Cloud war heats up
Microsoft, Amazon, Google battle for supremacy in 2022

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Executive summary

The ongoing cloud war between tech giants Amazon, Google and Microsoft has brought forth a relentless pursuit of innovation and customer satisfaction in the quest for cloud dominance. The top 3 cloud service providers (CSP's) added US$ 46.2 billion in net new revenues in 2022 to their cloud business.

In this insight, we'll explore their financial performance in 2022, latest regions, acquisitions, product announcements, and recent telecom partnerships in a quest to gain a better understanding of each company's strategy and competitive positioning.

Top 3 highlights

1. Despite the high growth rates enjoyed by CSP's in recent years, 2022 has shown signs of slowing momentum. Exhibit 1 depicts the decreasing growth rates of the three CSPs' standalone revenue performance, as well as their combined revenue performance (referred to as 'Industry' in the exhibit)

Exhibit 1
Revenue growth rate trends (Q1 - Q4, 2022)
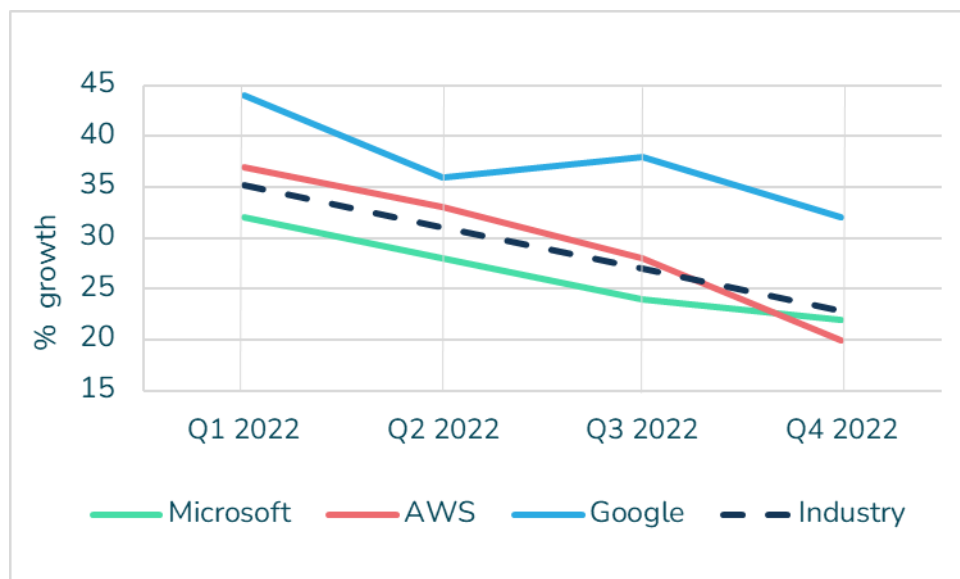
2. The significance of cloud business and its contribution to the overall operations of the three tech giants, particularly Microsoft, has notably increased from 2021 to 2022 (refer to exhibit 2)

Exhibit 2
Percent of cloud revenues to total revenues (2022 vs 2021)

CSP	2021	2022	Increase
Amazon Web Services (AWS)	13.2	15.6	2.3%
Google Cloud	7.5	9.3	1.8%
Microsoft Cloud	43.3	49.6	6.3%

3. Microsoft made history by becoming the first cloud provider to surpass US$ 100 billion in revenue, generating a total of $101.2 billion in 2022. This is approximately $25.3 billion every quarter, $8.4 billion every month, $277 million every single day and $11.5 million every hour!

Financial highlights

Financials for 2022 reflect healthy fundamentals despite macro-economic headwinds.

Exhibit 3:
Revenue and operating income (2022 vs 2021)

CSP	Revenue 2021	Revenue 2022	Revenue % change	Income / loss 2022	% change Profit
AWS	$62.2 B	$80 B	28.8%	$22.8 B	23.3%
Google Cloud	$19.2 B	$26.3 B	36.8%	($3.19B)	2.3%
Microsoft Cloud	$80 B	$101.2 B	26.5%	N/A	-

Exhibit 4:
Revenue and operating income quarterly comparison

CSP	Q4 2021	Q3 2022	Q4 2022	% change YoY	% change QoQ
AWS	$17.8 B	$20.5 B	$21.4 B	20.2%	4.1%
Google Cloud	$5.5 B	$6.9 B	$7.3 B	32%	6.5%
Microsoft Cloud	$22.1 B	$25.7 B	$27.1 B	22.6%	5.4%

Amazon Web Services (AWS)
- 15.6% of Amazon's total revenues
- YoY growth of 28.8% in 2022
- Net new revenues of US$ 17.9 billion YoY

Google Cloud
- 9.3% of Alphabet's total revenues
- Highest YoY growth of 36.8% amongst the 3 CSP's in 2022
- Added US$ 7 billion in net new revenues YoY

- Incurred an operating loss of US$ 3.19 billion, an improvement in contrast to the previous year

Microsoft Cloud
- 49.6% of Microsoft's total revenue
- YoY growth of 26.5%
- Net new revenues of US$ 21.2 billion YoY

Amazon Web Services (AWS)

"There's no doubt this is a time of economic uncertainty, and while we do see some of our customers tightening their belts, the good news is that many of our customers are actually leaning in more quickly and more deeply into the cloud"

Adam Selipsky, CEO, AWS

Region and product announcements

- In November 2022, AWS announced the addition of new regions in India (Hyderabad), Spain (Aragón) and Switzerland (Zurich)
- In January 2023 it announced its 2nd region in Australia which marked a total of 31 regions globally. AWS is planning to invest an estimated US$ 4.5 billion in Australia by 2037 through this region, which will have three availability zones
- AWS also announced its plan is set a region in Thailand, with an estimated investment of over US$ 5 billion in the country over 15 years.

AWS made large number of product announcements this quarter. Some key ones include:

1. AWS Graviton3E chips, Nitro Cards, and Inf2 instances for high-performance computing workloads, network-intensive workloads, and ML inference on Amazon EC2.
2. Amazon Security Lake for centralizing an organization's security data from cloud.
3. AWS DataZone for unlocking customer data across organizational boundaries.
4. AWS Supply Chain for increasing supply chain visibility to make faster decisions
5. AWS Clean Rooms announced for analyzing and collaborating on combined datasets without sharing or revealing underlying data.

Contracts and partnerships

On 21 Feb 2023, AWS launched [Telco Network Builder](#), a managed service for automating the deployment and management of telco networks on the AWS cloud. Amdocs, Infosys, and O2 Telefónica are among the customers and partners already using the service.

Exhibit 5
Telecom partnerships/contracts of AWS

- Globe's focus on cloud skills training for its employees has been aided by AWS Skills Guild framework.
- Dialog Axiata reported an 18% reduction in operating costs since migrating the majority of its workloads to AWS.
- Bharti Airtel adopted Karpenter on Amazon EKS to deliver a streamlined experience to indie artists and podcasters on its streaming platform, Wynk.

Google Cloud

In a conference with Goldman Sachs (September 2022), Thomas Kurian, CEO, Google Cloud, emphasised **four important trends**

1. Cloud market is still in its infancy
2. While workload migration remains a key focus, there are new markets emerging- AI, ML, cybersecurity
3. The new market trends influence customer buying decisions, Google is well positioned in these areas
4. Multi-cloud is now a priority in stark contrast to the scenario from few years ago

Google Cloud prioritises 4 product lines

1. **Data Cloud**: Provides customers a data warehouse, machine learning tools in one integrated data platform
2. **Infrastructure Cloud**: Consisting of public regions, hybrid cloud, private cloud and edge cloud
3. **Communication and collaboration tools** like Google Workspace
4. **Cybersecurity Applications**: Offering Integrated set of tools to protect customers data

Region and product announcements

- In August 2022, Google Cloud announced the addition of new regions in Malaysia, Mexico, New Zealand, and Thailand, followed by the unveiling of 5 more regions in Austria, Greece, Norway, South Africa, and Sweden in October 2022.
- Google Cloud today has an impressive network of 35 regions, 106 zones, 173 network edge locations, and 22 subsea cables
- Rolled out 1,300 new products and features in H1 2022, showing a 22% increase from last year
- In September 2022, it acquired Mandiant, leading cyber-intelligence security company, greatly helping customers identify and manage threats
- From a network point of view, it introduced a new private networking solutions portfolio that leverages Google Distributed Cloud Edge and its Independent Software Vendor (ISV) ecosystem. Read in detail [here](#)

Contracts and partnerships

Google Cloud has expanded its partnerships from almost zero four years ago to a current count of 92,000.

Exhibit 6
Telecom partnerships/contracts of Google

- Vodafone Hungary partnered with Google Cloud to move its data and analytics platform to the cloud.
- Vodafone is moving its SAP system, which serves as the foundation for its financial, procurement, and HR services to Google Cloud.
- Telus has partnered with Google Cloud to work together to reduce carbon footprint and collaborate on initiatives around smart technologies.

Microsoft Cloud

"The next major wave of computing is being born, as the Microsoft Cloud turns the world's most advanced AI models into a new computing platform"

Satya Nadella, Chairman & CEO, Microsoft

Satya emphasises on **three things:**

1. Microsoft must assist customers in realizing more value from their tech spend. Internally, align costs with revenue growth
2. Prepare Microsoft to engage in the secular trend of increasing digital spend as a share of GDP
3. Microsoft will take the lead in the AI era and strive to create maximum enterprise value

Region and product announcements

In March 2022, Microsoft announced:

- Intention to open a data center region in Southern Finland and its fourth in India (Hyderabad)
- Commencement of operations of a data center in North China which is its fifth data center in the country.

Microsoft became the first hyperscaler to provide enterprise-grade services in Qatar in August 2022 and in February 2023 has announced a new data center in Riyadh, Saudi Arabia.

Microsoft made several acquisitions in 2022, a few of the important one's in context of cloud are illustrated in exhibit 7

Exhibit 7

Acquisitions made by Microsoft in 2022 (related to cloud)

- Fungible is a composable infrastructure provider, the acquisition will help improve networking and storage performance in data centres for Microsoft
- Lumenisity is a leader in next-generation hollow core fiber (HCF) solutions. It will help in fast and secure networking for enterprises.
- Miburo is a cyber threat analysis and research company that will closely work with Microsoft Threat Intelligence Center

Microsoft has made several announcements around prioritising security with advanced threat protection and compliance certifications. For example-

1. Microsoft Defender Experts for Hunting
2. Azure confidential computing services

The last quarter also saw significant enhancements to AI and data analytics capabilities. For example-

1. Azure Quantum's Resource Estimation tool
2. Azure Synapse Analytics

Contracts and partnerships

Exhibit 8
Telecom partnerships/contracts of Microsoft

- Digicel implemented an Azure digital solution with the help of partner Maureen Data Systems.
- Tech Mahindra and Microsoft have partnered to offer cloud-powered 5G core network modernization solutions to telecom operators globally. More on this-here
- T-Mobile used Azure Synapse Analytics and Power BI to support their 5G rollout by creating a centralized data source, improving security, and encouraging data-driven decision-making.