Market Share Analysis: IaaS and IUS, Worldwide, 2018

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Amazon, Microsoft, Alibaba, Google and IBM are shaping the competitive landscape of the combined IaaS and IUS segment. Technology and service providers must seize this opportunity by building out their portfolios of cloud-related service offerings that align to market-leading providers.

Key Market Findings

▪ The infrastructure as a service (IaaS) and infrastructure utility service (IUS) market reached nearly $51 billion in 2018, growing 32.8% (31.5% in constant currency).

▪ The top four vendors are pure IaaS providers and accounted for 47.8% of the market, up from 45.5% in 2017.

▪ Market consolidation is increasing as organizations move new workloads primarily to market-leading providers. However, sourcing strategies for leveraging best-in-class capabilities, risk mitigation and reduced lock-in mean the market will consolidate to a set of several providers, as multicloud becomes more prevalent.

Vendor Performance Highlights

▪ Amazon remains the largest provider of the combined IaaS and IUS market, with just over 30% market share.

▪ Beyond Amazon, the next two largest providers, Microsoft and Alibaba, each gained over 1.5 percentage points of share, reaching 9.9% and 4.9% market share, respectively.

▪ Market consolidation favors the large and dominant providers, with smaller and niche providers, considered as a group, losing share.

Market Share Data

Figure 1 shows revenue by region for the top five IaaS and IUS providers.

Figure 1. Top Five IaaS and IUS Providers' Revenue by Region, Worldwide, 2018

Top Five IaaS and IUS Providers, Worldwide, 2018
Revenue (Millions of U.S. Dollars)

	Amazon $15,495	Microsoft $5,038	Alibaba $2,499	Google $1,314	IBM $824
North America	11,487	2,742	43	680	303
Latin America	100	123		21	45
Western Europe	2,061	985	22	355	233
Eastern Europe	413	73		24	9
Eurasia	36	20		9	5
Middle East and North Africa	22	70	19	15	14
Sub-Saharan Africa	21	32		11	5
Mature Asia/Pacific	468	237	41	74	45
Japan (Region)	285	220	20	38	105
Greater China	336	339	2,329	71	34
Emerging Asia/Pacific	266	195	26	17	26

Source: Gartner (July 2019)
Note: The size of the bubble and value equal 2018 revenue (millions of U.S. dollars), and the color coding equals positive or negative year-over-year change. A green bubble represents positive change, and a red bubble represents negative change.
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Collectively, the top 10 IaaS and IUS providers grew 39.8% in U.S. dollars (37.9% in constant currency) in 2018. As shown in Table 1, they increased their combined market share to 56.1% (from 53.7% in 2017).

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Table 1. Top 10 IaaS and IUS Providers by Market Share, Worldwide, 2017-2018 (Millions of U.S. Dollars)

2017 Rank	2018 Rank	Change in Rank	Vendor	2017	2018	2018 Market Share (%)	Annual Growth Rate (%)
1	1	-	Amazon	12,221	15,495	30.4	26.8
2	2	-	Microsoft	3,130	5,038	9.9	60.9
3	3	-	Alibaba	1,298	2,499	4.9	92.6
4	4	-	Google	820	1,314	2.6	60.2
5	5	-	IBM	734	824	1.6	12.2
18	6	▲ 12	Tencent	318	725	1.4	128.0
6	7	▼ 1	Atos	585	688	1.4	17.6
11	8	▲ 3	DXC Technology	413	687	1.3	66.3
7	9	▼ 2	Wipro	559	667	1.3	19.4
8	10	▼ 2	Capgemini	527	663	1.3	25.9
			Others	17,754	22,355	43.9	25.9
			Total	**38,358**	**50,954**	**100.0**	**32.8**

Notes: In May 2016, Hewlett Packard Enterprise (HPE) and CSC announced plans to merge HPE's Enterprise Services business with CSC. The new entity, DXC Technology, started trading in April 2017, so DXC estimates for 2017 do not reflect a full calendar year of revenue.

Numbers may not add up to totals shown because of rounding.

Source: Gartner (July 2019)

Overall Market Segment Performance Analysis

Overall, the IaaS and IUS market grew from $38 billion in 2017 to $51 billion in 2018. Calculated in constant currency, the market grew 31.5%, faster than the 23.7% that Gartner forecast in "Forecast: IT Services, Worldwide, 2017-2023, 1Q19 Update."

Over 90% of providers showed growth in this market:

- All the top 10 providers saw growth over 10%.
- Over half of all vendors grew more than 20%.

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※ More than one out of every 10 providers showed growth over 40%.

Figure 2 shows the percentage of vendors showing growth or decline.

Figure 2. Growth of IaaS and IUS Providers, 2018

2018 Growth of IaaS and IUS Providers

Source: Gartner (July 2019)
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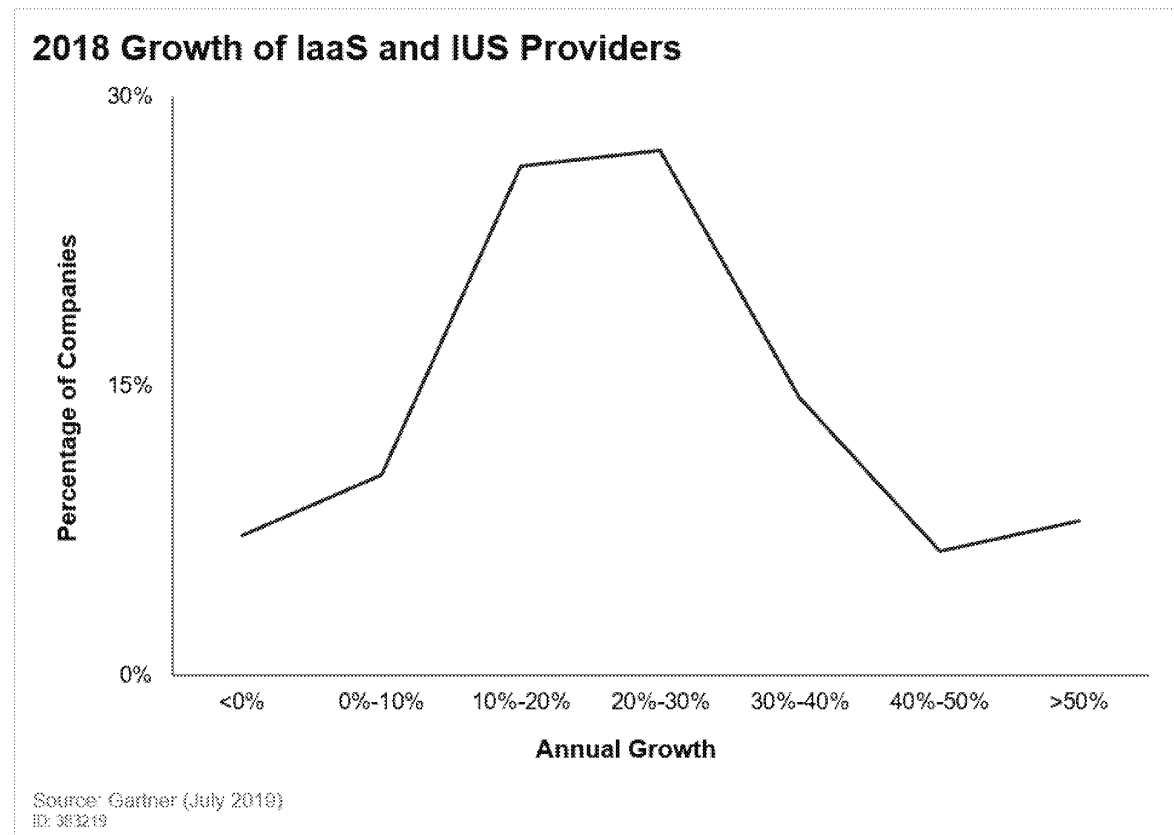
Despite strong growth across the board, the competitive landscape is still consolidating around the leaders. The top four providers — Amazon, Microsoft, Alibaba and Google — operate only as hyperscale IaaS providers. Collectively, they accounted for 47.8% of the total market in 2018, up from 45.5% in 2017.

IaaS

Table 2 reflects the IaaS-only market size and share of the top five IaaS and IUS providers.

Table 2. IaaS-Only Market Share of Top Five IaaS and IUS Providers, Worldwide, 2017-2018 (Millions of U.S. Dollars)

	2017	2018	2018 Market Share (%)	Annual Growth Rate (%)
Amazon	12,221	15,495	47.8	26.8
Microsoft	3,130	5,038	15.5	60.9
Alibaba	1,298	2,499	7.7	92.6
Google	820	1,314	4.0	60.2
IBM	463	577	1.8	24.7
Others	6,768	7,519	23.2	11.1
Total	24,699	32,441	100.0	31.3

Note: Numbers may not add up to totals shown because of rounding.

Source: Gartner (July 2019)

The IaaS market has seen a continuing trend toward consolidation over the past year. In 2018, the top five IaaS providers accounted for nearly 77% of the global IaaS market, up from less than 73% in 2017. Market consolidation will continue through 2019. This will be driven by the high rate of growth for the top providers, which experienced aggregate growth of 39% from 2017 to 2018 compared with the more modest growth of 11% for all other providers during the same period. Consolidation will occur as organizations and developers look for standardized, broadly supported platforms for developing and hosting cloud applications.

IUS

Table 3 reflects the IUS-only market size and share of the top five IaaS and IUS providers.

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Table 3. IUS-Only Market Share of Top 10 IaaS and IUS Providers, Worldwide, 2017-2018 (Millions of U.S. Dollars)

	2017	2018	2018 Market Share (%)	Annual Growth Rate (%)
Atos	527	619	3.3	17.6
DXC Technology	372	618	3.3	66.3
Wipro	503	600	3.2	19.4
Capgemini	474	597	3.2	25.9
CGI	409	469	2.5	14.7
Others	11,375	15,610	84.3	37.2
Total	**13,659**	**18,513**	**100.0**	**35.5**

Note: Numbers may not add up to totals shown because of rounding.

Source: Gartner (July 2019)

The IUS market continues to show relative stability. Unlike the IaaS market, the IUS market is much more mature, with a diverse and distributed provider landscape. IUS is a type of industrialized outsourcing service that can be broadly applied to many scenarios, unlike IaaS, which is more like a platform, which is driving the rapid consolidation in the IaaS space. In contrast, Gartner expects only minor shifts in IUS market share positions, with little change in provider rankings. Acquisitions and divestitures will be the primary factors in market share changes.

For the time being, there are opportunities for other providers to compete in both the IaaS and IUS ecosystems by targeting niche segments where the leading providers may not have a compelling presence. A good selection of small providers continues to see healthy, sustainable growth by focusing on specific geographic regions, vertical industries and/or specific application operating scenarios.

However, despite a still-healthy opportunity for niche providers, the dominance of the hyperscale providers is what is driving mainstream cloud adoption. The market leaders dominate this market in virtually every respect. This will continue as the market grows and as these leading providers capture an increasingly large percentage of the overall market.

In the following analysis, we discuss IaaS and IUS offerings. This does not include:

- Platform as a service (PaaS) offerings, even when those PaaS offerings are fully integrated with the IaaS offering (what Gartner refers to as "IaaS+PaaS"; see Note 1)

- Hybrid infrastructure offerings, such as VMware Cloud on AWS

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These exclusions are important to keep in mind when using this analysis in conjunction with other Gartner documents, such as "Magic Quadrant for Cloud Infrastructure as a Service, Worldwide" and "Critical Capabilities for Public Cloud Infrastructure as a Service, Worldwide."

Top Vendors Analyzed

We have limited analysis of the IaaS and IUS market published in "Market Share: IT Services, 2018" to the five largest providers, which accounted for 55% of the growth in 2018.

Amazon

Amazon pioneered the cloud IaaS market in 2006 through its Amazon Web Services (AWS) subsidiary. AWS's 2018 worldwide IaaS revenue was estimated at $15.5 billion, with growth of 26.8% over 2017 (26.4% in constant currency). Amazon's total AWS business (IaaS, PaaS, SaaS and professional services) increased $8.2 billion over 2017, reaching $25.7 billion and growth of 47.0% (46.6% in constant currency).

AWS has been the dominant market leader in IaaS and an IT thought leader for more than 10 years. It continues to aggressively expand into new IT markets via new services, as well as acquisitions, adding to an already rich portfolio of services. AWS appeals to Mode 2 buyers seeking the benefits of agile IT (innovation, developer productivity and business agility), but it is also frequently chosen for Mode 1 needs focused on traditional IT priorities (cost reduction, safety and security). AWS's ability to support both Mode 1 and Mode 2 use cases makes it the provider most commonly chosen for strategic, organizationwide adoption. AWS's extensive portfolio of services requires expertise to implement, so in many cases, optimal use is best achieved in conjunction with a system integrator (SI). While the overall AWS business includes a professional services arm, that business currently functions as an enabler for partners to help win deals and get customers up and running by providing training, migration expertise and support. Fundamentally, Amazon's priority is its core cloud service business that it continues to aggressively expand, as well as adding and enhancing existing services with new capabilities.

Microsoft

Microsoft entered the cloud IaaS market with the launch of Azure Virtual Machines in 2012 and 2013, and has since solidified its position as a leading IaaS provider. Microsoft delivers its IaaS capabilities through its Microsoft Azure offering, which is a collection of infrastructure and platform services. Microsoft saw growth of 60.9% (59.8% in constant currency) for its IaaS offering, with revenue surpassing $5.0 billion in 2018.

Microsoft Azure's IaaS capabilities have become increasingly innovative and open, with improved support for Linux and open-source application stacks. Furthermore, many customers that are pursuing a multicloud strategy will use Azure for some of their workloads as either a primary or secondary cloud service in an effort to diversify providers. Microsoft Azure's user experience is optimized to deliver ease of use to novices with simple projects, and complex configurations can sometimes be difficult to implement. As a result, many Azure customers elect to engage

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professional services organizations to execute and assist with large-scale, complex implementations.

Alibaba

Alibaba Cloud, a subsidiary of Alibaba Group, was established in 2009 in China to provide services to Alibaba Group's e-commerce business. Reaching nearly $2.5 billion in IaaS revenue, Alibaba saw growth of 93% in 2018 (89% in constant currency).

The dominant IaaS provider in China, Alibaba Cloud has built an impressive ecosystem consisting of managed service providers (MSPs) and independent software vendors (ISVs). As its international offerings, launched in mid-2016, are still relatively nascent, success in 2018 was driven by aggressive R&D investment in building out an extensive set of offerings, comparable to the service portfolios of other hyperscale providers. Alibaba has the financial capability to continue this trend and invest in global expansion via new regions, international-specific engineering efforts, and regional sales, support and marketing. With such a robust foundation, this gives Alibaba the potential to become an alternative to the global hyperscale cloud providers in select regions over time.

Google

Google entered the cloud IaaS market with the launch of Google Compute Engine in 2012 and 2013. A growth rate of 60.2% (58.5% in constant currency) drove Google's IaaS revenue to just over $1.3 billion in 2018.

Google's overall cloud strategy benefits from commercializing the innovative technology capabilities that Google has developed to run its consumer business at scale, making them available as cloud services that other companies can purchase. This continues to drive Google's business in the IaaS space, as it delivers value through operations automation at scale. Google is making significant progress in its efforts to build an ecosystem around its IaaS business. Google has a well-implemented, reliable and performant core of fundamental IaaS business, which includes an increasing number of innovative features. With deep investments in big data and other analytics applications, machine learning projects, cloud-native applications, and other applications optimized for cloud-native operations, Google has been focused on offering a complete innovative set of offerings that work through Google Cloud.

IBM

In 2016, IBM began to absorb the operations of SoftLayer, an IBM company, and that process is ongoing. With growth of 12.2% (11.4% in constant currency), IBM IaaS and IUS revenue reached $824 million in 2018.

IBM is a large, diversified technology company, with a range of cloud-related products and services. In July 2013, it acquired SoftLayer, an independent web hoster with a focus on small and midsize businesses (SMBs). In January 2014, it shut down its own SmartCloud Enterprise cloud IaaS offering after migrating its existing customers to SoftLayer. With IBM seeing the slowest growth among the top five providers, the relatively small size of its IaaS and IUS business reflects IBM's

deep history as a traditional data center outsourcing (DCO) provider. IBM has been repositioning efforts across its lines of business, with a focus on helping customers with significant on-premises IT resources take advantage of cloud services. It has shown considerable progress in these efforts, combining IBM's technology and industry expertise in digital initiatives with its global presence and global delivery, to assist customers through the cloud transformation journey.

Mergers and Acquisitions

The top five IaaS and IUS providers acquired a number of small niche service providers during 2018. The majority of these acquisitions were related to non-IaaS and non-IUS business units or offerings. Table 4 provides details of those relevant to IaaS and IUS.

Table 4. Acquisitions of Top Five Providers in IaaS and IUS Market During 2018

Acquiring Company	Acquired Company	Closing Period
AWS	Sqrrl	January 2018
Google	Velostrata	May 2018
Google	Cask Data	May 2018
Microsoft	Bonsai	June 2018
Microsoft	Lobe	October 2018
Microsoft	FSLogix	November 2018

Source: Gartner (July 2019)

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Market Share: IT Services, 2018"

"Market Share: Enterprise Platform as a Service, Worldwide, 2018"

"Market Share Analysis: Consulting Services, Worldwide, 2018"

"Market Share Analysis: Implementation Services, Worldwide, 2018"

"Market Share Analysis: Application Managed Services, Worldwide, 2018"

"Market Share Analysis: Infrastructure Managed Services, Worldwide, 2018"

"Market Share Analysis: Hardware Support Services, Worldwide, 2018"

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"Market Share Analysis: Business Process Outsourcing, Worldwide, 2018"

"Market Definitions and Methodology: IT Services"

Evidence

This Market Share Analysis research was carried out by studying the published financial reports of over 200 large providers of IT products and services. Gartner mapped the revenue segmentation reported by service providers into categories such as "application managed services." Where vendors do not publish revenue segmentation, Gartner estimated the vendor's revenue in this category using a combination of vendor briefings, analyst experience and statistical calculations.

Individual Vendor Revenue Reporting

As a result of ASC 606/IFRS 15 adoption, which varies from vendor to vendor, Gartner has opted not to restate financial history at the individual vendor level, regardless of the method the vendor has chosen to adopt.

We believe our approach to each vendor is the most equitable way to handle the anomalies resulting from this industrywide change in revenue recognition standards.

Total Market Growth Reporting

We have made adjustments to the "others" category (that is, other IT services vendors) such that overall market growth trends are still reflected accurately.

For more information, see "Update: How Gartner Is Treating Revenue Recognition Legislation in Its 2018 Vendor Revenue Estimates."

Further details regarding this approach will be detailed in the upcoming Market Definitions and Methodology Guides for each market.

Note 1 Converged IaaS+PaaS

While we recognize that the hyperscale IaaS providers are selling converged IaaS and PaaS, most nonhyperscale providers sell IaaS and PaaS as separate offerings. Therefore, we have limited the IaaS analysis in this document to IaaS-only in order to provide a more "apples to apples" comparison.

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