

Datacenter Migration



Data
migration

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Abstract

The big impact of Big Data in the post-modern world is unquestionable, un-ignorable and unstoppable today. While there are certain discussions around Big Data being really big, here to stay or just an over hyped fad; there are facts as shared in the following sections of this whitepaper that validate one thing - there is no knowing of the limits and dimensions that data in the digital world can assume. As of now, there are only predictions, forecasts that form the basis for businesses to decide their own course of action by taking advantage of this new window of opportunity with high-end intricate technology based resources and tools. These are nothing but ways and means to harness the mammoth and draw necessary inferences for making smart, intelligent business decisions.

The other outstanding feature of this century is the mushrooming of more billion-dollar enterprises around the world than ever before. This phenomenon is making the world a more competitive, knowledge-rich, mercurial and dynamic place. Survival of the fittest has never been more pertinent in the business sector. This backdrop serves as the most important reason for businesses to be data-driven. It is the only premise that can yield confident, sure-shot and actionable insights to make future-ready, fool-proof decisions. Even though, intuition and acumen – the human factors will always have a large role to play in deciding course of success, a strong data foundation can go a long way in minimizing risks of observational understanding or guess.

While this sounds like a good game to get on, the challenge however, lies in data itself. As the name suggests – it is big, heterogeneous, unstructured and scattered. In that case, how to mine diamonds off rocks? From acquisition of data that comes in an ad hoc manner, to storing the right metadata and data integration – are all different facets with both opportunities and challenges. Data analysis, structuring, retrieval and modeling are other key aspects with their own set of challenges. This paper looks at deriving real value from the big data giant through a look at the data lifecycle, its dimensions and challenges, best practices and application benefits.

Introduction

With core business services reliant on IT, a datacentre migration can expose the business itself to a significant degree of risk. This article discusses why it is essential to plan, manage and execute a datacentre migration with the appropriate level of rigor and control, utilizing proven methods and expertise to ensure the business continues uninterrupted.

Scope

This document has been produced to provide the information on datacentre migration techniques. It lists down the key focus areas to consider before going in for migration.

Purpose

The purpose of this document is to provide an overview of the data center migration.

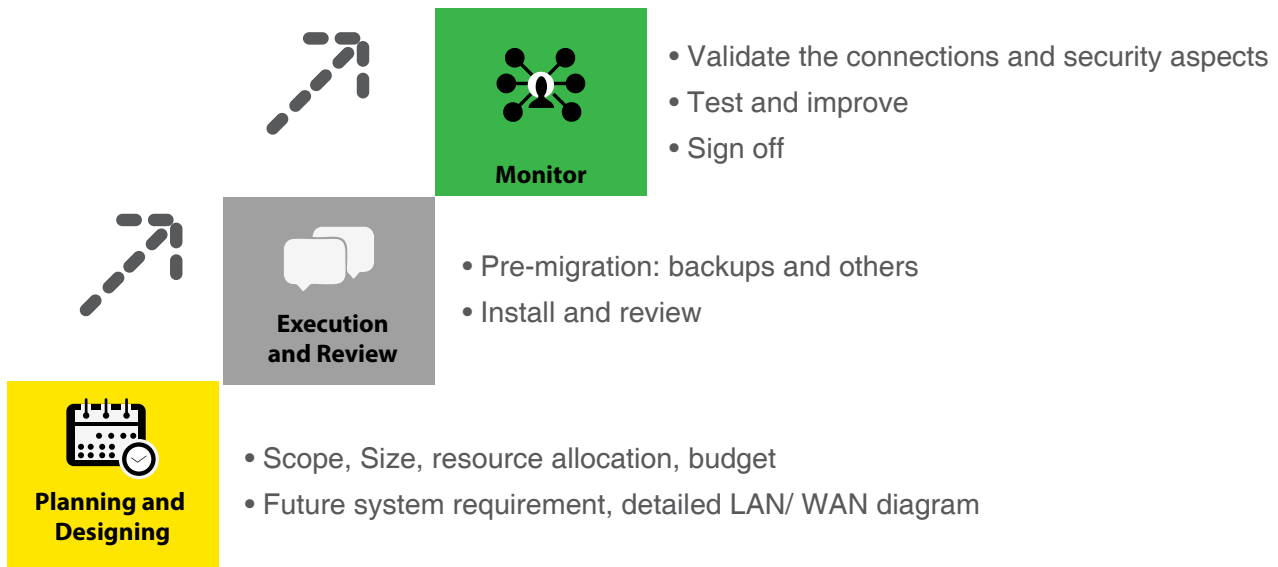
Executive Summary

The datacenter is at the heart of an enterprise - a complex, interconnected array of equipments, software and data that drives the business and powers every aspect of the management. However, if there's anything that is inevitable, it is change. As enterprises grow, they may find reasons to migrate their data center. Some of them are:

- Business reasons
- Technology reasons

Understanding the scope

In order to understand the scope of preparations and investment required for a more ideal data center move, enterprises must first take into account, its ability to undertake the migration. The enterprise's IT architecture has a direct impact on the migration initiative. Companies with ideal asset management practice, disaster recovery, monitoring management and change control programs have the essential elements required to successfully undertake a datacenter migration. They will not have to invest in the discovery, validation or development of information and processes to equip themselves. Alternatively, gaps of any sorts in these practices must be brought to light as the project is happening. Failing to attend to such gaps will pose a high degree of risk to the project and could lead to outages that negatively impact the business.



Steps to a successful datacentre migration

- Conduct a readiness assessment
- Assess the environment
- Design, validate and plan the project
- Implement the plan
- Manage the environment post-relocation

Conduct a readiness assessment

The objective is to evaluate the accuracy and completeness of processes, procedures and documentation. Based on the project time-line, a determination needs to be made for each gap area on whether to implement a long-term or interim solution.

Focus areas should include:

- Support Structure
- Service Level Agreements
- Documentation
- Asset Management
- Maintenance Contracts
- Change Control
- Architecture

- Business Initiatives
- Resource Availability
- Industry Regulations
- Disaster Recovery Plans

Assess the environment

The output of this phase is the asset repository that reflects the current inventory, technical, business connections, and backing-up asset data. The ideal practice encompasses automated discovery of assets and the use of an industry standard repository such as a configuration management database (CMDB) that is capable of providing a comprehensive view of all aspects of each asset.

Design, validate and plan the project

This would be an overall project plan that includes detailed task plans, time budgets, resource & planning. A data center migration calendar should produce the timing of move events in relation to business initiatives and cycles in detail.

Implement the plan

- Follow a proven methodology and utilize purpose-built tools such as TDS TransitionManager to ensure a successful data center relocation
- Maintain transparent communication patterns to all stake holder throughout the move
- Make sure technicians with extensive experience unplug, un-rack, re-rack and cable
- Transport devices in "exclusive use" trucks strictly used for high-value equipment

Manage the environment post-relocation

- Make sure all the devices are properly plugged in until the cabling is done Always ask for a sign-off from the customers to carry out a successful data center migration
- Supervise, monitor and speculate OEM certification

Benefit

A successful datacenter migration can completely transform the overall operating environment – its processes, procedures, documentation and personnel – in a way that has significant, lasting benefits for an organization's disaster recovery readiness as well as day-today operational efficiency.

Datacenter migration checklist

Stage 1: Planning & Design

- Define the scope & size of the project
- Plan, agree and allocate resources & budget
- Agree key determining factors & limitation (network, security etc.)
- Conduct risk speculation and diligence analysis activities
- Design a project plan after figuring critical resources and paths.
- Complete inventories of existing systems and inter-dependencies
- Identify future system requirements (pipeline for growth)
- Create a step-by-step equipment plan that includes health & safety procedures
- Figure out equipment requirements to keep systems operations under check during the migration process
- Devise a contingency plan to cover diseases, accidents and unforeseen glitches in equipment
- Determine requirements for connectivity and schedule distinctive time for connections
- LAN design/ WAN detailed diagram

- Take into account your enterprise's operational requirements and plan the move to cause minimal disruption
- Do a "dry run" to test if the plan is achievable

Stage 2: Pre Migration

- Check if your IT architecture is ready of racks, power circuits, cage and biometrics
- Ensure back-up systems are in place & operational
- Data Backup (prior to migration)
- Ensure that your commutation and building infrastructure can cope with equipment size & weight
- Make sure your surveillance camera continually covers new customer cages

Stage 3: Migration

- Review deployment teams tasks & time-lines
- Design new space compatibility and reference racks grid
- Install and test new data cabling (certification to be issued)
- Ensure all identified processes and procedures are followed
- Checking on connectivity between hardware equipment
Test network and application components
- Arrange for M&E engineers, hardware and software experts to be on-call
- Advise users of changes and provide contact points for issues

Stage 4: Post Migration

- Post implementation review
- Re-balance air-flow systems
- Check electricity quality
- Closely observe all building and equipment monitoring systems
- Test security systems
- Detailed diagrams rack / network / patching / LL connectivity
- Infrastructure deployment complete sign-off from the customer

Summary

This document can serve the purpose of understanding the steps and action items we are going to use for the datacenter migration. It lists down all the activities to the best of our understanding required for the Datacenter migration. This document can be used as a baseline for preparing the detailed plan and to understand the scope for the Datacenter migration.

About the Author



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Kapil Chaturvedi has 11 years of IT experience, including 3 years in Data center planning and implementation and 2 years in wireless planning and implementation. He has worked in multivendor environment including Cisco, Aruba, HP, Nortel, F5, Watchguard, Fortigate and others. He has also worked in Open source technologies and providing solutions based upon them. Key past project includes: Data center planning for one of the client at Malaysia having multiple sites geographically distributed across the globe, NOC planning and new project implementation for Standard Chartered bank, Wireless implementation for Aruba Networks Inc.

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