

Technology

1H24 CIO Survey: 2024 Outlook Sustained

The 100 responses to the Barclays 1H 2024 CIO survey were submitted during Spring 2024 and indicate sustained spend expectations in 2024 at 3.1%, compared to an overall IT spending outlook in 2023 that ticked up from 2.2% to 2.4%.

CIO expectations 2023 and 2024. Growth expectations for 2023 ended up moving higher to 2.4% (up from 2.2% last survey), though the 2024 outlook has remained steady at 3.1%. Looking at regions, EMEA is driving the strength with North America also strong. Large enterprises (IT budgets >\$1Bn) are partially driving the uptick in y/y expected spend with large enterprises expecting higher IT spend to 2.7% in 2024 from 2% in 2023. We see spending acceleration across many industries, though uncertain macro could adjust expectations.

Software takeaways. Software spending expectations appear to be trending relatively positive, particularly on the Application and BI/analytics side, which reinforces the notion that Analytics and CRMs are two of the top three spending priorities for CIOs over the next 12 months. Databases additionally showed strength for the third consecutive quarter. Expectations for cloud spending once again looked positive, and the improving trends here echo the sentiment from our coverage that the period of heavy optimization is behind us, with many companies starting to reaccelerate from their lows. However, IT budget growth remains relatively muted, and as such, we continue to believe companies who can bundle offerings stand to benefit over the coming quarters. In our view, this bodes well for **Microsoft** and **Salesforce**, with both companies having a broad range of offerings that they can sell to customers, as well as AI products that are integrated across the product suite and serve as valuable ARPU drivers. Results for other vendors remain more mixed, though database trends screen positively for vendors including **MongoDB** and **Couchbase**.

IT Services takeaways. As CIOs look to increase spend in FY24, we believe investment focus will re-calibrate towards digital transformation work. After a spike in interest for cost-cutting initiatives in FY23, respondents have seemingly begun to shift focus back to digital transformation, which we believe to be a by-product of the adoption of early-iteration Generative AI solutions. While an uncertain macro backdrop will likely remain an overhang in the short term, we are increasingly optimistic that clients will re-accelerate spend as we progress through the year. We believe **Accenture** is the best positioned in our coverage to win share due to its diverse capabilities and client base.

IT Hardware takeaways. The overall outlook remained stable for 2024, though up from 2023. Communications and Storage were the only hardware verticals to see an uptick in spend

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Completed: 15-Apr-24, 20:44 GMT Released: 16-Apr-24, 04:10 GMT Restricted - External

CORE

IT Hardware and Communications Equipment

NEUTRAL

U.S. Internet

POSITIVE

Americas Payments, Processors & IT Services

POSITIVE

U.S. Business & Professional Services

NEUTRAL

U.S. Software

POSITIVE

IT Hardware and Communications Equipment

Tim Long

+1 212 526 4043

tim.long@barclays.com

BCI, US

U.S. Software

Raimo Lenschow, CFA

+1 212 526 2712

raimo.lenschow@barclays.com

BCI, US

Saket Kalia, CFA

+1 212 526 8465

saket.kalia@barclays.com

BCI, US

U.S. Internet

Ross Sandler

+1 415 263 4470

ross.sandler@barclays.com

BCI, US

Americas Payments, Processors & IT Services

Ramsey El-Assal

+1 212 526 7144

ramsey.el-assal@barclays.com

BCI, US

expectations with PCs and Servers sliding, and Printing remaining the same. The high level of repatriation of workloads back to the private cloud continued, with public cloud spending expectations moving down slightly (down 3 points, though still strong). Storage and Communications were again most favorable overall, which aligns with our positive stance on **Pure Storage** and **Arista**.

More granular detail herein. The survey responses have been presented in original form and have not been altered. Survey results should not be attributed to Barclays. In this report, though, the Barclays Technology Equity Research team offers interpretations of what these survey results could imply for the IT spending environment and for specific segments such as Software, Security, IT Hardware/Networking, Internet, IT Services, and Information Services.

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Barclays 1H 2024 CIO Survey

Survey Methodology

The Barclays 1H 2024 CIO survey was conducted in Spring 2024. We reached out to 167 potential survey participants to achieve 100 responses. Of the 100 survey respondents, 71% had participated in the Barclays 2H 2023 CIO survey conducted in September ([Technology: 2H23 CIO Survey: 2024 Outlook Uplift 10/09/23](#)); the overall response rate was 60%, down from 63% in our prior poll.

Data collection was conducted through telephone interviews. On average, the interviews ran for approximately 30 minutes. The survey respondents received advance copies of the questions to facilitate the data collection process.

94% of the survey respondents are CIOs at their respective organizations. The remaining 6% hold senior roles (i.e., job titles describing the role of Vice President or Director within IT) and are an integral part of the IT spending decision-making process.

The survey responses have been presented in original form and have not been altered. Survey results should not be attributed to Barclays. In this report, though, the Barclays Technology Equity Research team offers interpretations of what these survey results could imply for the IT spending environment and for specific segments such as Software, Security, IT Hardware/Networking, Internet, IT Services, and Information Services.

CIO Survey Results

Growth-related Questions

CIO Survey – Question #1: What is the Y/Y percentage change in your company’s total IT spending level in 2023 and 2024? Please specify approximate percentage.

Total IT spending level expectations continued to reflect a persisting conservative outlook in comparison to the survey conducted in 1H22. Average spending expectations for 2023 moved higher to 2.4% from the 2H23 estimate of 2.2%. The 2024 expected IT spending increase of 3.1%, which was the same as the last survey, continues to point to green shoots of recovery, despite the heightened caution due to macro.

Key Take: Though the 2023 expected spending levels ticked up, 2024 expectations remain unchanged with difficult macro an ongoing concern. The increase in 2024 spending expectations points to green shoots of recovery, but likely remain conservative given an uncertain macro environment. Uplift on spending expectations could result in further acceleration for expected IT spend in 2024, dependent on macro.

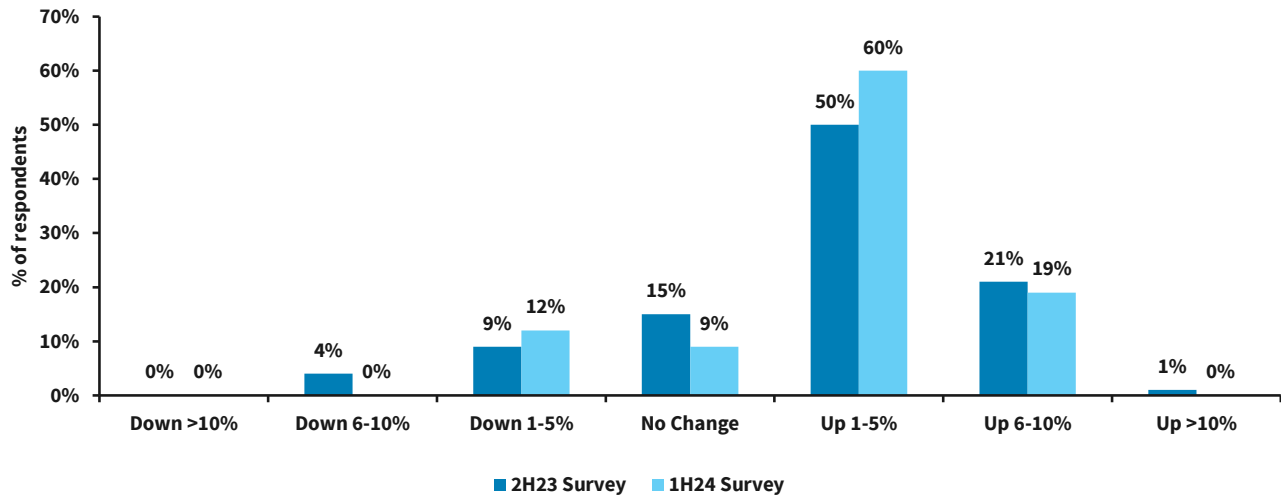
FIGURE 1. Barclays CIO Survey – 2024E Spending Outlook Remains Unchanged (Y/Y Growth % in IT spending dollars)

	2017	2018	2019	2020	2021	2022	2023	2024E
CIO Survey Base - Avg (1H24)							2.4%	3.1%
CIO Survey Base - Avg (2H23)							2.2%	3.1%
CIO Survey Base - Avg (1H23)						2.8%	2.3%	
CIO Survey Base - Avg (2H22)						3.6%	2.3%	
CIO Survey Base - Avg (1H22)					3.8%	4.3%		
CIO Survey Base - Avg (2H21)				(2.1%)	3.9%	3.9%		
CIO Survey Base - Avg (1H21)			4.1%	(2.8%)	3.4%			
CIO Survey Base - Avg (2H20)			4.7%	(3.1%)	2.1%			
CIO Survey Base - Avg (1H20)		5.1%	4.6%	2.4%				
CIO Survey Base - Avg (2H19)		4.6%	4.2%	3.3%				
CIO Survey Base - Avg (1H19)	4.2%	5.2%	4.6%					
CIO Survey Base - Avg (1H18)	4.9%	5.1%						
CIO Survey Base - Avg (2H17)	4.3%	4.1%						

Source: Barclays CIO Survey program.

Figure 2 presents growth expectations for 2024 in 1H24 as compared to the first read of 2024 expectations in our 2H23 survey. 21% of respondents expect a decline or no change in 2024 spending, as opposed to the 28% surveyed in 2H23, while 79% of respondents expect growth in 2024. Although the largest percentage of respondents still indicated growth in spending would be at 1-5%, the percentage of respondents in that category increased to 60% (from 50% in the previous survey).

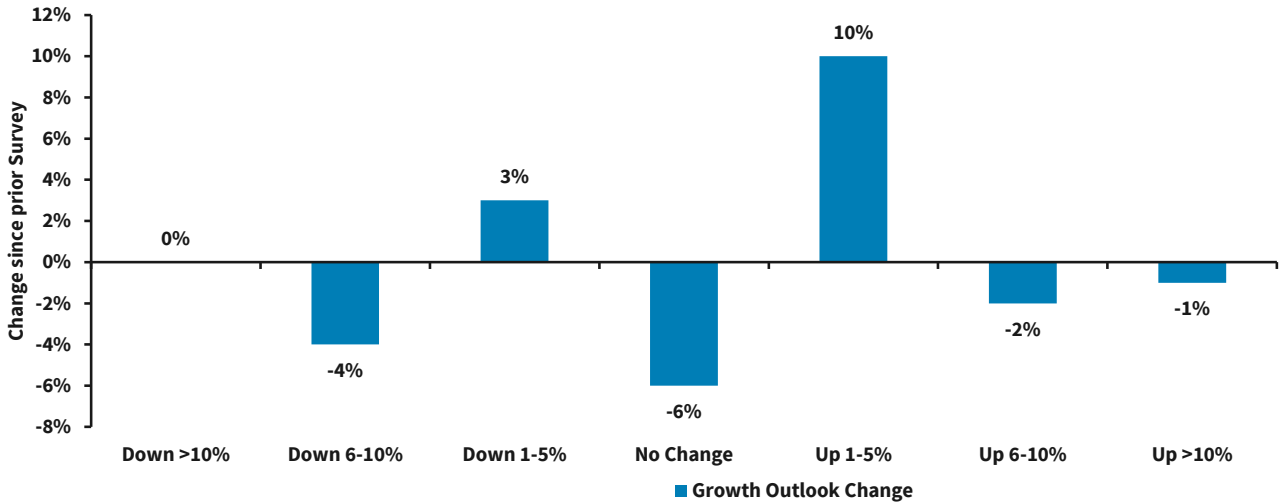
FIGURE 2. Barclays CIO Survey – 2024 Spending Expectations Remain Stable



Source: Barclays CIO Survey program

Figure 3 illustrates the changes in 2024 growth expectations since the prior survey's 2024 expectations. The decline in respondents expecting a decrease in spending was redistributed to respondents expecting 1-5% growth (+10%).

FIGURE 3. Barclays CIO Survey – CIOs Have Revised Outlooks Upward for 2024 (% of respondents by Y/Y IT spending growth expectation, change since prior survey)



Source: Barclays CIO Survey program.

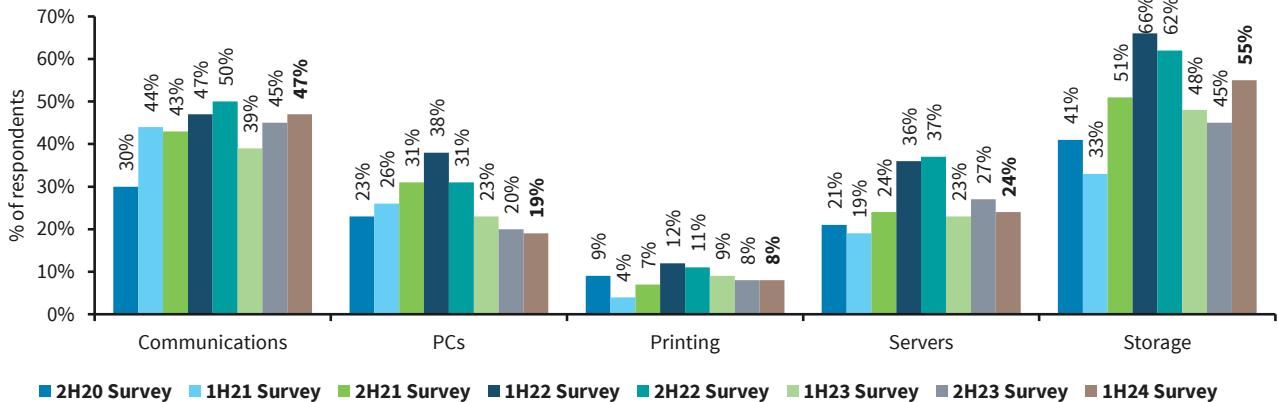
CIO Survey – Question #2: For each category, what is the expected Y/Y percentage change in your company's spending levels in 2024?

Question 2 considers which areas of IT hardware spending are best positioned for revenue growth in 2024; this marks our second read for the period, as our survey in 2H23 had been conducted with initial read on 2024.

Key take: Storage increased materially to 55% and Communications ticked up to 47%. Servers dipped to 24%, and PCs dropped slightly to 19%, whereas Printing held steady at 8%.

Storage saw an increase of 10 points from 2H23 to 1H24, after having fallen below 50% the prior two surveys. Storage and Communications continue to be the categories with the most positive sentiment.

FIGURE 4. % of Respondents Expecting Increase – PC, Printing Verticals Held Mostly Steady, whereas Storage Vertical Uptick in CIO Sentiment in 1H24



Source: Barclays CIO Survey program.

FIGURE 5. 2024 Expectation, change from Prior Survey

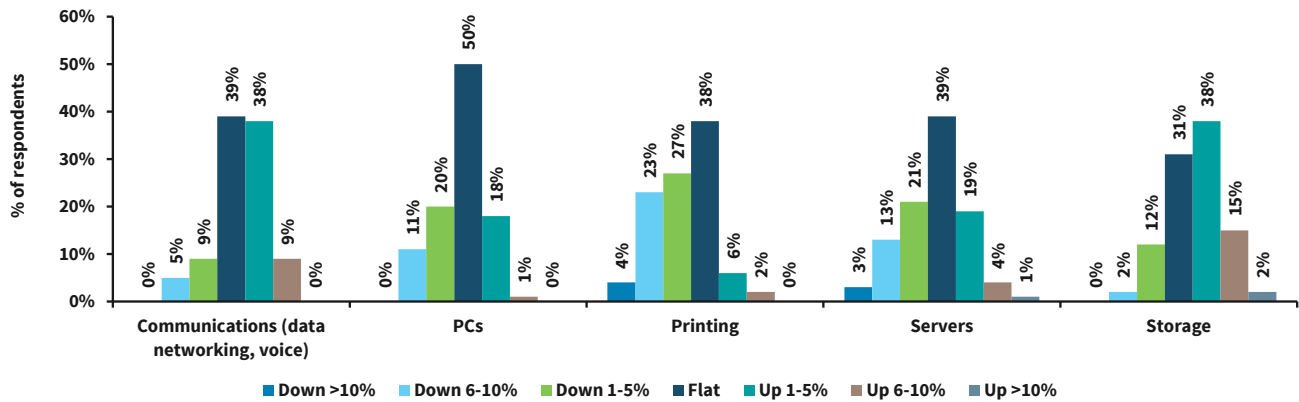
2024 Expectation, change from Prior Survey							
% of Respondents	Down						
	Down >10%	6-10%	Down 1-5%	Flat	Up 1-5%	Up 6-10%	Up >10%
Communications	0%	-3%	-1%	2%	2%	2%	-2%
PCs	0%	-2%	-2%	5%	-1%	0%	0%
Printing	-1%	3%	-5%	3%	-1%	1%	0%
Servers	-2%	4%	-4%	5%	-2%	-1%	0%
Storage	-2%	0%	0%	-8%	2%	8%	0%

Source: Barclays CIO Survey program.

Hardware Trends

The most common expectation in most categories continues to be flat spending in 2024, though the expectation for Communications and Storage growth to be up 1-5% is almost equal to flat expectations for Communications and above flat expectations for Storage. 47% of respondents expect growth in Communications and 55% of respondents expect growth in Storage, both highest among product categories. More respondents expect a decline in 2024 vs. growth in the areas of PCs (31% vs. 19%), Printing (54% vs 8%), and Servers (37% vs 24%).

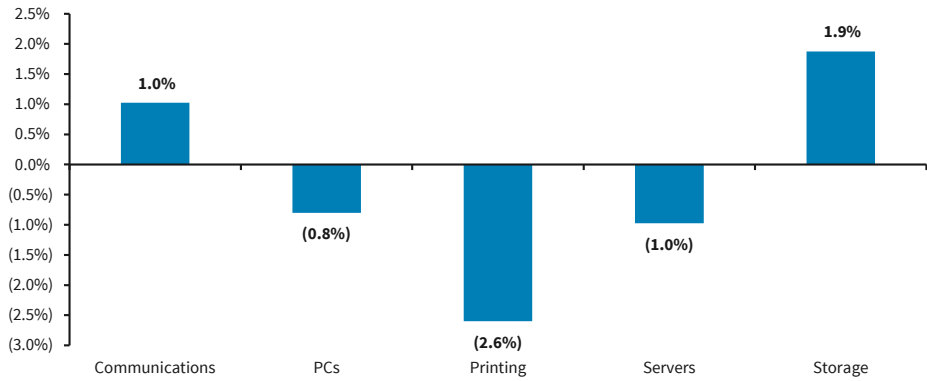
FIGURE 6. Barclays CIO Survey – Communications and Storage Appear Best-Positioned



Source: Barclays CIO Survey program.

We also calculate the weighted average growth expectations for each of the hardware categories based on the percentage of CIO responses falling in each spending growth range. As an approximation, we assign a value of +12.5% for *Up >10%*, +7.5% for *Up 6-10%*, +2.5% for *Up 1-5%*, and 0 for *Flat* (with analogous increments for the *Down* categories). Shown in Figure 7 below, these metrics also indicate the relative strength in Storage and Communications, and notable weakness in Printing.

FIGURE 7. Weighted Average 2024E Spending Growth Outlook



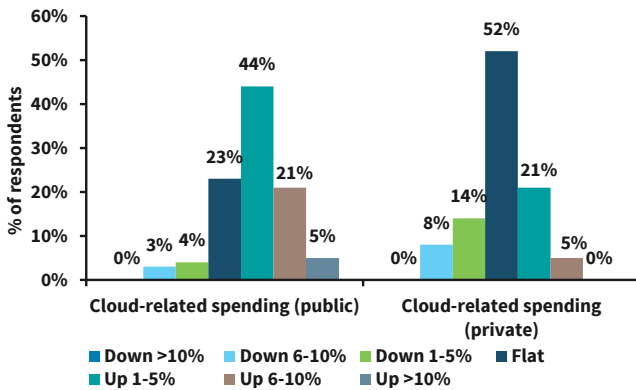
Source: Barclays CIO Survey program.

Cloud Services

Our 1H24 CIO survey indicates the 2024 outlook is more tempered for both Private and Public Cloud, though Public Cloud growth expectations remained strong. 22% of respondents expect Private Cloud spending to decline, while 7% expect Public Cloud spending to decline. 70% of respondents expect increased Public Cloud spending as compared to 73% in 2H23; both figures are well below the 94% figure in 2H21. The expected spending increase in Private Cloud fell from 29% to 26%.

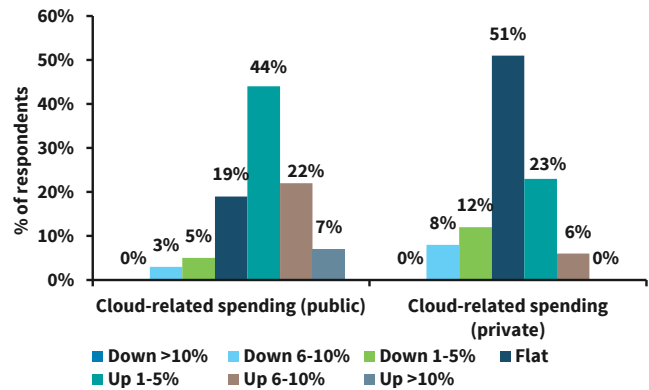
Barclays CIO Survey – Expectations Remain Strong Primarily for Public Cloud Spending

FIGURE 8. 1H24 (expectations for 2024)



Source: Barclays CIO Survey program.

FIGURE 9. 2H23 (expectations for 2024)

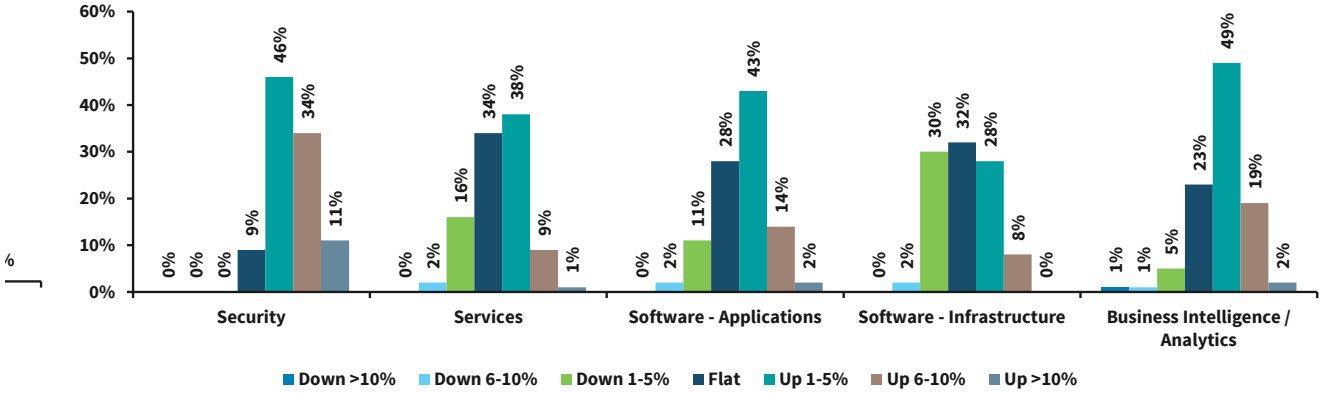


Source: Barclays CIO Survey program.

Software and Services Trends

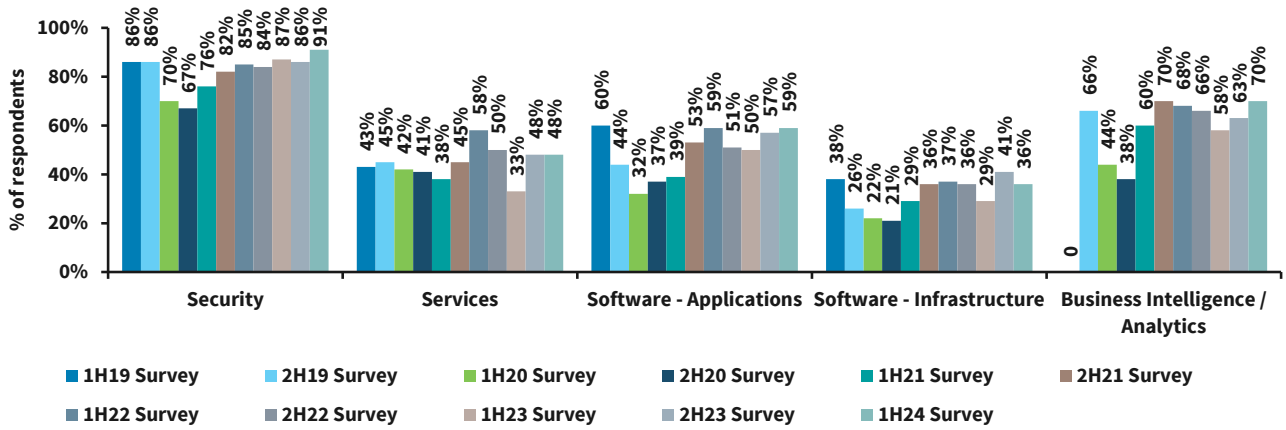
Software and services spending trends continue to skew more positively than the Hardware sectors across categories, particularly within Security with 91% of respondents expecting growth. All categories expect Software-Infrastructure increased from 2H23 expectations with Services largely the same as the prior survey. Software-Applications increased from 57% to 59% and Business Intelligence/Analytics was up from 63% to 70%.

FIGURE 10. Barclays CIO Survey – Security Continued to Lead Expectations for Increased Spending



Source: Barclays CIO Survey program.

FIGURE 11. % of Respondents Expecting Growth, 2024E

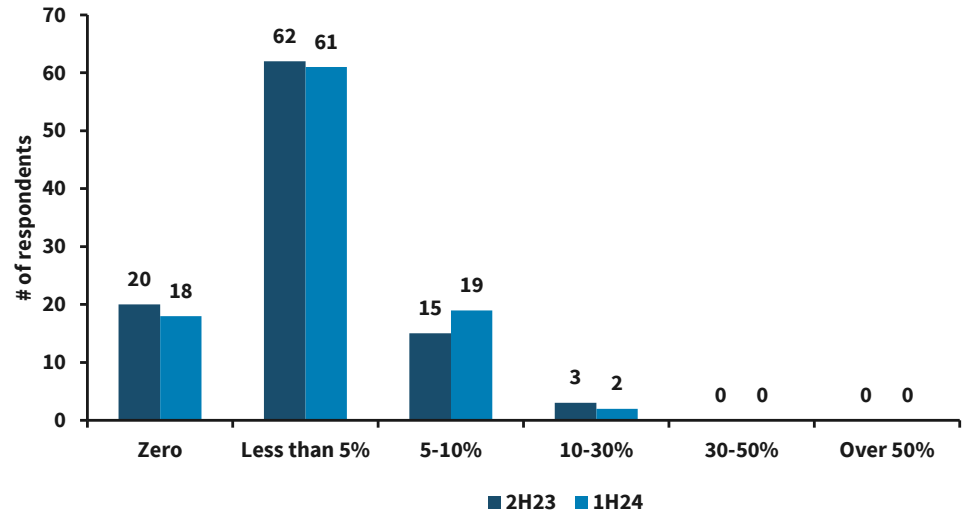


Source: Barclays CIO Survey program.

CIO Survey – Question #3: (A) What percentage of total IT spending is AI-related? (B) Over the next 12 months, please select the Top Three vendors likely to see increased IT spending from your company because of AI-based initiatives?

Despite much industry noise around accelerating AI investments, the majority of respondents expect less than 5% of their total IT spend to be AI-related, with only 21% of respondents expecting AI-related spend to comprise 5-30% of their spend.

FIGURE 12. Barclays CIO Survey - Percentage of respondents' total IT spending that is AI-related



Source: Barclays CIO Survey program.

The top vendors listed as likely to see increased IT spending dollars because of respondent's AI-based initiatives are Cisco, Palo Alto Networks, Dell/EMC, and Pure Storage. Jabil, Flex, and Super Micro received no votes.

FIGURE 13. Barclays CIO Survey - Top Vendors Likely to See Increased IT Spending Dollars because of Respondents' AI-based Initiatives

	Weighting	1.00	0.50	0.33		1H24 CIO Survey	2H23 CIO Survey
		#1	#2	#3	Total Count	Adj. Score	Adj. Score
Palo Alto Networks		24	15	19	58	62	59
Cisco Systems		22	21	15	58	61	59
Dell/EMC		19	15	13	47	50	56
Pure Storage		8	19	9	36	34	33
CrowdStrike		6	11	12	29	25	23
Hewlett-Packard Enterprise		6	9	12	27	24	25
Nvidia		8	5	8	21	22	16
Juniper Networks		4	4	6	14	13	16
Arista Networks		3	0	3	6	7	8
CDW Corporation		0	1	3	4	2	4
Flex Ltd		0	0	0	0	0	1
Jabil Inc		0	0	0	0	0	0
SentinelOne		0	0	0	0	0	0
Super Micro Computer Inc		0	0	0	0	0	0
Varonis		0	0	0	0	0	0
Zscaler		0	0	0	0	0	0

Based on weighted ranking of respondents' top three choices for vendors likely to see increased spending levels due to AI-based initiatives
 Source: Barclays CIO Survey program.

CIO Survey – Question #4: Over the next 12 months, please select the Top Three vendors likely to see increased IT spending from your company because of Cloud-based initiatives?

Vendor-specific cloud spending allocations are shown in Figure 14. Microsoft remained as the No. 1 vendor for increased spending expectations with Amazon AWS coming in at No. 2. Microsoft gained 4 points since the 2H23 survey and AWS gained 2 points.

Amazon AWS and Microsoft's share of the Adj. score ticked up again two points from 54% in 2H23 to 56%, resulting in the two market leaders maintaining the majority of the Adj. score. The No. 3-6 players (Cisco, Salesforce, Snowflake, ServiceNow) maintained their share at 15%, though down from 17% in 1H23, 18% in 1H22, and 20% in 2H21.

Hardware Pressure Here to Stay

Nutanix and F5 gained points in 1H24 with Cisco and Juniper up a point. Arista's IT spending expectations again saw no change. Respondents expect both Dell/EMC and Pure Storage to lose 2 and HPE to lose 1.

Little has changed since 1H22 as CIOs expect modest spending increases while uncertainty in the broader economic environment this year continues to loom.

FIGURE 14. Barclays CIO Survey – Vendors Likely to See Increased IT Spending Due to Cloud-Based Initiatives

	Weighting			Total Count	1H24	2H23	Change
	1.00	0.50	0.33		CIO Survey	CIO Survey	
	#1	#2	#3		Adj. Score	Adj. Score	
Microsoft	52	16	8	76	103	99	4
Amazon Web Services	30	14	10	54	66	64	2
Cisco Systems	4	5	6	15	14	13	1
Salesforce	2	6	7	15	12	8	4
Snowflake	0	7	7	14	10	8	1
ServiceNow	2	5	3	10	9	4	5
Datadog	1	5	6	12	9	4	5
Zscaler	1	5	5	11	8	6	3
Google	0	7	4	11	8	12	-4
Dell/EMC	2	2	3	7	7	9	-2
Oracle	2	2	2	6	6	10	-4
Palo Alto Networks	0	3	5	8	5	11	-6
VMware	1	2	3	6	5	9	-4
Splunk	0	3	3	6	4	2	2
Nutanix	0	3	2	5	4	1	2
SAP	0	2	3	5	3	5	-2
Workday	1	0	3	4	3	4	-1
Accenture	1	1	1	3	3	5	-2
Check Point	0	1	4	5	3	2	1
Pure Storage	0	2	1	3	2	4	-2
Elastic	0	1	2	3	2	2	-1
Fortinet	0	1	2	3	2	3	-1
IBM	0	1	2	3	2	2	0
Capgemini	0	2	0	2	2	2	0
Hewlett-Packard Enterprise	1	0	0	1	2	3	-1
Citrix	0	1	1	2	1	1	0
F5 Networks	0	1	1	2	1	0	1
Coupa	0	0	2	2	1	1	0
Equinix	0	1	0	1	1	2	-1
Offshore services providers (Cognizant, Infosys, Tata, Wipro)	0	1	0	1	1	1	-1
Cognizant	0	0	1	1	1	1	-1
Juniper	0	0	1	1	1	0	1
Symantec	0	0	1	1	1	0	1
UiPath	0	0	1	1	1	1	0
Arista Networks	0	0	0	0	0	0	0
Confluent	0	0	0	0	0	1	-1
Couchbase	0	0	0	0	0	0	0
Crowdstrike	0	0	0	0	0	0	0
CSC	0	0	0	0	0	0	0
Digital Realty	0	0	0	0	0	0	0
DigitalOcean	0	0	0	0	0	0	0
MongoDB	0	0	0	0	0	0	0
NetApp	0	0	0	0	0	0	0
Rackspace	0	0	0	0	0	0	0
SentinelOne	0	0	0	0	0	0	0

Other (please specify): 0 0 0 0 0 0 0

Based on weighted ranking of respondents' top three choices for vendors likely to see increased spending levels due to the cloud
Source: Barclays CIO Survey program.

CIO Survey – Question #5: Over the next 12 months, please select the top three vendors likely to see reduced IT spending from your company because of Cloud-based initiatives?

Figure 15 shows which vendors are expected to be the most adversely impacted by the cloud shift. Dell/EMC again topped the list as most vulnerable to reduced spending over the next 12 months while Oracle and IBM gained 6 and 7 points, respectively, gaining the No. 2 and 3 spots on the list. HPE lost 11 points and Cisco lost 13 points to remain below HPE at No. 5 on the list.

Key Take: Legacy vendors Dell/EMC remain on the top of the list as most vulnerable to potential budget reduction expectations, though both Oracle and IBM moved up, with HPE and Cisco now below them (though still in top 5). Other vendors saw decreases or little change while the current spending environment stays conservative.

FIGURE 15. Barclays CIO Survey – Vendors Likely to See Reduced IT Spending Due to Cloud-Based Initiatives

	Weighting			Total Count	1H24	2H23	Change
	1.00	0.50	0.33		CIO Survey	CIO Survey	
	#1	#2	#3		Adj. Score	Adj. Score	
Dell/EMC	18	9	6	33	40	42	-2
Oracle	13	8	6	27	31	25	6
IBM	11	10	8	29	31	24	7
Hewlett-Packard Enterprise	8	13	6	27	27	38	-11
Cisco Systems	8	5	5	18	20	33	-13
VMware	3	8	8	19	16	15	1
Citrix	4	7	3	14	14	13	1
NetApp	4	4	3	11	11	13	-2
Accenture	3	3	4	10	10	5	5
Check Point	3	3	4	10	10	6	4
Symantec	3	0	5	8	8	4	3
F5 Networks	3	1	3	7	7	6	1
Cognizant	3	2	1	6	7	10	-2
Google	2	4	1	7	7	7	0
Juniper	3	2	1	6	7	2	5
Capgemini	1	3	5	9	7	7	0
Offshore services providers (Cognizant, Infosys, Tata, Wipro)	2	1	5	8	7	5	2
Arista Networks	1	3	3	7	6	2	4
Fortinet	3	0	1	4	5	2	4
Red Hat	1	3	0	4	4	1	3
SAP	0	1	6	7	4	2	2
Salesforce	0	2	4	6	4	4	0
Splunk	1	1	2	4	4	4	0
Amazon Web Services	1	1	1	3	3	6	-3
Rackspace	0	2	2	4	3	7	-4
Cloudera	1	1	0	2	2	2	0
Equinix	0	2	1	3	2	1	2
Elastic	0	0	3	3	2	1	1
Teradata	0	1	0	1	1	1	-1
Digital Realty	0	0	1	1	1	0	1
Pure Storage	0	0	1	1	1	2	-2
Workday	0	0	1	1	1	1	0
Crowdstrike				0	0	0	0
Microsoft	0	0	0	0	0	4	-4
Nutanix	0	0	0	0	0	1	-1
Palo Alto Networks	0	0	0	0	0	2	-2
SentinelOne				0	0	0	0
ServiceNow	0	0	0	0	0	4	-4
Zscaler	0	0	0	0	0	0	0
Other (please specify):	0	0	0	0	0	0	0

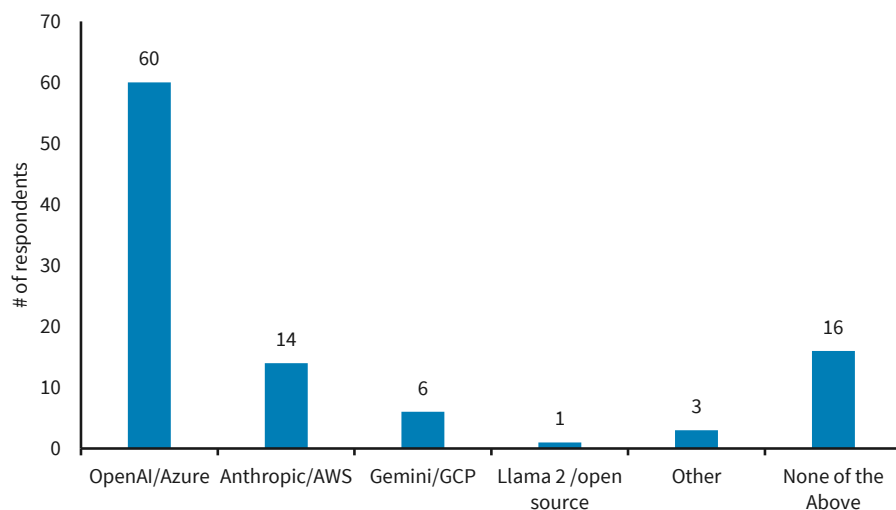
Based on weighted ranking of respondents' top three choices for vendors likely to see reduced spending levels due to the cloud
 Source: Barclays CIO Survey program.

CIO Survey – Question #6: What AI model and cloud provider is your company using?

New to the survey in 1H'24, we asked CIOs about their AI usage, and which model/cloud provider was the preferred choice for deploying these new workloads. As seen in Figure 16 below, Microsoft Azure/OpenAI are the runaway leaders here, with 60% of all respondents

indicating that they are using them. We are not overly surprised by this large concentration, with MSFT having called out a 6pt benefit to Azure growth in its most recent quarter (implying a run-rate of ~\$3.5bn), and OpenAI being viewed by many users as the leader in the space. Microsoft has also built arguably the most robust AI ecosystem for developers at this point, with Azure OpenAI Service, Model as a Service, and more all driving usage and customers to the platform. AWS/Anthropic was the second most-picked vendor, in line with expectations, as SageMaker remains a popular tool and the recent Claude 3 models are viewed favorably among the AI community. Gemini and Llama round out our top four, and notably 16% of respondents indicated they are not yet using a model/cloud provider. Given the pace that the industry is moving at today, and the cost associated with operating some of these larger models, we expect the dynamic here to continue to shift at a rapid pace as CSPs and model providers release new offerings.

FIGURE 16. Barclays CIO Survey – AI Model and Cloud Provider Used By Respondents



Source: Barclays CIO Survey program.

CIO Survey – Question #7: (A) How many public cloud vendors do you work with currently? (B) Of your company’s total cloud-related spending (i.e., public and private), what percentage relates to each public cloud vendor versus private cloud, and what percentage goes to private cloud?

In Question 7 (two-part question), we assess how CIOs are dividing their resources among different public cloud providers. The survey continues to confirm that customers are deploying a multi-cloud approach, as respondents to Part A once again averaged two public cloud vendors. Like previous CIO surveys, results continue to show leadership by Amazon AWS and Microsoft Azure, with Google at a distant No. 3. Notably, all three major CSPs gained share this quarter vs. 2H23. Among the 88 CIOs who selected Microsoft Azure as one of their public cloud vendors (vs. 91 CIOs in the previous survey), 59% (a slight increase from 57% in the previous survey) consider Azure as their No. 1 vendor, and 41% view it as No. 2. Azure notably gained greater share vs. its hyperscaler peers in 1H24, which we view in part as due to the company's enterprise-focused nature insulating it from greater spend downturns, and the company gaining incremental dollar share as a result of its more robust AI offerings. Among the 58 CIOs who use Amazon AWS (down from 62 CIOs in the previous survey), 62% (an increase from 58% in the previous survey) consider AWS as No.1, while 38% see it as a No. 2 vendor. Interesting to note is that although Azure appears to be capturing greater share among CIOs, more respondents are choosing AWS as their primary cloud provider, which could prove beneficial if spend is to consolidate further. Google Cloud saw positive trends for the second consecutive quarter; 30% of CIOs who use the platform (an increase from 24% in the previous survey and

16% in 1H23) consider it their No. 1 vendor, with the remaining CIOs considering it their No. 2 or No. 3 vendor. We also highlight the healthy step-up for Salesforce in the 1H24 survey, which we believe could reflect stronger demand for the company’s upcoming AI services, as well as the rolling price increases since last year. Oracle remained flat vs. the 2H23 survey after a healthy inflection, and we continue to watch the need for GPUs and AI compute as a driver for the business. IBM and Rackspace were up and down respectively compared to the 2H’23 survey, and these vendors (as well as Oracle and CRM) still continue to lag well behind Microsoft, Amazon, and Google.

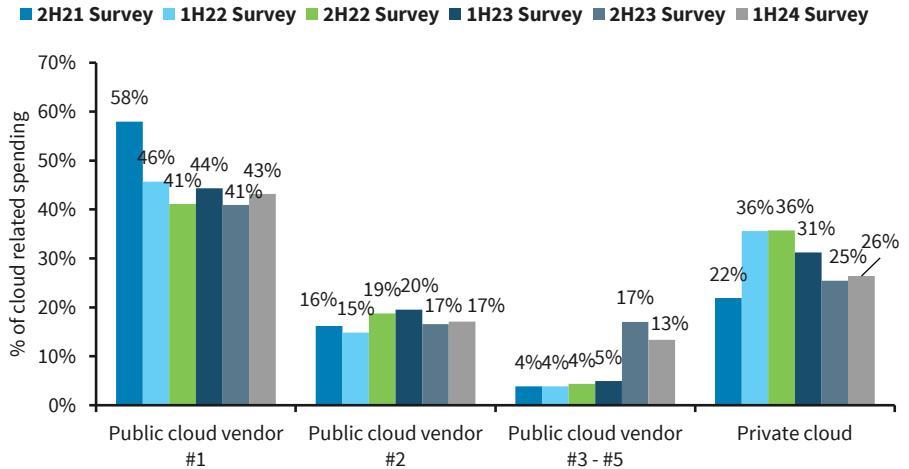
FIGURE 17. Barclays CIO Survey – CIOs’ Choice for No.1 to No.4 Cloud Vendor

	Weighting				Total Count	1H24 CIO Survey	2H23 CIO Survey	Change
	1.00	0.50	0.33	0.25		Adj. Score	Adj. Score	
	#1	#2	#3	#4				
Microsoft Azure	52	36			88	109	102	7
Amazon AWS	36	22			58	73	69	4
Google Cloud	7	7	9		23	21	19	2
Salesforce.com	1	6	5		12	9	5	3
Oracle		4	2	1	7	5	5	0
IBM		3	4		7	4	3	2
Rackspace	1	1	1		3	3	4	-1
Cisco		2	2		4	3	1	1
ServiceNow		1	3		4	2	1	1
Cloudflare		2	1		3	2	0	2
SAP		1			1	1	1	0
Dell EMC					0	0	0	0
Dialpad					0	0	1	-1
Equinix					0	0	1	-1
NetApp					0	0	0	0
NTT					0	0	0	0
Wasabi					0	0	2	-2

No respondents in our 1H24 survey used more than 4 cloud vendors
 Source: Barclays CIO Survey program.

We also surveyed CIOs’ allocation plans among public cloud providers and on-premise / private cloud infrastructure. On average, the primary public cloud provider accounted for 43% of total cloud spending (vs. 41% last survey). Private cloud, which had been gaining traction over the past year, remained stagnant at 26% of cloud spend after a large falloff between 1H23 and 2H23 (from 25% in 2H’23 and 36% in 2H22), while the #3-#5 options for public cloud also remained relatively stable after more than quadrupling from 1H’23. We continue to believe the results here could be indicative of AI demand driving spend to secondary and tertiary players, as GPUs continue to be broadly distributed among the hyperscalers and other IaaS players. Consequently, lesser emphasized cloud providers like OCI, as well as upstarts like CoreWeave and Lambda Labs, have access to GPUs, and could be seeing greater wallet share as a result.

FIGURE 18. Barclays CIO Survey – CIOs’ Cloud Spending Allocation (Average)

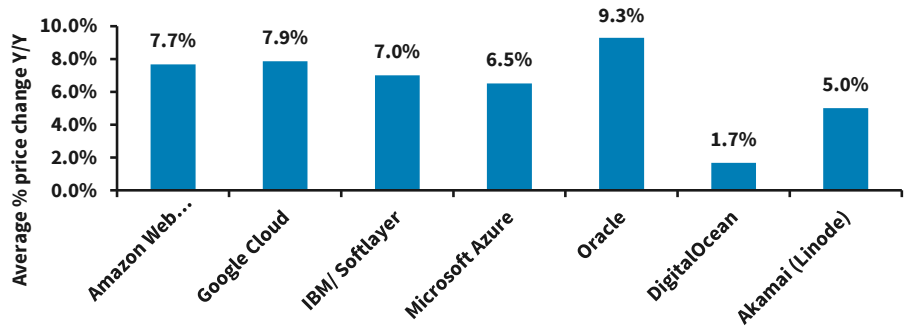


Source: Barclays CIO Survey program.

CIO Survey – Question #8: How have the following cloud vendors changed their pricing relative to last year?

Survey results show that the overall pricing environment for public cloud was again up for all vendors, with more pronounced increases vs. the 2H’23 survey. Although cloud vendors are passing on some of the cost savings from scale to customers, premium services and the effects of inflation are likely counteracting some of these scale discounts, hence leading to weighted average y/y price increases on AWS, Azure, and GCP. Among the three largest hyperscalers, GCP again stood out the most with the average price increase 7.9% higher y/y. We also call out Oracle, with y/y pricing increases of 9.3%, following an increase of 8% last survey. We continue to believe companies are getting increasingly comfortable with running workloads on the public cloud, and as such, they are starting to use the cloud not just for low-priority storage/compute workloads, but also for higher-value database and software services, as well as more recently Generative AI. The high demand for premium AI services from cloud vendors likely plays some of a role in many of the increases seen in 1H’24, as these workloads tend to cost more as a result of the greater compute required. Additionally, with more data and applications already residing in the cloud, vendors may no longer need to cut prices to incentivize companies to migrate workloads, hence having the ability to pull price as a lever more in the future. Lastly, there is likely a mechanical factor to consider here, with pricing having been roughly stagnant/declining for some vendors over the last few surveys.

FIGURE 19. Weighted Average Price Change (Y/Y) By Major Public Cloud Vendors

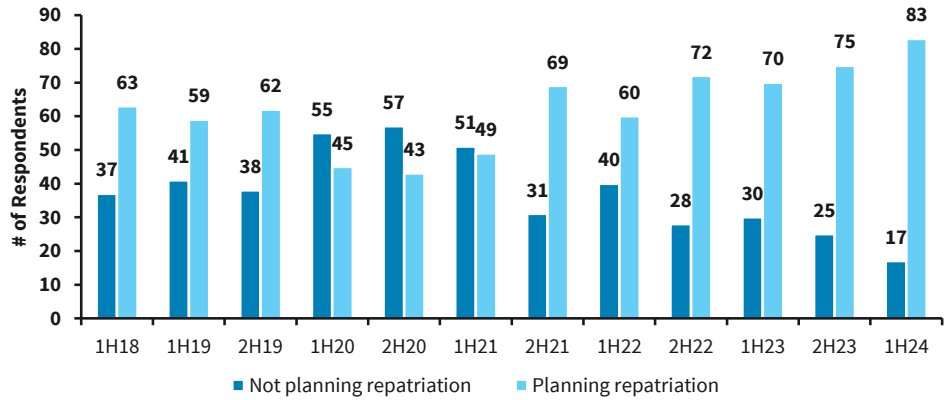


Source: Barclays CIO Survey program.

CIO Survey – Question #9: Over the next 12 months, which workloads does your company plan to bring back to the private cloud or on-premise from the public cloud, and why?

The proportion of respondents planning to repatriate workloads to private cloud or on-prem from public cloud declined markedly starting 1H20 but reversed sharply in 2H21 and has continued to increase since. Respondents planning to repatriate workloads fell from 62% in 2H19 to 45% in 1H20. However, the proportion of respondents planning repatriation rose from 49% in 1H21 to 69% in 2H21 and was 72% in 2H22. That number fell slightly to 70% in 1H23 but increased to 83% in 1H24, the highest reading since the survey has been conducted.

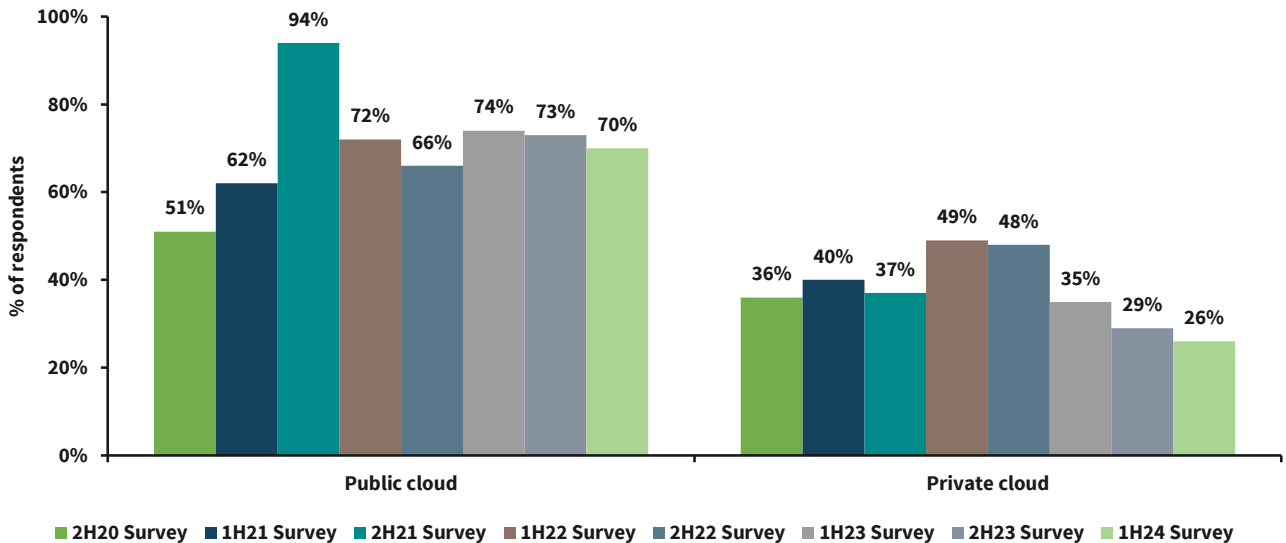
FIGURE 20. Barclays CIO Survey – Percentage of Respondents Planning to Move Workloads Back on to Private Cloud / On-Premise from Public Cloud



Source: Barclays CIO Survey program.

Figure 21 illustrates elevated increased spending expectations on *public cloud*. Public cloud is here to stay despite plans to move workloads back to private cloud, which is encouraging for the group that private cloud spending expectations have roughly stabilized given the headwind of public cloud growth. Spending expectations for public cloud rose from 66% to 74% from 2H22 to 1H23 and has declined slightly to 70% in 1H24.

FIGURE 21. Barclays CIO Survey – Percentage of Respondents Expecting Y/Y Increases in Spending Levels, Current Year



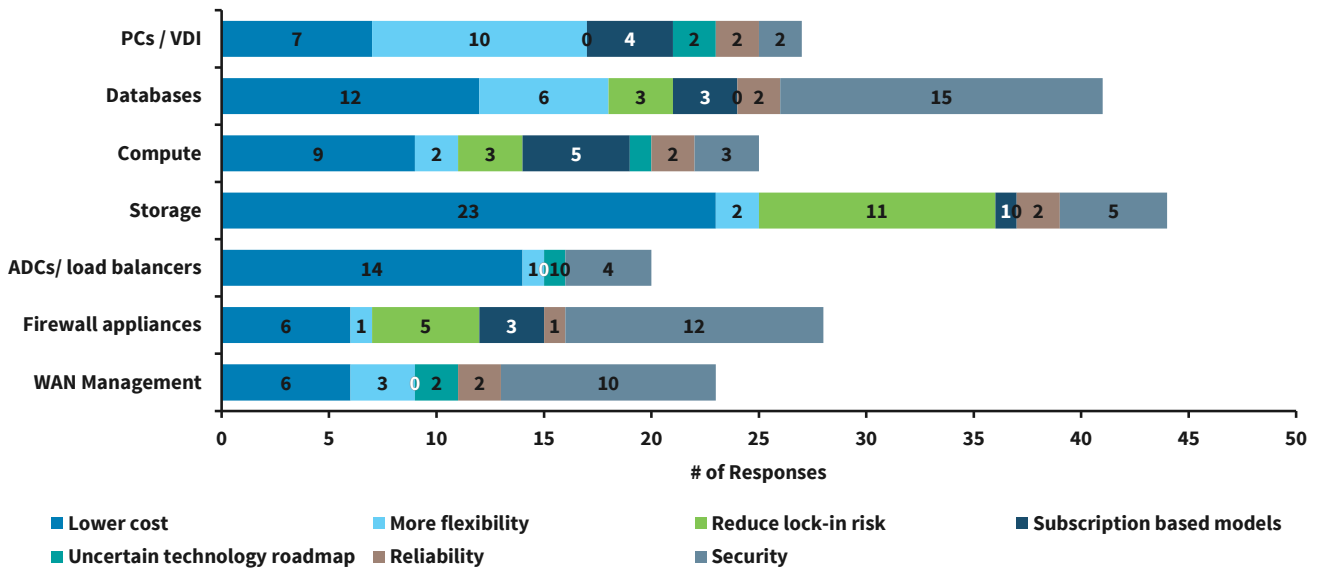
Source: Barclays CIO Survey program.

In this survey, Storage was the top workload respondents planned to repatriate (44 responses), followed by Databases (41), Firewall appliances (28), PCs/VDI (27), Compute (25), WAN Management (23), and ADCs/load balancers (20).

More granularly, as shown in Figure 22 below, Security remained the main reason for repatriating Firewall Appliances, and was also the main driver of Databases. Flexibility remained a main driver for PCs/VDI. Cost remained the main driver of Storage and Compute, and remained the main reason for repatriating ADCs/Load Balancers.

Key Take: The desire among CIOs for repatriation of workloads remained high resulting in the highest percentage of respondents planning the move back to private cloud/on-premise from public cloud yet. However, spending expectations are still stronger in public cloud vs. private cloud.

FIGURE 22. Barclays CIO Survey – Workloads that Respondents Intend to Move Back to Private Cloud / On-Premise from Public Cloud



Source: Barclays CIO Survey program.

CIO Survey – Question #10: Please rank your company’s Top Three spending priorities related to software for the next 12 months.

In this IT spending category, we excluded public cloud spending (since this theme is already well established). As seen over the past two years, BI/Analytics, ERP, and CRM remain the top three spending priorities for the next 12 months, and all three saw healthy inflections in 1H24 after flat results last quarter. Interesting to note is that communications/collaboration and ITSM, both of which were anticipated to see greater spend in the coming 12 months during our 2H23 survey, are actually being de-emphasized now. We first remarked that these verticals were likely to be disrupted with greater AI spend, and it appears that this is starting to flow through in results, though there also may be some mean reversion at play after large step-ups in the last polling. Databases continues to build on healthy momentum from the last few periods, up 6pts again this quarter, demonstrative of the importance of having a unified and manageable data estate, in our view. Observability and RPA also saw results more positive vs. 6 months ago, with the broader sentiment around both of these spaces being higher today than last fall. Middleware and virtualization stand out as the biggest losers this survey, with both having seen an emphasis in spend since 2H22.

FIGURE 23. Barclays CIO Survey – Top Three Spending Priorities Related to Software Solutions for the Next 12 Months

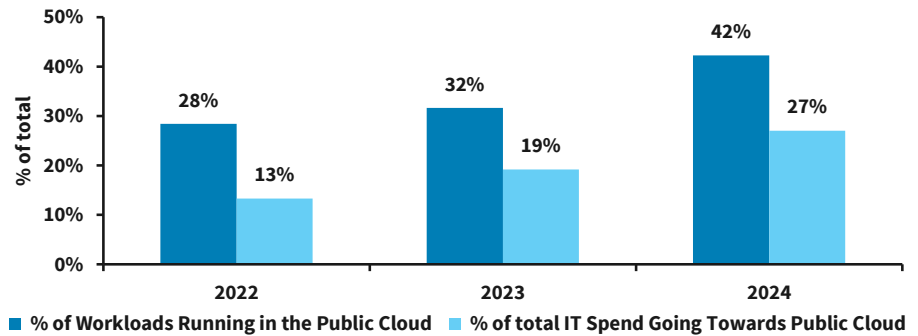
	Weighting			Total Count	1H24 CIO Survey	2H23 CIO Survey	Change
	1.00	0.50	0.33		Adj. Score	Adj. Score	
	#1	#2	#3				
BI / Analytics	30	20	13	63	73	64	9
Enterprise Resource Planning (ERP)	17	10	13	40	43	39	4
Customer Relationship Management (CRM)	13	16	10	39	40	34	6
Digital Process Automation (RPA, BPM, Process Mining)	6	13	11	30	26	23	3
IT Monitoring (Observability)	7	6	18	31	26	23	3
Communications / Collaboration	9	2	8	19	21	29	-8
Databases	4	13	5	22	20	14	6
IT Service Management (ITSM)	8	4	4	16	19	23	-4
Virtualization / Containers / Serverless	2	6	6	14	11	22	-11
Human Capital Management (HCM)	2	7	2	11	10	13	-3
Middleware / Data Integration	1	3	10	14	10	16	-7

Source: Barclays CIO Survey program.

CIO Survey – Question #11: What percentage of your workloads and what percentage of your total IT spend are going towards the public cloud, and how have those evolved over time?

Consistent with the technological trends of the past three years, the survey results show that both workloads and IT dollars have increasingly been shifting towards the public cloud, and should continue to do so. This is driven by a combination of factors: (1) enterprises that began testing the cloud a few years ago are moving increasingly more workloads (and dollars) there as they realize the benefits of reduced operating cost and greater flexibility/ease of use; (2) regulated sectors, including financial services and government, have started moving development/test workloads over to the cloud; this is a result of increasing pressure on these organizations to lower costs, as well as Azure and AWS offering more compliance, regulatory, and security features; (3) the emergence of a number of companies with a “cloud-only” or “cloud-first” infrastructure; and (4) hybrid solutions (Azure stack) that help enterprises execute a smooth transition to the cloud.

Current optimization headwinds that began at the tail end of 2022 lingered for much of 2023, impacting the number of workload migrations during the year. With the new year, many vendors have been signaling that the worst is behind them, and that new workloads should begin to creep back up as customers deploy new cloud-based workloads (with AI helping to drive this) with customers also resuming migrations that have been on pause for the past few years. While there still remains a degree of uncertainty around the pace of increasing spend again, Q4 results broadly demonstrated that spend levels were up vs. Q3, and early commentary called out strength in Q1 vs. the quarter and year prior. The results from our survey demonstrate this, with the percentage of workloads running in the public cloud in 2024 expected to be 42% (same as last survey), and IT spend going to the cloud at 27% (same as last survey). Conversations with customers and resellers indicate that the majority of enterprise IT budgets were reset at the end of last year, and this change in spend could reflect a faster recovery heading into 1H24 with a greater allocation towards software.

FIGURE 24. Barclays CIO Survey – Percentage of Workloads and Spend Going To the Public Cloud

Source: Barclays CIO Survey program.

In Figure 24 above, we can see that the % of IT spend in the public cloud has remained below the % of workloads in the public cloud for the past three years. This is because public cloud represents a deflationary force to IT spending, which is increasingly concentrated among a few large cloud vendors as opposed to each of their individual customers purchasing and maintaining infrastructure. Additionally, most companies are still using the cloud for storage/ compute and other lower-level processes (which require lower-priced cloud services), while mission-critical workloads continue to represent a smaller portion of overall workloads for now, although this portion is growing. As these “up-the-stack” workloads migrate to the cloud in the coming years, we believe they will drive margins and revenue higher for the cloud providers.

CIO Survey – Question #12: For the below data management platform vendors, what is the expected change in your company’s spending levels over the next 12 months?

The survey showed mixed results for cloud databases and data warehouses across the board. Snowflake again retained its top spot, and saw better results vs. 2H23. The number of strong increases interestingly declined this quarter (5, vs. 8 in 2H23), though the number of moderate increases jumped to 34 from 22 last survey. We also call out Azure CosmosDB (3), Splunk (3), and Databricks (2) as other vendors with a notable amount of expected strong increases. Databricks, which has been credited by the investment community as an AI winner over the past six months, notably did not see an improvement in expected spending, while Snowflake interestingly improved despite its recent Q4 struggles and second half product cycle. Pinecone and Weaviate, two pure-play vector database startups that have become prominent in the space as of late, interestingly saw interest wane notably after strong results in 2H23, though we note the absolute number of respondents using these solutions appears low. This could read more positively for vendors like Elastic, which while flat this survey, held up better than its vector-search peers. Microsoft SQL Server and Teradata were both roughly flat vs. last survey, Google BigQuery struggled, and Couchbase and Cassandra saw notable improvements in wtd. score. On the NoSQL database front, Azure CosmosDB continues to be ahead of MongoDB in terms of expected change in spend over the next 12 months, with Amazon DynamoDB also surpassing Mongo again in this survey.

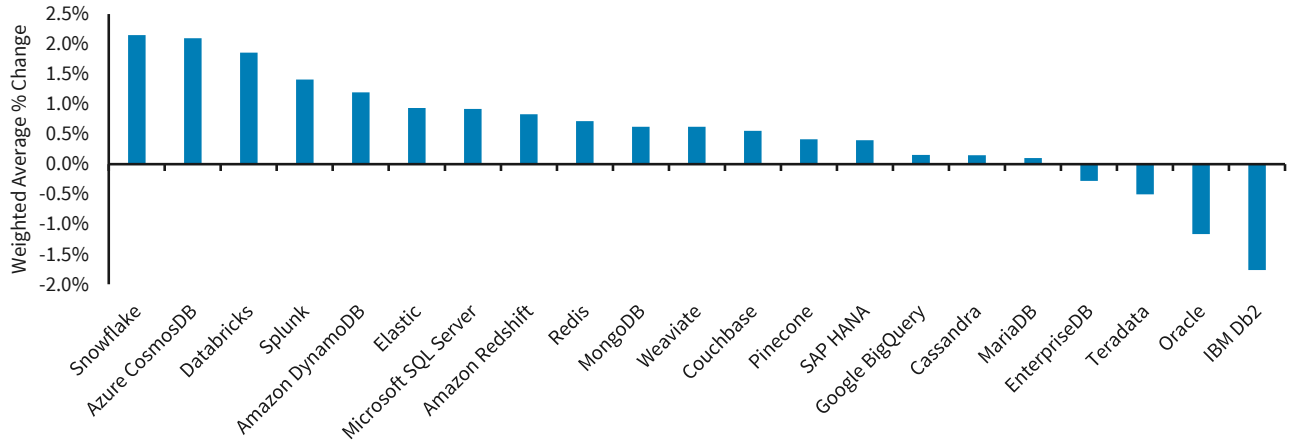
FIGURE 25. Barclays CIO Survey – Expected Change in Spending Levels by Vendor over the next 12 Months (Top Security Vendors Based On Weighted Ranking Of Respondents' Top Three Choices)

Vendor	Weighting	2.00	1.00	0.00	-1.00	-2.00	Total Count	1H24 CIO Survey	2H23 CIO Survey	Change
		Strong Increase	Moderate Increase	No Change	Moderate Decrease	Strong Decrease		Wtd. Score	Wtd. Score	
Snowflake		5	34	18	0	0	57	0.77	0.69	0.09
Azure CosmosDB		3	17	11	0	0	31	0.74	0.91	-0.16
Databricks		2	20	13	0	0	35	0.69	0.70	-0.01
Amazon DocumentDB		1	16	10	0	0	27	0.67	0.38	0.29
Splunk		3	28	18	6	0	55	0.51	0.28	0.23
Amazon DynamoDB		1	9	12	1	0	23	0.43	0.44	-0.01
Microsoft SQL Server		0	40	32	5	2	79	0.39	0.34	0.05
Elastic		0	14	16	2	0	32	0.38	0.38	0.00
Amazon Redshift		0	11	10	3	0	24	0.33	0.04	0.29
Redis		0	2	5	0	0	7	0.29	0.50	-0.21
Weaviate		0	1	3	0	0	4	0.25	0.40	-0.15
Couchbase		0	2	7	0	0	9	0.22	-0.08	0.31
MongoDB		1	7	17	3	0	28	0.21	0.35	-0.14
SAP HANA		0	10	11	3	1	25	0.20	0.22	-0.02
Pinecone		0	1	5	0	0	6	0.17	0.71	-0.55
Google BigQuery		1	6	20	4	1	32	0.06	0.32	-0.26
Cassandra		0	1	16	0	0	17	0.06	-0.14	0.20
MariaDB		0	3	19	2	0	24	0.04	0.07	-0.03
EnterpriseDB		0	1	6	2	0	9	-0.11	0.13	-0.24
Teradata		0	1	6	3	0	10	-0.20	-0.14	-0.06
Oracle		1	11	22	18	8	60	-0.35	-0.07	-0.28
IBM Db2		0	1	7	7	2	17	-0.59	-0.57	-0.02

Source: Barclays CIO Survey program.

We also looked at the expected changes in spending level by vendor over the next 12 months to get a sense of overall momentum. Here, we found that spending on Azure CosmosDB, Snowflake, and Databricks is likely to be highest, while Oracle, Teradata, and IBM are likely to see declines.

FIGURE 26. Barclays CIO Survey – Expected Change In Spending Levels Over the Next 12 Months



Source: Barclays CIO Survey program.

Security-related Questions

CIO Survey – Question #13: Please rank your company’s Top Three spending priorities related to security solutions for the next 12 months.

The top 3 spending priorities in security over the next year based on survey results are: (1) endpoint security, (2) cloud security, and (3) identity and access management (IAM). Endpoint continued to be top-of-mind in security among CIOs in this survey, ranking #1. We introduced cloud security as a new option in this survey due to its growing demand in cybersecurity and it ranked #2. As a result, identity and access management (IAM) and vulnerability management (VM) were shifted down to third and fourth place from second and third place, respectively, in the prior survey. Secure access service edge (SASE) saw a strong uptick in interest, pushing up to #5 and overtaking email security, firewall appliance refresh, virtual firewall instances, and security information and event monitoring (SIEM).

In the current poll, endpoint security maintained its No. 1 spot and we think it remains a top area of spend among CIOs because (1) endpoints continue to be outside the corporate perimeter and/or part of a growing BYOD fleet; (2) PC shipments are stabilizing and are forecast to return to growth due to the upcoming PC refresh cycle and Windows 11 release. As a result, we expect the corporate endpoint market to benefit indirectly; (3) there are disruptive vendors offering new options to customers with long-standing tools. As companies continue to embrace a hybrid model, this naturally expands the attack surface, making securing endpoints as important as it was during the height of the pandemic. From a market standpoint there are also disruptive vendors gaining share, there are still customers with long-standing endpoint anti-virus software that will need to explore new options – much like what happened in the firewall market in the early 2000s as the industry moved from stateful inspection to next-gen firewall.

In this iteration of the survey, we introduced cloud security (CNAPP / CSPM, etc.) and it ranked No.2. We are not surprised to see this as cloud continues to dominate tech spending with cloud-related investments, including the consumption of cloud-related services and investments in hardware/software needed to build cloud environments, representing 39% of worldwide IT spending and forecast to expand to 53% by 2026 according to IDC. Additionally, the majority of

all spending in software was via “as a service” in 2022, and this is expected to grow to almost two-thirds by 2026. With 79% of companies contending with at least one cloud breach in the past 18 months and the majority of large security vendors honing in on the development of their cloud security offerings, we are not surprised to see the strong interest in cloud security measures.

Identity and Access Management ranked No. 3 in this iteration of the survey – although it ticked down in the ranking, overall interest in IAM ticked up the most compared to other areas of security. We believe identity is a key area for two main reasons: (1) high-profile breaches like MGM/Caesars show that identity is a key vector for attacks, particularly given that 80%+ of cybersecurity breaches are identity-related; (2) legacy IAM is still broadly used, and arguably due for modernization. Following a breach, a focus for enterprises is to closely monitor and secure who comes in and out of the environment, and privileged accounts specifically are major targets of breaches, which would make privilege identity within broader IAM a focal point among CIOs. The second point, which ties in with the first, is that there remains a large installed base of legacy identity solutions in need of replacement by next-gen platforms.

Vulnerability Management (VM) also fell one spot to No.4 in the survey – we do not think this is particularly surprising considering growth in Tenable and Rapid7 both slowed in 2023 as we wonder if this market might be more cyclical than secular.

SASE saw a strong uptick, rising to the #5 spot in this iteration of the survey, up from #8 in the prior survey and knocking email security and firewall appliance refresh out of the top 5. We are not surprised to see this uptick as demand for SASE solutions feels healthy and more vendors are starting to offer solutions in this space. On the flip side, firewall appliance refresh saw a downtick in this survey, which aligns with the cyclical nature of the hardware firewall market, in our view, as refresh activity and some demand pull-forward as customers ordered ahead of supply chain delays drove strength in 2022, while 2023 and early 2024 have faced macro impacts and delayed refresh projects for firewall vendors. It will be interesting to watch how the results for SASE and firewall appliance refresh trend in future surveys, as we are often asked if SASE will eventually reduce the need for firewalls.

FIGURE 27. Barclays CIO Survey – Endpoint, Cloud Security, and Identity and access management are top 3; rounding out top 5 are vulnerability mgmt and SASE (top security spending priorities based on weighted ranking of respondents' top three choices)

	Weighting			Total Count	1H24 CIO Survey	2H23 CIO Survey	Change
	1.00	0.50	0.33		Adj. Score	Adj. Score	
Endpoint security solutions	24	20	10	54	77	68	9
Cloud Security (CNAPP / CSPM, etc.)	16	17	20	53	64	n/a	n/a
Identity and access management	20	13	13	46	63	48	16
Vulnerability Management	7	11	16	34	37	34	2
Secure access service edge (SASE)	9	7	13	29	35	21	14
Email security (anti-spam/anti-malware)	6	12	3	21	27	31	-5
Firewall appliance refresh	6	9	5	20	25	30	-5
Virtual firewall instances for public cloud workloads	6	8	6	20	25	28	-3
Security information and event monitoring / data analytics of security events	5	3	9	17	19	25	-6
Firewall Policy Management	1	0	2	3	3	7	-4
DDoS mitigation	0	0	3	3	2	7	-5

Source: Barclays CIO Survey program.

CIO Survey – Question #14: Over the next 12 months, please select the Top Three security vendors likely to see the largest percentage increases in spending from your company.

CrowdStrike retained its #1 rank in our latest survey with Microsoft close behind at #2, followed by Palo Alto at #3, Cisco at #4, and Fortinet at #5, all consistent with our prior survey. We have five takeaways on results of the top vendors: (1) CrowdStrike held its spot as the number one security vendor, which is not surprising given the consistent top finishes for endpoint as a priority, although SentinelOne saw a notable downtick in interest; (2) Palo Alto and Fortinet saw an uptick in interest while Check Point saw a downtick; (3) Zscaler saw an uptick in interest, which aligns with the strong showing for SASE; (4) Tenable and Rapid7 saw a downtick in interest; (5) Varonis saw an uptick in interest and has a more meaningful showing in this iteration of the survey, which we think aligns with the growing importance of data security, and might also indicate an expansion in that TAM as the tools move to SaaS.

CrowdStrike retained the #1 spot and saw an uptick in interest. Endpoint and Identity are the key landing points for attackers in the new, more distributed work environment, and we think CrowdStrike's Falcon platform is viewed as best of breed by both customers and industry analysts spanning from endpoint security, to conditional access management, incident response, and others. Although endpoint continues to be a top priority for customers, SentinelOne downticked in this survey – we think this could be due to the intensified competitive dynamics from larger platform players like CrowdStrike, Microsoft, and Palo Alto.

Palo Alto Networks held the #3 spot and saw an uptick in interest, which we think makes sense given its leadership position in the firewall market along with its platform approach and notable presence in other security markets like SASE, cloud security, and XDR – we think this broad platform approach appeals to some customers looking to consolidate their security products with one vendor. Fortinet also saw an uptick in this survey after seeing a downtick in the last survey in conjunction with decreasing prioritization of firewall refresh – interestingly, firewall refresh downticked again in this survey, but Fortinet saw an uptick. We wonder if this is related to Fortinet's recent strategy shift to focus more on less cyclical businesses like SASE and security operations. Check Point saw a downtick, which we think is in line with the decreasing prioritization of firewall refresh. Zscaler saw an uptick in interest, which makes sense to us given the growing demand for SASE solutions and Zscaler's dominant market position in the space.

Rapid7 and Tenable both saw a downtick in this survey – for Rapid7, we wonder if part of this move could be related to the recent changes in its salesforce and the broader layoffs in the organization. For Tenable, given that the company maintains the largest market share in VM, we think this downtick coincides with market forecasts showing the VM market slowing in growth.

Varonis saw an uptick in interest in this survey and now has more meaningful mindshare with survey respondents, which we think is notable given the more niche market it operates in. We wonder if this improved showing for Varonis reflects the growing importance of data security that we've seen in the industry more broadly.

FIGURE 28. Barclays CIO Survey Respondents Rank CRWD, MSFT, PANW, CSCO as Top 4 Security Companies (Top Security Vendors based on Weighted Ranking of Respondents' Top Three Choices)

	Weighting			Total Count	1H24	2H23	Change
	1.00	0.50	0.33		CIO Survey	CIO Survey	
	#1	#2	#3		Adj. Score	Adj. Score	
CrowdStrike	28	7	5	40	57	49	9
Microsoft	14	26	16	56	56	46	10
Palo Alto Networks	15	8	9	32	38	34	4
Cisco Systems	10	11	8	29	31	28	4
Fortinet	7	5	8	20	21	17	4
Zscaler	4	8	9	21	19	14	5
Okta	4	8	6	18	17	15	2
Cloudflare	4	4	6	14	14	5	8
Carbon Black/VMware	2	5	4	11	10	8	2
Varonis	2	4	3	9	9	7	2
Splunk	1	4	6	11	9	8	1
Rapid7	3	1	2	6	7	10	-3
SentinelOne	1	4	0	5	5	10	-5
SailPoint	1	0	4	5	4	6	-2
Symantec	1	1	2	4	4	6	-2
IBM	0	3	1	4	3	6	-3
Check Point	1	0	2	3	3	6	-3
Cyberark	1	0	2	3	3	5	-2
Tenable	1	0	1	2	2	4	-1
F5 Networks	0	0	2	2	1	5	-4
Snyk	0	0	2	2	1	1	1
Sophos	0	1	0	1	1	2	-2
Juniper	0	0	1	1	1	1	-1
Cato Networks	0	0	0	0	0	n/a	n/a
Elastic	0	0	0	0	0	2	-2
Netskope	0	0	0	0	0	0	0
Ping Identity	0	0	0	0	0	1	-1
Qualys	0	0	0	0	0	1	-1
Wiz	0	0	0	0	0	n/a	n/a
Other, please specify:	0	0	0	0	0	0	0

Source: Barclays CIO Survey program.

CIO Survey – Question #15: As more of your workloads move into the public cloud, how do you see your installed base of firewall appliances trending over the next 3 years?

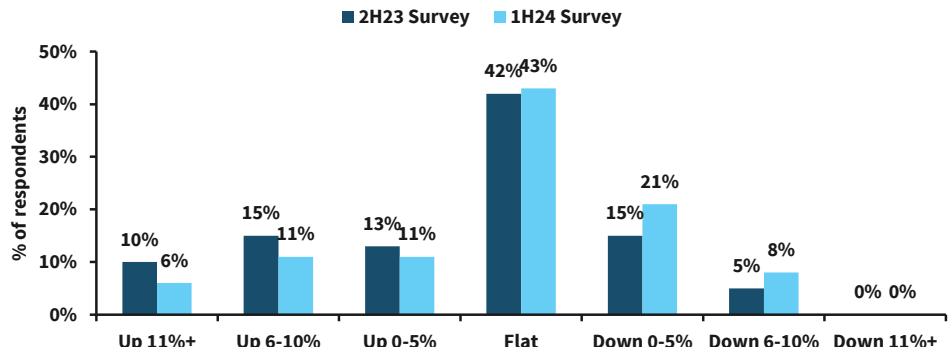
This is the eleventh time we have asked this question and we believe it is an important one to track in security longer term, as there remains the question of what happens to firewall appliances as the world increasingly adopts the public cloud. Results in this survey show a less optimistic outlook for firewall fleets compared to our last survey, with a downtick in respondents expecting their fleet to trend up over the next 3 years and an uptick in those expecting it to trend down. Specifically, 28% of respondents expected their firewall appliance base to grow over the next three years, with 29% expecting their base to decline and 43% expecting it to be flat – this compares to the 38% that expected growth and the 20% that expected a decline in their firewall fleets in the prior survey.

In our view, there are a number of drivers for firewall appliance growth despite public cloud adoption. Internet traffic continues to grow, driven by the increased use of SaaS applications. In addition, a greater portion of Internet traffic is becoming encrypted. As a result, customers need

to buy either larger/more expensive appliances or more of them to handle the growing traffic and enable the capacity to perform more security inspections like SSL. Another trend is internal segmentation, which requires more firewalls to block off different departments within an enterprise to reduce the attack surface.

On the other hand, more workloads are moving outside of the corporate perimeter to public cloud, implementing a virtual firewall or possibly a native tool from the IaaS vendor to protect the workloads. Additionally, there is debate on whether SASE can displace the firewall, particularly in branch environments – it’s still early, but this will be an important dynamic to track moving forward. We believe these reasons are key drivers of the survey result, in which 72% of respondents don’t expect their firewall appliance base to grow over the next three years.

FIGURE 29. Barclays CIO Survey – Public Cloud Impact on Firewall Spending



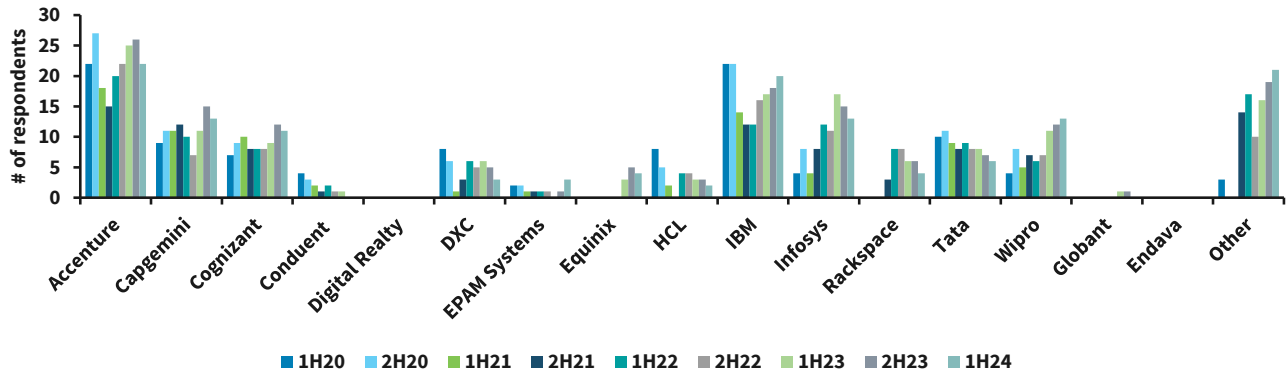
Source: Barclays CIO Survey program.

IT Services-related Questions

CIO Survey – Question #16: Which of the following IT service providers has your company either selected or strongly considered for new contracts or expansion of existing business in the next 12 months?

For the question on IT Services vendors, results showed Accenture, Other, and IBM having the largest presence in the market. EPAM, IBM, and Other saw the largest increase in responses, while Accenture, Capgemini, DXC, INFY and RXT saw the largest decrease. We saw a similar variation in responses compared to our 2H23 survey, but note a smaller sample size, which we believe reflects continued caution and slower decision-making amongst IT Services clients.

FIGURE 30. Barclays CIO Survey – IT Services Providers being Considered for New Contracts or Expansions in the Next 12 Months

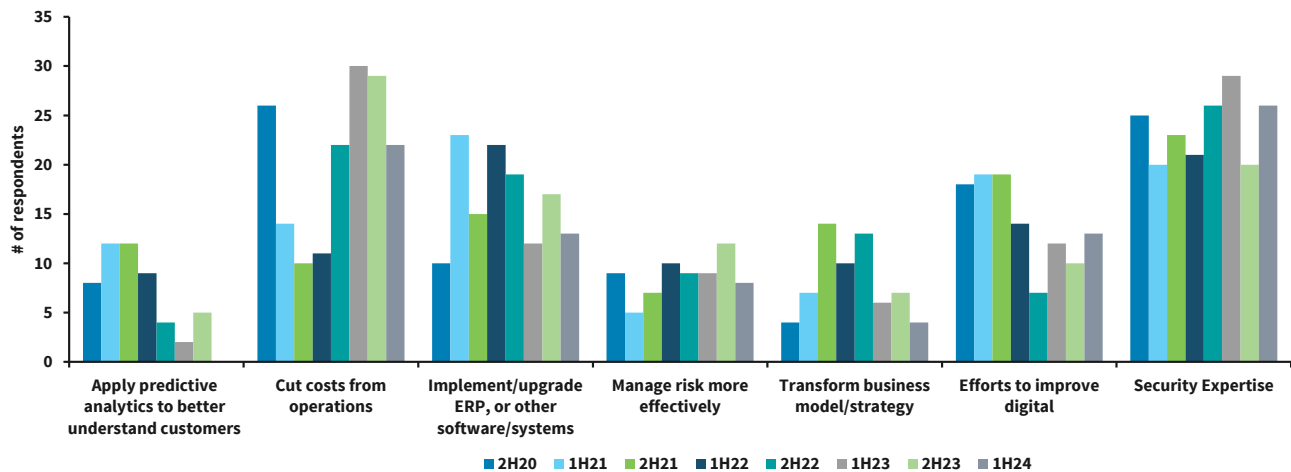


Source: Barclays CIO Survey program.

CIO Survey – Question #17: In the next 12 months, for which of the following tasks is your company most likely to hire an outsourcing/consulting provider?

Regarding the question on outsourcing/consulting, our survey respondents expressed the largest increase in interest in security expertise, followed by efforts to improve digital. We believe this increase in both categories is driven by clients looking to be better prepared for Generative AI implementation. On one hand, early iterations of Generative AI-related cyberattacks are gaining steam, forcing clients to improve security measures across the enterprise. On the other hand, clients are looking to digitize more areas of the business in order to become agile, data driven, and Generative AI-ready. While the majority of responses saw a decline due to a smaller sample size, cut costs from operations saw the sharpest decline, which we view as a positive sign that enterprises are preparing to shift focus back towards longer-term digital transformation deals after 12-18 months of cost cutting.

FIGURE 31. Barclays CIO Survey – Focus Areas for IT Service Providers in Next 12 Months

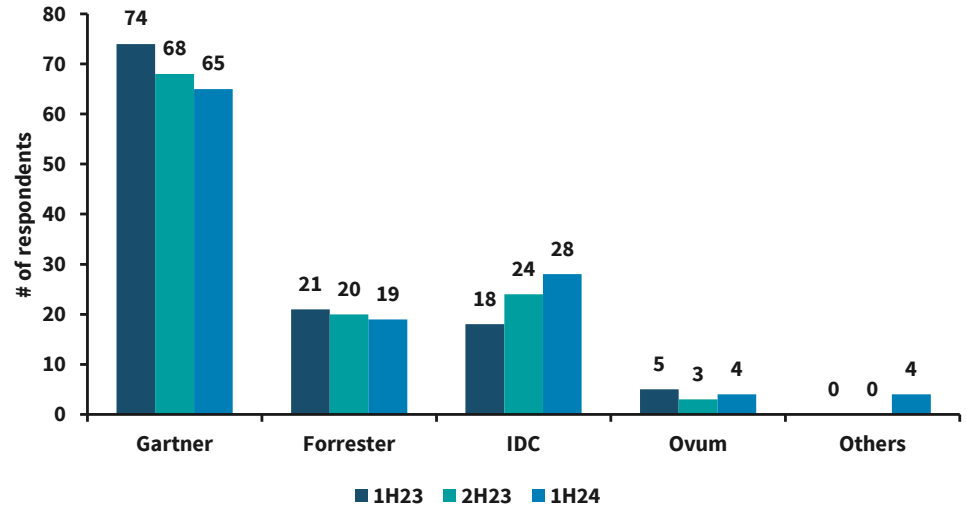


Source: Barclays CIO Survey program.

CIO Survey – Question #18: (A) Which Technology Research Vendor(s) do you subscribe to regularly? (B) Over the NTM would you be looking to increase or decrease your spend with Gartner?

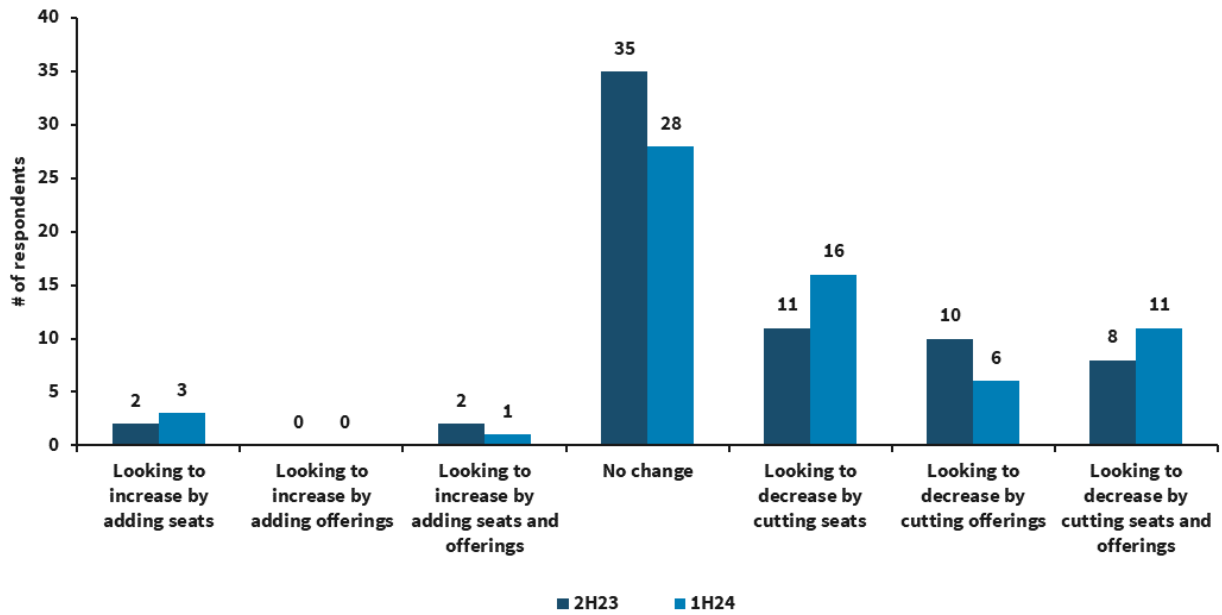
Results show that most CIO’s use Gartner (as we expected), but that expectations are low for NTM technology research spend. 43% are looking to decrease seats, offerings, or both over the NTM, while 51% see no change and 6% see an increase in either or both. On a net basis, results were -37% vs. -31% prior for increasing/decreasing spend. We note that we have only asked this question since 2H22 so we do not have much historical context, but it has correlated with Gartner’s recent CV slowdown, and results suggest that underlying technology research spend (i.e., excluding Gartner’s and competitors’ regular pricing) may slow more than overall technology spend.

FIGURE 32. Barclays CIO Survey – Technology Research Vendors Subscribed to Regularly



Source: Barclays CIO Survey program.

FIGURE 33. Barclays CIO Survey – CIO Spend Expectations with Gartner Over the Next Twelve Months



Source: Barclays CIO Survey program.

IT Hardware and Communications Equipment

Tim Long, BCI, US | George Wang, BCI, US | Alyssa Shreves, BCI, US | Emma Cho, BCI, US

Sector Implications

Total IT spending level expectations for 2024 stayed roughly the same at 3.1%, which remain lower than early 2022 reads, but higher than 2023. Although 2024 expectations have remained stable, the uplift from 2023 is a positive for the sector. However, the economic environment could dampen (or accelerate) spend, depending on macro condition.

Communications and Storage ticked up to 47% and 55%, respectively, though the rest of hardware verticals continued to slide or remain stable. Communications and Storage remain the strongest categories, with Storage ticking up 10 points from 2H23. We continue to see repatriation of workloads to the private cloud/on-premise from the public cloud primarily driven by storage, with respondents citing lower cost as a primary reason for the switch. 70% of respondents indicated they were expecting increases in public cloud spending vs. 73% in 2H23. It is important to point out that spending expectations are still stronger in public cloud even as CIOs plan to repatriate.

Expectations for repatriation of workloads continue as the public cloud spending outlook decelerate:

- **Cost.** The #1 reason for pulling workloads back, and has moved from 50 respondents to 66 to 62 to now 77 over the last four surveys. On-prem vendors are working on solutions that are more cost effective than the public cloud.
- **Security.** From 42 respondents to 48 to 49 and now 51 over the last four surveys. This is always a focus for large enterprises.
- **Reliability.** Moved from 28 respondents to 51 to 17 to now 11 over the last four surveys. Despite many high-profile public cloud outages, these do not seem to be consistently influencing decisions.
- **Subscription models.** From 24 to 10 to 15 to now 16 respondents. Most legacy hardware companies are rolling out subscription-based offerings, moving spend from capex to opex.
- Storage was the top type of workload repatriated, going from 35 respondents to 31 to 37 and now 44 over the last four surveys.

Stock Implications

Positive: We view the results around repatriation as positive for the whole group, particularly those in Storage and Networking. Strong Storage spending suggests a higher probability of increased revenue for **PSTG**, which has been mentioned more as a cloud beneficiary in recent surveys.

Mixed. **HPE**, **CSCO** and **DELL** still get mentioned most as negatively impacted by the move to Public Cloud, though the sector views for Communications and Storage are pretty strong. **NTAP** doesn't screen that well, and the transition to a cloud model has been a bumpy ride. Likewise, **JNPR** and **ANET** don't get many mentions, but we see their public cloud businesses as strong with great backlog.

Negative: Printing was once again the most challenged area in the survey and though further deterioration seems to have stabilized, this remains a fundamental headwind for **HPQ**.

U.S. Software

Raimo Lenschow, BCI, US | Isaac Piliavin, BCI, US

Sector Implications

Our 1H'24 story helps to cement what we have seen broadly for a while now – 2024 IT budgets are better than 2023 (+3.1% vs. +2.4%), but the improvement is not overly dramatic. As such, while sentiment is more positive than it was last year, there are still only a limited number of new dollars chasing the broad range of categories across our software universe. This is further complicated by the new need for organizations to spend on AI, which respondents expect to account for ~5% of IT spending on average in the coming 12 months. This spend likely comes at the expense of existing software budgets to some degree, with pressure here further added by the number of price increases many vendors in the space implemented in 2023. As such, we view applications and business intelligence/analytics most favorably, with these services having a more demonstrable ROI vs. infrastructure and other subcategories. Additionally, we continue to believe that limited IT budget growth should benefit share aggregators in the near term, as customers look to bundle their spend for greater discounts. Overall, we are encouraged by the decreasing impact optimizations are having on many vendors in our space, and continue to believe that public cloud spend should outpace IT budget spend in the near and medium term. We call out BI/Analytics, CRMs, and Databases as verticals that stood out positively to us in 1H24, while Communication/Collaboration tools, Virtualization, and HCM were disappointing.

Stock Implications

In a reversal from our 2H'23 survey, our survey was bullish on BI/Analytics, CRM, and Databases, while ITSM and Communication/Collaboration tools (two spaces that did very well in our last survey) were weaker. The shift here makes sense in our view, with our stronger categories being more pertinent to the current AI investing cycle. These trends, in context of individual vendor rankings, bode well for Microsoft and Salesforce in our view, are mixed for Snowflake, Elastic, and MongoDB, and more negative for the broader HCM space and legacy solutions.

With regard to cloud spending, expectations for 2024 appear to have found their level after revisions downward in late 2022 and 2023. As Microsoft, Amazon, and other cloud software vendors have called out, optimizations are no longer weighing on new and existing business as much as they were, and general activity has improved over the past few months. With this in mind, we think **Microsoft** looks like one of the biggest beneficiaries in our survey. The percentage of workloads and percentage of total IT spend going towards the public cloud are expected to increase from 32% and 19%, respectively, in 2023 to 42% and 27% in 2024. In our 1H'24 results, Azure was again ranked as the number one cloud provider among respondents, with incremental gains again vs. the other hyperscalers. Additionally, in our inaugural asking of CIOs "which AI model/cloud provider is being used this year", Microsoft/OpenAI came in far ahead of peers with over 60% share. This, combined with the broader reacceleration in cloud workloads, should prove favorable for the company, in our view. **Salesforce** also stood out to us this quarter with the third largest increase amongst cloud vendors, which we believe is driven in part by demand for the company's AI SKUs (which while still early in development/deployment continue to screen favorably in our VAR surveys), as well as pricing increases that continue to roll through the base upon renewal. **Oracle**, which we highlighted as a winner in 2H'23, did not screen as well this time around, with cloud results roughly flat, and a weaker outlook around the company's database solutions.

With regard to solution spend, BI/Analytics, ERP, and CRM continue to be the top three spending priorities for respondents, though we highlight improved sentiment in Databases for the third consecutive quarter, and worsening sentiment around Communications/Collaboration and Virtualization. Strength in BI/Analytics, CRM, and Databases does not overly surprise us, as all

three of these categories appear to be increasingly valuable in a modern AI stack. As such, we come away positive on both **Microsoft** and **Salesforce**, which have announced/released a slew of product offerings pertaining to GenAI features in Dynamics, Sales and Service Cloud, Tableau, Power Platform, and more. We think the survey also reads incrementally positive for Both **MongoDB** and **Elastic**, even with being mixed on a vendor-specific level. A unified data estate is becoming increasingly important for AI, and both of these vendors offer a robust set of features to help manage and deploy these workloads (while also serving as respective incumbents for large amounts of data), offering an easy opportunity to expand within an organization's tech stack. The incrementally negative readings for private pure-play vector startups including Pinecone and Weaviate also help to alleviate competitive concerns. Additionally, on the database side, we highlight **Snowflake** for its improved results, which could signal better times ahead for the vendor coming off a rockier ending to its most recent fiscal year. The cloud vendors again screened strongly here, though **Microsoft** traction appears to have waned from its highs in 2H23. Lastly, we highlight **Couchbase** for its strong sequential improvement, and note that **Teradata** and **Oracle** continue to screen as laggards.

U.S. Security

Saket Kalia, BCI, US | **Ryan Powderly-Gross**, BCI, US | **Joseph Pilleteri**, BCI, US | **Carly Buecker**, BCI, US | **Alyssa Lee**, BCI, US

Sector Implications

Following multiple high-profile breaches over the past few years, it is no surprise the majority of CIOs in our survey continue to make security a top priority in spend – 91% of respondents expect to increase spending (vs. 86% in our last survey approx. 6 months ago). Even apart from the high-profile breaches, security spend has been more resilient than other areas of software, in our view; we think the reason for this is the risk/cost dynamics of a breach from a technology and reputational perspective outweighing the cost of good security. Furthermore, we think there are still plenty of enterprises that do not have the maturity in their security programs needed to handle today’s attacks – especially with an expanding attack surface like a remote workforce or cloud environments – and require further investment in tools as well as subsectors of security, like Identity and Access Management (IAM), that are in need of a refresh from legacy products. As such, we think there are sub-segments in security that should benefit disproportionately – Endpoint, Cloud, and IAM remain top-of-mind as the top 3 categories in this survey.

Endpoint security and IAM once again top spending priorities; newly introduced cloud security ranks #2 in interest, and SASE ticks up significantly while email security, firewall appliance refresh, and SIEM see lower interest.

Endpoint security, cloud security, and IAM are the top three areas expected to see increased spend based on our survey, followed by VM and SASE. Endpoint and IAM have consistently ranked high in recent surveys, which makes sense in our view as many enterprises are still using legacy endpoint solutions that are (1) seeing discontinuations of support and (2) being displaced by next-gen disruptors – Symantec being a prime example of this, and this survey shows Symantec interest continues to decline. Much of the current identity infrastructure in use today is still decades old and also being displaced by newer vendors. We introduced cloud security (CNAPP / CSPM, etc.) as a new security segment in this iteration of the survey and it ranked No.2, which makes sense in our view as a growing amount of software spending is being allocated to cloud-related investments and many security vendors have continued to develop their cloud security offerings. SASE ticked up significantly coming in at #5, while firewall refresh saw a downtick in interest – we think this likely reflects the cyclical nature of the hardware firewall market and secular growth in SASE, but it also begs the question of whether SASE is having an impact on firewall appliances as well.

Four takeaways on vendors: (1) CrowdStrike retains the top spot, but lead over Microsoft narrows; (2) Notable downtick for S; (3) Palo Alto and Fortinet see an uptick in interest while Check Point downticks; (4) Zscaler up; (5) Tenable and Rapid7 downtick; (6) VRNS starting to show up more.

Digging deeper into vendors, CrowdStrike maintained its position over Microsoft as the top vendor in this survey – we note that that CrowdStrike’s lead narrowed slightly. Given that the top priority in security continues to be endpoint, followed by cloud security, we think this bodes well for CRWD and suggests a greater interest in its broader platform, particularly for its cloud, identity, and NG-SIEM offerings. Conversely, S experienced a significant downtick in interest, falling out of the top 10 – we think this could be largely due to an intensified competitive environment, particularly from larger platform players like CRWD, MSFT, and PANW. Palo Alto and Fortinet again rounded out the top three and top five, respectively, gaining interest while Check Point saw a downtick – we think this shows a preference for platform players given the lower prioritization of broader firewall refresh in this survey. Zscaler upticked in this survey,

which does not surprise us given its leadership in the SASE market, which also saw a strong uptick in interest. Rapid7 and Tenable both saw lower interest, which aligns with a lower prioritization in vulnerability management in this survey. Varonis saw an uptick in interest and made a more meaningful showing in this survey, and we wonder if this reflects the growing importance of data security.

Stock Implications

CRWD/S: With endpoint security maintaining the #1 spot in terms of priorities, CRWD and SentinelOne (S) stand to benefit given their disruption in the endpoint market. CRWD's platform approach likely also plays a role in cementing CRWD as the top security platform. We wonder if S stands to benefit less, given the intensified competitive dynamics from larger platform players like CRWD, MSFT, and PANW.

PANW/FTNT/CHKP: Interest in PANW and FTNT was up in this survey while CHKP down ticked – we wonder if this reflects growing demand for platform solutions given the downtick in firewall refresh.

CYBR: IAM remains a top 3 CIO spending priority, but we note a slight downtick for CYBR in this survey.

RPD/TENB: With decreasing interest in VM as a priority, it's understandable to see interest decrease for RPD and TENB as well.

VRNS: Interest in VRNS improved and this iteration of the survey shows VRNS is taking more mindshare from respondents, which we think aligns with growing demand in data security.

U.S. Internet

Ross Sandler, BCI, US | Trevor Young, BCI, US | Alex Hughes, BCI, US | Joseph Petrolina, BCI, US

Sector Implications

1H24 seems to have reached an important inflection point for public cloud growth re-acceleration. AMZN called out customer optimizations “further attenuating” in the most recent quarter, Azure pointed to 6 points of growth from AI workloads, and similarly GCP pointed to GenAI products as a key driver in its Cloud acceleration. Our survey results support this theme (Fig 24 above). Consistent with prior CIO surveys, AWS and GCP remain the second and third public cloud players, respectively, behind Azure (we note that our survey skews towards SMB enterprise and fewer cloud-native players, which tends to favor Azure over AWS). A new question posed to CIOs this year is which AI model/cloud provider is being used; unsurprisingly, OpenAI is being used by the vast majority of companies currently, demonstrating the strong first-mover advantage. Anthropic (AWS) and Gemini (GCP) were the #2 and #3 responses, respectively, albeit having a significant gap vs. OpenAI. AWS database has seen an uptick, likely on the back of these AI projects. Looking ahead, both AWS's and GCP's ability to continue to develop and monetize AI products should be a tailwind for the next several years, as enterprises become increasingly more willing to spend on AI tools.

Stock Implications

AMZN: AWS remains the public cloud industry leader with over \$90b in FY23 revenue, but Azure continues to grow at a faster pace off a smaller base – which has been the case for several years. AWS grew 13% y/y ex-fx (+\$1.15b q/q), the first quarter of accelerating growth in two years. We think AWS will continue this acceleration into 2024 as cost optimizations attenuate further (flipping from a headwind over the last year) and larger AI deals start producing revenue. The AWS backlog grew to \$155.7b (+41% y/y), accelerating 13pts from 3Q as new signings and companies have gone back into migration mode vs. cutting cloud spend previously. We'd flag that AWS stopped charging egress fees in March 2024, now offering credits for these previous fees. It's not clear how much of AWS revenue is egress fees, but some estimates show up to 2% of annual revenue historically. (It's also not clear how the revenue accounting works when what was previously a fee is now a credit.) This may not be picked up by some of the data trackers that the buy-side uses on AWS. On the margin front, AWS OI continues to tick higher on headcount rationalizations and the ~\$2B bump from the server useful change starting in 1Q24 (\$900m for the quarter specifically). Looking ahead, the Anthropic partnership and Bedrock in general has not yet been a material driver of the revenue/backlog numbers. Anthropic is reportedly expected to generate \$850m+ ARR in 2024, most of which would be recorded as AWS revenue. Additionally, as we have pointed out in the beginning of the year (see: [A Couple New Findings On AWS](#)), we see further cloud migrations from F1000 companies (non-cloud-native) as a potential tailwind, especially if enterprises are more willing to utilize AI services like Bedrock.

GOOG: The Google Cloud segment grew +26% y/y in 4Q23, accelerating more than 3pts from 3Q, crossing \$33b in revenue for FY23. In recent history, GCP growth has consistently outpaced Workspace, although management notably did not call out that dynamic in the recent quarter. Cloud revenues accelerating in 4Q were especially notable given the lapping of a full quarter of the Mandiant acquisition (100bps+ tougher comp); this was likely driven by early enterprise AI uptake. GCP OI margins spiked to 9.4% in 4Q23 and have been positive since 1Q23, a promising trend following years of losses within the Cloud segment. Gemini has been the story in 2024. The GCP business is likely seeing new cloud wins on the back of the v1.5 launch (despite some of the initial controversy around the consumer-facing chatbot). Gemini Ultra became generally available in February and performs well against other leading models in the industry.

U.S. IT Services

Ramsey El-Assal, BCI, US | Ryan Campbell, BCI, US

Sector Implications

Our overall survey results outline a more optimistic outlook in 2024, with participants indicating IT spending would increase +3.1% in 2024, up from +2.4% in 2023, which ticked up ~20 bps compared to our 2H23 survey. On one hand, we believe a “post-COVID” pull forward of demand had pressured IT spend in FY23, while on the other hand, the cyclical nature of the space has weighed on the pace of decision-making. However, the improvement in FY24 expectations points to clients loosening the purse strings, and we may begin to see a shift back towards digital transformation work as we progress through the year. In our 1H23 and 2H23 surveys, cost-cutting initiatives were the key reason clients would hire an outsourcing/consulting provider, which we believe was driven by an increasingly cautious stance in the face of a potential macro downturn. However, in our 1H24 survey, we are beginning to see a shift back towards digital transformation, driven by an improvement in digital and security, and continued demand for implementing/upgrading ERP or other software. We believe an uncertain macro remains an overhang for IT Spending, but are more optimistic that demand will re-accelerate in the back half of the year. Lastly, while it is still early days for Generative AI, we believe first-iteration success stories (i.e., ChatGPT, MSFT Copilot) will continue to drive CIOs towards upgrading and modernizing core systems in order to be prepared for the potential opportunity.

Stock Implications

Our survey indicates Accenture as the best positioned in our coverage to benefit from continued demand to help corporates navigate a volatile macro-environment through a mix of cost-cutting initiatives and digital transformation work.

ACN: We view ACN as best-positioned in the current macro environment, given the company’s balanced exposure to various markets, industry groups, and service types. While the company lowered FY24 guidance in FQ2, we were encouraged by solid bookings and some positive commentary around clients re-prioritizing large-scale digital transformation work. That being said, our survey shows security expertise, cut costs from operations, implementing/upgrading ERP, or other software/systems, and improving digital as a higher priority for corporates in 1H24. We believe this bodes well for ACN as clients will look for an all-encompassing provider to guide them through the balancing act of spending on cost-cutting vs. digital transformation, as well as preparing for Generative AI.

CTSH: While the company has a slight majority in revenues coming from digital channels, we continue to see CTSH as less well-positioned compared to ACN. Our survey indicated a modest decline in interest for CTSH’s services in 1H24 compared to 2H23, though responses remained elevated. With the new management team now in place, we believe investors are increasingly focused on CTSH’s ability to capture demand as it returns and accelerate growth in FY24.

EPAM: The company derives ~75% of revenues from software development, and while these types of project-based revenues are generally more cyclical, we think the company has differentiated itself as a high-end provider of outsourced software development services. While our survey only shows a modest increase for new contracts or expanded scope with EPAM in 1H24, we believe the increased need for upgrading core systems will generate additional opportunities for the company. However, we believe there may continue to be cause for customer concern in the near-term—whether justified or not—given EPAM’s exposure to Ukraine.

RXT: The company is primarily a cloud services provider, and based on our survey we see mixed results for RXT’s services, as 93%/78% of respondents said public/private cloud spending

budgets would be flat or up in 2024, compared to 92%/80% in 2H23. RXT's number of favorable responses when being selected/strongly considered for new contracts/expansion work was slightly down in 1H24, which we attribute to continued caution on IT spend.

U.S. Information Services

Manav Patnaik, BCI, US | **Brendan Popson**, BCI, US

Sector Implications

The CIO survey continues to show a slightly better 2023 looking back (+2.4% vs. +2.2% prior), while 2024 is maintained at +3.1%. Meanwhile, vertical mix dynamics are starting to turn more positive now for our Information Services space, with the most important vertical (Financial Services) slowing slightly looking back on 2023 (+2.0% vs. 2.8% prior) yet was still +3.3% for 2024. Geography and size are mixed for Info for 2024, with N.A. ~80 bps better than EMEA, but large budget departments remain less confident than smaller budget ones, but large did increase overall from the prior survey. Note that Info is more skewed to N.A. and especially to larger budget firms.

Stock Implications

Gartner (ticker: IT). While the overall IT spending number is more geared toward tech spend (vs. research spend), we also ask directly about research and Gartner-specific spend (now Question 18). For 1H24, 51% of CIOs said they are looking to decrease Gartner seats, or offerings, or both over the NTM (vs. 43% prior), but only 6% (same as prior) are looking at increasing and 43% (vs. 51% prior) see no changes. The net -45% is 8 points worse than the prior survey and the worst we have seen since starting this survey (now four total surveys, so still a small sample). But we note that the deteriorating outlook shown in this survey has shown recently with IT's CV slowdown, with net contract value increase (NCVI) down ~30% y/y in 2023. As a reminder, Gartner is a per-seat sales model.

Lastly, note that our info services names are increasingly discussed as possible winners (or losers) with the rapid growth in AI/ML spend. The key theme is that data's value, if properly walled off, is only enhanced by AI/ML, although data that is not proprietary may have less value by itself and must be rolled into a comprehensive solution (i.e., software, analytics, workflow tools) to maintain its value. We have focused on AI and other emerging technology applications for the Info space in our "Talking Emerging InfoTech" series, including the following notes:

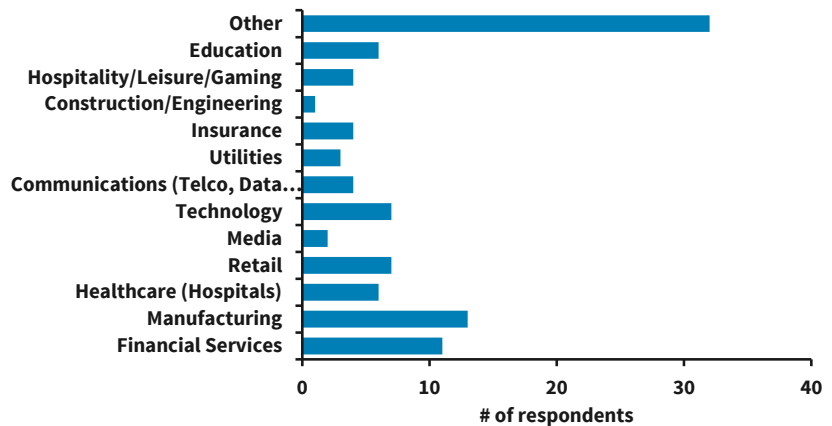
- *MSCI Inc. (MSCI): CTO call highlights early benefits of technology transformation efforts*, 03/31/22
- *Credit Bureaus (EFX/TRU): BIPS of Info: Cybersecurity - 5 must-read takeaways from EFX/ITRC call*, 1/29/21
- *Thomson Reuters (TRI): TRI's (Westlaw) Edge using AI*, 3/19/19
- *Equifax (EFX): More on xAI - EFX's recently awarded patent*, 12/4/18; *CTO call highlights LT growth potential*, 02/23/22
- *Fair Isaac (FICO): Explainable AI & a look at FICO's work*, 11/20/18
- *S&P Global (SPGI): AI bringing SPGI to a State of Kensho*, 6/19/18
- *TransUnion (TRU) and Dun & Bradstreet (DNB): TRU/DNB: How a TRU tech overhaul can help DNB 'grow relationships thru data'*, 1/23/18

Appendix: CIO Survey Demographics

CIO Survey – In what industry vertical does your company participate?

The base of respondents surveyed represents a broad cross section of global industries. Verticals providing the highest number of respondents were Manufacturing (13%), Financial Services (11%), Retail and Technology (both 7%), and Healthcare and Education (both 6%). One limitation to our survey base is that government entities and small/medium size businesses (SMBs) have more limited representation.

FIGURE 34. Barclays CIO Survey – Industry Demographics (Number of 100 respondents by industry vertical)

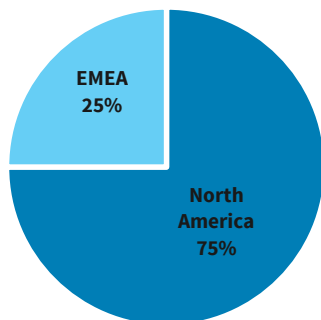


Source: Barclays CIO Survey program.

CIO Survey – In what region does the largest portion of your company’s IT spending occur?

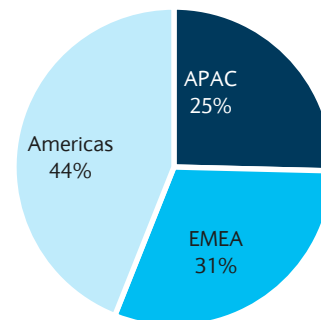
As illustrated in the below figure, our CIO survey focused on North America (75%) and EMEA (25%) with no exposure to APAC and Latin America. As reference, according to market research firm Gartner, in 2018 North America represented 44% of IT spending, with EMEA at 31% and Asia-Pacific & ROW at 25%.

FIGURE 35. Barclays CIO Survey – More Concentrated on North America IT Spending



Source: Barclays CIO Survey program.

FIGURE 36. Spending By Geography Is More Balanced on a Global Basis versus Our Survey

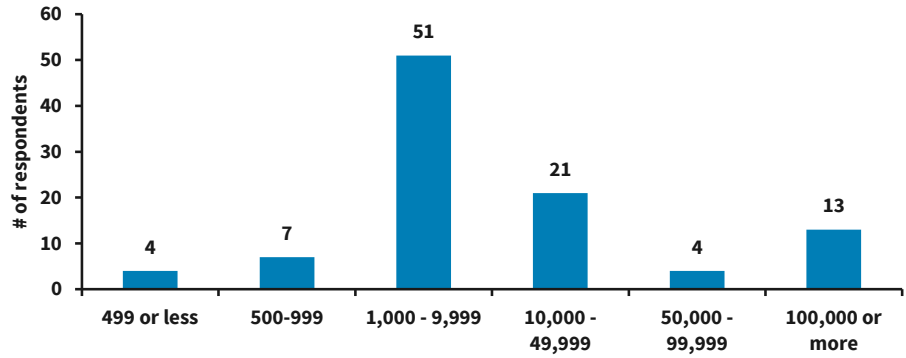


Source: Barclays Research, Gartner.

CIO Survey – How many full-time employees work at your company?

As illustrated below, our CIO survey is more exposed to medium to large enterprises, defined as companies with more than 1,000 employees. 11 respondents were from companies with fewer than 1,000 employees. Companies with 1,000-9,999 employees comprised the largest portion of our survey base (51 respondents), followed by those with 10,000-49,999 employees (21).

FIGURE 37. Barclays CIO Survey – Medium to Large Employee Bases Underpin Survey Base (Number of 100 respondents by employee count)

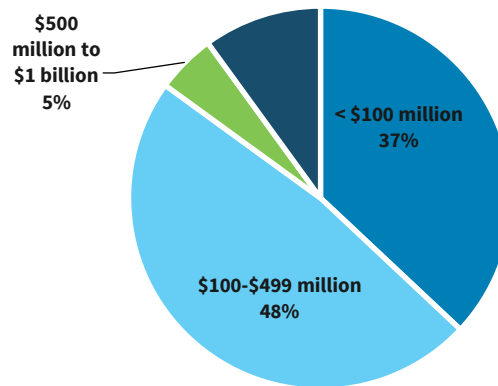


Source: Barclays CIO Survey program.

CIO Survey – What is the size of your company’s annual IT spending budget?

Of the 100 respondents, 37 had budgets under \$100M at their disposal, 48 had budgets of \$100-\$499M, and 10 deployed >\$1Bn.

FIGURE 38. Barclays CIO Survey – Decent Coverage of Medium to Large-sized IT Budgets (% of respondents having IT Budgets in certain dollar buckets)



Source: Barclays CIO Survey program.

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Fidelity National Information Services (FIS)	Fiserv, Inc. (FI)	Global Payments Inc. (GPN)
Green Dot Corp. (GDOT)	Marqeta, Inc. (MQ)	Mastercard Inc. (MA)
Nuvei Corp. (NVEI)	PagSeguro Digital Ltd. (PAGS)	Paychex, Inc. (PAYX)
PayPal, Inc. (PYPL)	Rackspace Technology, Inc. (RXT)	Remitly Global, Inc. (RELY)
Repay Holdings Corp. (RPAY)	Riskified Ltd. (RSKD)	StoneCo Ltd. (STNE)
TELUS International (Cda) Inc. (TIXT)	Upstart Holdings Inc. (UPST)	Visa Inc. (V)
Western Union (WU)	WEX, Inc. (WEX)	

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CDW Corp. (CDW)	Ciena Corporation (CIEN)	Cisco Systems, Inc. (CSCO)
Corning Incorporated (GLW)	Corsair Gaming, Inc. (CRSR)	Dell Technologies Inc. (DELL)
F5, Inc. (FFIV)	Flex Ltd (FLEX)	Garmin (GRMN)
Harmonic, Inc. (HLIT)	Hewlett Packard Enterprise Company (HPE)	HP Inc. (HPQ)

Jabil (JBL)	Juniper Networks, Inc. (JNPR)	Keysight Technologies, Inc. (KEYS)
Logitech (LOGI)	Motorola Solutions, Inc. (MSI)	NetApp, Inc. (NTAP)
Nutanix, Inc (NTNX)	Pure Storage, Inc. (PSTG)	Super Micro (SMCI)
TD Synnex (SNX)	Ubiquiti, Inc. (UI)	Zebra Technologies Corp. (ZBRA)

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Equifax Inc. (EFX)	FactSet Research Systems (FDS)	Fair Isaac Corp. (FICO)
First Advantage (FA)	Gartner Inc. (IT)	HireRight Holdings Corp (HRT)
ManpowerGroup (MAN)	Moody's Corp. (MCO)	MSCI Inc. (MSCI)
Robert Half International (RHI)	S&P Global Inc. (SPGI)	Sterling Check Corp. (STER)
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Verisk Analytics (VRSK)	Vestis Corp. (VSTS)	WillScot (WSC)

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U.S. Business & Professional Services

Manav Patnaik

+1 212 526 2983

manav.patnaik@barclays.com

BCI, US