Ovum

Moving Beyond "as a Service" with Cloud 2.0

How the cloud has evolved to deliver business value

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About the author

Roy Illsley
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Roy Illsley is a distinguished analyst at Ovum with more than 35 years' IT experience. He is also the lead analyst for virtualization and cloud computing.

Roy's key areas of research include: cloud computing, software-defined technologies, IT strategy, service management, and data-center technologies. He also advises on operational management, DevOps, automation, virtualization, VDI, and workspaces.

Roy was the lead IT analyst on a £2.9bn company merger and the IT architect on a major RFID project.

Summary

In brief

As organizations move to the cloud, one of the key challenges they face is finding a cloud provider with a broad offering that supports diverse workloads and applications. This includes an architecture enabling migration from on-premises to cloud that is flexible and can be adopted at the pace the organization defines. A cloud provider must offer credible services that address the key organizational challenges of skills acquisition, trust and risk mitigation, organizational fit, cloud economics, and minimizing technology disruption.

Ovum view

The role and purpose of IT in an organization is undergoing significant change, driven by the need for businesses to become more agile and have greater control over cost when it comes to using technology. This transformation of IT involves many different aspects, not all of which are technology related. However, the one thing they have in common is that IT modernization is about changing to meet the current and future demands of business. As organizations become data driven using analytics, artificial intelligence (AI), and cloud-native applications, the data remains a core common attribute that must be managed effectively.

According to Ovum's *ICT Enterprise Insights 2018/19* survey, the growth of cloud is set to change in terms of the workloads organizations will be running in the cloud; this will increasingly be mission-critical core systems such as enterprise resource planning (ERP), customer relationship management (CRM), and databases.

The cloud is changing the nature of how business users perceive corporate IT in terms of the speed and flexibility of service delivery, but that is only half the picture. There is a shift as enterprises become reliant on the infrastructure of the cloud provider and its ability to deliver the required performance and reliability. The cloud provider's infrastructure is now critical for all the workloads it is supporting, from legacy to new cloud native. This is where the cloud strategy of the enterprise must be well aligned with that of the cloud provider. In other words, the workload requirements must be matched to the cloud provider's architecture and approach to service delivery and support.

Key messages

- Skills and the organizational culture are the number one challenge for chief information officers (CIOs) as they look to adopt cloud services.
- Trust in the cloud provider to ensure the risk to the business is minimal is a critical expectation from enterprise CIOs.
- Optimal business value can only be realized through understanding the economics of the cloud and having the organizational maturity to operate in the cloud.
- Workloads now moving to the cloud are different from those of a couple years ago, and businesses have different expectations in terms of reliability, security, and performance.
- Automation is a key enabler for organizations in adopting cloud and new technologies.

Understanding current and future cloud-adoption trends

Cloud adoption is still work in progress for large enterprise customers

Ovum's *ICT Enterprise Insights 2018/19 – Global: ICT Spend and Sourcing* shows that 18% of the IT infrastructure budget is spent on servers and storage (down from 20% last year), with 14% being spent on infrastructure as a service (IaaS) and platform as a service (PaaS), an increase from 12% last year. However, if we evaluate the data on how cloud spending is distributed, 19% is reported to be on internal cloud with 45% on external cloud providers; the remaining 36% is split between system integrators,

telcos, resellers, and independent software vendors (ISVs). Figure 1 shows how this spending on cloud is distributed based on organizational size.

Figure 1: How cloud spending differs by organizational size
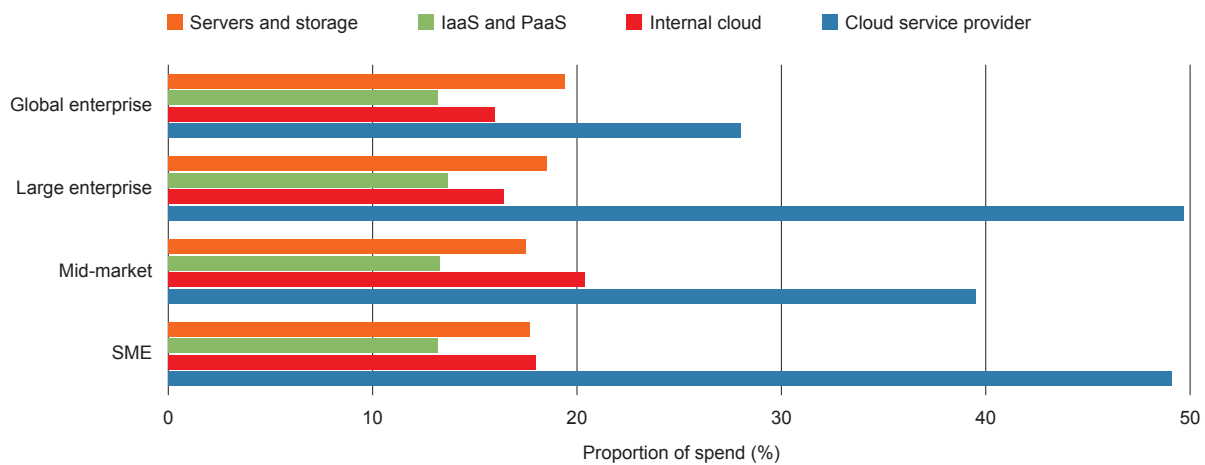
Source: Ovum *ICT Enterprise Insights 2018/19 – Global: ICT Spend and Sourcing.* N=1,528

When viewed through this lens, the external (public) cloud versus internal (private) cloud mix becomes more evident. Global organizations spend 28% on external and 16% on internal cloud (a ratio of 1.75:1), which is different from the average across all organizations, where the ratio of external to internal was 2.4:1.

This difference is amplified when we compare small and medium enterprises (SMEs) with global organizations: in SMEs the external cloud spend is nearly 50%, while the internal spend is 18%, a ratio of 2.8:1. This demonstrates the view that global organizations are adopting a hybrid strategy – private cloud and public cloud – with the emphasis on retaining some degree of control. While the SME market is more prone to public cloud use, Ovum data shows spending on infrastructure in SMEs is reducing, with nearly 57% of SMEs reporting a decrease or no increase in infrastructure budget from 2018–19. Only 10% of SMEs report that infrastructure spending will increase by 6% or more, compared with nearly a quarter of global enterprises (23%) that are increasing infrastructure budget by more than 6%.

This analysis supports the general view that SMEs see the cloud as a way to reduce the overhead of maintaining an IT infrastructure, while larger organizational use of cloud is less clearly aligned to a simple reduction in IT spending.

Organizational plans indicate the move of mission-critical workloads is next on the cloud agenda

The migration of workloads to cloud planned by organizations for 2019/20 shows that for IaaS and PaaS there are dominant workloads in each cloud approach. For IaaS it is ERP and CRM, and for PaaS it is integration, middleware, and container management platforms. In all cases, they represent circa 40% of respondents with plans to move to the cloud.

The other major workloads moving to the cloud demonstrate a close alignment, with 20–25% of respondents reporting intentions to move these to the cloud. However, Figure 2 clearly shows that while for some workloads there is a clear dominant cloud approach (IaaS or PaaS) for the other workloads the approach is less differentiated.

Overall, the majority of respondents state they are considering a PaaS approach. This is supported by the Ovum *IT Services Market Forecast: Cloud Services, 2015–21*, which shows PaaS as the fastest-growing service line with a CAGR of nearly 30% by 2021 compared with 16% for IaaS. Ovum notes that the lines between

IaaS and PaaS are blurring and that customers typically use a combination of the two in their application environments.

Figure 2: Workloads moving to the cloud, 2019–20
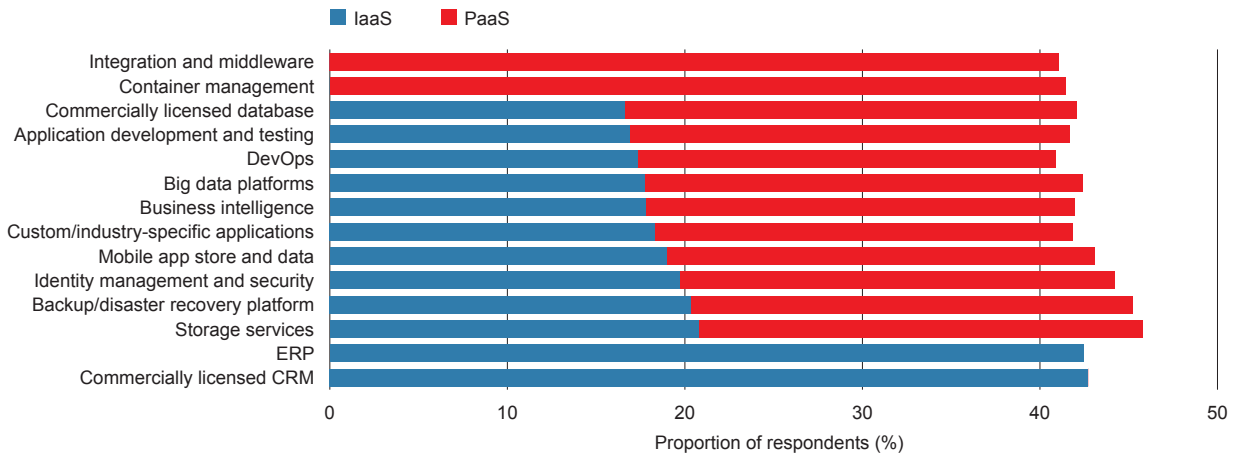
Source: *ICT Enterprise Insights 2018/19 – Global: IoT, Cloud, and AI.* N=4,899

The interesting correlation between the four main workloads moving to cloud is they represent the journey these customers are on. Effectively, organizations are running two parallel migration tracks:
- **First is a move and improve of ERP and CRM from on-premises to a cloud platform.** This approach enables organizations to realize the cost benefits of shifting from a capex model to an opex model and avoids any significant capital re-investment needed to support business growth.
- **Second is a move to adopt cloud-native technologies.** Here organizations are using container management platforms to develop and test new containerized workloads as well as testing the modernization of existing workloads with containerization of parts of the application. These new workloads are then being integrated with existing workloads to deliver a joined-up cloud-like experience based on a common platform.

Top five enterprise challenges slowing the adoption of cloud

Identifying the top cloud-adoption challenges

Figure 3 shows the results of the top five challenges organizations state are slowing the adoption of cloud computing.

Figure 3: Key challenges to cloud adoption in the enterprise
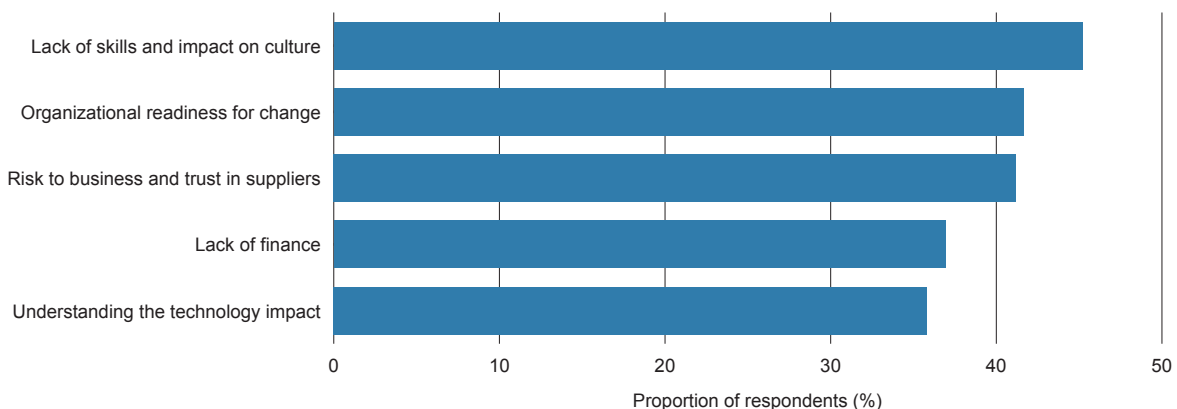
Source: Ovum cloud survey 2018/19. N=390

Deeper analysis of the survey results shows that organizations need help to overcome the challenges, and this help is needed in two forms: a technology-led approach such as greater use of automation technologies to address the skills gap and accelerate the adoption of newer technologies and a relationship and trust approach with the cloud provider that minimizes any business risk of moving to the cloud and deals with the thorny issue of cost or economics; this is linked to the transparency and trust between supplier and customer.

Skills and the organizational culture are the key challenges for CIOs

In the Ovum cloud survey in 2018 (N=390), 45% of respondents placed a lack of skills and culture as the top challenge to faster adoption of cloud. The skills challenge with any move to the cloud is related to acquiring new skills needed not just to operate in a cloud environment but also to deal with the migration to a cloud environment. Ovum considers that to help with the skills aspect, automation is a key enabling technology. Automation can help in different ways depending on the organizational objective and the speed with which it wants to move to the cloud. Ovum sees this as a three-step model, where organizations can start at any stage depending on the IT strategy:
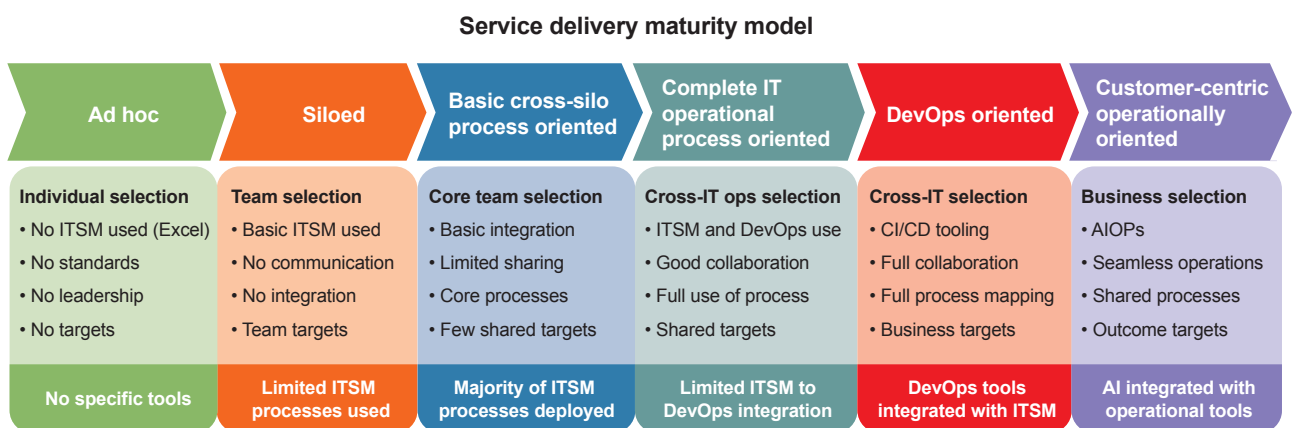
- **Automation of infrastructure management.** Infrastructure automation can deliver significant benefits in terms of agility and reduction of overhead while avoiding the re-architecting of workloads. Retaining application architectures negates the need to acquire new skills and tools. This approach is particularly useful for workloads such as ERP that organizations want to "lift and shift" to the cloud and also provides a viable alternative to moving the workload to a software-as-a-service (SaaS) solution.
- **Automation of new operating processes.** Using automation so that existing tools can be used reduces or minimizes any retraining. This is relevant for organizations that have adopted new cloud-native workloads but want to retain existing tool sets to manage and operate them.
- **Automation of new tools and processes to operate new workloads.** Automation offers a simplified learning curve for employees to become familiar with new technologies. This approach helps with the skills acquisition by automating some of the activities and tasks. Organizations can if they want re-establish full manual control of these as the skills and knowledge of employees increases over time.

Culture is more difficult, and Figure 4 shows the Ovum maturity model for IT service delivery, which classifies the stage, defines the key characteristics of that stage, and indicates the tools needed to operate at that stage.

Figure 4: Ovum's maturity model for service delivery

Service delivery maturity model

Ad hoc	Siloed	Basic cross-silo process oriented	Complete IT operational process oriented	DevOps oriented	Customer-centric operationally oriented
Individual selection • No ITSM used (Excel) • No standards • No leadership • No targets	**Team selection** • Basic ITSM used • No communication • No integration • Team targets	**Core team selection** • Basic integration • Limited sharing • Core processes • Few shared targets	**Cross-IT ops selection** • ITSM and DevOps use • Good collaboration • Full use of process • Shared targets	**Cross-IT selection** • CI/CD tooling • Full collaboration • Full process mapping • Business targets	**Business selection** • AIOPs • Seamless operations • Shared processes • Outcome targets
No specific tools	**Limited ITSM processes used**	**Majority of ITSM processes deployed**	**Limited ITSM to DevOps integration**	**DevOps tools integrated with ITSM**	**AI integrated with operational tools**

Source: Ovum

This model shows a linear relationship between the people, process, and technology, but in reality organizations will have more of a disjointed relationship between these elements. Ovum uses this maturity model to explain the use of technology, process, and people in the IT operational activities needed to deliver services to business customers. Ovum argues that in a cloud environment, operational management

includes the development phase, the testing phase, the production-running phase, and the retirement phase of any service. It is only by considering these different activities as part of managing the service delivery that we can move beyond the idea of development and operations as separate entities with different responsibilities. Ovum defines the maturity levels as ad hoc, siloed, basic cross-silo, complete IT operational, DevOps, and customer-centric.

The people and culture aspects are the hardest to implement, because they affect the working lives of the employees, and if changes to the people and culture are made in error, they can have significant consequences for the business. The key to success is that metrics to demonstrate success must be agreed and put in business-outcome language to demonstrate why an organization should proceed along the cloud journey.

Operational readiness for change

The second-highest-rated challenge, at 42% of respondents, in the Ovum cloud survey in 2018 was the readiness of the organization for the shift to a cloud and services model. Technology is the glue that binds the process and people together, and unless the organization has adopted an agile approach to change, this is where any move to cloud will quickly break down.

The processes are effectively the "run book" for how to deliver a service in an end-to-end manner. People will follow these run books to deliver that service, but where organizations fail is when the processes are too complex and involved, while the people are unclear on the exact role they are being asked to perform. This gap is where the technology fits: it acts as the fabric that connects and integrates the different processes and makes accessibility and usability straightforward and simple. The key difference is that technology moves from being considered as a prescriptive solution to a problem to being a defined framework/platform that allows the different actors to use the technology that best meets their needs.

The significant point is that the framework/platform is clearly defined, and the architecture is designed to support the different technology choices at the speed the organization wants to adopt them. Using this approach, organizations can gradually change the architecture and processes while benefiting from the availability and performance characteristics of the cloud. The other observation of a mature cloud-focused organization is that while the technology only plays a small role in training people, it is the role it plays in reducing complexity and increasing automation that aids any people transformation.

Trust in the cloud provider to ensure the risk to the business is minimal

The third-highest-rated reason cloud adoption remains a challenge, according to the Ovum cloud survey, was trust in the supplier; 41% of respondents placed this as a top-three concern. In Ovum's cloud management survey 2019, 53% of respondents put reputation as the top criterion in vendor selection, emphasizing the importance of the vendor's reputation and trust in winning business. CIOs are aware the key advantage of the cloud is it opens IT's capabilities to a wider audience, which creates the challenge of making sure that corporate governance is applied and adhered to by users previously constrained by internal IT processes.

This is where trust in the supplier becomes critical, because organizations are looking for help to ensure that the ease of access and speed of provisioning of the cloud is not abused by the business users. Rather, it is used like any valuable resource and in alignment with corporate policies. Trust in the cloud provider is also related to the experience of dealing with the cloud provider. For example, if a customer wants/ needs to speak to an engineer to solve an issue they are currently experiencing, is that possible, and is the interaction valuable? Trust is also a factor of the transparency on costs: the cloud provider clearly articulates extras for service costs before a customer signs up.

These elements feed into helping the customer deal with the business transformation the cloud brings, such as providing the options to adopt SaaS and IaaS to everyone in an organization. The question for CIOs is how to avoid the governance processes being bypassed by the ease of adoption.

Finance and making the business case

Only 38% of respondents to the Ovum cloud survey in 2018 cited finance as a barrier to cloud adoption. However, the first thing to be considered when talking about moving to the cloud is cloud economics. But what do we mean when we use the term "migration to cloud"? At the infrastructure level, a number of different options are classified as the cloud, and all have different cost profiles and different levels of elasticity. These include, but are not restricted to, the following types:

• public cloud (mixture of multitenant or dedicated)
• private cloud (operated in-house)
• managed cloud (both public and private)
• hybrid cloud
• outsourced cloud.

The biggest factor here is the lack of competition in the market. Globally, there are six main service providers: Alibaba, AWS, Microsoft, IBM, Oracle, and Google. Between them, these six account for more than 85% of the market (Ovum's *ICT Enterprise Insights 2018/19 – Global: IoT, Cloud, and AI*), with most of the remaining 15% serviced by small local suppliers. While the market is inconsistent, the differentiation between the players is not as obvious to buyers, because the packaging of the services tends to be the focus, not the capabilities to support adoption of cloud services. This focus on packaging makes comparison of services difficult, because the prices vary based on the resource configuration in the public cloud and change significantly according to the type of cloud-computing model under consideration.

Attempts have been made to normalize the cost of resources, but this approach also runs into difficulty. The service providers operate a lean and highly utilized estate and thus have different options with different levels of service guarantees. Using these different pricing and guarantee levels, the service providers can sell a resource more than once so that the server estate is highly utilized. This is a typical approach in a cloud designed for multitenancy. These different options range from dedicated or reserved resources, where the customer pays a premium for having a known capacity, to spot-market resources that are available only if and when the capacity becomes available.

A final complication to the cloud-pricing model is the degree to which redundancy is built into offerings and the service levels that support them. The traditional mainstream IaaS providers either provide these as added extra services or include some basic capabilities in the cost of the service. When we try to do a like-for-like comparison, this variance in the market adds to the challenges of making any evaluation truly comparative.

Ovum advocates that organizations consider the key characteristics of the cloud and use some form of cost/risk analysis to make the decision of investment in cloud. Taking a more holistic perspective enables the organizations to ensure that it does not receive any unexpected additional charges for services needed to ensure service quality is maintained.

## Understanding and managing the technology

In a cloudy world, the IT management framework used for on-premises scenarios is not directly translatable. Therefore, IT must look at the key issues, beyond the current view on cloud computing that is limited to the known issues and challenges, and take account of what the future cloud will need. The approach to managing the cloud is via APIs, and while this is currently not a major problem, it will soon become one as the number of and interrelationships between APIs expand. The future of cloud management will therefore need some way of managing these services in a similar way to how an operating system treats processes. So, the concept of a form of cloud operating system that performs API management and coordination will be required.

Currently, this API orchestration is being performed at the management layer, but as the cloud environment evolves, the management layer will become a cumbersome approach to deal with these new challenges. In a recent cloud management survey (n=700, April 2019), Ovum found that more than 55% of respondents

reported the management tools for cloud are not automated enough. For specific activities such as business applications, this rose to 70% stating it was not automated sufficiently.

Ovum forecasts that the future cloud management and orchestration framework will consist of several layers (Figure 5), where API management is at the interface with the different sub-elements, and policy and governance is a pillar that directly impacts on security management.

Figure 5: Ovum's model for cloud management and automation
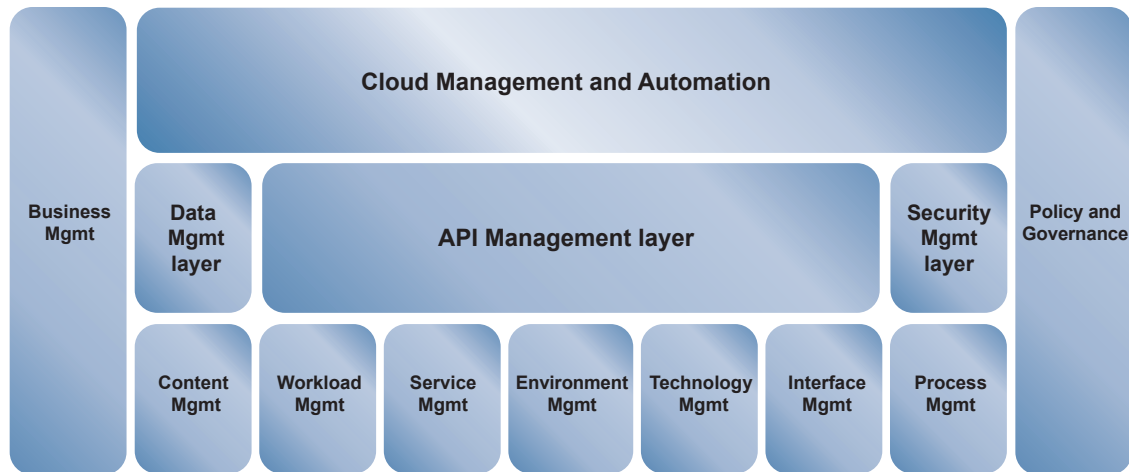
Source: Ovum

Business management is the other pillar that works closely with the data layer. In the cloud, the concept of software-defined data services (SDDS) plays a key role in delivering an "open" approach to data management and protection. The SDDS is a data layer that provides the data services that have traditionally been delivered on-premises and required organizations to move/copy the data if it was needed on another platform/environment. The data platform is used to store content metadata, eliminating the complexity of moving data to gain compliance, search, and instant-access capabilities. Another key element of SDDS is that it builds on the ability to scale to meet demand, which with cloud computing is a critical aspect. Security, data, and API management layers are coordinated by an overarching management layer. This management layer will become less complex, with the relationships and service attributes being controlled by the other management layers, which for the most part will be an automated capability, likened to an API configuration management database (CMDB).

Currently, Ovum considers these layers to be required for a number of challenges being experienced today:
• a common data plane that enables access to data irrespective of where it resides
• an API CMDB to coordinate the APIs and ensure integration can be managed
• a security layer that coordinates the security policies across the whole environment
• an orchestration or management layer that has visibility into all the environments and layers and acts as the control plane for the cloud.

While these layers of abstraction are not yet fully matured, the fact that startups and some leading vendors in subsegments of the cloud market are developing such capabilities is evidence that a change is happening.

How Oracle's cloud strategy is designed to meet the needs of the enterprise cloud

Building on a heritage of enterprise reliability and trust

Oracle has over the years built up a reputation for delivering high-performance, highly available, and reliable products and solutions designed for the demanding requirements of mission-critical workloads. Oracle was late to the cloud market; however, this enabled Oracle to spend time on delivering the same levels of performance, availability, and reliability that its customers expect and receive from their existing products/solutions. This focus on the mission-critical workload and those demanding requirements was at odds with most of the market in 2015–17, when the cloud was seen as the target for business productivity and collaboration tools.

The requirements of organizations looking to run mission-critical workloads in the cloud require the service provider to understand what aspects of service delivery are important, and this cannot be compromised on. Oracle has a long history of being selected to run all types of workloads and has also run its own customer-facing SaaS and PaaS offerings on its infrastructure, databases, and middleware, and it has translated that to the IaaS offerings.

Oracle has a large global presence in major regions and points of presence in emerging countries with its data center regions. Within these data center regions, Oracle includes a presence in some of the fastest-emerging cloud markets such as South Korea, India, Brazil, and the Middle East. This reach enables Oracle's cloud to be used by organizations that have specific geographic requirements when it comes to data storage. Oracle's strength has been its stack of solutions that operate from the infrastructure to the application. Oracle has replicated that capability in its cloud offering; for example, it supports the ability to run a clustered database service, Oracle Real Application Clusters (RAC), on its bare-metal-as-a-service IaaS, virtual machines (VMs), and containers offerings.

Ovum considers the container offering is worthy of specific note, because this represents a clear move by Oracle to merge the IaaS and PaaS services with a single easy-to-consume service. Oracle has taken an open and flexible approach to its container management services, which are based on two core offerings: Oracle Container Engine for Kubernetes (OCEK) and Oracle Private Registry. The ethos of Oracle is to enable the DevOps process of building, deploying, and operating containers in a way that supports the multicloud strategy that enterprise customers have adopted. The other key driver behind OCEK is to simplify the management challenges that organizations are experiencing by reducing the administrative burden that Kubernetes-based environments demand, such as maintaining the data plane (master and worker node patching and upgrading), overlaying persistent storage, and managing the control plane (API Server, etcd, scheduler, etc.).

The key value of Oracle's approach is it offers a flexible approach to how customers start their journey to the cloud. This is a very different journey for each organization. Oracle has built its cloud to be a multipoint-access cloud for customers. For those wanting to "lift and shift" existing workloads from older legacy infrastructure, its bare-metal service provides a simple way to support this step. However, for those looking to re-platform and use the cloud to develop new capabilities, the separate platform capabilities can be used as needed. The automation capabilities that Oracle offers are critical to providing organizational choice on the most appropriate approach to cloud adoption, particularly as it relates to the top challenge of managing the skills gap. Oracle has also chosen a de facto standards-based approach to cloud management with Terraform natively supported, easing adoption and portability.

Oracle Cloud Infrastructure designed to be an enterprise-grade cloud

Oracle has released Oracle Cloud Infrastructure as a second-generation cloud architecture that is needed as more mission-critical workloads move to the cloud. The challenge for current cloud architectures is it was designed to be multitenant, and this made it perfect for supporting multiple different customers and scaling as demand dictates. However, this architecture may be ideal for the cloud providers in terms of how

they can deliver the services to customers cost-effectively, but it does not address some serious security and performance concerns that customers have. In terms of performance, Oracle has removed itself from the I/O path and does not oversubscribe its services, delivering an improvement in performance that helps it direct resources toward making sure the customer experience can be made a top priority. Oracle with its next-generation cloud architecture has separated the control plane from the customer's data. This separation of customer's and provider's data provides two key security benefits:

- First, Oracle cannot see customer data and has no way of accessing it without the customer's permission and help. This delivers on privacy and many other concerns customers in other countries have with the US Patriot Act and the ability of US-based companies to access their data if the US agencies ask to access it.
- Second, having the provider's control data on a separate set of servers with controlled port access open for allowed communications in one direction only means any malicious attacker, if they get access to a customer's data, cannot also reach other customers' or the provider's control plane. This level of security is precisely what is needed when the cloud begins to be used for more of the mission-critical and core business applications, which Ovum's data suggests will be in 2019–21.

While security and reliability are important, so are choice and cost: Oracle Cloud Infrastructure offers a set of AMD-based compute instances based on the AMD EPYC processor. Oracle became one of the first public cloud providers to have a bare-metal version with AMD EPYC processors; these instances cost approximately $0.03/core hour. This price represents a significant saving compared with the Intel-based instances that Oracle and other cloud providers currently offer. One of the criticisms of AMD processors has been their performance in terms of memory bandwidth, but the AMD EPYC can deliver greater than 269Gbps. This makes it a very good general-purpose processor and meets the needs of big data analytics, which is a memory-bandwidth-intensive operation.

In addition to the bare-metal offering, the AMD offering also features the one, two, four, and eight core VM Shapes. These instances are generally available in the Oracle Cloud Infrastructure, and Oracle also offers a high-performance computing (HPC) shape with instances powered by Nvidia's Tesla V100 GPUs. The introduction of clustered networking using Oracle's remote direct memory access (RDMA) protocol enables it to support a network at up to 100Gbps, providing an ultra-low-latency and high-bandwidth solution that is ideal for HPC, databases, big data, and AI workloads.

Oracle Autonomous Database delivers performance, reliability, and cost efficiencies by automating key database functions

The core asset of many organizations is the corporate data, and the majority of this data is held in databases. However, these data repositories are complex and expensive assets to manage and to ensure data is both secure and available. As organizations continue their journey to adopt cloud computing, moving these corporate repositories is now beginning to tax the minds of CIOs. Currently, the cloud providers enable organizations to migrate these databases from on-premises to a cloud model, but these cloud database services are still rudimentary in terms of the service capabilities they offer. Oracle has an extensive heritage in the database market, and while it has been accused of being slow to move this expertise from an on-premises model to a cloud model, its reasons are understandable: Oracle did not want to reduce the quality of service customers could expect from a database as it moved to the cloud.

The Oracle Autonomous Database is a new product that Oracle started to roll out throughout 2018/19. It is built using AI and machine learning (ML) and is designed to improve availability while reducing the cost of managing these complex assets. Oracle Autonomous Database will provide two solutions:

- For data warehouse deployments, Oracle Autonomous Data Warehouse is a fully managed, high-performance, and elastic service.
- Autonomous Transaction Processing (ATP) enables businesses to securely run a complex mix of high-performance transactions, reporting, and batch processing. ATP will be expanded to cover NoSQL and Graph use cases.

The core premise of Oracle Autonomous Database is to transform the way databases are managed when they move to cloud to improve some challenging operational activities such as tuning databases to ensure optimum performance, patching and updating databases to ensure security and compliance, and autoscaling databases to meet business demand. The cost saving associated with automating these activities, typically performed by database administrators (DBAs), will allow these expensive resources (DBAs) to be used for more value-adding data science activities, enabling organizations to exploit these data assets. The other main advantage of this autonomous approach is it will provide a guarantee of service availability, with Oracle quoting downtime of no more than 30 minutes a year. This figure includes any time for maintenance, updates, etc.

Oracle Enterprise Manager, a very popular database management solution that is widely adopted in the Oracle installed base, provides comprehensive fleet management for databases across on-premises and Oracle cloud, including visibility into the Oracle Autonomous Database with guided migration capabilities that help customers move their databases to the cloud. Oracle Enterprise Manager can itself be deployed on Oracle's Gen 2 Oracle Cloud Infrastructure. In addition, Oracle Management Cloud is a SaaS solution that is already delivered via Oracle's Gen 2 Oracle Cloud Infrastructure and which provides a broad set of monitoring capabilities including application performance and infrastructure monitoring, log analytics, and ML-based IT analytics for customers who have a broad mix of technologies from Oracle and other providers. Oracle Management Cloud is also pre-integrated with Enterprise Manager to provide analytics on Enterprise Manager data. Ovum, in its recent *Ovum Decision Matrix: Selecting a Multicloud and Hybrid Cloud Management Solution, 2018–19,* classified Oracle as a leader.

Oracle Analytics Cloud delivers actionable data insights

The business perspective on the benefits expected from any move to use cloud, or from becoming a data visionary, is overwhelmingly the ability to discover new insights from existing data assets, followed closely by security. Interestingly, businesses believe that understanding the value of data availability is the least benefit from adopting cloud, which can be explained by the fact the business expect data availability in a cloud solution.

Oracle Analytics Cloud provides a full-lifecycle approach to driving organizational value from its data. It starts with the data analysis and collaboration phase, where by using natural language processing and visualization techniques, users can quickly discover corporate data assets. Oracle Analytics Cloud uses automation and AI technologies to discover patterns in corporate data and analyzes key segments of behavior. However, it goes beyond discovery and enables these users to explore the data and externalize it in a multitude of different ways. Oracle Analytics Cloud also provides capabilities to help prepare the data for end users to access and easily gain and discover new insights. It helps prepare the data sets and makes these sharable so they can be placed in a collection. Finally, Oracle Analytics Cloud presents the data in a catalog, where end users can search and explore the data assets in a simple self-service model.

However, just being able to identify and access the data is only one of the challenges end users face in extracting value from corporate data assets. Once the data can be accessed, it is then a question of how the data can be turned into knowledge and insight and shared with a wider audience in an engaging way. Oracle Analytics Cloud comes with a mobile-optimized capability, so the data insights can be personalized for a user. This can be combined with the mobile device's personal digital assistant and Oracle's AI technology to anticipate questions and present information based on context such as time, date, location, etc.

Ovum considers the integration with the mobile device's voice assistant makes Oracle Analytics Cloud an easy-to-use solution that will encourage greater use by end users and hence deliver greater business value by unlocking more new insights.

Conclusion

The cloud may have been around for 10 years, but it only accounts for circa 20–25% of the workloads being executed by organizations. However, the tide is turning, and Ovum's data shows that accelerated cloud adoption is now a key strategic imperative for organizations. This increased adoption of cloud will change the market as organizational readiness matures, and the cloud services will need to change to meet the new demands organizations make.

Ovum considers the cloud market will evolve to provide services designed for different categories of workloads: mission critical, business priority (important but can sustain short periods of disruption), time sensitive (disruption accepted but not at key times, when the service must be available), and low priority. These demands will drive the next generation of cloud infrastructure, because cloud providers must be able to offer all these capabilities to all locations so organizations can select the approach that meets their specific requirements.

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