

Cloud Stories

Summer 2024

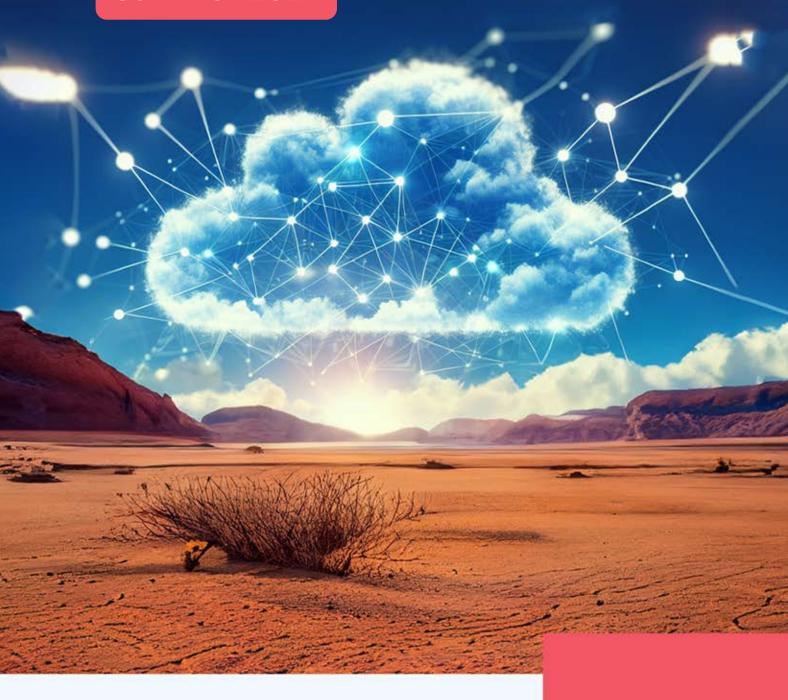


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Twimbit is a research and advisory firm driven by a singular mission: to empower businesses that are making a difference. We specialise in providing invaluable industry intelligence to executives and teams, acting as a catalyst for innovation and growth.

Key takeaways

- The global cloud market exhibited robust growth in Q2- 2024, with AWS, Microsoft, Google, and Oracle collectively generating USD 67.1 billion in revenue. This represents a substantial year-over-year (YoY) increase of 20.8%, the second highest quarterly YoY growth rate in the past six quarters.
- Cloud revenue now accounts for highest revenue contribution for these companies overall top line averaging at 21.5% in Q2-2024 the highest in past ten quarters.
- While AWS continues to expand, its growth rate has moderated relative to Microsoft Intelligent Cloud (MIC), Google Cloud, and Oracle Cloud, which have demonstrated accelerated growth fuelled by AI advancements. It is crucial to note that Microsoft and Google's revenue figures encompass more than cloud infrastructure services.
- AWS achieved a YoY growth rate of 18.7% in Q2-2024, reaching USD 26.3 billion, driven by infrastructure modernization contracts and the escalating demand for its AI solutions.
- Microsoft's Intelligent Cloud segment (MIC) MIC revenue reached a record USD 28.5 billion, growing 18.8% YoY in Q2-2024, driven by strong demand for consumption-based offerings, including Azure and other cloud services.
- Google Cloud delivered its highest revenue and profitability ever in Q2-2024, with USD 10.3 billion in revenue (28.8% YoY growth) and ~ USD 1.2 in operating income. Growth was driven by Google Cloud Platform (GCP) followed by Google Workspace.
- Oracle Cloud Infrastructure (OCI) experienced exceptional YoY growth of approximately 43%, reaching ~USD 2 billion in revenue for Q2-2024. Surge in cloud infrastructure contracts during Oracle's Q3 and Q4 fiscal quarters, driven by large AI training workloads on the Oracle Cloud, fuelled this growth.

Key trends

Artificial intelligence (AI) emerges as the new Gold Rush for Cloud leaders

- Artificial intelligence is rapidly transitioning from a technological breakthrough to a
 primary revenue driver for cloud giants like Oracle, AWS, Microsoft, and Google.
 These industry leaders are making substantial investments in AI research,
 development, and infrastructure, positioning themselves as essential collaborators
 for organizations across all industries.
- The burgeoning demand for AI-driven cloud solutions is fuelling exponential revenue growth, highlighting AI's pivotal role in shaping the cloud computing landscape. Businesses are increasingly adopting cloud services to deploy generative AI models, exemplified by technologies like OpenAI's ChatGPT chatbot.

Stellar performance by Google and Oracle as cloud revenue peaks

- Google Cloud reached a major milestone in Q2-2024 by exceeding USD 10 billion revenue mark for the first time. With a revenue of USD 10.3 billion, the cloud division has been Google's main growth driver for an impressive 22 consecutive quarters. Q2-2024 represents its highest revenue contribution and its most profitable quarter to date, cementing its status leading player in cloud computing market.
- Oracle's cloud ambitions also gained significant traction. Oracle Cloud Infrastructure (OCI) revenue surged to ~USD 2 billion, contributing a substantial 14% to the company's overall top line. This represents OCI's highest contribution since 2021, signalling a robust resurgence in Oracle's cloud business.

Oracle's strong disruptive cloud ascent continues

- Oracle has emerged as a formidable disruptor in the cloud landscape, challenging the dominance of the original hyperscalers: AWS, Microsoft, and Google.
- The company has consistently outpaced the industry with an impressive 43% YoY IaaS growth in Q2-2024, marking eight consecutive quarters of leading cloud revenue growth.

Exhibit 1: Revenue growth rate (YoY) of Cloud service providers, Q2-2024

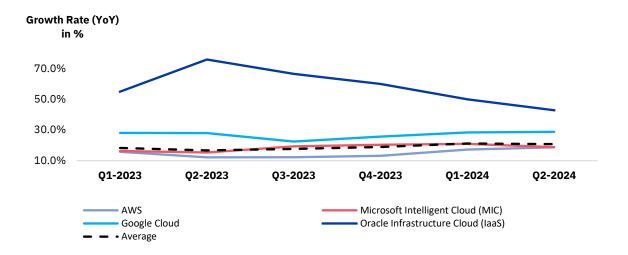


Exhibit 2: Revenue trends and growth of Cloud service providers, Q2-2024

Cloud Provider	Q3-2023 (USD bn)	Q4-2023 (USD bn)	Q1-2024 (USD bn)	Q2-2024 (USD bn)	% change QoQ	% change YoY	Cloud revenue % of total revenue (Q2-2024)
AWS	23.1	24.2	25.0	26.3	5.0%	18.7%	17.8%
Microsoft Intelligent Cloud*	24.3	25.9	26.7	28.5	6.8%	18.8%	44.1%
Google Cloud	8.4	9.2	9.6	10.3	8.1%	28.8%	12.2%
Oracle Cloud Infrastructure (IaaS)**	1.5	1.6	1.8	2.3	11.1%	42.9%	14.0%

This includes the Cloud Infrastructure segment revenue wherever it is distinctly reported by the Cloud service provider. Google does not provide a distinct breakup of revenue of Google Cloud Platform (GCP) and Google Workspace, and hence the overall Google Cloud revenue has been considered

Source: Company reports, Twimbit analysis

^{*} Includes Azure and other cloud services, excluding Office 365, LinkedIn, Dynamics 365, etc

^{**}Revenue reporting for Oracle Cloud has been realigned from Q1-2023 onwards and now includes only Oracle Infrastructure Cloud (IaaS) revenue

Cloud Infrastructure providers

A. Amazon Web Services (AWS)

Overview

- In Q2-2024, AWS generated revenues of USD 26.3 billion (17.8% of total revenue) to achieve a 18.7% YoY (year-over-year) increase. This growth is attributed to:
 - Increased customer demand for infrastructure modernization services
 - Surge in adoption of AWS AI offerings
- Correspondingly, AWS' net profit surged by approximately 74% YoY to reach USD 9.3 billion in Q2-2024, contributing 6.3% to overall revenue.
 - This significant profit margin expansion was driven by higher sales growth rate, decline in operating expenses declined owing to lower payroll and related expenses, and a reduction in depreciation and amortization expenses changes for the estimated useful lives of its servers.
- Amazon announced a substantial increase in Capex for 2024, with significant allocation to acquire Nvidia GPUs for training and operating generative AI models.
 - Capex is estimated to grow in H2-2024, to accommodate the expanding demand for AWS infrastructure, driven by generative and non-generative AI workloads.
 - Furthermore, AWS' commitment of over USD 100 billion in AI investments over the next decade reinforces its dedication to AI leadership and positions the company to effectively meet the burgeoning requirements of the AI landscape.
- AWS has achieved an annualized revenue run rate surpassing USD 105 billion. This
 growth trajectory is underpinned by enterprises' strategic shift towards cloud-based
 operations, including the migration of on-premises workloads, the initiation of new
 cloud initiatives, and the leveraging of generative AI capabilities.
- In a key leadership transition, Matt Garman has succeeded the role of CEO of AWS, succeeding Adam Selipsky who departed in June 2024.



"We're continuing to make progress on a number of dimensions, but perhaps none more so than the continued reacceleration in AWS growth. As companies continue to modernize their infrastructure and move to the cloud, while also leveraging new Generative AI opportunities, AWS continues to be customers' top choice, as we have"

- Andy Jassy, President & CEO, Amazon

AWS global footprint

- AWS Cloud has 105 Availability Zones across 33 geographic regions globally.
- Announced plans for 21 more Availability Zones and 7 more AWS Regions in Malaysia, Mexico, New Zealand, the Kingdom of Saudi Arabia, Thailand, and the AWS European Sovereign Cloud.
- AWS Local Zones are available in 17 US metropolitan areas and 17 outside the US, with a new Local Zone in Honolulu, Hawaii.
- Amazon CloudFront Points of Presence (PoPs) are situated within the AWS network and peer with internet service provider (ISP) networks. It has 600+ CloudFront POPs in 100+ cities across 50+ countries.
- CloudFront embedded PoPs are situated within ISP networks, closest to end viewers. It has 600+ embedded PoPs across 200+ cities in North America, Europe, and Asia.

Exhibit 3: AWS Cloud global capabilities



Source: Company website, Twimbit analysis

Exhibit 4: AWS Cloud - Key launches and announcements

- AWS is aggressively expanding its global cloud infrastructure with significant investments in Spain, Italy, Germany, and Singapore. The company is also bolstering its AI capabilities and opening new data centres to meet growing customer demand and strengthen its market position.
- In a move to address the burgeoning demands of Artificial Intelligence (AI), AWS has announced a planned investment of over USD 100 billion over the next decade. This commitment underscores its dedication to fostering advancements in the field of AI.

Period	Status	Location	Туре	Details
	Launched	Spain	Data centre	AWS unveiled a new data centre located at El Burgo de Ebro, Zaragoza, Spain, to address increasing power requirements and enhance overall infrastructure connectivity.
Jun-2024	Announced	Germany	Cloud region	AWS committed an investment of ~USD 9.5 billion (EUR 8.8 billion) in Frankfurt cloud region, to address demand for AWS technologies, including AI.
	Announced	Taiwan	Infrastructure region	AWS announced to launch AWS infrastructure Region in Taiwan by early 2025 along with substantial investment plans over the next 15 years. The new Region will enable Taiwanese businesses to run applications and serve end-users directly from data centres located within Taiwan and address specific data residency requirements and potentially reduce latency.
May-2024	Announced	Aragon (Spain)	Data centre	AWS announced to invest EUR 15.7 billion in Spain over the next three years. This commitment marks its largest investment in Southern Europe to date and will fuel the

				expansion of its data centre
				infrastructure in the Aragon region.
	Announced	Italy	Cloud infrastructure	AWS announced of being in negotiations with the Italian government for a multi-billion Euro investment in the country, to expand its local cloud infrastructure presence in Italy. Potential options under consideration include either expanding the existing Milan site or constructing a brand-new facility.
May-2024	Announced	Germany	Cloud infrastructure	AWS has unveiled plans to invest USD 10.7 billion (EUR 10 billion) in its cloud infrastructure and logistics network within Germany. This commitment includes a dedicated investment of USD 9.5 million (EUR 8.4 million) for building, maintaining, and operating the cloud infrastructure within the AWS Europe (Frankfurt) Region.
	Announced	Singapore	Cloud infrastructure	AWS plans to inject into Asia Pacific (Singapore) Region an additional SGD 12 billion for its existing cloud infrastructure in the country between 2024 and 2028. This builds upon the SGD 11.5 billion invested in the AWS in 2023. Upon completion, the total investment is projected to reach over SGD 23 billion by 2028, effectively doubling the initial investment.
Apr-2024	Announced	Indiana (USA)	Data centre	AWS intends to invest USD 11 billion to establish a new data centre campus in Indiana. It includes building new data centres in St. Joseph County, aiming to strengthen infrastructure and facilitate digital transformation initiatives across the region.

Exhibit 5: AWS Cloud - Key product initiatives

• During Q2-2024, AWS introduced Deadline Cloud for media and entertainment industry, expands VPC support for CloudShell, and invested USD 230 million in cloud credits to boost generative AI innovation globally, with a focus on India.

Period	Description
Jun-2024	AWS announced the general availability of Amazon Virtual Private Cloud (VPC) support for AWS CloudShell, to empower users to securely create and manage CloudShell environments within their designated VPCs. Additionally, it facilitates seamless integration with other resources without the need for complex additional network configuration.
	• In a move to foster advancements in generative AI technologies, AWS pledged an investment of ~USD 230 million in cloud credits. This initiative aims to support 80 founders and innovators globally, including those working on AI projects in India.
Apr-2024	• AWS unveiled a new service called Deadline Cloud. This offering caters specifically to the media and entertainment (M&E) industry, enabling clients to establish, deploy, and scale graphics and visual effects rendering pipelines entirely on the AWS cloud infrastructure.

Source: Company sources, Industry reporting, Twimbit analysis

Exhibit 6: AWS Cloud - Key partnerships

- AWS significantly expanded its ecosystem through strategic partnerships in Q2-2024. Key highlights include deepened collaborations with SAS Institute, Cloud Assembly, Hugging Face, CrowdStrike, and Mavenir.
- Additionally, AWS has formed new alliances with NEORIS, Noventiq, Orange MEA, Chronicle Software, Denodo, and Freshworks, while expanding its footprint in regions like Australia, China, and the Middle East.
- These partnerships focus on accelerating cloud adoption, driving AI innovation, and enhancing security and operational efficiency for enterprises.

Period	Partner Name	Description		
Jun-2024	Code opera, soil accord	 Noventiq partnered with AWS to offer scalable cloud solutions to enterprises and a goal to migrate 1,000+ customers globally from on-premises infrastructure to the AWS cloud by 2027. As part of this partnership, Noventiq plans to establish a new global AWS Cloud Center of Excellence (CCoE) in India, focusing on governance, cloud initiative coordination, and integrated sales and marketing efforts. 		

	orange [™]	 Orange MEA partnered with AWS to extend cloud technology access across North and West Africa. This collaboration aims to accelerate digital transformation and infrastructure development for regional enterprises.
	Chronicle	 Chronicle Software achieved AWS Partner accreditation, granting users direct access to its Chronicle Tune service through the AWS Marketplace.
	denodo	 Denodo has further solidified its partnership with AWS in China by launching its platform on the AWS Marketplace. This offering boasts advanced generative AI capabilities and flexible pay-as- you-go pricing, catering to the growing demand for scalable data management solutions across diverse use cases.
Jun-2024	⊘ freshworks	 Freshworks has opened a new data centre in the United Arab Emirates (UAE) in collaboration with AWS. This data centre will serve customers across 72 countries in the Middle East and Africa region, consolidating Freshworks' operations within the UAE.
	ΛΧRAIL	 Axrail, an AWS advanced tier services partner in Malaysia, has opened a new generative AI lab, with a view to accelerate AI adoption among businesses by focusing on enhancing operational efficiency through innovative solutions leveraging AWS cloud technology.
	NEORIS	 NEORIS (a digital acceleration and consulting services provider) was certified with status of Advanced Tier Services Partner on AWS network, thereby enabling both companies to expand their digital ecosystem influence and enable Neoris to leverage AWS capabilities for the architecture and implementation of cloud solutions.
	CLOUD ASSEMBLY	• AWS entered a strategic partnership with Cloud Assembly to accelerate its growth in the Australian market. This collaboration aims to enhance AWS's cloud service offerings in the region, further solidifying its market presence.
May-2024	Hugging Face	• AWS announced a collaboration with AI startup Hugging Face to simplify the deployment of AI models on AWS's custom chip, Inferentia 2. This collaboration is designed to improve the efficiency and cost-effectiveness of executing AI models on the AWS platform.
	CROWDSTRIKE	AWS partnered with CrowdStrike to integrate CrowdStrike's cloud-native security platform, Falcon, with its offerings. This integration includes Amazon Bedrock and AWS SageMaker, leveraging AI and real-time threat intelligence capabilities to

		strengthen enterprise cybersecurity across endpoints and cloud workloads.
 Mavenir and AWS signed a five-year Strateg Agreement (SCA) to facilitate the deployme workloads on the AWS platform. This agreement also includes co-investm functionalities by Mavenir tailored for Cor Providers (CSPs), including enhanced dyn 		 Mavenir and AWS signed a five-year Strategic Collaboration Agreement (SCA) to facilitate the deployment of telecom workloads on the AWS platform. This agreement also includes co-investment in developing functionalities by Mavenir tailored for Communication Service Providers (CSPs), including enhanced dynamic autoscaling, automation, and reliability improvements
Apr-2024	S sas	SAS Institute announced a significant expansion of its partnership with AWS to focus on integrating SAS-hosted managed services with the AWS cloud platform and launching SAS Viya Workbench, a dedicated offering for AI development within the SAS Viya suite, on the AWS Marketplace.

Exhibit 7: AWS Cloud - Key contract wins

• Telenor Group invested in sovereign cloud expansion with AWS and Skygard, migrating workloads to AWS. Nextech3D.ai partnered with AWS to leverage technologies for data-driven business decisions and enhanced service offerings.

Period	Client Name	Description
Jun-2024	telenor	 Telenor Group announced an investment of ~USD 9.5 million (NOK 100 million) to expand its sovereign cloud infrastructure, in collaboration with AWS and Skygard, leveraging their expertise and the upcoming data centre under construction in Oslo, Norway. Additionally, Telenor Group plans to migrate its internal workloads to AWS solutions.
Apr-2024	nextech3D.ai	• Nextech3D.ai, a leader in 3D modeling solutions, selected AWS as its primary cloud provider. This strategic partnership will empower Nextech3D.ai to leverage AWS's advanced technologies, including data analytics, generative artificial intelligence (generative AI), and machine learning (ML). By harnessing these capabilities, Nextech3D.ai aims to make informed, data-driven business decisions and further enhance its service offerings.

B. Microsoft Intelligent Cloud (MIC)

Overview

- Microsoft reported a 15.2% year-over-year (YoY) revenue increase in Q2-2024, reaching USD 64.7 billion, with AI advancements, particularly within the cloud segment, driving this growth.
- Microsoft's Intelligent Cloud (MIC) segment, encompassing server products and cloud services, contributed 44.1% to total Q2-2024 revenue, up from 42.7% in Q2-2023.
 - MIC revenue reached a record USD 28.5 billion, growing 18.8% YoY, surpassing the previous quarter's (Q2-2023) 15.3% growth. Strong demand for consumption-based offerings, including Azure and other cloud services, fuelled this surge.
- Server products and cloud services revenue increased 21% (17.8 billion) in Q2-2024. Azure and other cloud services led this growth, expanding approximately 29%, with AI services contributing eight percentage points.
- Microsoft forecasts stable MIC revenue for Q3-2024 between USD 28.6 billion –
 USD 28.9 billion. Azure and other cloud services are projected to grow 28%-29% in
 constant currency. AI growth is expected to outpace Azure growth, driven by
 infrastructure investments and demand.
- Microsoft's integration of OpenAI AI technology across its products has significantly impacted growth. The company reported over 60,000 Azure AI customers in Q2-2024, a 60% year-over-year increase, including average spend per customer.

"Our strong performance this fiscal year speaks both to our innovation and to the trust customers continue to place in Microsoft. As a platform company, we are focused on meeting the mission-critical needs of our customers across our at-scale platforms today, while also ensuring we lead the AI era."



- Satya Nadella, Chairman and CEO, Microsoft

Microsoft Cloud global footprint

• MIC has a presence across 60+ regions, and its Azure infrastructure comprises 300+ physical data centres.

Exhibit 8: Microsoft Cloud global capabilities



Source: Company website, Twimbit analysis

Exhibit 9: Microsoft Cloud - Key launches and announcements

Microsoft is aggressively expanding its global data centre footprint with significant investments in the US, Europe, Asia, and Africa. Key focus areas include AI infrastructure development, cloud expansion, and economic stimulus. Notable projects include a massive joint venture with OpenAI, data centre openings in Mexico and Spain, and substantial investments in India, Malaysia, and Sweden.

Period	Status	Location	Туре	Details
	Launched	Madrid (Spain)	Cloud region	As part of its USD 2.1 billion investment commitment to Spain between 2024-2025, Microsoft opened its first cloud region in Spain, named "Spain Central," located in the Community of Madrid. This expansion provides AI and cloud services and solutions, with the potential to create 77,000 jobs and contribute USD 10.7 billion to Spain's GDP.
	Announced	Aragon (Spain)	Data centre	Microsoft plans to invest USD 7.2 billion (EUR 6.7 billion) in a new data centre located in the Aragon region of Spain. This strategic move addresses the country's rising cloud service demands.
Jun-2024	Announced	Sweden	Cloud infrastructure and AI	Microsoft's announced of its largest investment in Sweden to date is a USD 3.2 billion (EUR 2.9 billion) commitment spread over two years starting from June 2024. This investment expands Microsoft's cloud and artificial intelligence (AI) infrastructure capabilities in Sweden.
	Announced Laporte, (USA)	Data centre	Microsoft plans to invest USD 1 billion in building two data centres near South Bend, Indiana, with one located in LaPorte. This project marks the city's largest economic development initiative. This strategic investment aims to meet the increasing demand for cloud services, supporting online education, mobile apps, and gaming communities.	
	Announced	Kuala Lumpur (Malaysia)	Data centre	Microsoft's data centre unit acquired a development site from EcoWorld in Kuala Lumpur, Malaysia

				for approximately USD 85 million (MYR 402.3 million). The site is designated for developing data centres and other ancillary buildings.
3 0004	Announced	Northern England (UK)	Data centre	Microsoft announced an investment of GBP 106 million for building a hyperscale data centre in Leeds. This marks Microsoft's third data centre in the UK and a significant investment in Northern England, expanding their overall footprint in the country.
Jun-2024	Announced	Mishawaka, Indiana (USA)	Data centre	Microsoft bolstered its regional infrastructure capabilities by acquiring 929 acres of farmland (St. Joe Farm) in Mishawaka, Indiana, for USD 77.5 million. This strategic land acquisition paves the way for the construction of a new data centre.
	Announced	Licking County, Ohio (USA)	Data centre	Microsoft announced the successful finalization of an agreement for its planned data centre campus in Licking County, Ohio. This signifies a significant step forward in the development of this critical infrastructure project.
	Announced	Mexico	Data centre	To bolster Mexico's technological innovation and economic development initiatives, Microsoft inaugurated a new data centre in Mexico City.
May-2024	Announced	Western Sydney (Australia)	Data centre	Microsoft announced of having submitted plans for the self- construction of a 96 MW data centre in Western Sydney, Australia.
	Announced	Milwaukee, Wisconsin (USA)	Data centre	Microsoft announced to invest USD 3.3 billion to build an artificial intelligence data centre near

				Milwaukee, Wisconsin. This investment strengthens regional AI capabilities and infrastructure.
	Announced	Thailand	Data centre	Microsoft announced its first data centre region investment in Thailand, with an aim to strengthen the country's digital ecosystem and foster competition within the data centre sector.
	Announced	Grand Est Region (France)	Cloud infrastructure and AI	Microsoft pledged a EUR 4 billion investment in France to expand its cloud and AI infrastructure. This includes a new data centre in the Grand Est Region, specifically Mulhouse Alsace Agglomération. The initiative aims to drive AI skilling and support France's technological acceleration.
May-2024	Announced	Hyderabad (India)	Data centre	Microsoft acquired 48 acres of land in Hyderabad, India for approximately Rs 267 crore, to strengthen its infrastructure to support its growing cloud services in India.
	Announced	Indonesia	Cloud infrastructure and AI	Microsoft announced a USD 1.7 billion investment over four years in Indonesia, focusing on cloud and AI infrastructure development.
	Announced	Malaysia	Cloud infrastructure and AI	Microsoft committed USD 2.2 billion over four years to propel Malaysia's digital transformation and AI infrastructure development through cloud computing and AI investments.
	Announced	Querétaro (Mexico)	Data centre	Following a USD 1.1 billion investment, Microsoft opened its new Hyperscale Cloud Data Centre region in Querétaro, Mexico, to facilitate digital transformation journey in the region.

May-2024	Announced	Kenya	Data centre	In partnership with G42 and KenGen, Microsoft announced plans to build a data center in Kenya utilizing geothermal energy and initial investment of USD 1 billion.
Apr-2024	Announced	USA	Data centre	In a joint effort to address the growing demand for generative AI (GenAI) capabilities and enhance data processing capacity, OpenAI and Microsoft announced plans for a USD 100 billion investment over the next six years to construct the "Stargate" data center in the United States.

Exhibit 10: Microsoft Cloud - Key partnerships

 Microsoft collaborates with various partners, including Cloud Software Group, CCL, KT, and Al Moammar Information Systems, to expand cloud and AI offerings, while also establishing industry standards and enhancing cloud infrastructure capabilities.

Period	Partner Name	Description
		Microsoft announced Computer Concepts Limited (CCL) as the first large-scale cloud launch partner for its New Zealand Hyperscale Azure cloud region. This partnership positions CCL as the first New Zealand partner to offer customers large-scale migrations to Microsoft's New Zealand North cloud region.
Jun-2024	Google AMD⊅ Meta	• In a collaborative effort, Microsoft, Google, AMD, Meta, and other technology vendors launched a new industry standard for AI connectivity in data centres. This standard, named Ultra Accelerator Link (UALink), aims to improve performance and deployment flexibility for AI computing clusters
	ORACLE	Oracle announced the availability of its Autonomous Database on Microsoft Azure data centres. This move empowers enterprises to migrate to the cloud and fosters greater interoperability between different cloud providers.

	kt	KT and Microsoft formed an alliance to leverage their combined strengths in developing and delivering artificial intelligence, cloud computing, and IT services specifically for the Korean market.
Jun-2024	Mis	 Microsoft Arabia signed a ten-year agreement with Al Moammar Information Systems (MIS). This partnership leverages Saudi Data Centre Fund services to provide colocation and data centre services in Saudi Arabia, positively impacting MIS's financial outlook starting from H1 2026.
	macquarie CLOUD SERVICES	Macquarie Cloud Services partnered with Microsoft Cloud and Dell Technologies to launch Macquarie Flex in Australia. This offering leverages Microsoft Azure Stack HCI (Hybrid Cloud Infrastructure) and Dell Technologies APEX Cloud Platform for Microsoft Azure.
Apr-2024	Cloud SOFTWARE GROUP	Cloud Software Group and Microsoft announced an eight-year strategic partnership to strengthen the go-to-market strategy for Citrix virtual application and desktop solutions. This collaboration benefits enterprises seeking advanced cloud-based productivity tools.

Exhibit 11: Microsoft Cloud - Key contract wins

• Xerox partnered with TCS to migrate legacy data centre workloads to Azure, enhancing operational efficiency and scalability.

Period	Client Name	Description		
Jun-2024	xerox	• Xerox partnered with Tata Consultancy Services (TCS) to consolidate technology services and migrate legacy data centre workloads to Microsoft Azure's public cloud platform. This collaboration enhances Xerox's operational efficiency and scalability by leveraging Azure's cloud capabilities.		

C. Google Cloud

Overview

- Google Cloud segment revenue surpassed the USD 10 billion mark reaching USD 10.3 billion in Q2-2024, registering a growth rate of 28.8% YoY. This growth was driven by Google Cloud Platform (GCP) followed by Google Workspace, with infrastructure and platform services being the leading contributors within the GCP segment.
 - GCP revenue growth outpaced the growth in overall Cloud revenue fueled by increasing contribution from AI. Google Workspace revenue growth was primarily led by an increase in average revenue per seat.
- Cloud revenue contribution to overall revenue reached 12.2% in Q2-2024, up from 10.8% in Q2-2024. The Cloud revenue contribution now accounts for the highest proportion of revenue over the last 22 quarters (from Q1-2019 onwards).
- Google Cloud reported its highest cloud revenue and profitability in Q2-2024, with an operating income of ~USD 1.2 billion (as compared to USD 395 million in Q2-2023).
 - Operating income accounted for ~11.3% of the overall Google Cloud revenue in Q2-2024, as compared to 4.9% in Q2-2023.
- Google' AI infrastructure and generative AI solutions for cloud customers continue to be significant revenue generators and are being leveraged by more than 2 million developers.
- Google's continued investment in AI and increased proliferation among enterprises continue to drive revenue growth.

"Our strong performance this quarter highlights ongoing strength in Search and momentum in Cloud. We are innovating at every layer of the AI stack. Our longstanding infrastructure leadership and inhouse research teams position us well as technology evolves and as we pursue the many opportunities ahead."

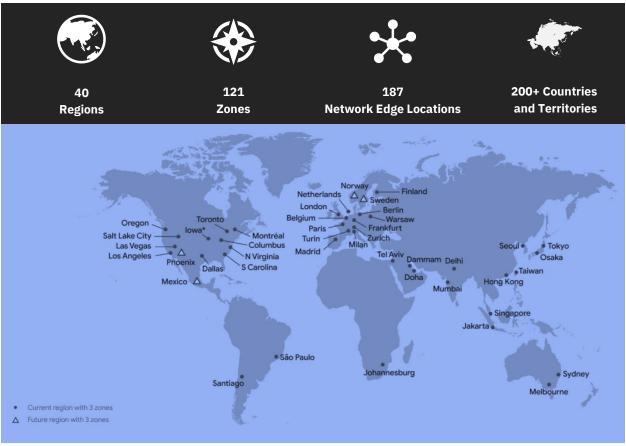


- Sundar Pichai, CEO, Google

Google Cloud global footprint

- Google currently operates in 40 regions with 121 Zones across 200+ countries.
- Plans to operate in new regions, including Austria, Greece, Malaysia, Mexico, New Zealand, Norway, Sweden and Thailand.

Exhibit 12: Google Cloud global capabilities



Source: Company website, Twimbit analysis

Exhibit 13: Google Cloud - Key launches and announcements

Google significantly expanded its global cloud infrastructure with substantial investments in new and existing data centres across the US, Europe, and Asia. This expansion, coupled with strategic partnerships, aims to bolster cloud services, AI capabilities, and sustainability initiatives while capturing new markets.

Period	Status	Location	Туре	Details
	Announced	Kuwait	Data centre	Plans to open an office in Kuwait, targeting USD 1 billion in government contracts within the next two months. This signifies Google Cloud's commitment to expanding its reach and services in the region.
	Announced	Dublin (Ireland)	Data centre	Announced a significant expansion plan for its data centres in Dublin, bolstering its infrastructure to meet the escalating demands for cloud services across Europe.
Jun-2024	Announced	Ohio (USA)	Data centre	Announced a USD 2.3 billion investment in its three data centre sites in central Ohio. This reinforces Google's infrastructure, supporting services like search, Gmail, maps, cloud, and YouTube globally.
	Announced	Singapore	Data centre	Google announced the completion of its fourth data centre in Singapore, representing a significant investment (~USD 5 billion) in technical infrastructure.
	Announced	Kuala Lumpur (Malaysia)	Data centre	Google announced a USD 2 billion investment to establish its first Google data centre and Google Cloud region at Sime Darby Property's Elmina Business Park in Greater Kuala Lumpur. This expansion aims to cater to the growing global and local demand for cloud services.

May-2024	Announced	Hamina (Finland)	Data centre	Google partnered with local energy company Haminan Energia for a USD 1.1 billion data centre expansion project in Hamina, Finland. This collaboration utilizes excess heat for residential heating, promoting sustainability alongside increased data centre capacity.
	Announced	Virginia and Indiana (USA)	Data centre	Google announced a USD 1 billion investment to expand its data centres in Virginia and Indiana. This expansion strengthens Google's infrastructure to cater to the growing demand for cloud computing capabilities.
Apr-2024	Announced	Fort Wayne, Indiana (USA)	Data centre	Google committed USD 2 billion to expand its data centre in Fort Wayne, Indiana. This investment strengthens Google Cloud's capabilities to deliver robust cloud computing services in the region.
	Announced	Charleroi (Belgium)	Data centre	To meet the surging demand for AI and cloud services, Google announced a EUR 1 billion investment in a new data centre construction project at Farciennes, near Charleroi, Belgium.
	Announced	The Netherlands	Data centre	Google plans a EUR 600 million investment to build a new data centre in the Netherlands. This expansion strengthens Google's Dutch infrastructure to address the growing data demands and enhance regional service offerings.

Exhibit 14: Google Cloud - Key product initiatives

• Google Cloud's Vertex AI enhances generative AI model accuracy by introducing features like dynamic retrieval, high-fidelity mode, and third-party data integration.

Period	Description
Jun-2024	 Google Cloud's Vertex AI enhanced the robustness of generative AI models by introducing features that mitigate factual inaccuracies. These features include dynamic retrieval for accessing real-time information, a high-fidelity mode for increased accuracy, and expanded support for incorporating third-party datasets.

Source: Company sources, Industry reporting, Twimbit analysis

Exhibit 15: Google Cloud - Key partnerships

Google Cloud has forged numerous strategic partnerships in Q2-2023, to bolster its
AI and cloud offerings. Collaborations span industries, encompassing technology
providers, enterprises, and governments. Key focus areas include generative AI,
cybersecurity, data analytics, and infrastructure expansion. These partnerships aim
to accelerate digital transformation, drive innovation, and deliver enhanced
solutions to customers globally.

Period	Partner Name	Description			
	HITACHI Inspire the Next	 Formed a strategic alliance with Hitachi to focus on accelerati innovation and productivity improvements through generative AI technologies. This partnership leverages Google Cloud's generative AI model "Gemini," Vertex AI platform, and other cloud technologies to strengthen Hitachi's products and services. 			
Jun-2024	THALES	Thales partnered with Google Cloud to develop a global Security Operation Centre (SOC) platform. This platform utilizes Google Cloud cybersecurity services, including Google Security Operations, VirusTotal, and Mandiant Threat Intelligence, to empower enterprises and public sector customers in detecting and responding to cyberattacks.			
	Ć	Apple announced of building a new AI infrastructure for delivering AI features introduced in its devices by leveraging resources available in Google Cloud Infrastructure.			
	amdocs	• Amdocs partnered with Google Cloud to deliver real-time data solutions for communication service providers, enhancing their operational efficiency.			

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	RIZE TECHNOLOGIES	 Rize Technologies achieved Google Cloud partner status in Bermuda. This allows them to offer Google Cloud products to local businesses and government entities, bolstering digital transformation efforts across the island.
	₩ GitLab	• GitLab and Google Cloud announced new integrations (currently in beta) to improve developer efficiency, speed, and productivity. These integrations leverage GitLab's capabilities in source code management, planning, and CI/CD.
Jun-2024	2 LIQUID	• Cloud and Cyber Security provider Liquid C2 became the first Google Cloud Interconnect provider in Africa through this partnership. This significantly enhances their cloud solutions capacity offered to customers.
	ORACLE!	• Oracle and Google Cloud partnered to offer a multi-cloud option. This allows customers to integrate Oracle Cloud Infrastructure and Google Cloud technologies for streamlined application migrations and modernization.
	ALTAIR ONLY FORWARD	 Altair launched its cloud innovation gateway, Altair One, on Google Cloud Marketplace. This provides users with access to simulation, data analytics and HPC capabilities.
	GRUPPO TIM	 TIM Enterprise partnered with Google Cloud to open a customer innovation centre in Turin. This centre showcases the potential of cloud and AI applications across various sectors, including smart cities, tourism, manufacturing, retail, and finance.
	elitery	• Elitery, an Indonesian cloud solutions and services provider, achieved Google Cloud Managed Services Provider status. This enables them to offer trusted cloud-based solutions and services.
May-2024	SIK	• Silk achieved Premier Partner status with Google Cloud's Build Engagement Model, enabling it deliver cloud solutions and services to optimize performance and data lifecycle management for organizations migrating critical applications to the cloud.
May-2024	? airtel	Bharti Airtel and Google Cloud collaborated to deliver cloud solutions and AI/ML technology to Indian enterprises. This partnership leverages Airtel's connectivity and Google Cloud's AI to accelerate cloud adoption and develop innovative customer-facing solutions.
	♦ cognizant	• Cognizant and Google Cloud announced a strategic partnership to propel AI adoption in Saudi Arabia. This includes initiatives in generative AI, data modernization, and application migration to empower businesses and drive innovation.

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	Cyber Proof ®	 CyberProof partnered with Google Cloud to leverage Google Chronicle Security Operations and other Google Cloud Security offerings. This partnership expands CyberProof's managed XDR services, enabling them to offer a comprehensive end-to-end security experience across organizational silos.
	MongoDB.	MongoDB collaborated with Google Cloud to enhance Gemini Code Assist, a tool that provides code suggestions and streamlines application development on MongoDB.
	MENLO SECURITY	Menlo Security partnered with Google Cloud to leverage Google Cloud services and threat intelligence for enhanced AI-driven security tools within their Secure Enterprise Browser.
	S OLANA	Blockchain platform Solana Labs partnered with Google Cloud to deploy its GameShift technology on the Google Cloud platfor, to simplify blockchain integration for game developers.
	INVIDIA	 Google Cloud partnered with NVIDIA to empower the machine learning community with accelerated development tools for generative AI applications.
	■ NetApp	NetApp partnered with Google Cloud to introduce a flexible service tier for Google Cloud NetApp Volumes. This allows enterprises to leverage various storage volume sizes for generative AI (GenAI) and other hybrid cloud workloads.
Apr-2024	orange [™]	Google Cloud partnered with Orange to deploy AI solutions, (including Gen-AI), for Orange's operations and its customers.
	paloalto.	Palo Alto Networks and Google Cloud expanded their partnership to introduce a comprehensive Next-Generation Firewall (NGFW) Enterprise solution. This offering integrates simplicity, speed, scalability, and robust security within a single, native platform for enterprises.

Exhibit 16: Google Cloud - Key contract wins

• Zambian Government and Google Cloud partner to establish a Centre of Excellence, driving digital transformation through skill development and knowledge sharing.

Period	Client Name	Description
Jun-2024	Zambia ICT Ministry Ministry of Technology and Science	• The Zambian Ministry of Information and Communication Technology (ICT) partnered with Google Cloud to establish a Centre of Excellence. This centre will focus on fostering digital transformation through skills development and knowledge-sharing initiatives.

D. Oracle Cloud

Overview

- Oracle Cloud Infrastructure (OCI-IaaS) offering, experienced remarkable year-overyear growth in Q2-2024. Revenue surged by approximately 43%, reaching a record-breaking USD 2 billion.
 - This impressive momentum has positioned OCI as a more significant contributor to Oracle's overall revenue stream, reaching its highest point since 2021 at 14% in Q2-2024, a significant increase from 10.1% in the same quarter of the previous year.
 - Surge in cloud infrastructure contracts during Oracle's Q3 and Q4 fiscal quarters, driven by large AI training workloads on the Oracle Cloud, fuelled this growth. High demand for training large language models resulted in a significant 44% increase in Remaining Performance Obligations (RPOs) to USD 98 billion.
- Looking deeper into the infrastructure cloud services segment, revenue grew by a substantial 42%. Excluding legacy hosting services, OCI Gen 2, the next-generation infrastructure platform, witnessed an even more impressive 44% growth, reaching an annualized revenue of USD 7.4 billion. Additionally, OCI consumption revenue climbed by a notable 53%.
 - Oracle's management team anticipates that the ever-increasing demand for processing heavy AI workloads will continue to propel sales and RPOs even higher, potentially leading to double-digit revenue growth in fiscal year 2025.
 - Further bolstering its cloud infrastructure and AI capabilities, Oracle secured over 30 AI sales contracts exceeding a cumulative value of USD 12.5 billion in Q4-2024 and a staggering USD 17 billion for the entire fiscal year. This includes a noteworthy partnership with OpenAI to leverage Oracle Cloud Infrastructure for running deep learning and AI workloads.
- Significantly expanding its cloud ecosystem, Oracle established a multi-cloud partnership with Google, offering a direct network interconnect between OCI and Google Cloud in ten regions, effective immediately.
- It also plans to enable direct access to Oracle Database services running on OCI, deployed within Google Cloud data centres, starting from September 2024. This move mirrors a similar partnership established with Microsoft in December 2023.

 Demonstrating commitment to global expansion, Oracle announced strategic investments in key geographies like Japan, Morocco, and Spain, to further solidifying its position as a leading player in the cloud infrastructure and AI services landscape.

"In Q3 and Q4, Oracle signed the largest sales contracts in our history...These record level sales drove RPO up 44% to USD 98 billion. Throughout fiscal year 2025, I expect continued strong AI demand to push Oracle sales and RPO even higher and result in double-digit revenue growth this fiscal year. In Q4 alone, Oracle signed over 30 AI sales contracts totalling more than USD 12.5 billion"



- Safra Catz, CEO, Oracle

Oracle Cloud global footprint

- Oracle offers 100+ cloud services across 49 Public cloud regions across 24 countries.
 - Offers dedicated EU Sovereign Cloud regions and distinct government clouds for the US, UK, and Australia to address regional data residency regulations.
 - Isolated cloud regions cater to US national security requirements.

Exhibit 17: Oracle Cloud global capabilities



Source: Company website, Twimbit analysis

Exhibit 18: Oracle Cloud - Key launches and announcements

• Oracle invests USD 8 billion in Japan to expand cloud and AI services, while opening new cloud regions in Morocco and Spain, catering to growing cloud demands and facilitating workload migrations for various sectors.

Period	Status	Location	Туре	Details
Jun-2024	Announced	Casablanca and Settat (Morocco)	Cloud region	Oracle announced to launch two new Oracle Cloud regions in Casablanca and Settat, Morocco. This expansion provides high-quality cloud services to local and regional organizations. The new regions facilitate the migration of critical workloads from existing data centres to Oracle Cloud Infrastructure (OCI) for both public and private cloud users.
May-2024	Announced	Madrid (Spain)	Cloud region	Oracle announced a USD 1 billion to open its third cloud region and for AI investment in Madrid, Spain. This expansion targets clients in the financial services sector, enabling them to migrate workloads to Oracle Cloud Infrastructure.
Apr-2024	Announced	Japan	Cloud infrastructure and AI	Oracle announced to invest USD 8 billion over ten years to expand its cloud services and AI infrastructure in Japan. This investment addresses the nation's growing demand for cloud computing and artificial intelligence capabilities.

Exhibit 19: Oracle Cloud - Key product initiatives

 Oracle enhanced its AI capabilities with AI-powered Oracle Fusion Cloud CX, NVIDIA AI Enterprise on Oracle Cloud Infrastructure Supercluster, and Database 23ai, accelerating sales, bolstering government AI initiatives, and simplifying AI integration for businesses.

Period	Description		
May-2024	• Oracle launched a cloud version of its converged database, Database 23ai, featuring vector search capabilities and over 300 features, to simplify AI integration with data.		
Apr-2024	Oracle introduced AI capabilities within Oracle Fusion Cloud Customer Experience (CX). This empowers marketers, sellers, and service agents to accelerate deal cycles. By automating time-consuming tasks and enabling more precise targeting and engagement, these AI features facilitate faster sales growth and improved customer service.		
	Oracle announced the availability of NVIDIA AI Enterprise on Oracle Cloud Infrastructure Supercluster within the Oracle U.S. Government Cloud region. This offering addresses the needs of sovereign AI by enabling US government customers to train and deploy AI solutions with access to Oracle Cloud Infrastructure's extensive suite of services (over 100).		

Source: Company sources, Industry reporting, Twimbit analysis

Exhibit 20: Oracle Cloud - Key partnerships

• Oracle has formed strategic partnerships with Palantir, LinkDaddy, OpenAI, Microsoft, and Google Cloud to bolster its cloud and AI offerings, empowering businesses and governments with advanced solutions, expanding online presence for small businesses, and enhancing AI capabilities.

Period	Partner Name	Description
Jun-2024	link	• SEO agency LinkDaddy partnered with Oracle to help small businesses expand their online presence. This collaboration provides access to custom content creation and high-authority cloud backlinking capabilities through Oracle's services.
	Microsoft	Oracle partnered with OpenAI and Microsoft to enable Oracle Cloud Infrastructure (OCI) extends capacity to Microsoft's Azure AI platform, thereby empowering OpenAI to offer enhanced capabilities for its Artificial Intelligence (AI) services.

Jun-2024	Google Cloud	Oracle and Google Cloud partnered to offer a combined solution leveraging Oracle Cloud Infrastructure (OCI) and Google Cloud. This partnership facilitates customer initiatives for accelerating application migrations and modernization.
Apr-2024	Q Palantir	Oracle and Palantir partnered to offer secure cloud and AI solutions to businesses and governments globally, by leveraging Oracle's distributed cloud and AI infrastructure alongside Palantir's AI and decision acceleration platforms.

Exhibit 21: Oracle Cloud - Key contract wins

 Oracle expands its cloud footprint through partnerships with TIM Italy, Digital Realty, and BDCCL, while securing cloud migration projects with Panasonic Information System and Du, demonstrating strong market penetration and diverse customer base.

Period	Client Name	Description
Jun-2024	Panasonic	Panasonic Information System selected Oracle for a cloud migration project. This involves transitioning over 2,000 database environments from Panasonic's internal systems to Oracle Cloud Infrastructure (OCI).
	d	Du announced a partnership with Oracle to deploy Oracle Alloy. This offering provides hyperscale cloud and sovereign AI services specifically for government and public sector entities in Dubai and the Northern Emirates.
May-2024	≡ TIM	TIM Italy selected Oracle Cloud Infrastructure to enhance its managed cloud services offerings.
	DIGITAL REALTY.	Digital Realty partnered with Oracle to deploy GPU-based infrastructure in Northern Virginia. This collaboration facilitates enhanced data processing and high-performance computing capabilities.
	BANGLADESH DATA CENTER COMPANY LIMITED	Bangladesh Data Centre Company Limited (BDCCL) adopted Oracle Cloud Infrastructure (OCI) Dedicated Region within its data centres. This initiative supports Bangladesh's "Smart Bangladesh Vision 2041," a cloud-driven digital transformation plan.

Research methodology and assumptions

- The "Cloud Stories Summer 2024" report provides brief financial insights of the leading 4 cloud infrastructure providers (AWS, Microsoft Intelligent Cloud, Google Cloud and Oracle Cloud). The report also provides information related to product initiatives, partnerships, and contract wins for the period April- June 2024.
- The report primarily leverages company websites and publicly disclosed information from major cloud service providers.
- The report analyses aggregate performance and future plans of leading providers and is used to project potential demand trends, wherever applicable.
- The report aligns Oracle's fiscal year with the calendar year by considering Q4-FY2024 equivalent to Q2-CY2024.
- Oracle Cloud revenue reporting (IaaS + SaaS) has been realigned from Q1-2023 onward and now tracks only Oracle Infrastructure Cloud (IaaS) revenue.
- Previous quarter figures may differ slightly from prior reports due to the focus on Microsoft Intelligent Cloud (MIC), which encompasses Azure and related services.
- Specifically for Google, the revenue numbers are for Google Cloud, encompassing various services like Workspace, Google Cloud Platform, data & analytics platforms, infrastructure, and collaboration tools. It's important to note that Google doesn't report GCP revenue separately but as part of the broader Google Cloud segment.

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