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HYBRID CLOUD: A RIGHT FIT FOR INDIAN ORGANISATIONS

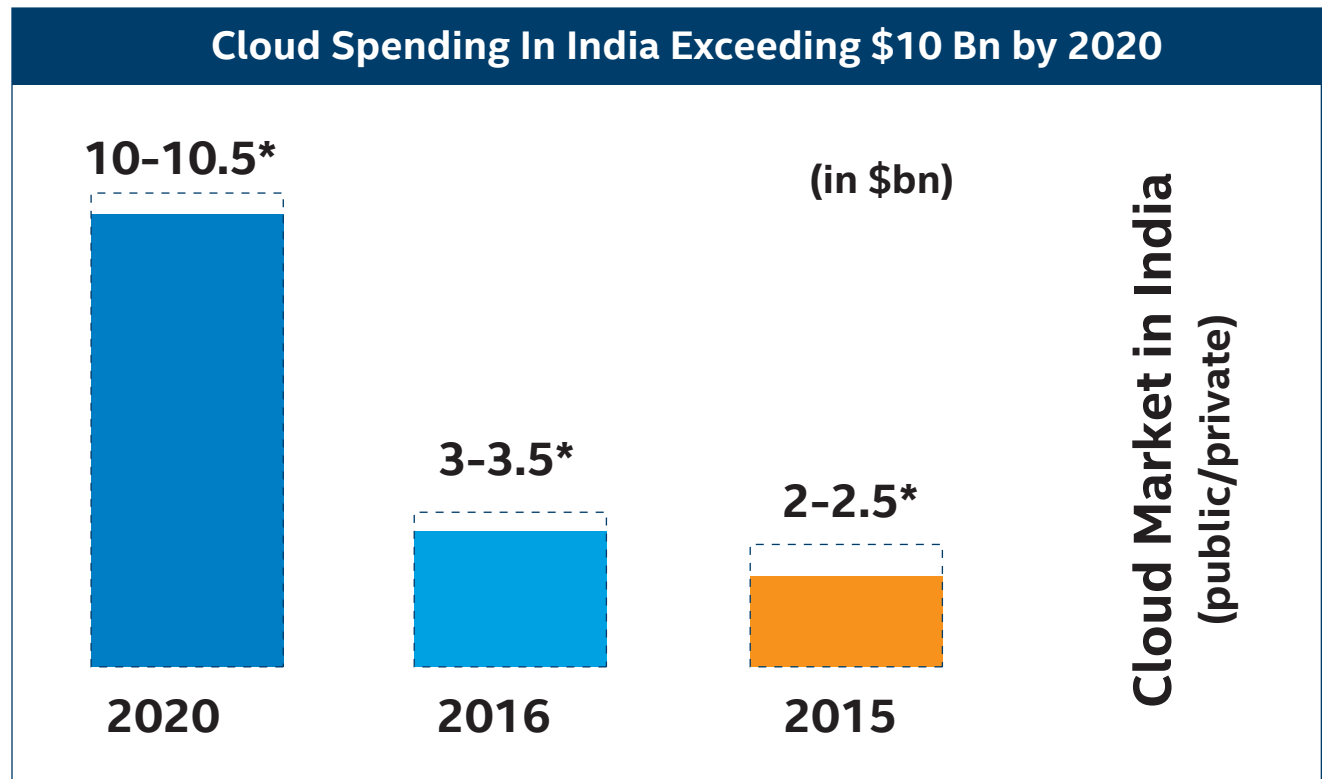


Introduction

According to a global study by Forrester Consulting, 59 percent of organizations utilising a cloud strategy rely on hybrid cloud models. Hybrid cloud adoption is accelerating, the study reveals, and seven in ten enterprises are building a comprehensive cloud strategy today.

While these figures indicate a global trend, the scenario is not too different in India. Even as the public cloud services market in India was expected to be \$1.9 billion in 2017, hybrid cloud solutions have been driving India's overall cloud adoption, according to a Gartner report.

Sectors such as banking and financial services, telecommunications, and healthcare, among others are among the forerunners in hybrid cloud deployments. What makes hybrid cloud critical for Indian enterprises in today's Digital Economy? What are some of the most important hybrid cloud deployment best practices? This e-book will cover these questions.




Source: Zinnov Analysis

Simplify business-driven policy creation

For today's connected enterprises, providing reliable and secure access to infrastructure resources is a prerequisite. That's where the hybrid cloud can play a major role.

It is a common myth that it's only the public cloud that provides agility. In reality, it is the hybrid cloud which does. Enterprise applications rarely work in silos. They share data with several other applications all the time – that's how business works. Moving data beyond an organization's firewall may be fraught with challenges with respect to security and latency. The hybrid model allows you to run those applications on-premise, eliminating these challenges.

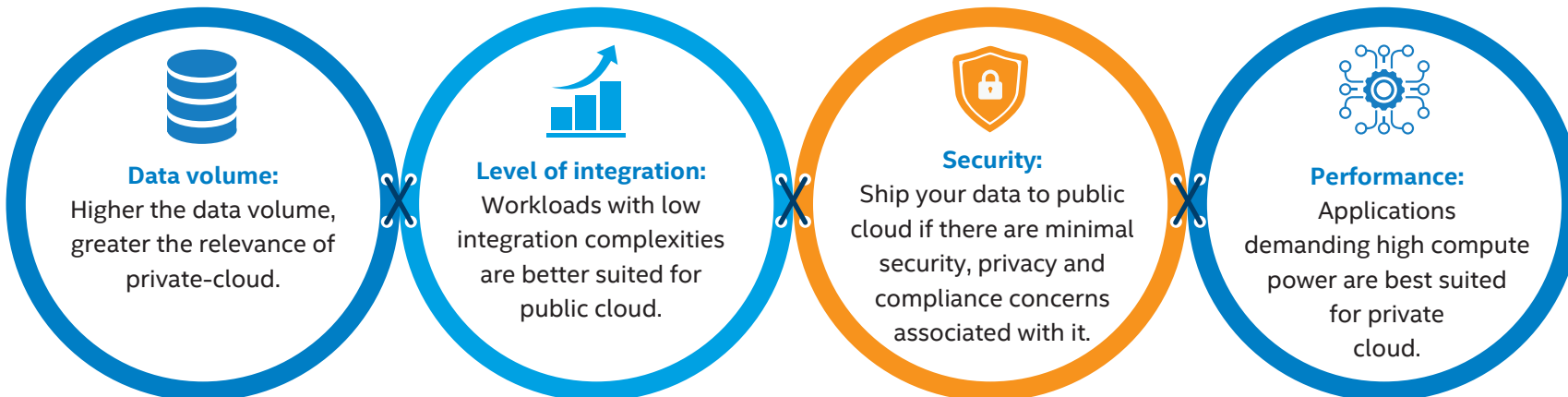
A business-driven workload placement policy created by judiciously selecting the right mix of private and public cloud resources for specific workloads can bring a high level of agility and flexibility to operations, making the CIO's life easier. The following four parameters can help data centre administrators determine which workloads should be allocated to the public cloud and which ones should remain on-premise.



DID YOU KNOW ?

Deployment of Hybrid Cloud may lead to cost-savings of **5 percent to 5-30% percent**

Source: Microsoft-Zinnov study



Meet your security and compliance goals

It is not uncommon for public cloud vendors to move client data from one server/location to another to guard it against potential outages or for disaster management reasons. However, being the custodian of customer data, it is an organisation's responsibility to protect it at all times against loss, leakage, or privacy breaches. Moreover, several country specific laws mandate that an organisation is well-aware of the physical location of customer data for scrutiny and investigative purposes.

Given this scenario, organisations can, therefore, adopt a hybrid cloud model for customer data protection as well as to ensure compliance. A hybrid model allows organisations to use their private cloud infrastructure to protect critical and sensitive business information by keeping it on premise. Here are a few steps organizations need to take to ensure security of data and regulatory compliance.



Workload assessment: Evaluate workloads factoring in compliance mandates and security requirements of individual datasets.



Policy creation: A hybrid cloud may comprise a complex ecosystem of multiple clouds—private as well as public—with different clouds running different platforms. There also may be third-party applications that internal applications exchange data with. Clearly define rules to ensure that data and workloads move securely from one platform (and/or cloud) to another and that data sharing with third-party systems is done with adequate encryption.



Vendor evaluation: Select your cloud management vendor carefully. Double-check whether they have the expertise to help you meet the standards you have to comply with. Validate whether your service provider uses the same platforms that you use. Most importantly, review the security standards followed by your proposed vendor/partner.

Ensuring infrastructure consistency

Limited control over workload location and migration and poor security and compliance provisions are some of the challenges that hybrid cloud deployments suffer from. With Intel® Xeon®-based servers at the foundation, enterprises can make use of consistent infrastructure across public and private clouds. For example, an application can move back and forth easily between AWS and on-premise. In addition, enterprises can also easily call in Intel's diverse partner capabilities to roll out solutions for auditing, geo-location, compliance, encryption and data sovereignty.

Keep costs under tight control

The hybrid cloud model promises high agility as it can pool in resources from both on-premise infrastructure (private cloud) and public cloud as and when needed.

While combining the best of both worlds, a hybrid cloud can also assure cost efficiency as expenses are incurred only when public cloud resources are utilised. This also means that as the utilisation of public cloud resources grows, so do the corresponding costs. Being rule-based, public cloud resources get provisioned to specific workloads in an automated fashion with associated costs potentially being overlooked by the organization. The CIO's office, therefore, needs to maintain a high vigil on the costs incurred.

The following three-step process can help keep hybrid cloud costs under tight control.



Scrutinise cost structures: Pricing models from public cloud vendors can be confusing. The exercise is further complicated in a multi-cloud model. Mapping public cloud offerings with actual resource needs calls for a thorough understanding of each individual service offering as well as the associated cost.



View costs in totality: Do not sign up with a public cloud vendor simply looking at card rates. Validate with fellow CIOs as cheaper looking options may actually lead to extra integration and development efforts and subsequent DevOps challenges.



Use automated cost monitoring: Using a dashboard application that provides visibility into the maze of multiple public clouds, their offerings and cost structures with advance alerts for potential budget overruns is a must. Automated cost monitoring will not only ensure a ceaseless, 24x7 vigil but also provide useful reports on resource utilisation trends by workload types, helping you re-tune your resource provisioning for improved resource optimisation.

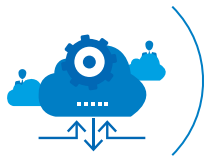
CASE STUDY

A Gurgaon-based global KPO wanted to share data securely with clients across geographies without affecting the performance of internal users. It tasked Sonata* Software with the implementation of Microsoft Azure StorSimple, an integrated hybrid cloud storage with a distributed file system (DFS) being deployed to the platform. Besides improving data availability and security, it also delivered enhanced cost optimisation by reducing SAN usage and eliminating the need for tapes or backup software. Noticeable improvements in productivity and efficiency were additional operational advantages. [Click here to read more.](#)

Achieve infrastructure scalability

The hybrid cloud model offers scalability to CIOs to meet varying storage, compute and network resources. This is done by topping up existing data centre resources with public cloud resources. In effect, a hybrid cloud model can offer unlimited scalability (increased or decreased resource availability).

By employing public cloud resources as and when required, the organization can comprehensively meet spikes in workload and support business growth. The road to unlimited scalability, however, is not free of issues. Use the following two-step approach to tide over obstacles.



Rope in a managed hybrid cloud partner: Your scalability quest may be ridden with a few issues. These include experience with using various cloud platforms, expertise in multi-cloud management (public + private), and the availability of experienced support staff, in-house. Given these realities, it is best to get an experienced managed hybrid cloud partner on board for ease of scalability.



'Select' the right solution: Intel has made its Select solutions for hybrid cloud available for Microsoft* Azure Stack from Lenovo and for VMware Cloud Foundation from Lenovo, QCT, Sugon, and Supermicro. Fully leveraging the features of software-defined infrastructure (SDI), Intel® Select Solutions help bring cloud services to enterprise data centres. Intel® Xeon® partner ecosystem ensures that enterprises accrue a range of benefits including infrastructure scalability, flexibility, agility and optimisation with speed.

CASE STUDY

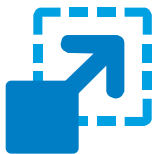
India's first direct-to-home (DTH) television entertainment service provider, DishTV, implemented a hybrid cloud and DRaaS solution (from NetMagic) to address challenges related to hosted infrastructure's uptime, support for business expansion, and IT infrastructure management. Post-deployment, it now has a scalable infrastructure that can help it acquire new customers faster. The new hybrid cloud infrastructure also meets its key business needs of flexibility, on-demand expansion, better manageability and cost efficiency. ***Click here to read more.***

Hybrid cloud's extra benefits: ROA, stability, and flexibility

In addition to the benefits discussed in earlier chapters, a hybrid cloud model delivers a few additional benefits to user organisations. These include ensuring return on assets (ROA), assuring stability, and enhancing flexibility.



Ensures returns on assets (ROA): The right mix of private and public cloud infrastructure resources can help an organisation protect its on-premise infrastructure investments. As public cloud resources can be called in only to meet demand spikes, on-premise infrastructure resources get utilised optimally, thus eliminating the need to build buffer capacities.



Improves stability: Irrespective of their level of maturity, every technology has its own moments of failure. Public cloud is no exception. There have been occasions in the past wherein large cloud service providers have experienced errors and latency issues affecting millions of customers. By keeping critical workloads on-premise, a hybrid cloud set-up can protect organisations from being affected by such untoward incidents, assuring stability to business operations.



Provides flexibility: A combination of private and public cloud delivers tremendous flexibility to enterprises looking at achieving multiple objectives in one go. For example, they can set their on-premise data centre resources to run mission-critical applications while using a public cloud for disaster recovery (DR). Similarly, organisations can build new apps using private cloud resources but move their testing to a public cloud, thus reducing time-to-market for new apps and services.

DID YOU KNOW ?



The global hybrid cloud market is estimated to reach **\$91.74 billion** by **2021**, growing from **\$33.28 billion** in **2016**

Data source: MarketsandMarkets

Three hybrid cloud strategy success secrets

In earlier chapters, we discussed the importance of workload placement as a critical ingredient to hybrid cloud rollout. A few more steps are needed to ensure success in your hybrid cloud deployment strategy.



Employ cloud-ready infrastructure: Planning for hybrid cloud should begin with getting a rugged but scalable foundation in place. Hybrid clouds typically consist of multiple applications, multiple clouds, and multi-tenancy arrangements. The underlying infrastructure, therefore, must be strong and agile to respond to dynamic resource requirements. Powered by new microarchitecture features such as more cores, high memory bandwidth, and non-inclusive cache, Intel® Xeon® Scalable processors deliver high performance to an extensive array of applications and workloads.



Deploy software-defined infrastructure (SDI): With every organisation looking to embrace digitalisation, there is an increased need to develop more applications rapidly. This requires the timely availability of computing, storage and network resources at a fast pace. A software-defined infrastructure (SDI) can address this need easily by separating resource provisioning and management from the underlying infrastructure components. Rolling out a hybrid cloud model gets simpler when SDI is already in place.



Create (and test) a PoC: Setting up a Proof of Concept (PoC) is an essential step in any major IT project implementation—hybrid cloud being no exception. A PoC can ensure that the hybrid cloud deployment is in line with business objectives and factors in all key technology considerations. The PoC creation activity should begin with assessing the impact of migrating data from on-premise virtual machines to a public cloud environment on parameters such as performance and latency. Testing the effectiveness of failover processes at the PoC level is another prerequisite before undertaking a full-scale hybrid cloud deployment.

Intel® Xeon® Scalable perfection for your Hybrid Clouds

Delivers agility and scalability needed for hybrid cloud

Assists security with speedy encryption and features for greater reliability, availability, and serviceability

Provides consistent infrastructure across private and public clouds

Works seamlessly across entire ecosystem of applications, OS, Hypervisors and HCI systems

Reduces TCO and data centre footprint with efficient virtualisation capabilities

E-book: Hybrid Cloud - A Right Fit For Indian Organisations

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Case study: Gurgaon-based global KPO

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Hybrid Cloud Market worth \$97.64 billion by 2023

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Study by Forrester Consulting

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