Cloud Computing:

Helping the Government Sector
in India Address Budget,
Efficiency & Innovation Challenges

Government IT departments in India have recently taken many important steps towards adopting cloud computing – including data center consolidation, e-governance initiatives and enhancing the speed and quality of public administrative services. The 'GI Cloud' initiative (also known as 'MeghRaj') is the single largest program by the government to move large traditional IT applications and data to a cloud environment. Launched by the Ministry of Electronics and Information Technology in 2014, this 'National Cloud' initiative focuses on providing a standardized approach to ICT provisioning, management and security for all central and state government organizations.

Expectations from the GI Cloud Initiative

India's GI Cloud Initiative has multiple long-term goals – such as overall ICT cost reduction, faster delivery of digital services and an enhanced portfolio of e-governance applications. According to the official website of the Ministry of Electronics and Information Technology, the MeghRaj initiative includes setting up state and national clouds (https://cloud.gov.in/index.php#), an e-Gov Appstore (http://apps.gov.in/), a GI cloud service directory and leveraging a panel of Cloud Service Providers (CSPs) and Cloud Auditors.

The Government Community Cloud is a direct offshoot of the GI Cloud Program, and requires the creation of dedicated cloud infrastructure to offer service to (central or state) government offices ministries, agencies, autonomous institutions, statutory bodies, local governments, PSUs and nationalized banks. As these initiatives roll out and cloud adoption increases within government departments, we expect to see significant improvements in terms of cost, efficiency and innovation.

Lower Cost

As government departments and public sector organizations move their applications, data and network resources to the cloud, we expect significant reductions in capital expenditure. In addition, the migration of IT systems and data to the cloud is likely to reduce overall costs towards monitoring, maintenance, security. IT budgets are also impacted by utilization and risk. Moving to the cloud will enable government departments to increase utilization and lower operational risk (downtime, latency and security) – through stringent, world-class SLAs with CSPs.

Higher Efficiency

While most government departments continue to use legacy applications and manual (document driven) processes, the cloud migration initiative gives them an opportunity to automate and digitize process, minimize manual interventions and optimize legacy workflows. Organizations also have the opportunity to standardize their application portfolio and redesign governance policies to simplify processes and drive greater efficiencies.

Greater Innovation

To stay relevant and aligned with citizen expectations, the government sector needs to take active steps towards innovation and digital transformation. This requires extremely scalable IT infrastructure to manage the large amounts of public data that is generated through mobile apps, departmental applications and website usage.

Key Challenges for the Government Sector

While MeghRaj and the Government Community Cloud are both positive steps to accelerate the cloud adoption and usage in the government sector, each government organization or department will have its own set of challenges around service consumption, competency, integration, process change, governance and security.

Service Consumption

Various studies and observations in the private sector have already proven that cloud computing can play an important role in speed and quality of service delivery to departments and citizens. However, this is possible only if organizations are able to achieve very high economies of scale, in terms of citizen adoption of government services. While the growing role of digitization is visible across many industries like banking, aviation and e-commerce, adoption of digital channels to consume government services may take some more time and significant effort.

Competency Development

Government IT departments need to develop a new set of capabilities to build, customize, manage and deliver cloud services to their stakeholders. This would involve having a clear understanding of Service Level Agreements, vendor roles, multi-tenancy, provisioning mechanisms, network components and performance analytics.

Integration Complexity

To make the community cloud a success, each government department or organization would need to integrate cloud services with a diverse range of legacy applications and databases. Integration may be a complex and long-drawn process for many government organizations that have nationwide offices and diverse technologies running within these locations.

Process Changes

The government sector has generally been very robust in terms of centralized process control, monitoring and reporting. However, with the passage of time and localized processes, many departments and offices have learnt to function in a decentralized fashion. This also leads to non-uniform IT provisioning and management, with varied service levels across different offices of departments. With the community cloud, many of these 'decentralized' processes would need to be refactored and made uniform.

IT Governance

To adhere to consistent and standardized service quality levels, government sector companies and departments would need to centrally configure policies around information access, data security and IT governance. Also, unlike traditional IT environments, cloud ecosystems need to be extremely dynamic. In the near future, government departments must also ensure that IT governance policies align with emerging trends like IoT, predictive analytics, multicloud, hyperconvergence containerization and API driven architecture.

Netmagic Aligns Strongly With Government Sector Cloud Needs

According to the GI Cloud guidelines, cloud service providers (CSP) and government departments will jointly bear the responsibility for managing cloud services. This makes it critical for government departments to form strong, knowledge-driven partnerships with leading cloud service providers. Partnering with a few CSPs that offer end-to-end cloud infrastructure and a wide portfolio of managed services is generally more effective in terms of service level consistency and uniform governance.

While all empanelled CSPs are likely to meet some or most of the minimum qualification criteria set by central and state governments, the key to successful cloud service utilization requires much more than infrastructural capabilities. This is where Netmagic has distinct capabilities and experience that aligns strongly with the technology needs of the Government sector.

Hybrid Solutions for Community Cloud	With IT needs and business models in a constant state of flux, hybrid IT models give companies the flexibility to optimize workloads and add / reduce resources depending on need. Netmagic has unique expertise around creating hybrid deployment models for community cloud setup.
Strong Managed Services Backbone	Netmagic has a very mature managed services model that has been refined over hundreds of client engagements. Netmagic's engagement model goes far beyond SLA adherence and builds multiple value drivers at various points of the engagement. With unmatched service flexibility, a people-driven engagement approach, global service benchmarks and highly customizable SLAs, Netmagic has the ability to create a strong managed services backbone that caters to unique regional, departmental and process needs.
Migration-as-a-Service	In the initial phase of cloud adoption, effective migration of data and applications is going to be the biggest and most time consuming challenge for government departments. To minimize the pain involved in migration, Netmagic provides SimpliMigrate - a simple, online service to migrate applications and workloads. SimpliMigrate is a highly customizable service and can be tailored to meet complex application and data needs.
Cloud Native Applications	With new technology advancements like API-based architectures and containerization, in many cases it is more cost effective to re-architect solutions for the cloud, instead of migrating them. Netmagic provides specialized services for application rearchitecture and redevelopment, to help organizations maximize the value from cloud infarstructure.
Multicloud Management Platform	Initiatives like the Government Community Cloud aim at creating a loosely coupled and decentralized ecosystem of services and consumers. The challenge for government IT is to track and optimize performance and availability parameters, and address performance gaps in a timely fashion. Netmagic Cloud Management Platform (CMP) provides government departments a consolidated dashboard and uniform view of all performance parameters across public, private and community cloud.
Change Management Expertise	Managing change and dissonance associated with new service delivery mechanisms will be a challenge for many government departments and organizations. Netmagic has extensive change management experience across a variety of complex scenarios, for multiple sectoral, functional and departmental needs.

Finally, as part of NTT Communications, Netmagic brings to India the vast global experience, leadership in cloud technology and international performance benchmarks of the NTT Group, the fifth largest telecommunications group in the world. With presence across 196 countries/regions, and 140 secure data centers worldwide, NTT Group is a leader in telecommunications and IT infrastructure management, with an annual research and development spends of $2.5BN.