

Cloud services are an essential element of digital transformation, allowing organizations to automate operations, deliver rich customer experiences, and bring new products and services to market. When selecting a cloud provider, organizations should look for transparent and flexible pricing that stays consistent across deployment models.

Delivering on the Promise of Modern Cloud Economics

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Introduction

Cloud infrastructure has fundamentally changed the way organizations approach technology. It is a key enabler of digital transformation, accelerating the pace of innovation by providing resources that can be provisioned quickly and scaled on-demand securely. IDC predicts that by the end of 2021, 80% of enterprises globally will put a mechanism in place to shift to cloud-centric infrastructure and applications.

Interest in cloud technologies is also fueled by a different economic model than that for traditional IT. This involves a paradigm shift from capital-intensive investments in hardware and software to a services model that is treated as an operating expense. Modern cloud economics is based on actual usage of resources, allowing organizations to pay for only what they need, eliminating large up-front costs.

This shift has meaningful impacts for how an organization manages its technology budgets. Cloud services can be easily rightsized to match current business requirements, and by not managing the underlying infrastructure, administrators and developers are freed to focus on higher-value activities. Cloud has also become an enabler of business value creation, making it easier to adopt new technology with minimal up-front investment and risk.

However, many cloud service providers fall short of these value propositions in how they deliver technology and the associated commercial models. Some organizations have experienced higher costs by moving to the cloud, which has led IT decision makers to question whether the promise of modern cloud economics is real or just clever marketing.

While the concepts behind modern cloud economics are universal, each cloud provider takes a different approach to commercial terms, pricing models, and the technology itself. It is essential to understand these differences and select a provider that can deliver the best outcomes for your organization.

AT A GLANCE

KEY STATS

- » 80% of enterprises globally will put a mechanism in place to shift to cloud-centric infrastructure and applications.
- » 53% of organizations cited total cost of operations as the top factor influencing the selection of a cloud infrastructure provider.
- » In 2021, public cloud IaaS spending will surpass traditional and private cloud investments for the first time.

KEY TAKEAWAYS

The principles of modern cloud economics are an essential element of a digital transformation strategy with the potential to reduce costs and increase worker productivity.

Modern Cloud Economics

Cloud has disrupted how organizations procure and manage technology. No longer constrained by large capital expenditures and long procurement times, innovators are able to quickly adapt to new business requirements or market conditions. In today's fast-moving world, agility is essential to achieve and sustain competitive advantage.

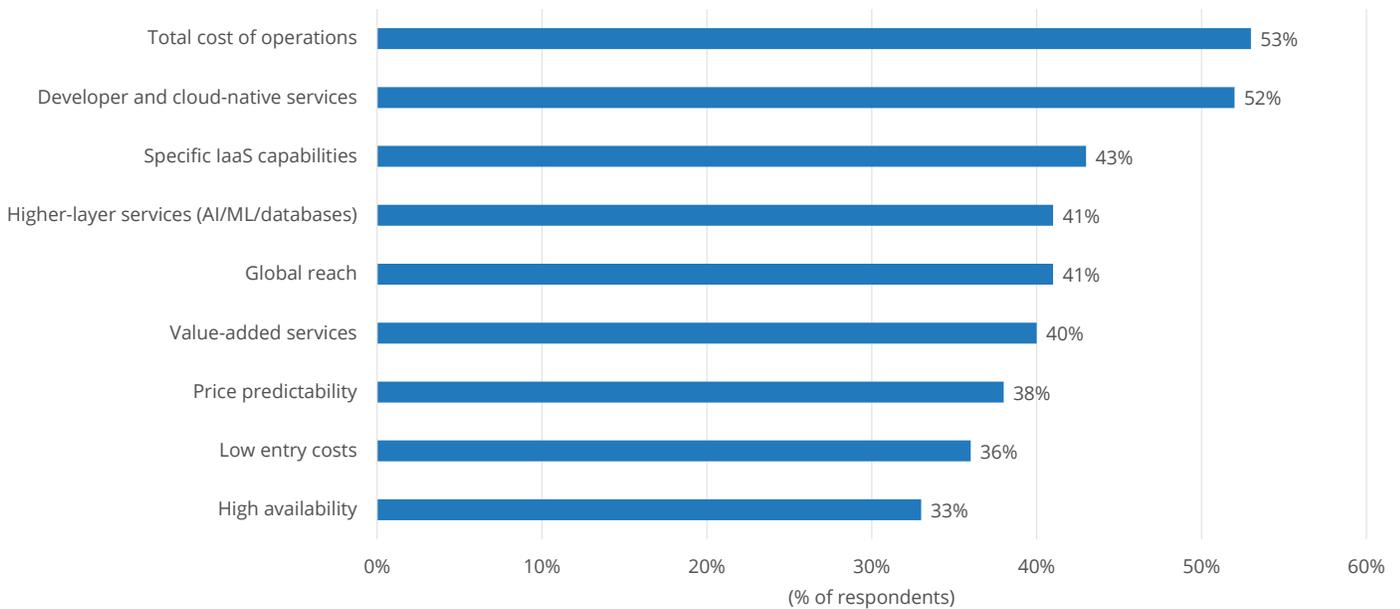
Cost Benefits

Underpinning the success of cloud is a new economic model, which replaces capital purchases with operating expenses. In the cloud, infrastructure services are charged on a consumption basis — you pay for only what you use. This allows organizations to rightsize their cloud resources, yielding better utilization metrics. The ability to scale up or down based on demand is essential for the efficient operation of a digital service.

Cloud services also provide granular visibility into usage and costs. This real-time transparency can identify overprovisioned or unused resources so that administrators can be proactive in optimizing the environment. It helps drive ownership and accountability of technology, operational, and financial decision making. According to IDC survey data, 53% of organizations cited total cost of operations as the top factor influencing the selection of a cloud infrastructure provider (see Figure 1).

FIGURE 1: **Selecting a Cloud Infrastructure Provider**

Q What are top factors influencing your choice of public cloud provider?



n = 1,500

Source: IDC's IaaSView Survey, 2020

These benefits also extend to staff efficiency. Organizations that have implemented cloud have reported improved availability of systems that are backed by service-level agreements (SLAs) from cloud service providers. The ability to deploy into multiple regions and cloud providers (multicloud) not only contributes to uptime but also addresses global performance and data sovereignty requirements. Automation of routine administrative tasks can remediate common issues, enabling IT staff to focus on meeting business objectives.

Innovation Benefits

The impact of cloud can be felt by all areas of the business. Cloud has become an important enabler of digital transformation efforts as companies look to automate operations, deliver rich customer experiences, and bring new products and services to market.

In addition to technology, a cloud-native mindset brings with it the concept of continuous innovation by enabling cultures of automation and DevOps. The combination of digital transformation and continuous innovation results in digital resiliency. A digitally resilient business is not just prepared for current challenges but also well-positioned for the future.

The attributes of modern cloud economics align with new business value creation. Product teams can cost effectively explore new features and functionality with minimal risk. Cloud facilitates the adoption of advanced data services such as machine learning and artificial intelligence, which can be used to discover deep insights into customer behavior, improve product quality, and optimize the supply chain.

The flexibility of cloud services enables operations teams to instantly scale infrastructure to meet peak demand, ensuring customer satisfaction. Finance can forecast predictable costs. All of this activity contributes to business agility, increasing the pace of innovation.

The Unfulfilled Promise

While the principles of modern cloud economics are compelling, not every organization has reaped the benefits. In some cases, this failure has resulted in companies questioning whether moving to the cloud was the right choice. Much of this disconnect can be attributed to cloud service providers' pricing plans and service characteristics.

A common complaint is that cloud service pricing models can be complex and hard to predict. While cost calculators can be helpful, a good understanding of cloud resource needs and demand patterns is still required. Many discount programs are tied to specific resource types and contract length. Both factors can quickly become unfavorable if needs change.

This calculus becomes more challenging for those with global operations. Cloud pricing is often different depending on the region, which creates problems for enterprises trying to forecast budgets. It is especially onerous for independent software vendors (ISVs) trying to launch software-as-a-service (SaaS) solutions since knowing cloud costs is critical to protecting margins.

Some organizations are surprised there are limitations in how much a cloud compute environment can be rightsized. Most cloud services have rigid parameters, requiring customers to pick an option that is a close — but most likely not an exact — match to their needs.

For organizations with large investments in traditional IT hardware and software, the migration to cloud infrastructure brings other issues. Customers can find themselves in situations where they are incurring additional cloud service costs for software they have already licensed.

These concerns extend to hybrid cloud services that are intended to address workloads that must remain on premises, including edge locations. These solutions support only a fraction of the services available in the cloud, limiting their usefulness. Also, there can be significant disparities in service-level agreements (SLAs) and billing models.

One often overlooked area pertains to data ingress and egress fees. While getting data into the cloud is free, moving it back on premises or to another cloud provider can become prohibitively expensive. This factor is one of the main contributors to vendor lock-in.

Additionally, adopting cloud infrastructure requires new skill sets, and the time it takes to hire new teams or upskill existing teams can limit an organization's ability to move critical workloads.

Considering Oracle Cloud Infrastructure

Oracle recognizes that there is a gap between how the benefits of cloud were originally envisioned and the reality of the customer experience. With its second-generation cloud, Oracle Cloud Infrastructure (OCI) takes a different approach to both technology and commercial terms than other cloud providers. OCI's approach creates a differentiated cloud experience designed to deliver on the promise of modern cloud economics.

Flexible Services

OCI provides flexible services that can be configured specific to an organization's needs. With flexible virtual machine (VM) instances, customers increase or decrease capacity in minutes by adding CPUs and memory to their existing footprint. They choose from 1 core to 64 cores and from 1GB to 64GB per core (up to 1,024GB per instance) to precisely match workload demands and optimize costs. For example, an OCI customer can configure an AMD, Intel, or Arm-based Flexible VM with 3 cores and 15GB of RAM. Preemptible and burstable instances make the economics of OCI compute compelling. For interruptible workloads, Oracle preemptible instances cost 50% less than on-demand instances. For scaled-down workloads that don't require a full core, Oracle provides burstable instances with baseline CPU utilization at multiple levels (12.5% and 50%).

OCI Flexible Load Balancer provides instant readiness for workloads with minimum bandwidth and autoscales bandwidth based on the client traffic up to the defined maximum bandwidth. OCI Flexible Network Load Balancer scales up elastically based on incoming client traffic with no bandwidth configuration required.

Autonomous Services

OCI's autonomous services that proactively update software or remediate issues span both operating systems and databases. Oracle Autonomous Linux is a self-tuning operating system with advanced capabilities like automatic zero-downtime patching, known exploit detection, and a high-performance kernel. It can reduce complexity and human error associated with system administration. Oracle Autonomous Database, available on premises via Oracle Cloud@Customer or in the Oracle public cloud (Oracle Cloud Infrastructure), enables customers to simplify multimodel database environments and reduce management workloads. In addition to relational technology, Oracle Autonomous Database supports data types such as JSON, spatial, graph, and blockchain.

Diverse Compute Instances

In addition to Intel-based instances, OCI has been adding support for new silicon types, including AMD and Arm, to address high-performance workloads. Oracle E4 Compute instances use AMD's EPYC processors and support all x86 applications. These E4 standard instances use 64 core processors, with a base clock frequency of 2.55GHz and a max boost of up to 3.5GHz. The bare metal E4 standard Compute instance supports 128 OCPUs (128 cores and 256 threads) with 256MB of L3 cache, 2TB of RAM, and 100Gbps of overall network bandwidth.

To help customers and developers take advantage of Arm technology, Oracle is providing tools, solutions, and support to fuel Arm-based application development. Ampere A1 Compute instances support flexible VM sizing from 1 OCPU to 80 OCPUs and 1GB to 64GB of memory per core or as a bare metal service with 160 cores and 1TB of memory. Customers can now deploy Arm-optimized applications on containers, bare metal servers, and virtual machines.

Hybrid and Multicloud

For hybrid environments, Cloud@Customer brings Oracle's complete portfolio of public cloud infrastructure, fully managed cloud services, and Oracle Fusion SaaS applications into customer datacenters. As a result, customers can take advantage of modern cloud economics even with on-premises deployments. The offering uses the same billing model as a public OCI region, where customers pay for only what they use. Oracle manages capacity at no additional cost, as long as customers meet their spend commitment. It also adheres to the same SLAs for availability (99.95% uptime), manageability (API error rate), and performance (disk IOPS, network).

OCI also offers a comprehensive set of multicloud solutions in the form of specialized deployments, database services, extensive monitoring capabilities, and strategic partnerships. This includes Oracle Cloud and Microsoft Azure Interconnect, which provides <2ms latency between clouds with no data egress charges, allowing customers to deploy applications that leverage the best of OCI and Azure. Additionally, the FastConnect program consists of over 50 partners that can provide connectivity to AWS and Google Cloud.

Migration Assistance

Oracle Cloud Lift Services provide customers with guidance from cloud engineers on planning, architecting, prototyping, and managing cloud migrations. The program is available at no additional cost to both existing and new OCI customers worldwide. The combination of business guidance, solution architecture, and hands-on help is intended to remove the most common inhibitors to cloud adoption. Customers that have used Oracle Cloud Lift Services include Seattle Sounders FC, Rice University, and Infosys.

Commercial Terms

OCI has consistent pricing throughout the world, enabling customers with applications in multiple OCI regions to easily budget for cloud expenditure. Oracle has been aggressive in reducing fees associated with data egress, including 10TB of transfer per month at no cost. It also formed a partnership with Microsoft to enable unlimited data transfer between OCI and Azure for a fixed monthly price. ISVs that report benefits from OCI's consistent global pricing include WorkForce Software and Korber.

Other programs include Support Rewards, which can reduce a customer's Oracle technology license support bill by up to 33 cents for every dollar spent on OCI. The "bring your own license" (BYOL) program allows customers to apply currently owned licenses for on-premises software toward equivalent OCI platform services, and the Universal Credits program enables customers to have the flexibility to use any OCI service in any region with predictability of spend.

Challenges

In a market dominated by Amazon Web Services (AWS), Microsoft Azure, and Google Cloud, Oracle could be considered a late entrant. However, it has been steadily gaining ground, leveraging its strong customer base in enterprise applications and databases as well as the Java developer community. Major customers already adopting OCI include Mazda Motors, 7-Eleven, and Zoom. Oracle realizes that to be successful, it cannot simply follow the same playbook as its competitors. With the previously mentioned technology and commercial innovations, OCI is becoming more aggressive in letting go of the traditional IT mindset and bringing a fresh perspective to how cloud services are priced and delivered.

Conclusion

Organizations have moved from a cloud-opportunistic attitude to a cloud-first attitude when planning for infrastructure and applications. IDC forecasts that in 2021, public cloud IaaS spending will surpass traditional IT and private cloud investments for the first time. This greater use of cloud services has expanded its reach to global operations, hybrid cloud architectures, and multicloud environments, making optimization of these resources more important than ever.

The principles of modern cloud economics are an essential element of any digital transformation strategy with the potential to reduce costs and increase worker productivity. However, not all clouds are created equal. When selecting a cloud service provider, an organization must consider how commercial terms and service attributes contribute to the overall cost landscape.

By redefining the cloud experience, providing innovative technology services, forming strategic partnerships such as the Oracle Cloud and Microsoft Azure Interconnect, and delivering flexible pricing that aligns with customer needs, OCI seeks to deliver on the promise of modern cloud economics. IDC believes the market for modern cloud infrastructure will continue to grow. By continuing to address the challenges described in this paper, Oracle has a significant opportunity to become a more dominant player in the market.

With OCI, Oracle is redefining the cloud experience, providing innovative technology services and flexible pricing that align with customer needs.

About the Analyst



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Dave McCarthy is a Vice President within IDC's worldwide infrastructure practice, where he leads a team of analysts covering shared (public) cloud, dedicated (private) cloud, and edge strategies. Benefitting both technology suppliers and IT decision makers, Dave's insights delve into how hybrid cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency.

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