off since 2020**

The pickup in tech layoffs could be a negative for GitLab considering its seat-based revenue model.

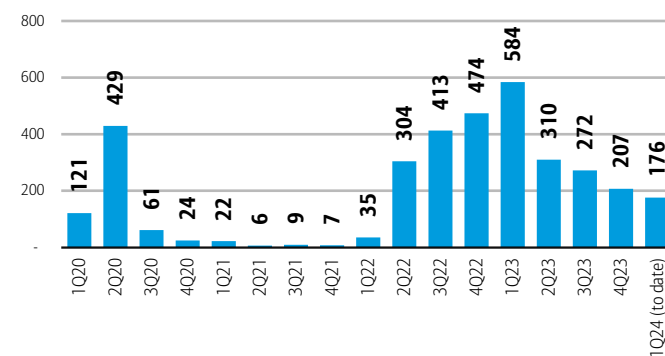


Source: Layoffs.fyi, BofA Global Research

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**Exhibit 17: Number to tech companies that had layoffs since 2020**

The total number of tech companies having headcount reductions has increased in 2024 thus far with 176, which is approaching the total number of companies in all of 4Q23.



Source: Layoffs.fyi, BofA Global Research

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**Exhibit 18: GTLB – BofA vs. Consensus estimates**

We forecast FY25 total revenue 2.7% below consensus estimates

Item	4Q24E			1Q25E			FY24E			FY25E		
	BofA Est.	Consensus	BofA vs consensus	BofA Est.	Consensus	BofA vs consensus	BofA Est.	Consensus	BofA vs consensus	BofA Est.	Consensus	BofA vs consensus
Customers, end of period	8,510	8,661	(1.8%)	8,801	8,985	(2.1%)	8,510	8,661	(1.8%)	9,656	10,292	(6.6%)
Ending ARR (BofA est.)	589,956	601,977	(2.0%)	595,653	628,543	(5.5%)	589,956	601,977	(2.0%)	740,289	794,225	(7.3%)
Y/Y change %	35.0%	33.7%	128bps	28.8%	33.5%	(473bps)	35.0%	38.6%	(357bps)	25.5%	31.9%	(645bps)
Subscription (self-managed and SaaS)	141,589	137,546	2.9%	142,957	143,887	(0.7%)	505,869	501,826	0.8%	638,301	648,602	(1.6%)
Y/Y change %	34.8%	30.9%	385bps	28.6%	29.4%	(84bps)	37.0%	35.9%	109bps	26.2%	29.2%	(307bps)
License (self-managed, PS and other)	15,888	20,434	(28.6%)	18,040	18,017	0.1%	67,735	72,281	(6.7%)	74,010	82,877	(12.0%)
Y/Y change %	(11.0%)	14.5%	(2547bps)	15.0%	14.9%	15bps	23.2%	31.5%	(827bps)	9.3%	14.7%	(540bps)
Total revenue	157,478	157,951	(0.3%)	160,997	161,898	(0.6%)	573,605	574,078	(0.1%)	712,311	731,385	(2.7%)
Y/Y change %	28.1%	28.5%	(39bps)	26.9%	27.6%	(71bps)	35.2%	35.3%	(11bps)	24.2%	27.4%	(322bps)
Guidance (mn)	157-158						573-574					
Total Billings	188,544	195,257	(3.6%)	176,374	170,965	3.1%	632,597	639,310	(1.1%)	792,742	811,787	(2.4%)
Y/Y growth %	18.6%	22.9%	(422bps)	30.1%	26.1%	399bps	27.7%	29.1%	(136bps)	25.3%	27.0%	(166bps)
PF operating income (loss)	5,118	5,720	(11.8%)	1,610	1,871	(16.2%)	(9,484)	(8,880)	(6.4%)	24,967	28,848	(15.5%)
PF Operating margin	3.3%	3.6%	(37bps)	1.0%	1.2%	(16bps)	(1.7%)	(1.5%)	(11bps)	3.5%	3.9%	(44bps)
Guidance (mn)	5.0-6.0						(10.0)-(9.0)					
Adjusted EBITDA	5,118	6,557	(28.1%)	1,610	4,781	(197.0%)	(9,484)	(6,107)	(35.6%)	24,967	33,541	(34.3%)
Adjusted EBITDA margin	3.3%	4.2%	(90bps)	1.0%	3.0%	(195bps)	(1.7%)	(1.1%)	(59bps)	3.5%	4.6%	(108bps)
PF EPS	\$0.08	\$0.08	(2.9%)	\$0.04	\$0.06	(34.9%)	\$0.12	\$0.13	(3.8%)	\$0.22	\$0.33	(50.1%)
Guidance	0.08-0.09						0.12-0.13					
Cash from operations	(14,917)	(4,835)	(67.6%)	1,079	955	11.5%	(4,730)	7,411	(256.7%)	13,549	50,725	(274.4%)
CFO margin	(9.5%)	(3.1%)	(641bps)	0.7%	0.6%	8bps	(0.8%)	1.3%	(212bps)	1.9%	6.9%	(503bps)
Free cash flow	(14,917)	(6,006)	(59.7%)	1,079	(296)	127.4%	(4,730)	(12,694)	168.3%	13,549	45,137	(233.1%)
FCF margin	(9.5%)	(3.8%)	(567bps)	0.7%	(0.2%)	85bps	(0.8%)	(2.2%)	139bps	1.9%	6.2%	(427bps)

Source: Company filings, BofA Global Research estimates, Visible Alpha

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**Exhibit 19: Stocks mentioned**

Rating and price summary

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
ESTC	ESTC US	Elastic	US\$ 129.62	C-1-9
GTLB	GTLB US	GitLab	US\$ 69.94	C-1-9

Source: BofA Global Research

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**Price objective basis & risk****Elastic NV (ESTC)**

Our \$150 PO is based on 11.0x EV/C24E revenue multiple, which represents an EV/revenue/growth adjusted multiple of 0.7x, comparable to its infrastructure software peers at 8.2x/0.6x, warranted for its potential growth profile, differentiation, and positioning in the attractive AI opportunity, and balanced against a contracting net revenue retention (NRR) metric.

Risks to our PO are: 1) competition, 2) relatively unproven profitability, 3) M&A could weigh on margins and execution, 4) application spending is highly cyclical, 5) increasing SaaS demand could weigh on gross margins, and 6) conversion ratio to paid subscriptions could decrease.

**GitLab Inc. (GTLB)**

Our \$88 PO is based on an EV/revenue multiple of 18.7x to our FY25E (C24E) revenue estimate. The multiple implies an EV/revenue/growth multiple of 0.8x, which is above infrastructure peers at 8.2x/0.6x. We believe the premium multiple to peers is warranted given its faster growth, NRR in the high 120s, and revenue and free cash flow upside potential.



Risks to our PO: 1) valuation risk, 2) competition, 3) deteriorating NRR, 4) extended timeline to profitability, 5) execution, and 6) enterprise software spend can be cyclical.

## **Analyst Certification**

I, Koji Ikeda, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

**US - Enterprise Software Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	8x8	EGHT	EGHT US	Michael J. Funk
	Adobe	ADBE	ADBE US	Brad Sills
	Alarm.com	ALRM	ALRM US	Michael J. Funk
	Amplitude, Inc.	AMPL	AMPL US	Koji Ikeda, CFA
	BILL	BILL	BILL US	Brad Sills
	CCC Intelligent Solutions	CCCS	CCCS US	Michael J. Funk
	Dynatrace	DT	DT US	Koji Ikeda, CFA
	Elastic NV	ESTC	ESTC US	Koji Ikeda, CFA
	GitLab Inc.	GTLB	GTLB US	Koji Ikeda, CFA
	Global-e Online Ltd.	GLBE	GLBE US	Koji Ikeda, CFA
	HubSpot	HUBS	HUBS US	Brad Sills
	Informatica Inc.	INFA	INFA US	Koji Ikeda, CFA
	Intapp Inc.	INTA	INTA US	Koji Ikeda, CFA
	Intuit	INTU	INTU US	Brad Sills
	JFrog Ltd	FROG	FROG US	Koji Ikeda, CFA
	MeridianLink, Inc.	MLNK	MLNK US	Koji Ikeda, CFA
	Microsoft Corporation	MSFT	MSFT US	Brad Sills
	MongoDB Inc	MDB	MDB US	Brad Sills
	nCino, Inc.	NCNO	NCNO US	Adam Bergere
	NICE Ltd.	NICE	NICE US	Michael J. Funk
	NICE Ltd.	NCSYF	NICE IT	Michael J. Funk
	PagerDuty	PD	PD US	Koji Ikeda, CFA
	PowerSchool Holdings, Inc.	PWSC	PWSC US	Koji Ikeda, CFA
	RingCentral	RNG	RNG US	Michael J. Funk
	Salesforce.com	CRM	CRM US	Brad Sills
	ServiceNow	NOW	NOW US	Brad Sills
	UiPath	PATH	PATH US	Brad Sills
	Unity	U	U US	Michael J. Funk
	Weave	WEAV	WEAV US	Michael J. Funk
	Workday Inc.	WDAY	WDAY US	Brad Sills
	Zeta Global	ZETA	ZETA US	Koji Ikeda, CFA
	ZoomInfo	ZI	ZI US	Koji Ikeda, CFA
<b>NEUTRAL</b>				
	Autodesk	ADSK	ADSK US	Michael J. Funk
	Bentley Systems	BSY	BSY US	Michael J. Funk
	BigCommerce Holdings, Inc.	BIGC	BIGC US	Koji Ikeda, CFA
	Coveo	YCVO	CVO CN	Koji Ikeda, CFA
	Datadog Inc	DDOG	DDOG US	Koji Ikeda, CFA
	DocuSign	DOCU	DOCU US	Brad Sills
	Freshworks, Inc.	FRSH	FRSH US	Adam Bergere
	HashiCorp	HCP	HCP US	Brad Sills
	Jamf	JAMF	JAMF US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	LSPD	LSPD US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	YLSPD	LSPD CN	Koji Ikeda, CFA
	Oracle Corporation	ORCL	ORCL US	Brad Sills
	Paycom	PAYC	PAYC US	Adam Bergere
	Paylocity	PCTY	PCTY US	Adam Bergere
	Shopify, Inc.	SHOP	SHOP US	Brad Sills
	Snowflake	SNOW	SNOW US	Brad Sills
	Veeva Systems, Inc.	VEEV	VEEV US	Brad Sills
	Zoom Video Communications	ZM	ZM US	Michael J. Funk
<b>UNDERPERFORM</b>				
	AvidXchange, Inc.	AVDX	AVDX US	Brad Sills
	Blackbaud, Inc.	BLKB	BLKB US	Koji Ikeda, CFA
	BlackLine, Inc.	BL	BL US	Koji Ikeda, CFA
	C3.ai	AI	AI US	Brad Sills
	Confluent	CFLT	CFLT US	Brad Sills
	CS Disco, Inc.	LAW	LAW US	Koji Ikeda, CFA
	Dropbox	DBX	DBX US	Michael J. Funk
	Enfusion, Inc.	ENFN	ENFN US	Koji Ikeda, CFA
	Five9	FIVN	FIVN US	Michael J. Funk
	Guidewire Software, Inc.	GWRE	GWRE US	Michael J. Funk
	Twilio	TWLO	TWLO US	Michael J. Funk



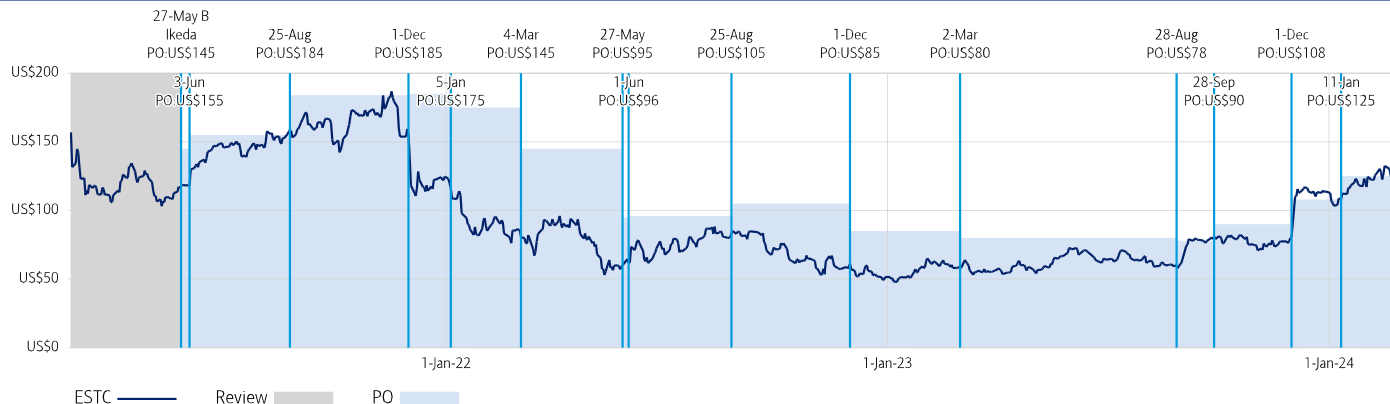
## US - Enterprise Software Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Vertex, Inc.	VERX	VERX US	Brad Sills
<b>RSTR</b>				
	Splunk	SPLK	SPLK US	Brad Sills

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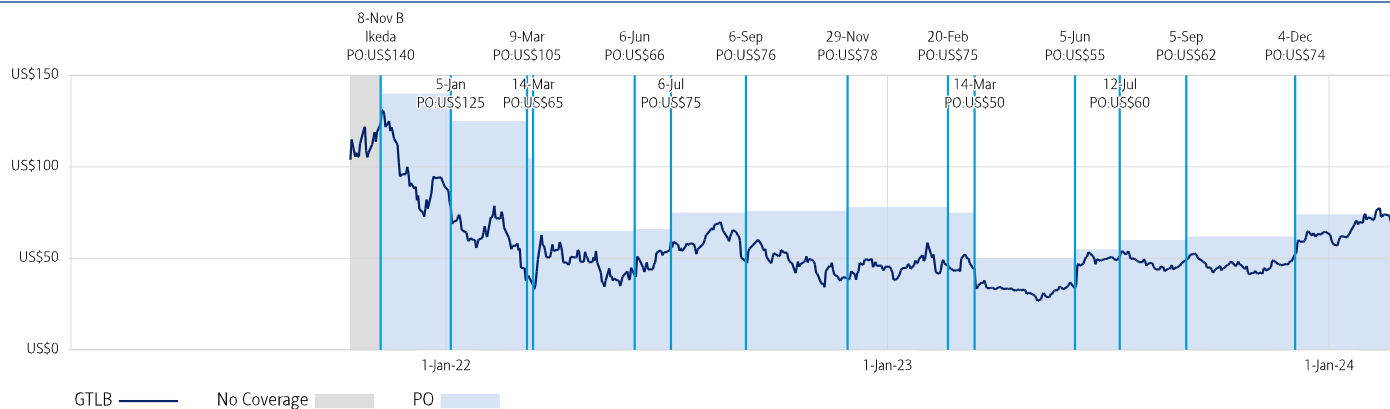
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## Elastic (ESTC) Price Chart



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## GitLab (GTLB) Price Chart



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## Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

## Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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