

Cloud stories Q3-2023

Insights into performance of
AWS, MIC, GCP, Oracle Cloud



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Table of Contents

KEY HIGHLIGHTS	3
<i>Exhibit 1: Revenue Growth rate (YoY) of Cloud service providers, (Q1 2023-Q3 2023).....</i>	<i>5</i>
<i>Exhibit 2: Key Financial metrics of Cloud service providers, (Q3 2022- Q3 2023)</i>	<i>5</i>
CLOUD INFRASTRUCTURE PROVIDERS.....	6
A. AMAZON WEB SERVICES (AWS)	6
Overview	6
AWS Global Footprint.....	7
<i>Exhibit 3: AWS Cloud Global capabilities</i>	<i>7</i>
<i>Exhibit 4: AWS Cloud - Key launches and announcements</i>	<i>8</i>
Key Product initiatives	8
Key Partnerships.....	9
Key Contract wins.....	11
B. MICROSOFT INTELLIGENT CLOUD (MIC).....	12
Overview	12
Microsoft Cloud Global Footprint	13
<i>Exhibit 5: Microsoft Cloud Global capabilities</i>	<i>13</i>
Key Product initiatives	14
Key Partnerships.....	14
Key Contract wins.....	15
C. GOOGLE CLOUD	16
Overview	16
Google Cloud Global Footprint	17
<i>Exhibit 6: Google Cloud Global capabilities</i>	<i>17</i>
<i>Exhibit 7: Google Cloud - Key launches and announcements</i>	<i>18</i>
Key Product initiatives	18
Key Partnerships.....	19
Key Contract wins.....	21
D. ORACLE CLOUD.....	23
Overview	23
Oracle Cloud Global Footprint.....	24
<i>Exhibit 8: Oracle Cloud Global capabilities</i>	<i>24</i>
<i>Exhibit 9: Oracle Cloud - Key launches and announcements</i>	<i>25</i>
Key Product initiatives	26
Key Partnerships.....	27
Key Contract wins.....	28
RESEARCH METHODOLOGY AND ASSUMPTIONS	29

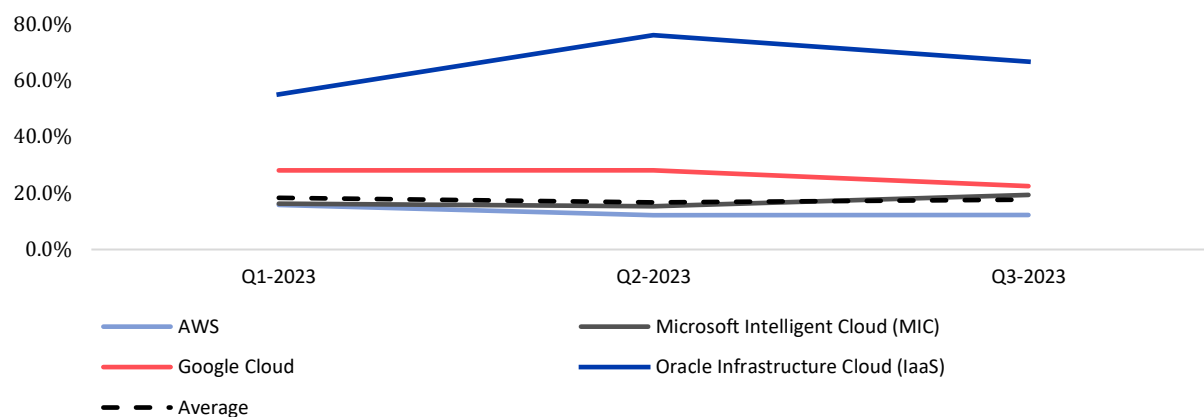
Key Highlights

- In the third quarter of 2023, the collective cloud earnings generated by the prominent quartet of cloud service providers—AWS, Microsoft, Google, and Oracle—summed up to a substantial USD 57.2 billion, showcasing a YoY growth of approximately 17.7%. This impressive growth was primarily propelled by increased cloud revenue contributions from each of these key players.
- Cloud revenue accounted for an average of 19.8% of the total revenues of these four industry leaders in Q3-2023, a notable rise from the 18.9% observed in Q3-2022. This shift underscores the ever-increasing significance of the cloud sector within their broader business portfolios.
- Cloud revenue growth rates continue to be impacted owing to the rapidly changing nature of customer requirements, which in turn also implies that the past or current cloud service provider might not be the preferred choice vendor for their future requirements.
 - Furthermore, the current growth rates and revenue estimates offer insight into the customer's confidence in the future potential of these cloud providers. This is particularly relevant as companies continue to embrace digitization, a trend further accelerated by the adoption of Generative AI.
- Microsoft, Google and Oracle have made initial strong inroads to grab customer's attention to be their preferred partners in their digital transformation roadmap complimented with potential usage of Generative AI.
 - For instance, Microsoft partnered with G42, whereas Google has partnership with Netcracker, Exabeam, Opentext. Oracle indicated that AI development companies having signed contracts for purchasing USD 4bn+ of capacity in its Oracle Gen2 Cloud.
 - Google and Microsoft also have partnership with Nvidia to leverage its hardware capabilities to further boost its GenAI capabilities.
- The growth rates of cloud revenue have tempered for companies such as AWS, Microsoft, and Google, as their revenue bases continue to expand, and they contend with the uncertainty of the global economic landscape, which can potentially impact their earnings.
- AWS cloud revenue increased 12.3% (YoY basis) in Q3-2023 to reach ~USD 23.1bn. However, this growth was relatively flat as compared to YoY growth of 12.2% in Q2-

2023, but a bit lower as compared 15.8% in Q1-2023, as the companies continue to rethink about their IT spending as they now increasingly focus on cost optimisation.

- In Q3-2023, Microsoft's Intelligent Cloud (MIC), which encompasses Azure and related services, achieved a remarkable revenue growth of 19.4% YoY, totalling USD 24.3 billion. This growth outpaced the year-on-year growth rates of 16.3% in Q1-2023 and 15.3% in Q2-2023, driven by increased demand for consumption-based services such as server products, Azure, and various other cloud offerings.
- Google Cloud's revenue in Q3-2023 reached USD 8.4 billion, marking a substantial 22.5% year-on-year increase, primarily attributable to the growth of its Google Cloud Platform and Google Workspace offerings. Nevertheless, this growth rate was somewhat lower than the 28.1% in Q1-2023 and 28% in Q2-2023.
- The Oracle Cloud Infrastructure (IaaS) segment demonstrated robust growth, expanding by approximately 66% year-on-year and achieving a revenue of USD 1.5 billion in Q3-2023.
- Cloud providers continue to forge partnerships and expand their geographic presence to meet the customer demand and sustain competitive edge. For instance,
 - AWS introduced a Local Zone in Phoenix, Arizona and a new cloud region cloud region in Israel (Tel Aviv).
 - Google Cloud launched its second cloud region in Germany (12th in Europe), to facilitate shorter response times for data transfer.
 - Oracle launched Oracle Cloud for Australian Government and Defense in Canberra and further intends to activate the cloud region in Colombia and Chile soon.

Exhibit 1: Revenue Growth rate (YoY) of Cloud service providers, (Q1 2023-Q3 2023)



Source: Company reports, Twimbit analysis

Exhibit 2: Key Financial metrics of Cloud service providers, (Q3 2022- Q3 2023)

Cloud Provider	Q3 2023 (USD bn)	Q2 2023 (USD bn)	Q1 2023 (USD bn)	Q3 2022 (USD bn)	% change YoY	% change QoQ	Cloud revenue % of total revenue
AWS	23.1	22.1	21.4	20.5	12.3%	4.2%	16.1%
Microsoft Intelligent Cloud*	24.3	24.0	22.0	20.3	19.4%	1.1%	42.9%
Google Cloud Platform	8.4	8.0	7.5	6.9	22.5%	4.7%	11.0%
Oracle Infrastructure Cloud (IaaS)**	1.5	1.4	1.2	0.9	~66%	7.1%%	12%

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

**Revenue reporting for Oracle Cloud has been realigned from Q3-2023 onwards and now includes only Oracle Infrastructure Cloud (IaaS) revenue

Source: Company reports, Twimbit analysis

Cloud Infrastructure providers

A. Amazon Web Services (AWS)

Overview

- AWS continues to be a substantial contributor to the overall company revenue in Q3-2023 accounting for 16.1% of the overall revenue
 - In Q3-2023, AWS revenue grew by 12.3% (YoY basis) to reach USD 23.1bn
 - Operating margin increased by 3.9 percentage points (YoY basis) to reach 30.3% in Q3-2023, driven by enhanced sales and cost structure efficiency, partially counterbalanced by expenditures on technology infrastructure, which were primarily driven by supplementary investments to bolster AWS's business expansion.
- AWS's revenue growth rate has been slowing down in recent quarters as larger enterprises re-evaluate their IT spending priorities, with a growing emphasis on cost optimization. Amazon's CFO, Brian Olsavsky, also noted an increased participation of companies in cost optimization initiatives, albeit at a reduced pace compared to earlier, and the company anticipates an influx of new workloads in the near future.
- In Sep 2023, Amazon announced plans to invest USD 4.0 bn in Anthropic, which would leverage AWS data centres for its software and adopt in-house data centre chips for model training, powering chatbots and other tools.

"We had a strong third quarter as our cost to serve and speed of delivery in our Stores business took another step forward, our AWS growth continued to stabilize, our Advertising revenue grew robustly, and overall operating income and free cash flow rose significantly."

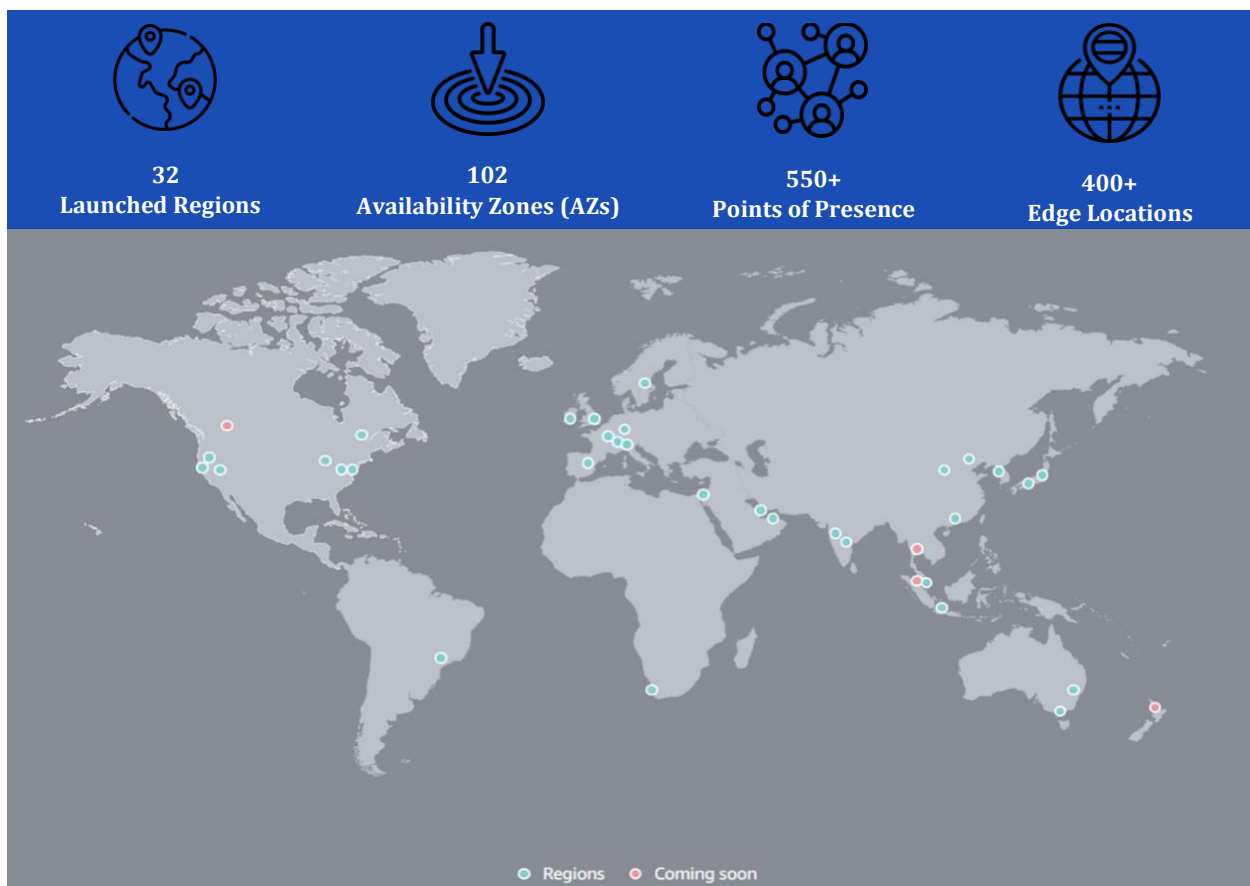
- Andy Jassy, CEO, Amazon



AWS Global Footprint

- The AWS Cloud has 102 Availability Zones across 32 geographic regions worldwide. It also has plans have 15 additional Availability Zones globally and 5 more AWS regions in Canada, Germany, New Zealand, Malaysia, and Thailand.
- AWS Local Zones are presently available in 16 metropolitan areas within the US, with plans to further expand into 33 additional cities spanning 27 countries. These expansion targets include locations in Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Colombia, Czech Republic, Denmark, Finland, Germany, Greece, India, Kenya, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, South Africa, Taiwan, Thailand, and Vietnam.

Exhibit 3: AWS Cloud Global capabilities



Source: [Company website](#), Twimbit analysis

Exhibit 4: AWS Cloud - Key launches and announcements

AWS continues to expand its cloud presence globally with significant capability enhancements across, US, Singapore, and Israel during Q3-2023.

Period	Status	Location	Type	Details
July-2023	Launched	Phoenix, Arizona, (USA)	AWS Local Zone	<ul style="list-style-type: none"> The Local Zone enable customers to access Amazon ECS, Amazon EKS, Application Load Balancer, AWS Direct Connect and NAT Gateway, to support a diverse set of workloads at the edge.
Aug-2023	Launched	Singapore	AWS Local Zone	<ul style="list-style-type: none"> Deployed AWS Local Zones, to facilitate the availability of AWS across locations complying with latency and data residency requirements with the first deployment done in Singapore.
Aug-2023	Launched	Tel Aviv (Israel)	Cloud Region	<ul style="list-style-type: none"> Launched new cloud region, to enable customers to execute workloads and securely store data in Israel. <ul style="list-style-type: none"> Also, announced of its intent to invest ~USD 7.2bn (~ILS 26.6bn) in Israel through 2037.








Source: Company sources, Industry reporting, Twimbit analysis







Key Product initiatives

Period	Description
Sep-2023	<ul style="list-style-type: none"> AWS introduced five new offerings including Amazon Bedrock, Amazon Titan Embeddings, Amazon CodeWhisperer, Amazon QuickSight, and Llama 2, for further accelerate Generative AI innovations.

Source: Company sources, Industry reporting, Twimbit analysis







Key Partnerships

Period	Partner Name	Description
Sep-2023		<ul style="list-style-type: none"> Partnered with Eutelsat to showcase its capabilities in offering DVB-NIP (Native IP), by integrating video distribution with production and distribution workflows deployed over the AWS cloud. This will enable customers to deliver high-quality video content to their audiences more efficiently and cost-effectively.
		<ul style="list-style-type: none"> CrowdStrike partnered with AWS to launch the AWS & CrowdStrike Cybersecurity Startup Accelerator, which will offer mentorship, partnership, and funding opportunities to startups based in EMEA. The accelerator is designed to help startups develop and commercialize innovative cybersecurity solutions that can be deployed on AWS.
		<ul style="list-style-type: none"> Cloudera signed an agreement with AWS to leverage AWS services for offering innovation and lower cost benefits to the customers with Cloudera open data lakehouse on AWS generative AI. This will enable customers to build and deploy AI models more quickly and easily, and at a lower cost.
		<ul style="list-style-type: none"> AWS signed an agreement with the Indian Space Research Organisation (ISRO) and the Indian National Space Promotion and Authorization Centre (IN-SPACe) to support space-tech startups, independent researchers, and research institutes access to cloud computing resources. This will help to accelerate innovation in the Indian space sector.
Aug-2023		<ul style="list-style-type: none"> Arduino partnered with AWS to strengthen edge hardware and cloud services by offering Arduino products and Arduino Cloud customers additional options of integrating AWS into IoT projects.
	 	<ul style="list-style-type: none"> Ericsson, AWS, and Hitachi America R&D partnered to collaborate in areas related to real-time digital video, AI, and edge-to-cloud technologies across a private 5G wireless network. This collaboration will help to develop

		innovative solutions for a variety of industries, including healthcare, manufacturing, and transportation.
		<ul style="list-style-type: none"> • Zerto- A HPE Company, has joined the AWS Independent Software Vendor (ISV) Accelerate Program. This will enable Zerto to offer its Zerto In-Cloud disaster recovery solution in AWS Marketplace and to provide continuous data protection features to AWS customers globally.
		<ul style="list-style-type: none"> • SAIC signed an agreement with AWS to enable the government customers effectively leverage SAIC's secure cloud offerings in AWS GovCloud.
		<ul style="list-style-type: none"> • Cloud security remediation vendor Dazz has joined AWS ISV Accelerator program, to facilitate customers to adopt and scale cloud computing capabilities.
		<ul style="list-style-type: none"> • Selected NTT as its first Direct Connect Delivery partner in Thailand. This will enable customers in Thailand with direct connectivity to AWS Cloud globally by leveraging NTT's Bangkok data centres.
Jul- 2023		<ul style="list-style-type: none"> • Commvault has expanded its partnership capabilities with AWS by joining the AWS ISV Workload Migration and AWS Service Ready Programs, to provide its customers with a more comprehensive set of solutions for migrating and managing workloads on AWS.
		<ul style="list-style-type: none"> • Forcepoint announced of having launched data centre in Dubai in alliance with AWS, as a part of the expansion plan of its Data-first SASE platform services in the Middle East region.

Source: Company sources, Industry reporting, Twimbit analysis

Key Contract wins

Period	Client Name	Description
Sep- 2023		<ul style="list-style-type: none"> Telkomsel selected AWS as its preferred cloud provider. Telkomsel will leverage AWS offerings such as AWS Lambda, Amazon GuardDuty, and Amazon ElastiCache to further accelerate its digital transformation strategy by migrating its various IT applications to AWS.
		<ul style="list-style-type: none"> The Ministry of Digital Development, Innovations and Aerospace Industry of Kazakhstan signed an agreement to leverage AWS's advanced Outpost cloud solution for launching a pilot project for integration with Kazakhstan's QazTech platform. QazTech is a national digital transformation platform that provides a variety of services to businesses and citizens in Kazakhstan.
		<ul style="list-style-type: none"> SK Telecom launched an optimisation solution to leverage AWS for reducing cloud operating costs by up to 40%. The solution is based on a variety of AWS services, including AWS Cost Explorer, AWS Trusted Advisor, and AWS Budgets.
		<ul style="list-style-type: none"> EveryNet announced to leverage AWS IoT Core to offer LoRaWAN connectivity to its customers. LoRaWAN is a low-power, wide-area network (LPWAN) technology that is ideal for connecting IoT devices.
Aug- 2023		<ul style="list-style-type: none"> The Singapore government's Smart Nation and Digital Government Group (SNDGG) has become AWS's first customer to deploy Dedicated Local Zones. Dedicated Local Zones are a type of AWS infrastructure that provide customers with dedicated access to AWS compute, storage, database, and networking services in a specific geographic location.
Jul- 2023		<ul style="list-style-type: none"> Cronos signed an agreement with AWS to become a one-stop shop provider for AWS offerings. This will enable Cronos to strengthen its positioning in areas such as data centre services for AI and IoT and boost its revenue growth in the Benelux region.

		<ul style="list-style-type: none"> Vodafone Spain has announced that it will initiate a pilot test of mobile edge compute networks in selected Spanish markets by leveraging AWS Wavelength. AWS Wavelength is a service that brings AWS compute and storage services to the edge of the Vodafone mobile network. This will enable Vodafone to deliver ultra-low latency applications and services to its customers.
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Source: Company sources, Industry reporting, Twimbit analysis

B. Microsoft Intelligent Cloud (MIC)

Overview

- The MIC segment remains a primary driver of the company's revenue, contributing 42.9% of the total earnings in Q3-2023, marking a 2.3 percentage point increase on YoY basis.
- In Q3-2023, MIC revenue experienced a robust 19.4% YoY growth, reaching USD 24.3 billion. This growth was propelled by increased demand for consumption-based services, including server products, Azure, and various other cloud services.
- Server products and cloud services revenue increased by USD 3.9bn (~21.3% YoY basis) to reach USD 22.3bn, driven by Azure and other cloud services.
 - Azure and other cloud services revenue grew 29% driven by growth in its consumption-based services.
 - Server products revenue increased 2% driven by demand for Windows Server and SQL Server running in multi-cloud environments, offset in part by continued customer shift to cloud offerings.
- Microsoft's management has provided a steady outlook for Q4-2023, projecting MIC revenue to fall within the range of USD 25.1 billion to USD 25.4 billion, while anticipating a 26% to 27% growth in constant currency for Azure and other cloud services revenue.
- Growth in Azure segment reflects the cloud optimisation trends in addition to growing demand for AI services. This aligns with recent industry trend of emerging slowdown in cloud spend optimisation, which is likely to result in Azure future growth outlook complimenting the emerging growth in AI-related opportunities.

- A growing clientele is embracing cloud-based Generative AI tools, further enriched by software from the Microsoft-affiliated startup, OpenAI. The number of customers for Azure OpenAI service reached 18,000 in Q3-2023 as compared to 11,000 in Q2-2023.



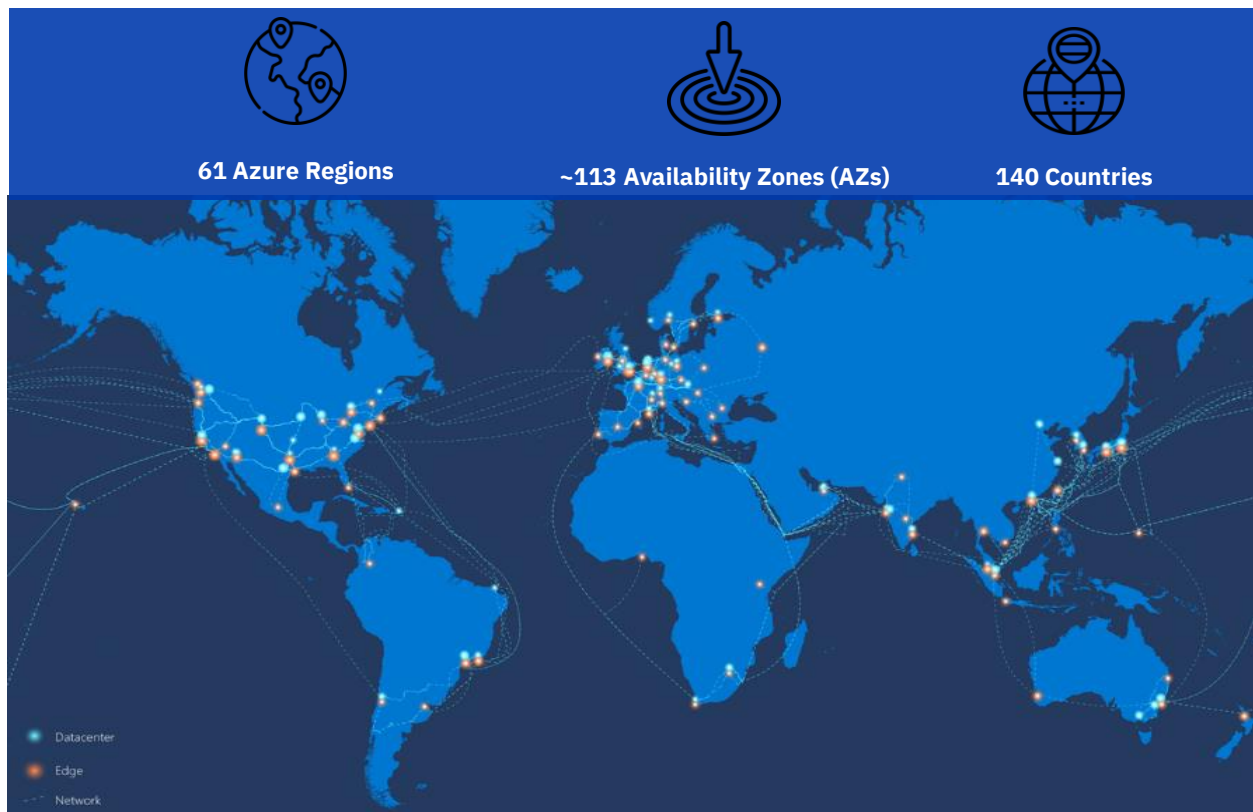
“With copilots, we are making the age of AI real for people and businesses everywhere. We are rapidly infusing AI across every layer of the tech stack and for every role and business process to drive productivity gains for our customers.”

- Satya Nadella, Chairman and CEO, Microsoft

Microsoft Cloud Global Footprint

- MIC has presence across 61+ regions and its Azure infrastructure comprises of 300+ physical datacentres.

Exhibit 5: Microsoft Cloud Global capabilities






Source: [Company website](#), Twimbit analysis



Key Product initiatives

Period	Description
Aug- 2023	<ul style="list-style-type: none"> Microsoft launched Azure Operator Nexus 5G cloud platform, which caters to specific requirements of telcos to run network functions and enables them to lower overall TCO, leverage AI and automation to realize greater operations efficiency and resiliency and improvise network security.
	<ul style="list-style-type: none"> Launched Azure Blob Storage Cold Tier in all public and Azure Government regions except Poland Central and Qatar Central, which enables the customer to efficiently store data accessed or modified infrequently and ensure its immediate availability as per requirements.
Jul- 2023	<ul style="list-style-type: none"> Launched Azure Migrate and Modernize & Azure Innovate, which enables the customer to migrate, modernize and innovate on Azure.

Source: Company sources, Industry reporting, Twimbit analysis


Key Partnerships

Period	Partner Name	Description
Sep- 2023		<ul style="list-style-type: none"> UAE-based AI and cloud computing provider G42 has further extended its partnership with Microsoft for cloud technology infrastructure in the UAE. The two companies will collaborate to co-innovate and deliver advanced AI capabilities, and to expand the existing data centre infrastructure in the UAE.
		<ul style="list-style-type: none"> Microsoft has partnered with Oracle to make Microsoft Azure the only other cloud provider offering Oracle's database services running on Oracle Cloud Infrastructure (OCI) and deployed in Microsoft Azure data centres.
Aug-2023		<ul style="list-style-type: none"> Microsoft has partnered with Kyndryl to collaborate on accelerating the adoption of enterprise-grade generative AI solutions for enterprises on Microsoft Cloud.

Aug- 2023		<ul style="list-style-type: none">Pure Storage has expanded its strategic product and go-to-market partnership with Microsoft to boost enterprise cloud adoption. Pure Storage is now offering its Azure's new Premium SSD v2 offering on Azure VMware Solution (AVS) in Preview, across 16 Azure regions globally.
July- 2023		<ul style="list-style-type: none">Dynatrace announced a joint go-to-market (GTM) agreement with Microsoft. The agreement comprises campaigns, events, webinars, customer solution workshops, and hands-on labs. The goal of the agreement is to meet the growing demand of customers for the Dynatrace platform on Microsoft Azure, and to accelerate cloud migration and optimisation initiatives.

Source: Company sources, Industry reporting, Twimbit analysis

Key Contract wins

Period	Client Name	Description
Aug- 2023		<ul style="list-style-type: none">SoftBank collaborated with Microsoft Japan to focus on cloud services and AI applications, by combining Microsoft Azure and Azure OpenAI services with its mobile networks.

Source: Company sources, Industry reporting, Twimbit analysis

C. Google Cloud

Overview

- Google Cloud revenue contribution to the overall revenue continues to grow in 2023 and has accounted for >10% in 2023 as compared to single digit contribution in 2022.
 - It accounted for 11.0% of the overall revenue in Q3-2023 (growth of 1.1 percentage points on YoY basis) and continues to grow since FY 2019 whereby it accounted for 5.5% on annual basis.
- Google Cloud revenue reached USD 8.4bn in Q3-2023 (growth of 22.5% on YoY basis). However, the revenue growth slowed down as compared to the previous quarters, where it witnessed a YoY revenue growth of 28.1% and 28.0% in Q1-2023 and Q2-2023 respectively.
 - Growth was primarily driven by Google Cloud Platform followed by Google Workspace offerings. Google Cloud's infrastructure and platform services were the largest drivers of growth in Google Cloud Platform.
 - However, it reported an operating profit of USD 266m in Q3-2023, as compared to operating losses of USD 590m and USD 440m in Q2-2023 and Q3-20223 respectively. The increase in operating income was primarily driven by revenue growth, which was partially offset by an increase in compensation expenses.
- Google is increasing its emphasis on providing a secure cloud infrastructure, due to its growing cybersecurity efforts.
 - Additionally, its effort to integrate data lakes, data warehouses, data governance and advanced machine learning into a single platform is further expected to bolster its prospects in the data cloud market.
- With launch of OpenAI's ChatGPT chatbot last year, Google has been racing to add generative AI technology to more products and is testing it within core search
 - Alphabet is moving to integrate AI technology into its products and stands to benefit from its AI trading service.



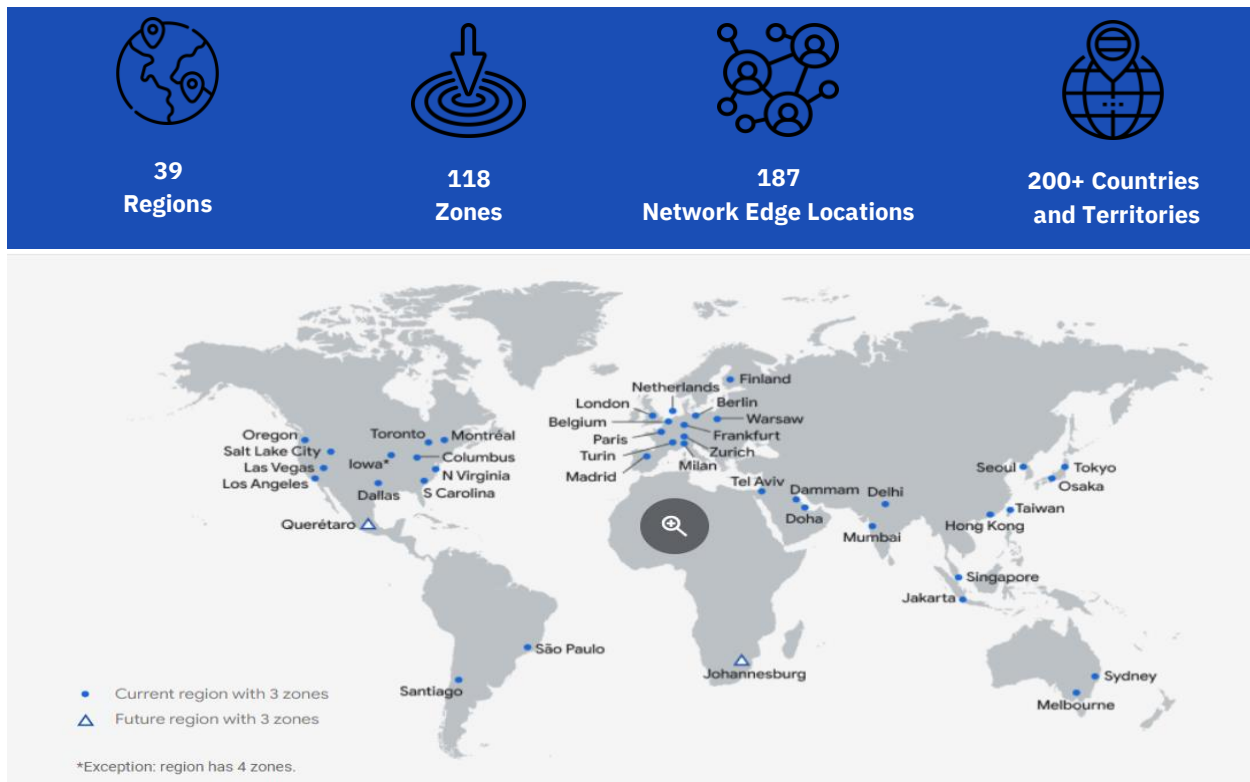
"I'm pleased with our financial results and our product momentum this quarter, with AI driven innovations across Search, YouTube, Cloud, our Pixel devices and more. We're continuing to focus on making AI more helpful for everyone; there's exciting progress and lots more to come."

- Sundar Pichai, CEO, Alphabet and Google

Google Cloud Global Footprint

- Currently, it operates in 39 regions with 118 Zones across 200+ countries.
- Plans to operate in new regions including Kingdom of Saudi Arabia, Mexico, Malaysia, Thailand, New Zealand, Greece, Norway, South Africa, Austria, and Sweden.

Exhibit 6: Google Cloud Global capabilities



Source: [Company website](#), Twimbit analysis

Exhibit 7: Google Cloud - Key launches and announcements

During Q3-2023, Google strengthened its cloud positioning in the European region, by opening its second cloud region in Germany, in addition to its Frankfurt cloud region.

Period	Status	Location	Type	Details
Aug- 2023	Launched	Berlin- Brandenburg, Germany	Cloud Region	<ul style="list-style-type: none"> Google Cloud launched its second cloud region in Germany (12th in Europe), to facilitate shorter response times for data transfer. This is a part of its plan to invest USD 1.08bn in German digital infrastructure by 2030.








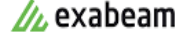
Source: Company sources, Industry reporting, Twimbit analysis










Key Product initiatives


Period	Description
Sep- 2023	<ul style="list-style-type: none"> Nokia announced the launch of Google Cloud services on its AI network app development framework, AVA Data Suite. By integrating AVA Data Suite with Google Cloud, Nokia is providing service providers with access to Google's BigQuery and Vertex AI data engineering frameworks for developing telecoms automation use cases.
Aug- 2023	<ul style="list-style-type: none"> Introduced data clean rooms in BigQuery, which help companies to share sensitive data while protecting security and privacy. Data clean rooms are a secure environment where multiple parties can analyze data together without revealing any underlying data.
	<ul style="list-style-type: none"> Strengthened its offerings by adding Duet AI offerings across most of its cloud services, including data analytics, databases, and infrastructure and application management.
	<ul style="list-style-type: none"> Launched Pricing APIs for its cloud services to enable enterprises to leverage the API along with usage metrics, thereby enabling them to optimise their cloud expenses.
	<ul style="list-style-type: none"> Introduced Project IDX, a browser-based development environment that combines templates and generative AI assistance to make it easier to build and deploy full-stack and multiplatform applications with popular languages.

Source: Company sources, Industry reporting, Twimbit analysis

Key Partnerships







Period	Partner Name	Description
Sep - 2023	 A Citrix Company	<ul style="list-style-type: none"> Announced Cloud4C as a specialized partner for infrastructure services in the APAC region.
		<ul style="list-style-type: none"> Ericsson expanded its partnership with Google Cloud to develop its Cloud RAN solution on Google Distributed Cloud (GDC).
	 Delivering the Digital Future An NEC Company	<ul style="list-style-type: none"> Netcracker further strengthened its partnership with Google Cloud by combining Netcracker's GenAI Telco Solution with Google Cloud's Vertex AI, to facilitate the advancement of generative AI technology in the telecom vertical.
		<ul style="list-style-type: none"> Viavi Solutions partnered with Google Cloud to introduce NITRO AIOps on Google Cloud and leverage Google Cloud capabilities to address the challenges of communications service providers (CSPs) related to network intelligence and optimisation, such as capacity planning, predictive maintenance, and real-time anomaly detection.
		<ul style="list-style-type: none"> Sprinklr partnered with Google Cloud to integrate its Sprinklr AI+ platform with Google Cloud's Vertex AI to offer unified customer experience management capabilities.
		<ul style="list-style-type: none"> Tamr partnered with Google Cloud to launch Data & AI Cloud for Industries, to offer enhanced analytics and AI/ML capabilities to customers, enabling them to derive more business value from their data in the cloud.
Aug - 2023	 EUREKA ACTIONABLE INTELLIGENCE AT SCALE	<ul style="list-style-type: none"> Eureka AI partnered with Google Cloud to facilitate operators in the deployment of Eureka's AI Platform and suite of analytics products to help them improve revenue and profitability.
		<ul style="list-style-type: none"> Exabeam extended its partnership with Google Cloud to develop generative AI models in its cloud-native New-Scale SIEM product portfolio by leveraging Google Cloud's Generative AI capabilities.



		<ul style="list-style-type: none"> Tellus partnered with Google Cloud to integrate its Tellus AI platform and Google Cloud's data management and analytics products to further strengthen and drive next-level AI-powered analytics offerings.
		<ul style="list-style-type: none"> Alteryx further expanded its Google Cloud partnership to offer Looker Studio users a free limited version of Alteryx Designer Cloud's AI-powered data preparation capabilities and enhanced connectivity features.
		<ul style="list-style-type: none"> Expanded its existing partnership with NVIDIA to offer customers capabilities combining NVIDIA Generative AI Technology with Google Cloud offerings, to further boost their AI computing, software, and services offerings.
		<ul style="list-style-type: none"> Confluent further expanded its partnership with Google Cloud to jointly leverage mutual capabilities to offer enterprises the ability to build real-time applications faster at lower costs.
		<ul style="list-style-type: none"> Strengthened its partnership with F5 in Qatar, whereby F5 would facilitate organizations across the region to access 45 solutions via the Google Cloud Marketplace.
		<ul style="list-style-type: none"> HCL Technologies partnered with Google Cloud to enable HCL Software to integrate Google Cloud's generative AI solutions into its software products and provide support for Google Cloud Vertex AI, Model Garden, and Generative AI App Builder.
		<ul style="list-style-type: none"> Rackspace Technology partnered with Google Cloud to introduce a new professional service migration offering, Rackspace Technology Drives Accelerated Cloud Migration to Google Cloud, which enables businesses to migrate their virtual machines to Google Cloud.
		<ul style="list-style-type: none"> OpenText partnered with Google Cloud to leverage mutual AI integration capabilities to provide enterprises with next-generation information management capabilities.
Jul - 2023		<ul style="list-style-type: none"> Incorta partnered with Google Cloud to launch a joint solution that simplifies data accessibility and delivery

		from complex business applications to Google Cloud, facilitating innovation and time-to-value for advanced analytics offerings.
		<ul style="list-style-type: none"> Partnered with Persistent Systems for Generative AI offerings to facilitate clients in increasing the scalability of their processes by launching solutions for generative AI use cases for database and application modernization and advanced analytics.

Source: Company sources, Industry reporting, Twimbit analysis

Key Contract wins

Period	Client Name	Description
Sep – 2023		<ul style="list-style-type: none"> Optiva unveiled its MVNO Hubs on the Google Cloud platform, thus equipping itself to provide a multi-tenant BSS (Business Support System) as a Service.
		<ul style="list-style-type: none"> New Zealand based telco One NZ entered into a five-year partnership with Google Cloud, to bolster its cloud transformation initiatives and expedite digitalization efforts for small and medium-sized businesses (SMBs), enterprises, and the public sector.
Aug – 2023		<ul style="list-style-type: none"> Signed a seven-year agreement with the Republic of El Salvador to establish a centre of excellence within the country. This agreement will enable Google to offer its cloud services, including Google Distributed Cloud (GDC), as part of the government's efforts to digitize various government processes and projects.
		<ul style="list-style-type: none"> Contextual AI selected Google Cloud as its preferred cloud provider for executing and scaling its business operations and for training its large language models (LLMs) designed for enterprise use.
		<ul style="list-style-type: none"> Ooredoo Group has selected Google Cloud alongwith Tech Mahindra, to support it in its global digital transformation and customer experience enhancement initiatives across its six operating companies.
Jul – 2023		<ul style="list-style-type: none"> Radcom has introduced its 5G assurance platform on Google Cloud, thereby providing the telecommunications

		company with an automated and cloud-native assurance solution that integrates with Google Cloud services.
		<ul style="list-style-type: none"> • Zain Kuwait has partnered with Google Cloud to leverage the Anthos hybrid cloud management platform. This collaboration aims to expedite the telco's digitalization efforts, enabling its Telco Cloud to efficiently support various workloads for delivering enterprise solutions at the edge. These solutions encompass functions such as computer vision, image recognition, pattern detection, and other emerging edge application use cases.
		<ul style="list-style-type: none"> • The Ministry of Communications and Information (MCI) in Singapore, along with Digital Industry Singapore (DISG) and the Smart Nation and Digital Government Office (SNDG0), has teamed up with Google Cloud for a joint initiative named "AI Trailblazers." This initiative is aimed at accelerating the development of AI solutions, including the creation of generative AI solution prototypes and bringing these prototypes to production.

Source: Company sources, Industry reporting, Twimbit analysis

D. Oracle Cloud

Overview

- Oracle Cloud Infrastructure segment displayed robust growth and the revenue reached USD 1.5bn (up by 66% YoY basis) as compared to 76% YoY growth in Q2-2023.
 - Additionally, Oracle Infrastructure Cloud (IaaS) segment contribution to the overall revenue reached 12% in Q3-2023 as against 7.9% in Q3-2022, driven by relatively strong growth rate as compared to overall revenue.
- Oracle Cloud revenue growth continues to be impacted, as businesses continue to realign their digitalisation plans. However, Oracle Cloud continues to build momentum and grow its revenue from the cloud segment.
 - An increased adoption of AI is likely to have a positive impact on its Cloud infrastructure business, as advancements being made in its networking technology are more suited to take on AI workloads.
- Oracle Cloud indicated that AI development companies have signed contracts for purchasing USD 4.0 bn+ of capacity in its Oracle Gen2 Cloud, which is twice the booking value as compared to the previous quarter.
 - The company is focussing on the rollout of Generative AI capabilities across its enterprise and industry applications, cloud infrastructure, databases.
 - Additionally, it is also striving to improvise its technology's core functions for support efficiency and cost-effectiveness advancements to meet customer requirements to build models.
- Despite the decline in revenue growth rates (YoY basis) as compared to the last two quarters, Oracle's CEO Safra Catz indicated that the company remains committed of achieving a minimum revenue of USD 56bn by FY2026.
 - For Q4-2023, Oracle management expects the total revenue to grow between 5%-7% (3%-5% in constant currency), with total cloud revenue (excluding Cerner) estimated to grow between 29%-31%.

“Oracle Cloud Infrastructure revenue grew 66% in Q1, much faster than our hyperscale cloud infrastructure competitors. Total cloud services revenue, Infrastructure plus Applications, grew 30% to \$4.6 billion in the quarter..... This highly-predictable, highly-profitable recurring revenue stream—combined with continued expense discipline—drove 16% growth in non-GAAP earnings per share, 21% growth in free cash flow, and \$7.0 billion in operating cash flow in the Q1.”

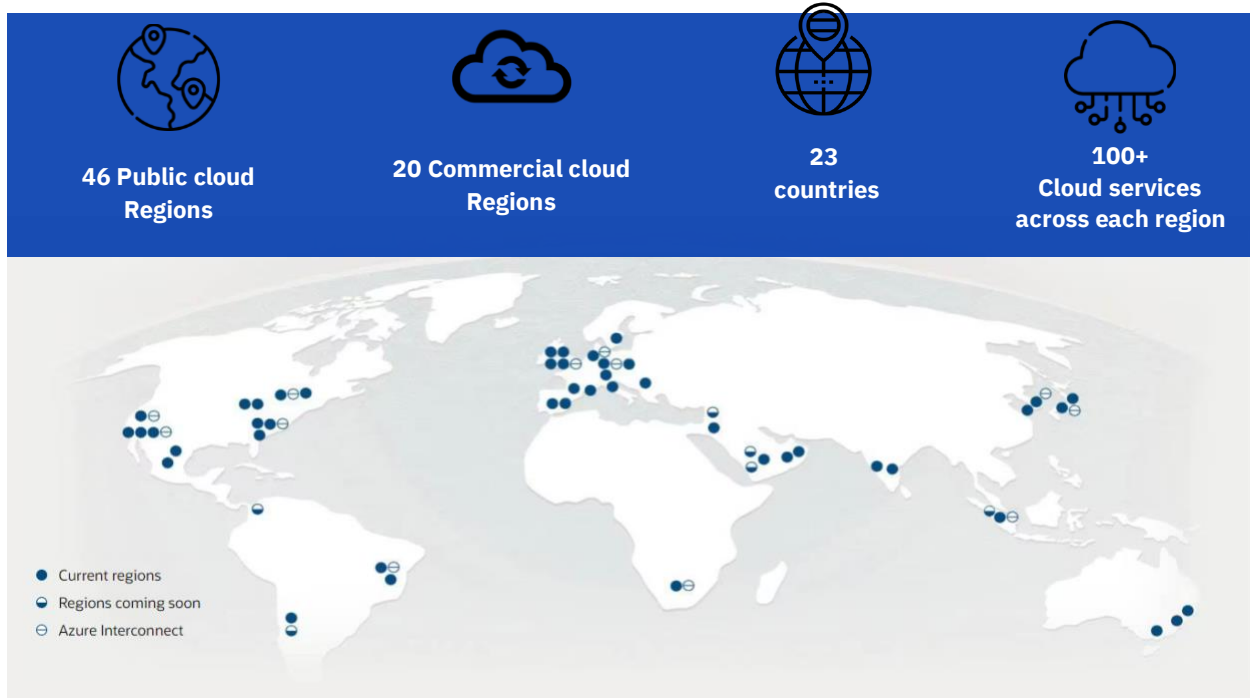
- Safra Catz, CEO, Oracle



Oracle Cloud Global Footprint

- Oracle offers 100+ cloud services across 46 Public cloud regions across 23 countries (including 4 cloud regions in LATAM).
 - Also, has multiple additional dedicated regions and US national security regions, to cater to the requirements of its customers.

Exhibit 8: Oracle Cloud Global capabilities



Source: [Company website](#), Twimbit analysis

Exhibit 9: Oracle Cloud - Key launches and announcements

- During Q3-2023, Oracle continues to strengthen its cloud presence globally.
- Additionally, it enhanced the features and applications available on its Oracle Cloud Infrastructure (OCI), by introducing NetSuite applications on its cloud regions in Toronto and Montreal

Period	Status	Location	Type	Details
Aug-2023	Launched	Canberra, Australia	Cloud Region	<ul style="list-style-type: none"> Established a new OracleCloud for Australian Government and Defense in Canberra, which would offer 100+ services.
Sep-2023	Announced	UAE and Saudi Arabia	Cloud Region	<ul style="list-style-type: none"> Announced to further expand its geographic presence in Middle East and Africa region, by likely adding new cloud regions in UAE and Saudi Arabia.
Sep-2023	Launched	Mexico	Cloud Region	<ul style="list-style-type: none"> Partnered with Teléfonos de México (Telmex-Triara) to become the first hyperscaler in Mexico to boast of two cloud regions and marking Oracle's 46th region on its global network.
Sep-2023	Announced	Colombia and Chile	Cloud Region	<ul style="list-style-type: none"> Announced its intention to activate the cloud region in Colombia and Chile soon.









Source: Company sources, Industry reporting, Twimbit analysis




Key Product initiatives

Period	Description
Sep - 2023	<ul style="list-style-type: none"> Oracle announced new AI capabilities in its Oracle Fusion Cloud Customer Experience (CX) to help marketers, sellers, and service agents increase revenue growth and deliver better customer experiences.
	<ul style="list-style-type: none"> Introduced new application development capabilities that enable developers to build and deploy applications on Oracle Cloud Infrastructure (OCI) faster.
	<ul style="list-style-type: none"> Announced the limited availability of its OCI Generative AI service, which is powered by Nvidia H100 Tensor Core GPUs, Nvidia L40S GPUs, and Ampere Ampere One CPUs, to execute a variety of workloads. <ul style="list-style-type: none"> Also, made enhancements to its existing services, including Oracle Digital Assistant, OCI Language Healthcare NLP, OCI Language Document Translation Experience, OCI Vision, OCI Speech, and OCI Data Science.
	<ul style="list-style-type: none"> Announced to invest USD 104.1m for purchasing processor chips from Ampere Computing, to further boost the competitiveness of Oracle Cloud against AWS (which makes its own processor chips) and Google (which manufactures its own AI chips).
	<ul style="list-style-type: none"> Strengthened its Oracle Cloud capabilities by adding Oracle Database@Azure and MySQL HeatWave Lakehouse on AWS to Oracle Cloud Infrastructure (OCI).
	<ul style="list-style-type: none"> Announced the limited availability of its OCI Generative AI service, which offers support for large language models (LLMs), to enable organizations to automate end-to-end business processes, provide decision support, and enhance customer experiences.
Aug - 2023	<ul style="list-style-type: none"> Oracle introduced Oracle Compute Cloud@Customer, a rack-scale cloud infrastructure that enables enterprises to leverage Oracle Cloud Infrastructure (OCI) compute services regardless of their location.

Source: Company sources, Industry reporting, Twimbit analysis






Key Partnerships

Period	Partner Name	Description
Sep - 2023	 <small>A Digital Realty and Brookfield Infrastructure JV</small>	<ul style="list-style-type: none"> Oracle partnered with Ascenty, a data centre operator, to demonstrate the benefits of integrating on-premises and cloud computing using Oracle Cloud Infrastructure (OCI) FastConnect. This partnership provides customer with a dedicated and private access to Oracle Cloud.
		<ul style="list-style-type: none"> Oracle also expanded its existing partnership with Red Hat to offer Red Hat OpenShift on OCI to customers.
		<ul style="list-style-type: none"> Oracle announced a new partnership with Microsoft to further accelerate the interconnectivity between Azure and Oracle Database technology, and to enhance Oracle's global presence. This partnership includes offering Oracle Database Services through OCI on the Microsoft Azure platform.
		<ul style="list-style-type: none"> Thales launched CipherTrust Cloud Key Management's Hold Your Own Key (HYOK) in all Oracle Cloud regions, providing OCI customers with sovereignty requirements across all regions.
		<ul style="list-style-type: none"> Oracle further expanded its partnership with Amdocs to enable communications service providers (CSPs) to migrate, deploy, and operate Amdocs operations support systems (OSS), business support systems (BSS), and other Amdocs network solutions on OCI across its 45 public cloud regions and distributed cloud regions.
		<ul style="list-style-type: none"> Informatica partnered with Oracle to create an OCI Point of Delivery and Enhanced Data Governance Integrations offerings for their joint customers in the North America region.
	 <small>DIGITAL REALTY</small>	<ul style="list-style-type: none"> Digital Realty announced the provision of connectivity to Oracle EU Sovereign Cloud via Oracle Cloud Infrastructure (OCI) FastConnect for customers in Frankfurt and Madrid Cloud regions.
Aug - 2023		<ul style="list-style-type: none"> Expanded its partnership with VMware to facilitate customers modernize their VMware workloads on Oracle Cloud Infrastructure (OCI).

		<ul style="list-style-type: none"> center3 by STC announced a collaboration with Oracle to offer hosting and data services for the planned Oracle Cloud Riyadh Region and to support the expansion of its existing Oracle Cloud Jeddah Region and enable Oracle to offer Oracle Cloud Infrastructure (OCI) services to private and public sector organizations in Saudi Arabia.
		<ul style="list-style-type: none"> Partnered with Stellar Cyber to introduce the Stellar Cyber Open XDR platform on OCI, to enable users to manage their security operations, reduce cyber risk, and improve security analyst efficiency and effectiveness.
		<ul style="list-style-type: none"> Collaborated with Fortinet to integrate cloud solutions into the Oracle Solution Center in Latin America.

Source: Company sources, Industry reporting, Twimbit analysis

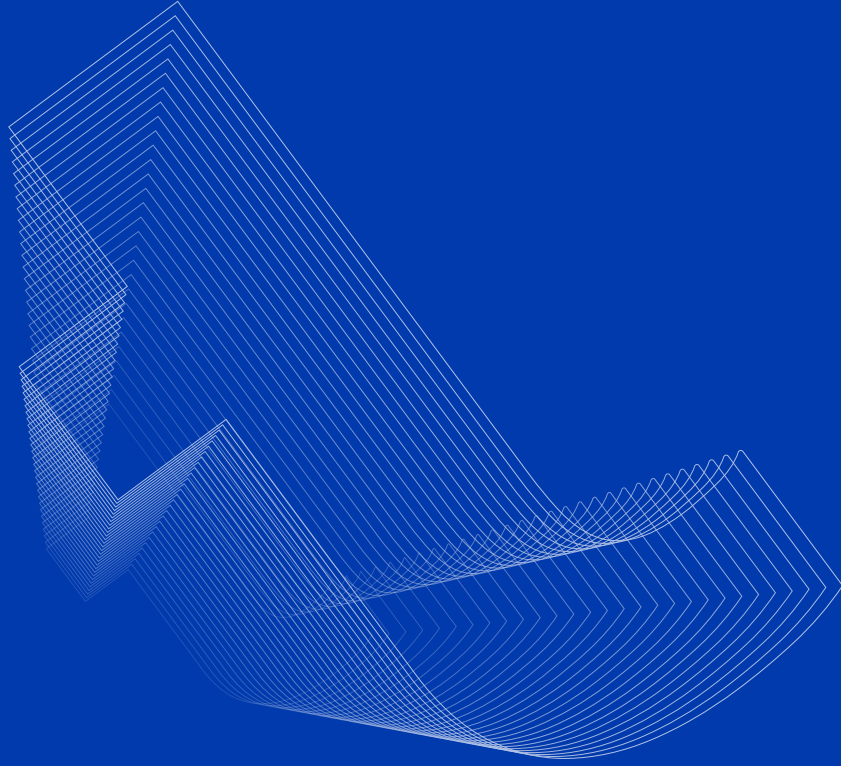
Key Contract wins

Period	Client Name	Description
Sep - 2023		<ul style="list-style-type: none"> Apptio completed the integration with Oracle Cloud Infrastructure to enable its customers (FinOps practitioners) to analyze and optimise cloud costs across cloud vendors in a centralized view.
		<ul style="list-style-type: none"> Batelco announced to revamp its core IT platforms by leveraging Oracle technologies and Oracle Cloud Infrastructure (OCI) to offer new innovative services to its customers.
Aug -2023		<ul style="list-style-type: none"> Selected by MosaicML as its cloud infrastructure to enable the customer to derive more value from its existing data.
		<ul style="list-style-type: none"> Selected by the Indian government's Ministry of Education to offer its cloud infrastructure for the modernization of its national Edtech platform, Diksha, thereby enhancing its accessibility at lower IT costs.
		<ul style="list-style-type: none"> Oracle Cloud Infrastructure (OCI) launched a new Secure Cloud Computing Architecture (SCCA) for the US Department of Defense (DoD) to facilitate making security compliance and cloud adoption faster, easier, and more cost-effective.

Source: Company sources, Industry reporting, Twimbit analysis

Research Methodology and Assumptions

- Data collection has been done basis secondary research in reference to the information provided by the Cloud provider's website and financial reports.
- The performance of the cloud service providers in Q3-2023 is indicative of their overall performance and can be used to predict future trends in the market.
- The report covers the second quarter of 2023 for each of the four cloud service providers. Notably, Oracle's fiscal year concludes in May. To align their reporting cycle with the calendar year, Q1 FY2024 is considered equivalent to Q3 CY2023.
- Revenue reporting for Oracle Cloud (comprising of IaaS and SaaS) has been realigned from Q3-2023 onwards and now includes only Oracle Infrastructure Cloud (IaaS) revenue.
- Revenue figures for the previous quarter may not align precisely with the corresponding figures in the previous quarterly report, primarily due to the focus on Microsoft Intelligent Cloud (MIC), which encompasses Azure and other associated services.
- In the analysis, we have focused on the Google Cloud Platform (GCP), which is a part of Google's overall revenue reported under Google Cloud. Google Cloud encompasses Google Workspace, GCP, data and analytics platforms, infrastructure, collaboration tools, and other enterprise cloud services. It is worth noting that Google does not report GCP's revenue separately, but rather as part of the overall Google Cloud segment.



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