

# The Anatomy of Rebuilding & Recovery

A CEO LOUNGE INITIATIVE

## Hybrid Cloud and its Double Rainbow

*In conversation with*



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# Hybrid Cloud and its Double Rainbow



***"There are no rules of architecture for a castle in the clouds"***

- GK Chesterton

***Enterprises have undertaken the cloud and artificial intelligence action plan on a priority basis over the past few years. With the pandemic, it has metamorphosed into a survival challenge. Cloud adoption has seen significant progress as C-suite executives increasingly shift focus to strategies like automation, strengthening data governance capabilities and technology modernisation. Cloud-enabling applications are now increasingly viewed as a step towards setting digital transformational goals, as it improves application performance, provides better insights through data and revs up the development lifecycle. In the concluding part of this two-part series on hybrid cloud architecture, some of India's top tech leaders from across industries share insights on the evolving technology.***

Words by **Divya Sista**

**T**he business landscape is transforming like never before. Organisations today have remote workers, are scattered across geographies, and use several platforms and suites of applications. These changes bring complexity, but also throw open opportunities to bridge the gap between business problems and technology challenges. The cloud is a fascinating answer to many business-technology issues, that has caused its popularity to soar. More businesses today are making a shift towards a hybrid cloud architecture with a cherry-picked approach of keeping select applications on-premise while hosting the rest on a public cloud.

## **A HYBRID BUSINESS STRATEGY**

Most organisations envision allowing a part of their workforce to work remotely even in the post-pandemic work environment. The cloud is a crucial cog in the digital transformational wheel that keeps the organisation running towards its goal. The future of business

appears to be hybrid — with business solutions enabled by tech to function as a model of both on-premises and public cloud architectures.

“The future is work from home and work from anywhere. We are looking at a hybrid solution that allows mobility for employees, and a smooth transition between on-site and remote work,” says Hemant Chadha, Senior Vice President (Technology), Velocis Systems.

The promise of the cloud is simple — do it your way. Cloud solutions allow organisations to focus more on actual deliverables by taking care of infrastructure management. The cloud is remote, but the resources are all centrally controlled, allocation is faster and not node agnostic. The hybrid cloud solution is like a personal mix of a private and public cloud or/and an on-premise architecture. The benefits are many, but not the same for all enterprises.

“There are several benefits and comforts around the public cloud. It is not the same for everyone. If there is a

fixed set of workloads, no variability or seasonality, on-premise is good. Some older legacy applications will continue to remain on-premise. Over time we have to balance between the applications that move to the public cloud and the ones that stay on-premise,” informs Harnath Babu, CIO, KPMG India.

Another interesting enabler of the cloud is the ease of analytics. Often on-premise architectures have custom application development that aren't compatible to process data. This can be done through APIs (application programming interface) that help communicate between the existing architecture and the new influx of data. The cloud takes this a notch higher through its superior data analytics and built-in data handling capabilities.

“If an enterprise has dynamic workloads, they should stay on-premise, go to a public cloud and come back. The common data fabric enables the back-and-forth movement — you move the data to public, process and then you come



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**Harnath Babu**  
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back with the results. This is distinctly noted in how the course of audit has changed with the introduction of cloud computing. What was earlier a sample-based audit is now smart data analytics. But it needs huge processing capabilities. The new audit is a deep dive into data, where analytics are run across the whole data pool, there is a churn and necessary heuristics are taken," adds Babu.

Catering to a remote workforce that has to stay connected 24x7 is no mean task. Apart from the cost and time challenges involved, the enterprise has to zero down on choosing between a virtual private network (VPN), a virtual desktop infrastructure (VDI) and other solutions. But the advantages far outweigh the costs, which is why most organisations are jumping onto the cloud.

"The go-to-market strategy for any business is to develop and roll out a product faster or build better applications. The kind of micro services and analytics that you need for this agility and speed is difficult on-premise. On the cloud, it is abundantly available,

ready for consumption. Data is managed better, handled better, there is no scope for silos and the organisations are empowered to make informed decisions," remarks Chadha.

Along with agility, security and cost, a hybrid cloud promises universal access, dynamic data processing, better collaboration, business efficiency and heightened innovation.

"The hybrid cloud infrastructure has arrived," announces Abhishek Gupta, CIO, Dish TV. "What it needs is an approach that doubles up as a transition enabler," Gupta adds.

## **CLOUD MANAGEMENT: IS IT MATURE ENOUGH?**

Transitional costs, skillset shortages and plain difficulty of the unknown are challenges impeding hybrid cloud deployment. Platforms that help manage cloud services and resources — cloud management are increasingly growing to help address these challenges. Cloud management platforms (CMPs) are multi-level platforms that provide

lifecycle management, data governance, automation and in some cases blockchain and IoT (internet of things) capabilities in functional areas.

While the focus is largely centred around cost management and security, a CMP when tethered to a suite offer cloud-inspired deployments like compartmentalised, Kubernetes and virtual sandbox environments. These CMPs not only facilitate migration but reduce the time to market and improve quality, all pressing concerns in a fragmented market.

“Niche solutions like terminal operating systems — which are super latency-sensitive are better off staying on-premise. While transformation has happened in the technology piece, bandwidth is still a looming concern. One wouldn’t want to risk the application being down. Latency issues and a threat of lawful interception concerns are gaps that hybrid cloud and a good CMP manage to plug,” suggests Prasad Patil, COO, Arya Infosystems and CTO, JM Baxi Group.

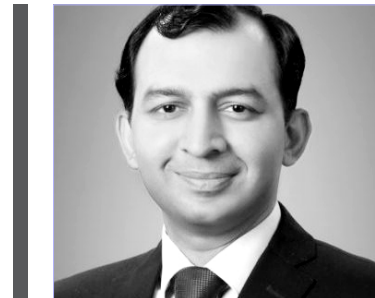
Eventually, the cost of cloud migration will square out, we will notice enhanced efficiency, streamlined processes and reduced management costs — but it is

a daunting uphill journey. Maintaining reliability and zero tolerance of downtime in business-critical applications, deciding on the order of migration are issues commonly faced by enterprises once they embark on the cloud journey.

“Latency applications that need to be executed right there, right now are a priority. Therefore, edge computing concepts need to be there. We push data back into the public cloud, to integrate IoT solutions with applications like SAP-ERP — and CMP for hybrid cloud allows that with ease,” says Chadha.

There are other unseen costs of migration, including rewriting the application architecture for the cloud, investing in human resources needed to migrate and handle cloud-based architecture, and a host of performance-related issues like latency, interoperability, bandwidth problems, data leakages, dependencies on non-cloud apps, and so on.

“Building data ingestion platforms, customising them for one client does not mean it translates into something undesirable for another client. Some capabilities that are demand by-products



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**Abhishek Gupta**  
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CIO, Healthcare Global Enterprises

of complexity can be addressed only by leveraging a good CMP for public cloud. If you are looking at complexity alone, you need flexibility and finesse, that container-based architecture offers from a scalability point of view. When you have data with you, how you build predictive capability and analytics into it? It is all about rethinking how you modernise your applications to handle scale and continue to stay agile,” explains Babu.

### **THE SKILL SHORTAGE BOTTLENECK**

The lack of talent to manage hybrid clouds seems to be another pressing issue. Organisations by and large rely on individuals and teams with specialised skill sets to manage public and private cloud infrastructure, creating silos. Even with the amazing benefits and support that cloud computing has to offer, with the promise of so much more, organisations fizzle out owing to the complexity of migrating. A major hurdle in this is finding human resources with the necessary skill sets to not just manage a migration but stay invested and facilitate the deployment.

“Moving to the cloud means a step towards modernising legacy and monolithic applications into cloud-based architectures. One of the biggest challenges that comes along this journey after cost factoring is the gaping hole in skillsets,” informs Chadha.

Research shows that a significant 80 per cent of IT leaders in the UK have postponed, cancelled or shelved migration of SAP applications to the public cloud due to lack of skilled resources in SAP, while an equally alarming 74 per cent opted out because of a lack of public cloud skills.<sup>1</sup>

“Reskilling, upskilling, using contingent workers and plain adaptability are the only plausible and proven ways to address skill shortages,” answers Gupta.

### **THE DUST AROUND SECURITY**

There is no doubt cloud environments have become secure and come a long way from what they were when they had started. The hybrid model addresses security concerns, by blending existing on-premise infrastructure and the public cloud.

A hybrid cloud architecture comes

with claims of flexibility, the promise of on-demand, choice and data manipulative capabilities that don't compromise on its security. We are increasingly witnessing enterprises that keep personal, sensitive data like health records and PII (personally identifiable information) in-house, while exploring the grandeur public cloud possibilities. Despite having security practices and protocols in place, any changes to the legacy infrastructure warrants an examination of its impact on security not limited to data alone.

"The promise of hybrid cloud is a strengthening of the organisation's security footing. Security visibility is key, because without it there is a risk of exposing the enterprise to unwanted security mishaps," explains Madhavi Kanumoori, CIO, Healthcare Global Enterprises.

When organisations step into the world of the cloud, the infrastructure extends beyond physical networks, devices and machine — making it a very distributed space. Throw in a mixture of public clouds like Google, AWS and Azure, the risk of security exposure grows manifold. Having a clear control over every node and element that constitutes the infrastructure is humanely impossible — manual patching, or physically running configuration scripts.

The organisation isn't just compromising on data security, and

increasing exposure to a data breach, but it is also causing a slowdown in the collaborative environment a lean, agile development mandates.

"The answer lies in automation. From hybrid cloud to security scripts, organisations should automate anything that can be automated. Security should function as a code, which is a reality now. Hybrid cloud solution providers are building in security layers and taking care of compliances, which is encouraging. Five years ago, an organisation with confidential data would hesitate to make the move, but that is no longer the case today," Kanumoori says.

Automation will cut down on manual repetitive transactions, alert when something is not in place and simply make things easier from a security angle. Cloud technology has matured to the extent where organisations across industries are using it at some level or the other. That said, a hybrid cloud architecture does present challenges that sectors such as defence, healthcare and finance need to look into.

A coherent data and digital transformation strategy is incomplete without cloud adoption. It enhances results in key business areas and helps drive resilience, agility and adaptability. When implemented the right way, with business analytics, big data and the power of AI, hybrid cloud can provide value like no other.



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## TAKEAWAYS

### Hybrid cloud and data analytics deliver value:

Combined cloud and data-AI projects have more return on investment in key business parameters.

### Prioritise intuitive tech solutions:

Choose usability, interoperability and seamless integration. It also helps with upskilling existing resources because the tools are easy to use.

### Cloud is getting synonymous with AI and data:

Cloud is emerging as a foundational technology for the AI revolution. IoT and data-processing requiring high computation are all faster and easier on the cloud.

### There is no one-size-fits-all:

Tailored approach to the cloud, with a sound CPM that can support the organisation's specific needs, are the need of the hour.



<sup>1</sup> Whitepaper: The skills shortage and the cloud migration problem. <https://info.ensono.com/SAP-Azure.html>

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