The Storage Matrix
Making an informed choice

Key Highlights

> *In a digitised world, organisations have to grapple with the challenge of continuous demand for storage of growing data.*

> *A poorly designed and managed storage strategy can put the entire business at risk, whereas, a robust storage infrastructure requires a capable team of experts to manage it efficiently.*

> *With the cloud taking centerstage in IT, many organisations, today, are debating whether to invest in a dedicated hosted storage solution or move to a cloud based storage model.*

> *This article explores these options and lists why each has its own advantages. It is vital that organisations should choose what is best for them depending on their specific requirements.*

Author Profile

Sachin Nazare is a Products and Services specialist at Netmagic, and works on a portfolio covering Data Center Networks, Cloud Storage and Data Protection.

In today's world of **digitization, e-commerce and Internet of Things (IoT)** it has forced organizations to gear up and be prepared to address the ever increasing and continual storage growth. This does not stop here as with need of scalability the challenges also reap, in terms of identifying various sources of data, the retention mechanism, and most important to have a reliable infrastructure that address various forms of data. Organizations are faced with two options when they deliberate the ideal way to store the massive amount of data generated every day. When to choose a dedicated storage system or an external hosted solution has still been a question. Though many companies still invest in dedicated storage solutions, many of them are also moving to cloud based storage model who has identified the relevant need in concurrence with the business requirements. It is estimated that by the end of 2016, 36% of all data will be stored on the cloud. However, as the two sides of a coin - there are pros and cons for each storage approach whether dedicated or cloud based. There is no one size that fits all, therefore, it is important to understand and identify the correct approach based on an organization's unique needs. The key business drivers for organization's looking to adopt Cloud based storage and a dedicated storage varies based on performance centric storages, structured and unstructured data forms, On-site and off-site backup and archival, on-demand disaster recovery option and providing easy access to information that can be shared with appropriate users/applications.

Choosing the right TECHNOLOGY is Vital

Not all storage requires equal treatment. For example a desktop/ laptop generated content and data generated by the organizations mission critical business software and databases cannot be stored in the same storage technology. Storing both the workloads in same technology will result in expensive and overkill proposition for one and under performance for the other. This situation ultimately results into a big show down for the operations and smother the organization's growth in the future.

Importance Tier	Workloads	Growth Rate predictions
Tier 1 - Low	Operating System, routine files, low performance custom applications and databases, pst's etc	Predictable as per organization employee counts
Tier 2 - Mid	Marketing collateral, Websites, Blogs, videos, user and customer generated content (Internal and external), organization functions (HR, Finance, Administrative etc) records	Unpredictable as it depends on business and market
Tier 3 - High	Files and application/database workloads that needs high performance, availability, reliability, service level guarantees	

To avoid such a situation we categorize the data information in various Tiers as mentioned below with a level of importance and predictable growth rate, These various forms of data based on importance and predictability demands for right technology. These demands are addressed through storage technology solution like,

CLOUD STORAGE:
The service offers various performance tiers to address the criticality of the data storage needs and secondly the capability of offering the storage that suits the structured block data formats and unstructured file/Object based data formats. Organizations leverage the features and benefits of,

- *Dynamic expandability*
- *Self-provisioning portal*
- *Zero storage sprawl in multi-tenant environment*
- *Pay as you Go elasticity*
- *Reliable with service guarantees*

DEDICATED STORAGE:
When customer has a business need for Fast, non-sharing, secured, and high available infrastructure those are powered by high bandwidth fiber and Ethernet network. Organizations goes for a Dedicated Storage which are purpose built customized storages addressing their business requirements.

MANAGEABILITY & CONTROL

Management and control of data is an important determinant in identifying the correct storage option for an enterprise. Dedicated storage is ideal for organizations that want more control over their data. Having a physical storage infrastructure is ideal for business enterprises looking at optimizing performance for different applications and data within a single system. The simple reason - it offers additional data management features like storage tiering, snapshots, and replication capabilities. Moreover, having a dedicated storage infrastructure greatly increases the ability to directly manage and fine tune storage performance of the entire workload stack which is an important factor for optimum application performance. An added advantage of a dedicated storage infrastructure is the ease in adhering to data security and compliance guidelines. Organizations who opt for cloud based storage services do not have the same level of control as those with dedicated storage infrastructure. The terms are governed by the Service Level Agreements (SLAs) between the organization and the cloud based storage provider. Cloud based storage is ideal for organizations who do not want to invest in setting up a storage infrastructure themselves but would like to have a robust and a scalable storage solution. Organizations can benefit from the unlimited capacity, multi-tenancy and built-in DR facilities of the cloud to help them solve their data storage challenges. Cloud storage's with capabilities of unique ID and end to end logical network segregation provides unprecedented layers of security. Moreover, storage systems get refreshed every three years, which is in itself a tedious process. Cloud storage options take the **pain out of data migration** during a storage technology refresh by adding new nodes and retiring old ones. This **reduces the incidences of downtime** during a technology refresh, thereby, avoiding disruption to the business.

LATENCY & AVAILABILITY

A data storage solution's ability to store and permit access to data at any given point in time is an important factor in deciding whether an organization should opt for a cloud based storage or a dedicated storage infrastructure. Cloud storage has built in redundancy at all levels of the infrastructure - **redundant cloud storage gateways** and redundant WAN links help companies avoid protection gaps that could result in outages or data loss. Latency or delay in accessing data/ information in cloud storage can be minimized by opting for a hybrid cloud storage solution. Hybrid cloud storage solutions overcome latency issues by caching data locally and using WAN optimization techniques to reduce data traffic. Having a dedicated storage solution has its own advantages – one of them is that they can be configured for high availability, albeit at the array level. Multi array and multi-site availability with a dedicated storage solution still comes at a high cost and requires greater expertise. Dedicated storage gives an organization the flexibility to create a high level of data protection, DR and point in time recovery through actively supporting file system replication, tiering, snapshots and backup at the most granular levels. It is ideal for workloads requiring high performance, low latency storage i.e., server and desktop virtualization, or database applications.

COST EFFICIENCIES

With **pay as you use** or utility computing model, cloud storage becomes an attractive proposition for organizations looking at **reducing cost overlays** for having a fully functional dedicated storage solution. As you are basically paying for the amount of storage you use on a monthly (subscription) basis, you are spared of the capital costs for setting up the cloud infrastructure as well as other associated costs of power, space and expertise required to manage it. Though cloud storage solutions do significantly reduce overall capital outlays, they may come with some hidden costs that may increase the operating costs. Organizations are advised to conduct a due diligence with respect to pricing structures to ascertain that there are no incremental costs.

CLOUD STORAGE or DEDICATED STORAGE?

The choice between cloud storage and dedicated storage depends on the specific needs and requirements of an organization. Cloud storage offers you a flexible, mobile, and a cost efficient storage option where you can scale your storage as per your business requirements. If data governance and compliance is your main criteria of selecting a storage solution, then opt for a dedicated storage option.

If you would like more information on cloud/dedicated storage solutions and what they can do for your business, please don't hesitate to get in touch with one of our experts.

About Netmagic (An NTT Communications Company)

Netmagic, an NTT Communications company, is India's leading Managed Hosting and Cloud Service Provider, with 9 carrier-neutral, state-of-the-art data centers and serving more than 2000 enterprises globally. A pioneer in the Indian IT Infrastructure services space - it was the first to launch services such as Cloud Computing, Managed Security, Disaster Recovery-as-a-Service and Software-Defined Storage. Netmagic also delivers Remote Infrastructure Management services to NTT Communications' customers across Americas, Europe and Asia-Pacific region.

Netmagic is India's only IT Infrastructure services provider to be PCI DSS certified for its entire suite of services. It is also the first cloud service provider in India and in the world, to receive the CSA STAR certification for Cloud Capability Maturity Model (CCM) version 3.0.1, an industry benchmark for the specific security requirements of multi-tenant service providers. Besides this, Netmagic is also empanelled as an IT Security Auditing Organization with CERT-In (Indian Computer Emergency Response Team).

Netmagic was chosen by India's CIO community for 6 awards at the recent CIO Choice Awards 2016, across categories for Data Center and Cloud services. Prior to that, it was awarded the 'Data Center Service Provider of the Year' and 'Infrastructure as a Service Provider of the Year' by Frost & Sullivan at India ICT Awards 2015. Netmagic was also mentioned in Gartner's 2015 Magic Quadrant Report for Cloud-Enabled Managed Hosting, Asia/Pacific, where NTT Communications was named in the Leader quadrant. The mention was a result of the analyst firm's assessment of NTT Communications' Cloud services portfolio, which included Netmagic's Cloud services.

Netmagic is committed to providing world-class and customized IT Infrastructure solutions that enable our customers to 'Rethink' the way they configure IT.

DATA CENTER SERVICES
- Colocation • Bandwidth
- Remote Hand Support

CLOUD SERVICES
- IaaS-based Public / Private / Hybrid Cloud
- DR On Cloud • Object / Performance
- Tiered Storage (NTSS) • DBaaS

INFRASTRUCTURE APPLICATION
- Exchange • Linux Email
- SAP Basis • Middleware

HOSTED IT INFRASTRUCTURE
- Dedicated Hosting • Pre-provisioned Servers
- Managed Firewall • Load Balancing
- Backup And Storage • Disaster Recovery
- DRaaS • Data Center Consolidation
- Data Center Migration

MANAGED SERVICES
- 24x7 Infrastructure Monitoring and Management of OS, DB, Network and App
- WebControl • CNAM and VAPT • Remote DC Management
- SecureAT • MDDoS • SOC • SSL Certification
- Managed IPS/UTM

The 2015 Frost & Sullivan India ICT Awards

'Infrastructure as a Service Provider of the Year'
'Third Party Data Center Service Provider of the Year'.

CIO Choice Awards 2016

Data Center Managed Services | Public Cloud | Hybrid Cloud
Private Cloud | DRaaS | Cloud Storage

marketing@netmagicsolutions.com | www.netmagicsolutions.com
Twitter: @netmagic | LinkedIn: @Netmagic Solutions | YouTube: Netmagic Solutions

FOR FURTHER DETAILS PLEASE CONTACT
1800 103 3130