

# Understanding the Business Value of Re-architecting Core Applications on the Public Cloud

---

How agility is a combination of infrastructure flexibility and new cloud-native architecture

Publication Date: 12 Feb 2019

Roy Illsley

---

## Summary

### Catalyst

The digital era has shaped many industries and is set to shape more by setting consumer expectations higher than ever and demand that service providers be agile and dynamic in the value they provide. One of the key drivers for this transformation is the public cloud, and while Ovum's survey report, *ICT Enterprise Insights 2018/19 – Global: IoT, Cloud, and AI*, discovered that public cloud adoption is now being used for more core business applications, this is still overlooked by the telecoms industry. Telecoms has been slow to adopt public cloud for core systems. In fact, only 20% of telecoms core systems are virtualized, and only a fraction of those are on the public cloud, making telecoms operators miss a big opportunity to evolve.

### Ovum view

The public cloud has been growing rapidly in terms of its breadth and depth in recent years, and many organizations are attracted by its elasticity and opex model. This has laid the foundations for a shift where public cloud is set to become the dominant technology for the next 10 years. The cloud market across different industries is at a major inflection point, where its adoption is moving from serving only a minority of workloads to executing most workloads in the public cloud. Cloud adoption varies significantly by vertical market, as different verticals demonstrate different priorities as well as different adoption speeds. The telecoms industry is evaluating cloud services across various domains, including their OSS and BSS stacks, but has been slow to adopt and execute on virtualization and now cloud technologies. However, Ovum believes that for telecoms companies to be able to compete in the digital world, the adoption of public cloud is inevitable. Therefore, telecoms companies will be one of the fastest-growing users of public cloud computing in 2019/20 as they look to accelerate this new service delivery plan.

### Key messages

- Ovum research (*ICT Enterprise Insights 2018/19 – Global: IoT, Cloud, and AI*) shows that 30% of core workloads will be moved to the public cloud in 2019–20. They will do so to gain four major objectives:
  - reduce total cost of ownership
  - get agile while delivering value
  - dynamically and automatically scale IT resources
  - improve security and data protection.
- Telecoms companies need to adopt new approaches to delivering services and discover new ways of monetizing, and public cloud can accelerate this journey.

## Recommendations for communication service providers

### Making the business case for starting the cloud journey

The journey toward using public cloud is seen by many communication service providers (CSPs) as a difficult one to start, particularly from making the business case for why they should move. Ovum recommends that CSPs that are willing to take this journey to reap the benefits of public cloud need to look at three aspects. The first is to look at total cost of ownership, considering three different aspects of the public cloud: the total cost of owning and managing the existing IT environment from a cost, business impact, and resource usage perspective; the time and resources needed to introduce any new feature or change and the impact of any delay; and the ability to scale on demand. By considering all of these aspects in terms of the cost, time, human resources, and risk to the business, CSPs can evaluate the benefit of moving to the public cloud and present this as a real positive change for the business.

The method to move workloads to the public cloud is then the second aspect to consider and, as part of this transformation, the ability to implement and run an application that was designed and built for the public cloud (with a cloud-native architecture) is one opportunity that will ensure the benefits can be realized. The alternative "lift and shift" approach to moving workloads to the public cloud may appear faster and cheaper in the short term, but it does not deliver on all the benefits identified.

Third is the need to decide on the type of application to migrate, moving a significant and meaningful workload, and not limiting this migration to side applications or niche solutions. Ovum advocates that CSPs make the move to public cloud a strategic decision with clear business outcomes, which means that the merits of both cloud journeys can be compared.

## Why a "public cloud first" strategy is required to operate in the digital economy

### Using leading-edge technology to exceed customer expectations

The new digital economy is a global phenomenon that has changed the expectations of customers, creating a demand for an always-on service, irrespective of where they are accessing it from and where it is hosted. The public cloud has evolved to serve this global demand and provide the resources needed to organizations in any location and with a fast deployment time. While this availability aspect was the first demand, it quickly became apparent that customer expectations did not stop there, and to keep meeting these new expectations was critical to business continuity and success.

To meet and exceed customers' expectations, CSPs need to quickly introduce new services and then scale their infrastructure dynamically, upon demand. However, using traditional monolithic applications running on-premises made both these needs impossible because organizations have slow testing and release procedures and an overly complex and bureaucratic change procedure. This

made changes slow, as organizations must perform capacity planning and purchase new hardware for the infrastructure, as well as deploy and test applications; these activities typically take months. The public cloud provides a perfect answer to both of these dilemmas; the public cloud providers have invested in the infrastructure and the clients can choose to use as much or as little of it as they need. When this flexible infrastructure is combined with new cloud-native approaches to application development, the monolithic applications are decoupled and decomposed, and then containerized into sub-components, and the ability to rapidly develop and iterate changes to production is significantly improved. This capability has driven the growth of public cloud because organizations can move from concept to production quickly and scale any service to meet the demand.

## Innovation and growing your business

In the telecoms sector, the move to virtualization and cloud has been slower than in other sectors. Much of this resistance is because the core systems were heavily bespoke and complex, making them a difficult candidate for migration. However, as other sectors have discovered, moving core workloads to the cloud has significant advantages, particularly in highly competitive environments that are also struggling to grow in terms of profit, customers, and market share. As highlighted above, one of the key drivers for adopting public cloud is the ability to adopt a more agile approach to new service delivery. However, the second-order reality of this is that it democratizes change in the organization. Effectively, using public cloud enables business users to become more innovative, as they can access the IT resources they need when they need them, for as long as they need them, and only pay for the IT resources they use.

This democratization effect allows organizations to invest in the business, and not invest in IT infrastructure that is only supporting the business. Another key aspect of using public cloud is that organizations benefit from the investment and development the cloud provider has put in to make its cloud service attractive to customers. Ovum thinks that some of these investments in capabilities such as artificial intelligence (AI) and machine learning will have a significant impact on how organizations can transform their process and procedures to become as efficient and effective as possible.

## Cost savings and flexibility

One of the early attractions of public cloud was its flexibility in terms of how organizations paid for the resources they need. Public cloud providers perfected the "pay as you go" concept, where organizations were not tied down to long-term contracts for services or resources based on future planning estimates. Rather, they allowed the organizations to consume as much or as little as they needed, and only pay for what they used. This commercial practice – coupled with auto-scale capability – allows reduction in the cost of compute power, hardware, and all related third-party software. In addition, within years, the cost of a single CPU on the public cloud became cheaper than an identical on-premises CPU, due to economies of scale. When you take the above and add to that the fact that as an organization you do not need to have data centers and staff or third parties to maintain this, the total cost of ownership becomes a clear case. The other major shift the public cloud introduced is a move from IT being a mostly capital project to becoming a business operational expense. While this move at first glance appears to appeal to the finance directors only, it has wider repercussions.

## The opportunities for telecoms providers in a "cloudy" world

### Disaster recovery is a big opportunity for savings as well as improved SLAs

The top workload planned for cloud migration according to Ovum ICT Enterprise Insights 2018/19 Survey (n=4,899) is backup and disaster recovery (DR), with 21% of respondents stating that these are a priority. The advantage of the cloud being the DR site for to customers is that, in a cloud world, organizations do not need to buy a replacement of their infrastructure hardware, manage this constantly, match the production capacity to the DR capacity, and replace this every few years (or not replace it, and understand the hardware is not functioning when it is needed). Using the public cloud prevents CSPs from having to worry about any business impact, and allows business continuity at a fraction of the cost of any on-premises DR. By using the public cloud infrastructure and the flexibility to pay for resources when needed, this service can eliminate the expensive redundant infrastructure (and associated management and maintenance costs) that organizations invest in to ensure service availability.

### Security and data protection in the cloud is now considered more secure than on-premises

Cloud providers have embedded security into the technical infrastructure. In fact, the global cloud infrastructure is designed to provide security through the entire information processing lifecycle. This infrastructure provides secure deployment of services, secure storage of data with end-user privacy safeguards, secure communications between services, secure and private communication with customers over the internet, and safe operation by administrators. Although the cloud providers differ in their language and exact specifications, the intent is the same: security is built into the platform.

Ovum is also aware that many cloud providers have other security features, either in production or shortly to be released. For example, identity-aware proxy (IAP) is an approach for managing granular access to applications running on the cloud infrastructure based on risk, rather than the "all-or-nothing" approach of VPN access. It is aimed at providing greater application security access from anywhere, with access determined by user, identity, and group. IAP can be integrated with phishing-resistant security keys.

Other security features generally available include data loss prevention (DLP) APIs that enable organizations to scan for multiple different data types, so that users can identify and redact sensitive data – including phone numbers, credit card numbers, and other sensitive personal information – to keep companies operating at the appropriate levels of compliance and governance.

At the infrastructure layer, the cloud providers use purpose-built chipsets to establish a hardware root of trust for both machines and peripherals on cloud infrastructure. This lets the cloud provider identify and authenticate legitimate access at the hardware level.

## Adopt new and advanced technologies and monetize new business models faster

Ovum believes that, as the cloud-native, edge computing, and serverless technologies evolve, they will bring with them expectations of greater flexibility in terms of workload and data portability. This will drive the market toward a cloud-centric approach where integration services are used to enable workloads to be best placed for their specific needs. Ovum has identified three key trends in 2019 that will change the direction of cloud computing and require organizations to transform how they currently operate and manage IT delivery.

First, the need for organizations to become agile and be able to respond to market conditions fast has seen the rise of cloud-native workloads based on the use of containers. Ovum's report, *Ovum Market Radar: Container Management Platforms 2018/19* predicts a CAGR of 21%, with a market valuation of \$9bn by 2022, which supports the view that organizations are adopting this new approach to application development and delivery. The rise of these new platforms will require new skills, and in the early stages Ovum expects these platforms to be consumed mainly as managed cloud-based services.

Second, the need for organizations to quickly turn data into actionable intelligence is changing the architecture of IT deployments. The rise of edge computing is satisfying the need to provide real-time analysis and feedback at remote locations, such as retail stores and cell towers, without the need to transfer large quantities of data to a central repository for processing. Finally, the evolution of cloud as a model of technology adoption will provide the foundation for the adoption of new advanced services such as quantum computing.

These technological trends can become a business opportunity for CSPs. For example, CSPs should evaluate and implement a new OSS/BSS stack on the public cloud for new segments such as enterprise IoT over 5G. CSPs will face the prospect of a major transformation and potentially new business models and new segments. To achieve this, they must think about what they currently do and assess whether it is adding value; for example, do they start from scratch and put a new stack in the cloud, instead of keep adopting their existing legacy stack? Then the CSPs can start to adopt some of the new technologies such as AI to deliver new services to customers.

## Optiva

### Billing and charging solutions designed natively for the public cloud

In today's digital era, when 5G and IoT are on the doorstep, CSPs are foreseeing many new business opportunities. However, they also pose some challenges – how do you predict your required IT resources and auto scale when needed, how do you allow fast time-to-market and, most importantly, how do you enable this transformation in an affordable manner. The OSS/BSS stack of a CSP needs to maintain its ability to be agile and responsive. Optiva provides two main core solutions that address these challenges and help CSPs reap the benefits of the public cloud.

## Optiva Revenue Management Suite

Optiva has developed an end-to-end monetization and subscriber management solution that is designed to help CSPs with up to 10 million customers to address the needs of the modern global digital market, and maximize revenue opportunities. The Optiva Revenue Management Suite is a pre-integrated solution that delivers more than just a traditional billing system by including efficient billing, an advanced product catalog, integrated CRM and order management, as well as omnichannel customer care. This Optiva solution has evolved from existing assets and is now rewritten to run natively on the public cloud and, specifically, the Google Cloud Platform. When deployed over the cloud, it offers the lowest total cost of ownership (up to 80% lower). Ovum believes that the features Optiva offers, including rapid rating and pricing, any-play offerings, storefront provisioning, and cross-service promotions (which allow customers to deliver a more advanced and personalized user experience), match those needed for the digital economy.

## Optiva Charging Engine

For tier 1–2 CSPs that are looking specifically at flexible and robust converged charging solutions to monetize next-generation telecoms services in real time, Optiva offers its Optiva Charging Engine. The Optiva Charging Engine provides customers with a way to deliver an agile charging approach, and combine it with a policy and user-experience management feature. Optiva Charging Engine was rewritten to be cloud native on the Google Cloud Platform with cloud-first architecture. It leverages frameworks such as Kubernetes, cloud load balancing, as well Google Cloud Spanner database technology that delivers processing speeds that are 10 times faster than legacy database technologies (up to 500,000 transactions per second).

# Appendix

## Author

Roy Illsley, Distinguished Analyst, Infrastructure Solutions

[roy.illsley@ovum.com](mailto:roy.illsley@ovum.com)

## Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at [consulting@ovum.com](mailto:consulting@ovum.com).

## Copyright notice and disclaimer

The contents of this product are protected by international copyright laws, database rights and other intellectual property rights. The owner of these rights is Informa Telecoms and Media Limited, our affiliates or other third party licensors. All product and company names and logos contained within or appearing on this product are the trademarks, service marks or trading names of their respective owners, including Informa Telecoms and Media Limited. This product may not be copied, reproduced, distributed or transmitted in any form or by any means without the prior permission of Informa Telecoms and Media Limited.

Whilst reasonable efforts have been made to ensure that the information and content of this product was correct as at the date of first publication, neither Informa Telecoms and Media Limited nor any person engaged or employed by Informa Telecoms and Media Limited accepts any liability for any errors, omissions or other inaccuracies. Readers should independently verify any facts and figures as no liability can be accepted in this regard – readers assume full responsibility and risk accordingly for their use of such information and content.

Any views and/or opinions expressed in this product by individual authors or contributors are their personal views and/or opinions and do not necessarily reflect the views and/or opinions of Informa Telecoms and Media Limited.



## CONTACT US

[ovum.informa.com](http://ovum.informa.com)

[askananalyst@ovum.com](mailto:askananalyst@ovum.com)

## INTERNATIONAL OFFICES

Beijing

Boston

Chicago

Dubai

Hong Kong

Hyderabad

Johannesburg

London

Melbourne

New York

Paris

San Francisco

Sao Paulo

Shanghai

Singapore

Sydney

Tokyo

