7 Proven Tips for a Successful Data Center Migration

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BONUS!
Use a Data Center Migration Checklist

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Introduction

Whether you're building a new data center, moving to a colocation facility, or transitioning to a cloud/hybrid environment, a data center migration is a complicated, risky endeavor.

Many data center migration teams try to mitigate some of the risks and avoid unwelcome surprises through detailed planning and following best practices.

However, even with these efforts, data center migrations are so complex that some things still fall through the cracks. In this eBook, we've compiled a list of proven tips based on our experiences and those of our customers when dealing with data center moves to help data center managers tackle often-overlooked challenges and see success—before, during, and after the move.

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What Is a Data Center Migration?

A data center migration is any movement of data center assets from one location to another. Examples include moving to a new data center, moving to a colocation facility, moving from one room or floor to another within the same data center, and transitioning applications and services to a hybrid/cloud environment.

Data center migrations impact a variety of functional teams and roles, including:

- Data center managers
- Data center operators
- IT teams
- Facilities teams
- Network engineering teams
- Server teams
- Infrastructure teams
- Move team technicians

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Challenges of Data Center Migrations

Managing the risks and complications involved in a data center migration is a challenge even for the most experienced data center professionals.

For example, in a data center migration, you run the risk of:

- Mismanagement of teams and resources
- Ineffective use of capacity
- Inaccurate asset inventory records
- Missing or misused cabling and other hardware components
- Unfamiliarity with the new facility
- Incorrect equipment installation

Any of these issues can potentially derail your data center migration project and hinder its success.

Keep the following considerations in mind as you plan your data center migration for a faster and easier transition and to reduce the risk of unanticipated events. They also will help to minimize the time you spend post-migration on addressing mistakes and errors.

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1. Appoint a Migration Manager

With so many moving parts, it's easy for data center migrations to get derailed, tasks to be forgotten, and key stakeholders to be left out of the loop.

Yet many organizations fail to establish an undisputed leader for the migration and instead expect server, application, network, IT, facilities, and other teams to harmoniously divide roles and responsibilities among themselves.

Your migration manager will need to identify and engage all organizational functions/stakeholders that may be impacted by the migration, hold teams accountable for their deliverables, and be the key point of contact for the migration team.

Key Tip

Select a migration manager who works well cross-functionally, is familiar with the intricacies of the move, and has the communication skills to provide clear and timely updates to all stakeholders. Most importantly, your migration manager should be empowered to drive the data center migration forward to success.

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2. Don't Overplan.

Contrary to popular belief, it is possible to overplan a data center migration. How? By focusing on details that don't improve your planning or execution.

For example: Knowing that Device A is connected to Device B might sound like a relevant detail, but in the actual move, having this information is useful only if you are planning to connect Device A to that exact same Device B. In many cases, you just need to know where the devices should be placed and what the new network connectivity will be.

Key Tip

Rather than waste time hunting down details that won't help you during the migration, plan smarter instead. Determine what information you need to complete the data center migration successfully and make sure that this information is provided to the appropriate stakeholders.

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3. Create a Virtual Buildout

Many migration teams still do their planning and asset inventory manually in spreadsheets or in drawing tools like AutoCAD or Visio.

However, since these files easily become outdated and suffer from poor version control, gaining alignment on a unified vision of your new data center can be a cumbersome challenge. Visualization capabilities and your ability to show network infrastructure are also limited with these tools.

Getting key stakeholders to agree to the end result is much easier when they can see and understand it. Building out a virtual model of the deployment before doing the physical work also can uncover potential issues that can be addressed before the migration. Additionally, articulating the infrastructure design—including the cabinets, power, and network layout—graphically ensures that the various teams involved can design and integrate their parts of the deployment seamlessly.

Key Tip

Use discovery and Data Center Infrastructure Management (DCIM) software for faster, more accurate plans and virtual buildouts. Discovery software can speed the inventory practice by finding most, if not all, devices that are discoverable on your networks. Some DCIM software has this functionality as well; however, where DCIM shines is in building your virtual model. DCIM enables you to track assets and changes through a single interface. Moreover, building out your new infrastructure in your DCIM software ensures accuracy in monitoring and operating your data center from Day One.

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4. Keep in Mind Power and Network Capacity.

Whether you can design your cabinets to fit your hardware or you are constrained by the limitations of the cabinets themselves, most data center migrations place devices based only on the amount of space needed in a rack or cabinet. This is understandable given that space is typically the biggest constraint in a data center.

However, having your equipment installed in the appropriate space won't matter if you don't have enough power to run your hardware in case of a failover event. To avoid this issue, check that your IT deployment aligns with the power capacity designed for each rack and row (both on the initial move date and for future provisioning to reach failover designs).

Key Tip

Have a thorough understanding of the devices that will be housed in your cabinets and design your cabinets for space, power, and network capacity before the migration. This will help to ensure that you won't have to spend time or money after the move redesigning your racks or buying new equipment.

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5. Implement a Labeling System.

In a data center migration, much of the focus is on how to carefully pack and ship your hardware.

However, labeling each piece of equipment to indicate not only whether it should be moved but also who owns it is just as important.

Alphanumeric tags and colored labels are among the most commonly used indicators, but paper printouts can be used to uniquely identify each piece of equipment as well. Try combining a color-coded system to designate which equipment would be moved and paper printouts physically attached to the equipment with instructions for where the equipment would go, what it would be connected to, and the cabling necessary for the connections.

Key Tip

Regardless of what indicators you use, the system itself should be simple enough to minimize the risk of confusion and inaccurate migration while still conveying the required information.

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6. Install Hardware Prior to the Migration.

Migrations often take place over weekends, holidays, or off-peak hours, which makes for a limited window of time to complete your hardware move. Late nights and pushing human limits are common variables that will bring a lack of planning to light in a hurry.

- Install rail kits and any other hardware that can be installed before your data center migration. This will not only save your time during the physical move but also provide you with an opportunity to familiarize yourself with the site and check that everything is as it should be.

- Install blanking panels in fronts of cabinets where devices will not be installed. This will help the migration team to avoid installing devices in incorrect rails during their late-night efforts. Tape a cabinet elevation model to the inside of the cabinet so the team can easily see how the completed cabinet should look after all hardware has been installed.

- Ensure that the configuration of rack power distribution and sensors is completed prior to the move so that a cabinet can be tracked from first install through ongoing utilization and capacity. Furthermore, install the power cables into rack PDUs outlets or place in the floor of the cabinet for easy access during the move.

Key Tip

Do as much as you can prior to the physical data center migration to give yourself the best change of a simplified and successful moving day.

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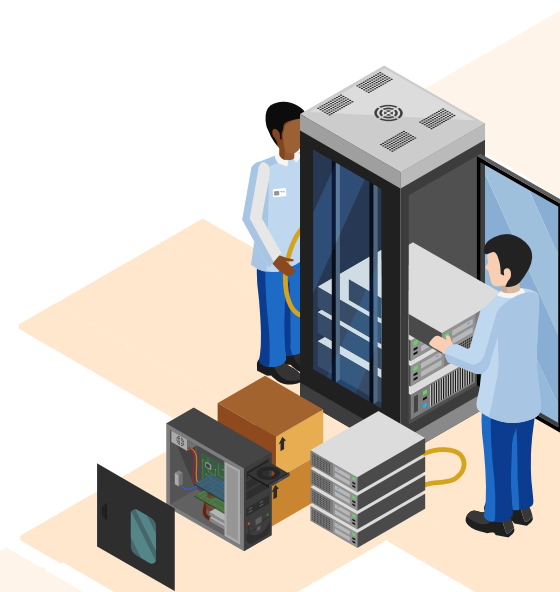
7. Provide a Work Order for Every IT Asset.

The team involved in the data center inventory won't necessarily be the team doing the physical moving and installation.

Factor in that your data center migration will probably take place in the middle of the night, and that the team will be working quickly to get it done, and it's easy to see why a straightforward, easy-to-understand work order or move plan is critical for fast, accurate execution.

Provide an easily accessible work order for each IT asset via hard (paper) copy, tablet, smartphone or another smart device, and/or laptop. Each work order should be simple to read and explain at a glance exactly which cabinet, U position, network cables, power cables, rack PDU outlets, and panel or port switches will be used for every device.

Key Tip

With each IT asset, make sure to include the right lengths of cabling required for its connections. This can make the difference between beautiful, tidy cable management and a "spaghetti" cabinet.

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Bonus. Use a Data Center Migration Checklist

With so many moving parts and people involved, it's easy for key tasks and minute details to be overlooked. **That's where a data center migration checklist comes in.**

Our Data Center Migration Checklist provides critical but easily forgotten tasks that can reduce risk and downtime during a data center move. Once you've selected a new site, use the checklist to help plan a successful transition—before, during, and after the migration.

Anyone involved in a migration can leverage this checklist for better planning and execution, to minimize unwelcome surprises, and to guard against the most common oversights in data center moves. Our Data Center Migration Checklist highlights key tasks and considerations across the following categories in a data center move:

Provide an easily accessible work order for each IT asset via hard (paper) copy, tablet, smartphone or another smart device, and/or laptop. Each work order should be simple to read and explain at a glance exactly which cabinet, U position, network cables, power cables, rack PDU outlets, and panel or port switches will be used for every device.

- Migration Project Planning
- Asset and Application Inventory
- New Infrastructure Planning
- Pre-Migration
- Migration Day
- Post-Migration

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