

2021 RESEARCH PLAN

UPDATED Q1 2021

451 Research

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Market Intelligence

Cloud Price Index

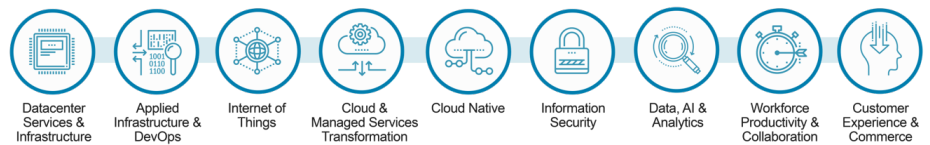
Unravelling the complexity surrounding the economics of all cloud services across infrastructure, platform and applications, and providing recommendations and tools to help cloud buyers and sellers make informed decisions quickly.

The Cloud Price Index is a cross-channel lens that looks to simplify and unravel the economics of technology, across all the areas touched by the cloud paradigm. We track two million price line items across the five key hyperscalers, and use this information to deliver country price benchmarks, machine-learning-based studies, price comparison calculators and data-led reports. Our aim is to help cloud buyers and sellers make informed decisions more quickly so they can gain the best value from the technology that underpins their businesses.

Hyperscaler cloud services are analogous to Lego bricks. Enterprises like the ability to build scalable applications using these Lego bricks, knowing they can consume them in a pay-as-you-go manner without needing to worry about how the underlying technology is delivered. But rather than having a small number of bricks, which provide the foundation of an application, enterprises have desired more and more capabilities. They like the concept of being able to build applications using services that are provisioned immediately and managed by someone else – but they seek more and more of these services so they can build the applications exactly how they want, without needing to dumb down capability or purchase features they don't need.

The result is that the cloud hyperscalers aren't just offering infrastructure – they have all aspects of IT in their sights. Databases, analytics, IoT, machine learning, media processing, end-user computing, content delivery, cloud native and even quantum computing are now available from the hyperscalers, all offered using the core principles of pay-as-you-go and outsourced management. Cloud is a consumption model – but there are dozens of technologies now available using this model.

Demand-side research
Supply-side research
Both



Company- and Product-Level Insights

Market Insight (MI)

Market- and Sector-Level Insights

Technology & Business Insight (TBI)
 Datacenter KnowledgeBase

End User and Service Provider Survey Insights

Voice of the Enterprise (VoTE)
 Voice of the Connected User Landscape (VoCUL)
 Voice of the Service Provider (VSP)
 Macroeconomic Outlook

Forecasting and Sizing Insights

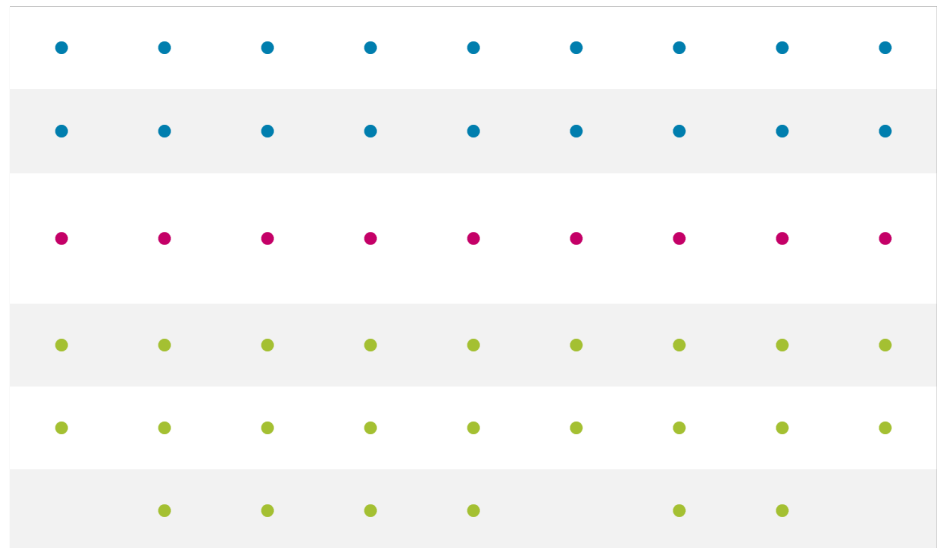
Market Monitor & Forecast (MMF)

Merger and Acquisition Insights

M&A KnowledgeBase

Pricing Insights

Cloud Price Index



Furthermore, for each category of product, there are tens to hundreds of thousands of variations across dozens of regions to cater to companies' desires to meet objectives. The Cloud Price Index tracks more than two million of these pricing variations across five hyperscaler cloud providers.

For buyers that want to choose the most appropriate product, cloud and option, this complexity presents huge challenges:

- 1.** Each cloud provider (AWS, Google, Microsoft, IBM, Alibaba and others) structures its products differently. A buyer would need to spend time working out which product categories and services are equivalent across clouds.
- 2.** Even if equivalent products are found, each provider charges for them in different ways. The metrics used to determine the cost of a product on one cloud provider are likely different from those used by another provider. Buyers need detailed requirements of their application even to get a rough cost. The number of options available in cloud providers' own pricing calculators shows the complexity in estimating costs and the differences in pricing mechanisms. Buyers would need to spend time constructing these detailed requirements and then configuring each provider's unique pricing model to best represent the requirement.
- 3.** Each cloud provider also offers standard commitment or volume discounts, depending on the specific product. Buyers need to determine standard costs, and discounted costs for every service, which doubles the work and complexity.
- 4.** The price of cloud is constantly fluctuating, and newer-generation services are being added continually. The aforementioned tasks need to be repeated whenever an assessment is performed, as pricing models and prices change week to week.

The Cloud Price Index resolves this complexity by performing all of these tasks for our clients. We simplify and standardize complex cloud pricing models so clients can rapidly analyze the cost of cloud. We deliver insights that help cloud buyers and sellers make data-led decisions on how to spend wisely.

The CPI provides quicker time-to-value for enterprises considering their cloud options. Enterprises shouldn't be making complex spreadsheets of provider differences, which requires technical expertise and a mind-bending attention to detail. The CPI gives enterprise decision-makers the tools to survey their options and tweak as appropriate, without the need to invest time and money in complex data gathering and analysis.



Upcoming Cloud Price Index Research

QUARTERLY EXCEL BENCHMARKS

Quarterly price benchmarks in Excel for 10 global regions across 36 list and best-case cloud services, with historical data back to 2016.

INTERACTIVE TOOL

Web-based tool for analyzing data deliverables.

CPI BULLETIN

Alerts on price changes across AWS, Google, Microsoft, Alibaba and IBM global portfolios.

TECHNOLOGY & BUSINESS INSIGHT REPORTS

PUBLIC CLOUD ANNUAL REVIEW

Relevant Channels: All

Primary Author: Jean Atelsek

Publication Date: Q1 2021

Subtle but impactful changes to cloud service pricing are increasing complexity, which is further amplified when hybrid and multi-cloud approaches are brought into the mix. This complexity can impact performance, security and resilience; managed services to handle these issues are becoming more widely available as enterprises seek to offset uncertainty and risk. With environments that span multiple venues and serve different groups, understanding the constantly changing dynamic of cloud pricing, and cloud value, has never been more important. In this annual summary report, we examine how this increasing complexity has impacted the public cloud market, and predict how it will continue in 2021.

COST ANALYSIS: IOT IN THE CLOUD (WITH CALCULATOR)

Relevant Channels: Internet of Things; Cloud & Managed Services Transformation

Primary Author: Owen Rogers

Channel Lead: Christian Renaud

Publication Date: Q2 2021

Organizations that use cloud services to handle the Internet of Things often employ one of the three largest hyperscale providers: Microsoft, Google or AWS. In this report, we conduct an extensive study, using machine learning methods, to identify what factors drive the costs of the Internet of Things, and in what scenarios each cloud provider has a cost advantage.

COST ANALYSIS: CLOUD DATA WAREHOUSING (WITH CALCULATOR)

Relevant Channels: Data, AI & Analytics

Primary Author: Owen Rogers

Channel Lead: Matt Aslett

Publication Date: Q3 2021

Increasingly, the hyperscaler cloud providers are adding new services to store and process huge amounts of data, but pricing methods vary significantly between providers, making comparisons challenging. In this report, we examine a range of cloud offerings and determine how different configurations can affect cost.

FROM CLOUD TO GROUND: PUBLIC CLOUD IN THE PRIVATE DATACENTER

Relevant Channels: Applied Infrastructure & DevOps; Cloud Native; Cloud & Managed Services Transformation

Primary Author: Owen Rogers

Publication Date: Q4 2021

Enterprises are seeking to bring the public cloud experience of scalability, on-demand provisioning, and outsourced management into their own datacenters. Hyperscalers and the tech industry giants are addressing this demand with a range of 'cloud-to-ground' appliances that integrate with public cloud. In this report, we review the economics of this new paradigm.

SPOTLIGHT REPORTS

Price comparison: cloud bandwidth

Environmental impact of serverless

Price comparison: consumer and enterprise file storage

Public cloud vs private: the great debate

Price comparison: speech to text, text to speech machine learning

Price comparison: Content delivery network services

Trends in APAC pricing

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About 451 Research

451 Research is a leading information technology research and advisory company focusing on technology innovation and market disruption. More than 100 analysts and consultants provide essential insight to more than 1,000 client organizations globally through a combination of syndicated research and data, advisory and go-to-market services, and live events. Founded in 2000, 451 Research is a part of S&P Global Market Intelligence.

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