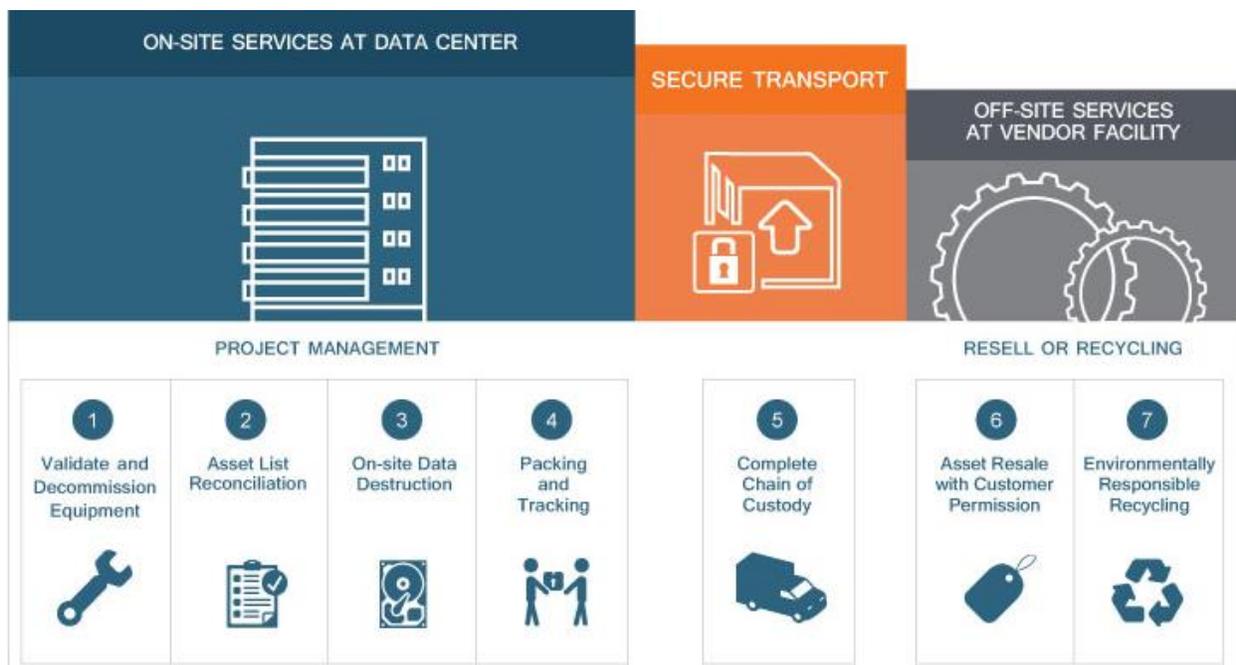# DC Migration - 10 Step Approach

Data centers consist of complicated, densely populated racks of hardware running all kinds of software, connected by oodles of cabling. So, when the firm plans to migrate an application, a business group or perhaps the entire IT infrastructure to a new platform, it can cause a panic. A migration means sifting through the complex web of connected devices, applications, cooling systems and cables to map out all interdependencies, then planning and executing on a data center migration project plan with minimal disruptions.

An approach recently carried out in 7 steps.

10 Step Approach Proposed.

1. Understand why you're migrating

Businesses have different reasons for migrating to a new system, and those motives alter the potential challenges IT will face during migration. Perhaps market success caused explosive growth that rendered the current data center facility obsolete: More processing power is needed. Perhaps the company wants to save costs: Data center consolidation and right-sizing by combining systems will lower licensing and operational expenses.

Mergers and acquisitions often drive a data center migration project: The two groups must become one cohesive organization. Regulatory requirements also spark change: A corporation will revamp its data center to shore up backup, archiving, data management and security

2. Map out a clear plan

The success or failure of a migration project depends on how well the IT department completes its due diligence. Ask the right questions long before you touch any data center system. "Generally, companies start 18 months ahead," said Tim Schutt, vice president at Transitional Data Services (TDS), a technology consulting company based in Westborough, Mass.

Create a data center migration project plan that identifies the steps in the process, as well as the key resources needed. Define the scope and size of the project, and then examine key limiting factors, such as system availability and security. Set a migration budget and get the organization's approval. Finally, account for future system requirements, and leave enough capacity in the new systems to support future growth.

3. Get everyone on board

How will the change affect other departments within the organization? Individual stakeholders view the data center migration uniquely because they concentrate only on how a move affects their daily operations.

The CFO views the project as a cost cutter. The data center manager perceives it as a logistical nightmare -- one giant, multiyear checklist of actions with hazards lurking everywhere. The systems administrators view it as a technical challenge. The business units might envision outages that will threaten their performance.

First, it is incumbent on the data center manager to understand those different viewpoints within and outside the IT team. Spend time in the various departments. Early in the process, make these employees aware of the changes that are coming. As the migration unfolds, pull in different departments' executives for planning; make sure their voice is heard. This will encourage non-IT personnel to support the project and work with your team to solve any problems

4. Complete an inventory

IT departments often support systems that aren't officially on the books; data center resources enter the organization through the front and back doors. Before beginning a migration project, the IT shop must identify all of its components. That means -- especially in larger companies -- finding servers hidden under employees' desks and applications that have been running in departmental stealth mode for years.

Once all the secret and known IT assets are accounted for, the IT team must map their complex set of interdependencies. "The biggest challenge is figuring out the dependencies among all of the different elements," said Aaron Cox, practice manager at Forsythe Technology Inc., a management consulting and technology services provider in Skokie, Ill. "You don't want to change one system and knock another one offline."

Identify all the hardware, software, network equipment, storage devices, air and cooling systems, power equipment, and data involved in the move. Then pinpoint the location of each of these data center elements, determine where each will move and estimate how long that process will take.

5. Set a downtime limit

Businesses today are intolerant of long service disruptions, aka downtime. Everyone expects their systems to be available 24/7. But saying you can't afford downtime isn't the same as saying you *can* afford uptime. Keeping systems up during a migration adds to the project's cost. To truly eliminate any downtime, you would need a duplicate data center, which is not practical.

IT needs to work with business units to identify times to take department and company applications offline. If they look closely enough, departments can find windows when the migration would least hinder their operation. "[For example,] a department may have a backup window when their systems are down," TDS' Schutt explained.

6. Develop a strong contingency plan

Problems will arise during the migration, and they will influence system availability. The challenge is to figure out the data center migration risks ahead of time, and determine how they will affect the company's plans and which steps can lessen their impact. The success or failure of contingency plans stem from the strength or weakness of the initial audit. For example, if a firm has a complete picture of its local and wireless area networks, the IT team knows where to place backup communication lines to keep information flowing despite downtime on a major circuit.

Include interim equipment and backup systems in the contingency plan wherever necessary. Determine ahead of time how much the business is willing to spend on such devices and what will happen with them after the data center migration. Ideally, the extras will become part of the IT device pool and get used as various components age out or break down.

7. Sweat the small stuff

IT departments often have a broad understanding about what needs to happen in a data center migration project. Unfortunately, they slip up on the little things. Employees get sick -- some will be out during the move. Do you have the staffing levels to continue the project? Equipment will be damaged during the move. Do you have spares? Do you have the right packing supplies for delicate items?

When data storage supplier Carbonite Inc. moved its data center, it even made allowances for the traffic in Boston. "Traffic can get quite heavy during certain times," said Brion L'Heureux, director of data center operations. The company worked with law enforcement to avoid traffic jams and accidents as equipment moved from one location to the other.

Even the most fastidious planners cannot account for every possible obstacle. During its move, Carbonite's fire alarm sounded, which left the staff out on the sidewalk. Factoring in some unexpected snags like these allowed the company to complete the migration on schedule.

8. Take baby steps, not giant leaps

Data center migrations typically occur in stages. First, the new system is deployed and tested. The data center staff verifies that the servers, racks, power circuits and storage all operate. Then, network connections are installed and tested. And finally, the IT team tests its backup systems and the change is made.

Once the new systems are deployed, the focus shifts to the existing system. Many companies make a dry run, testing a few elements to be sure their plan is achievable. Typically, a company will get the new systems up and running and operate the old and new equipment in tandem for some time, allowing IT to roll back a change if a significant problem arises.

9. Don't forget about the old equipment

Companies undertaking data center migration projects end up with a lot of old equipment that cannot simply be thrown away. Firms must create a detailed decommissioning and rebuilding plan that accounts for local health and safety procedures around electronic waste. In many cases, the systems will be repurposed in some way.

Since confidential corporate data sat on the drives and in memory, IT organizations must ensure that information is wiped clean, so no one else can access it.

10. Update business processes

It is imperative that the data center manager updates processes, procedures and documentation once the migration is complete. The new system will not function as the old one did, so staff need time to familiarize themselves. Hold a training session or sessions shortly after the migration to ensure the staff doesn't revert to old, familiar processes that don't suit the new data center setup.