



Hosting Controller
Hybrid Cloud Automation

YOUR DATA DICTATES YOUR CLOUD STRATEGY

WHITE PAPER

Hosting Controller

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When Forbes said “Data is the new oil”, many organizations could relate to it as their ‘data’ was their main asset. Organizations are reporting data increasing at 10% to 100% per month.

Points to consider moving to the cloud

Cost Considerations

Cost of storage

Data is typically measured in TB or now more commonly than before into PB (Peta Bytes). Costs of storing data in the cloud (Typically AWS or Azure or Google) is typically 5x than what is in your local data center.

Cost of accessing data

Data requires massive amounts of data transfer between the applications and the back-end data storage. Public clouds charge for data transfer in and out and unlike other applications, this data is typically many GB per second. There can be strategies to eliminate or reduce some of these charges by locating applications in the same zone as the data, but in the end it remains a major cost factor to be considered.

Costs of running your work-loads

Analytics are CPU hungry applications. AI and ML require specialized processing.

Cost of Migrating the data

When the data is in terabytes or petabytes, even the

Migration Considerations

It is many times more easy to move your applications around. You install them on a newer machine and there you go. Applications are largely stateless. But not so much for data.

Downtime

Moving terabytes to petabytes of data takes days or weeks even on the fastest of the Internet connections. As an example consider this scenario, on a consistent 100mbps uplink, it will take almost 1000 days to upload 1PB of data.

Existing Application Integrations

Data typically has many existing integrations. Data schemas are closely replicated into applications' code and different data collections are accessed. As data moves to the cloud, IT needs to look into each and every application and how it will connect to its newer location in the cloud.

Existing Analytics

Analytics run massive workloads onto existing data. Some of the links continuously consume multiple gbps of bandwidth between data and the applications. As data moves to the cloud, it is to be seen how to handle such massive workloads.

Retention Considerations

Redundancy and Replication

Many a times there are multiple copies of the same data kept for redundancy purposes. Some copies may only be used for heavy read activity while others are read / write. Some copies may be geographically further away. This design needs to be looked into again if data is to move to the cloud.

Backup and Restores

Backups of data are kept periodically as well as all transaction logs. In some event, a restore operation needs to be performed. Backups are stored in physically accessible locations.

Disaster Recovery

Remote DR sites are configured and connected and there are SOPs in place on how to move to a DR sites in case of a major disaster on the original location. All such policies need to be redesigned if the data is moving to the cloud.

Security Considerations

Access Controls

Security for any organization has been set in place over years with access granted to many applications or users in different ways. As the data moves to the cloud, the whole security scenario needs to be redesigned this time in the given environment provided by the cloud provider.

Encryption / Decryption

Many a times part or all of data is encrypted in specific ways. The keys are stored and accessed according to specific protocols. As data moves to the cloud, either it needs to be decrypted or re-encrypted or all the keys need to move to their newer locations somewhere in the cloud.

Monitoring / SOC

Most organizations have ways to monitor for all security related activities and may have 24 hours SOC (Security Operations Centers) going. As the data moves to the cloud, the SOC needs to evolve to this newer reality as well. Large security logs are gathered which are also analyzed offline for any security breaches or intrusion attempts.

Regulatory Considerations

Standards Compliance

Standards compliance puts stringent requirements onto how data is stored and accessed. Such compliance many a times comes with required certifications which are issued in a given environment. If the whole environment changes

Location Considerations

Many a times there are regulatory restrictions on the location of data. Some sensitive data for most government organizations is to kept strictly within the boundaries of the country. All such restrictions need to be analyzed before the decision to migrate to cloud.

Types of Data

Data is anything which needs storage facilities. As you see below, each of these data types are exploding in capacity.

Online Transactions Databases

These databases carry real-time data being actively used in applications.

Analytics Data

Stored in different types of databases. It includes historical data and can grow to very large numbers.

Emails

These are stored in any Email server. Most common Email server in the Enterprises is Microsoft Exchange and now more recently Microsoft Office 365 in the public cloud.

Documents

These are files stored typically in a document store. Most popular document store in the Enterprises being Microsoft SharePoint.

Media Data

These are all the videos, webinars and other related data.

Surveillance Data

This is the footage or other videos capturing the video images. There can be multiple such cameras each of them sending its own stream which may have to be stored for very long.

Communications Data

These are the recordings of conversations between customers and employees or employees themselves which may need to be stored for long time.

Hybrid Cloud Alternative: Move the cloud to where your data is

IBM predicts that 98% of the organizations will eventually settle for a Hybrid Multi-Cloud Solution. No single public cloud can suffice for any organization. Nor an existing on-prem solution will be carried for too long.

Looking at the above points, many a times an organization will find out that moving all of its data to the cloud is prohibitively difficult. But this should not hold them back from getting onto cloud computing, and all the benefits that come with it.

Hybrid cloud solutions have most of the solution installed on the organization's own data center account or on-prem solution. This usually sits very close to the data. It has access to the control plane of all the applications where it can control them and provide self-serve as needed.

Introducing Hosting Controller; The Hybrid Cloud Control Panel

Hosting Controller (HostingController.com) is a Hybrid Cloud Control Panel. It offers cloud-enabled applications which are installed within an organization's data center. Many a times, it provides most of the benefits of cloud computing without having a need to move your data from it.

Cloud Enabling Emails and Documents

For Emails and Documents data stored in Microsoft Exchange and SharePoint solutions, Hosting Controller will provide a complete application similar to Microsoft Office 365 that will install in the organization's data center and will interface with Microsoft Exchange already installed. This will not require that the organization should move their data from where it is.

Cloud Enabling Application Workloads

Cloud Enabling applications require that each such application be converted into a virtual machine which is the basic unit of compute in a cloud enabled environment. Hosting Controller will then enable hosting these virtual machine on local data centers or public clouds.

Cloud Enabling Web Applications

While such applications can be run in virtualized environments, Hosting Controller offer detailed control mechanisms for many common web servers and web applications including back-end databases and related infrastructure.

Conclusion

Hosting Controller is a Hybrid Cloud Control Panel. It is a first step towards any organization's digital transformation journey and an effort to introduce cloud computing. If it many a times the only solution where an organization is finding it difficult to move its data from where it is.

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