Data Center Relocation Services

A White Paper by MIGRA, Inc.

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Overview

Relocating your data center – whether to save money, support corporate expansion, or due to some other business condition – is not trivial. MIGRA's Data Center Relocation experts have identified the critical key success factors, including best practices and proven methodologies, to make your DCR a success. This white paper outlines:

- The business issues that drive data relocation.
- Essential considerations in choosing a new data center.
- Should you select a DCR partner and how.
- The most critical tasks that need to occur when relocating a data center.
- The five keys to successfully achieving a DCR.
- A real-world example of a successful DCR.

Make no mistake that moving a data center is a significant and complex undertaking, with many hours devoted to planning, paperwork, and the move itself. Having a clear, documented DCR plan takes time, expertise, and attention to detail. When the last device is installed and the lights are turned off at the old location, you want the process to have gone smoothly. Putting into practice the following key elements and processes will go a long way in making that a reality. It is also important to understand that there is no standard data center move. Because there are so many variables, every move is unique. Because of this fact, when looking for a partner to help you with the move you need an organization with a broad range of experiences covering many different situations. MIGRA is such an organization. Whether working directly for you or as a subcontractor to another organization, MIGRA brings their expertise to the project. With a track record that includes no failures (and never an equipment failure!) MIGRA has the process that promises success.

First Things First – Where Are You Moving

When choosing a data center, the first decision is whether you are going to move to a data center facility that you own or to a provider facility where you will co-locate your equipment. In either case, selecting a data center location takes time and due diligence. Detailed discussions with vendors and on-site visits will go a long way in determining if a particular provider's data center meets your business requirements. At the very least, a data center provider (whether that is you or a partner) should offer:

- Fail-safe security
- A redundant infrastructure
- Reliable power monitoring options
- Energy-efficient practices
- High availability and resiliency
- A history of favorable SAS70 Type I and Type II audits
- Disaster recovery capabilities
- World-class IT infrastructure and data center design
- Knowledgeable support staff dedicated to servicing customer needs through the entire relocation process

Disaster recovery capabilities are another factor to research when choosing or designing a data center. A disaster recovery facility should be available, at least as an option, and should be located in another area, far enough away from the business location to ensure each environment does not experience identical natural or man-made disasters simultaneously, but close enough that you can send your staff if necessary to support the failover process and ongoing operations. A careful review of the types of disasters that need to be planned for helps with this assessment.

The criticality of your applications and data plays the key in determining the appropriate characteristics of your new data center.

As you continue to search for a data center that meets your needs, you may also want to consider staff expertise and responsiveness as well as their ability to truly partner with you in determining the best configuration for your data center.

Selecting a DCR Planning Partner

Experience counts when selecting partner to help with your data center relocation. The selection of the right type of DCR specialist could mean the difference between a successful move with minimal downtime or a sloppy move with broken equipment and missed deadlines. Do you need one single company to do it all? That depends on you. Data center relocations are infrequent events for most businesses; as a result, your in-house staff may not have the proper skill set to manage a project of this magnitude. Even if your staff has the appropriate skills, it is unlikely that they have the time necessary to plan and execute a move while attending to their "day" jobs. If this is the case and your internal DCR team lacks specialized skills or the time, or both – whether in planning, scheduling, equipment de-installation and re-installation, and moving – then we recommend that you take advantage of the expertise a DCR specialist can offer:

- Planning assistance – Consulting advice on all the decisions that need to be made in conjunction with the project.

- Insurance – Should be included as part of the services offered. This includes damage insurance, professional liability insurance and even data recovery insurance.

- Transportation capabilities – The right type of transportation is key to meeting the goals of your move. If you have only a 48 hour window and need to move 2000 miles your partner needs to have access to air transportation. Even if the trip is only 10 miles, the right truck, packed properly, helps protect your hardware from damage.

- Experience – You want a team with experienced resources and with experience doing what you need done for your project.

- Project management – Data Center Relocation projects are very specialized. A good project manager does not guarantee a good Data Center Relocation Project Manager. Pick a partner who uses project managers with specialized experience.

- Complete end-to-end support – Your partner should be able to provide advice and/or services that cover the end to end process. For example, vendor negotiations, maintenance contract transfers, and interim insurance are often overlooked during the planning of a move. The right partner won't miss these key items.

- Proven DCR methodologies and best practices – A proven process is the single most important key to success. If your partner can't tell you how their process works – walk away!

- Ability to work with a diverse collection of technologies – Most data centers include a mix of hardware and software. No one knows everything but the right partner has access to people who can support anything.

- Comprehensive, skilled resources – In moving a data center there is the need for expertise in facility planning, power and space calculations, network design and implementation, storage/data migrations and server migrations. Your partner should be able to bring people to the project who can either consult with your team or work independently to successfully plan and execute the tasks required to complete the project.

Keep in mind this is not an exhaustive list. Use these characteristics as a starting point when evaluating and selecting a DCR partner.

DCR Methodology: The Key Differentiator

A common misconception occurs when first contemplating a data center move. The notion, "Can't we just pick up and move the servers, then plug them in at the new location?" often arises. Unfortunately, it's not that easy. There is a lot more involved in data center relocation. Relocating a data center is a significant undertaking. Without a clear understanding of the complexity of all the steps required for a relocation project, you run the risk of being off line for hours, days or weeks while problems are resolved; this could cost your company thousands, even millions! Fortunately industry best practices do exist.

The Five Keys to Achieving DCR Success

A data center relocation is one of the most challenging and complex endeavors a company can face. With mission critical information and high-stakes money on the line, it is imperative that appropriate resources be provisioned and the proper planning be executed. Otherwise you risk the possibility of losing valuable data, damaging expensive IT equipment, and losing countless dollars in downtime.
You can manage the risk and safeguard relocation efforts when you properly plan and execute the DCR process. Here we offer five keys that are absolutely essential to that process. Following these recommendations will go a long way toward guaranteeing your DCR project runs smoothly and without incident, exactly the way it is support to run.
And it's worth noting – ALL these steps occur BEFORE the first server is even uninstalled and moved to the new location.

One: Project Management

A fundamental yet critical decision to make at the beginning of the project is the selection of the project manager (PM). The PM is the single point of contact for the project, managing the timeline, people resources, risk and budget to ensure each step of the project plan is completed in the defined order while milestones are met. An experienced PM will see to it that every aspect of the pre-planning and execution process is carefully detailed, tested, and tested again.

Many companies have competent, professional project managers on staff. However, because a DCR project does not occur very often within a company it is very likely that those people are not going to have experience with data center relocations. This role is vital to the success of the relocation effort. If you don't have a knowledgeable and experienced PM on staff, look to your DCR partner to provide the appropriate skill set. Even if you appoint an internal PM (and it is highly recommended you do so) you will want this experienced professional on the team.

In addition to leading the overall project, the PM will also provide knowledge transfer to your internal PM and your technical team. This will help them with any future changes that may be required after the relocation is complete.

Two: Planning

Complete and detailed planning must take place for the move to be successful. One of the most common issues impacting the outcome of a DCR is the quality of the documentation. Often times, internal technical teams will have the information "in their heads", effectively creating a guaranteed single point of failure. Critical information must be written down and approved by both the technical team and the management team.

There are four main documents that should be created by your internal team, a vendor/partner, or most likely, a combination of both.

Present Method of Operation

The first document of record for the project is a Present Method of Operation (PMO) which is developed by the PM and the project team. The PMO comprises information surrounding the interactions of all of the components of the existing environment including

application interactions, storage requirements, existing backup plans, network connections, user locations, service level agreements, etc. This is an essential step in the relocation process as it provides the project starting point.

The PMO document incorporates diagrams, inventory lists, service level agreements, descriptions of support processes currently in use (i.e. change management, configuration management, problem management, etc.) and other data that will insure the PMO is crystal clear. It also includes the logical and physical interactions between components (hardware and software). The goal is to fully document what is being moved, the more comprehensive this document is, the more successful the execution of the move. The level of detail that this document achieves is based largely on one key decision – will the move be made in one event or over multiple events.

Desired Future State

Here, the definition of success is determined. The documentation of the Desire Future State (DFS) provides defining attributes for the project and the conditions of success. Included are any changes to make in conjunction with the relocation (i.e. virtualization, enhanced storage, technology uplift for some or all of the servers, network upgrades, etc.). It also records the expected end state in sufficient detail to all for the new environment to be administered using normal service management processes such as change management, incident management or configuration management.   The information should be detailed enough to all for the placement of all the moving components from their original location to the destination location. A fully documented DFS will allow you to progress toward an ITIL driven, process-oriented support environment.

The completion of the two documents defines the end of the "Requirements Process" and upon approval by a client, the next phase begins.

Design Plan

The Design Plan puts together all of the strategic decisions being made in conjunction with the plan. For example, you may choose to virtualize a portion of your environment in conjunction with the move. You may choose to upgrade your storage environment and do a data migration instead of moving the data on the Day of Move. You may be close enough to the new data center to bridge the network between the two which also facilitates the migration.

All of these decisions need to be discussed and documented and approved. They are the basis for the move strategy. They document the path you plan to take to get from the PMO to the DFS. While this document is normally published later, usually these discussions are taking place as part of the DFS process. In order to describe the DFS you have to have an idea of the changes you want to make.

Implementation Plan

The Design Plan is the basis for the final piece of documentation, the Implementation Plan. This includes all steps, dates, and responsible parties for the tasks to be accomplished in their proper order and with all the appropriate interactions and linkages defined. Included in this process is the development of the Day of Move Plan which documents the hour by hour details for the move event(s) that will accomplish the data center relocation. An updated project schedule is typically included as well.

There is other documentation that may or may not be required for your DCR Project. For example, a Risk Management Plan is normally created for a project of great magnitude. The Risk Management Plan documents the level of complexity and risk associated with moving or migrating applications, ensuring there are test plans and communication strategies in place to support the migration. Each risk is fully documented and a migration strategy established. A Communication Plan is another option and is created to keep stakeholders informed of the progress of the move. It may include responses from a number of different levels, such as user communication, management communication, as well as technical team communication and in some cases, customer communication.

Other standard project plan components such as a Quality Plan, Resource Management Plan, and Financial Plan may also be developed. Often these ancillary documents are produced by an internal PM while the key documentation is managed by the vendor/partner PM. One thing is certain – there is no cookie cutter approach to data center relocation, but most of the documents mentioned here are found in every successful move.

Three: Logistics

At the end of the day, making a DCR a success depends largely on logistics. Having the right people with the right skill set, at the right place, at the right time, with the right equipment are all contributing factors. During the planning phase you will have identified everything that is moving, the starting point and the ending point, the planned changes to make along the way and the timeline for the move. Unless you have an experienced logistics specialist as a member of your internal team, the vendor/partner you select to help with the move has to be able to provide that skill and resources to complete the project.

These professionals determine the size and composition of the de-installation team, the packing team, the transportation team, the unpacking team and the re-installation team. They also identify and supply skilled technicians who work side-by-side with your team.   The detailed "Day of Move" script created in the Implementation Planning Process is reviewed and refined until everyone knows what they need to do every minute of the move window. Depending on the complexity of the move, a test move may need to be scheduled prior to the actual event. This knowledge is not normally found in the internal resources of most firms and so selecting the right partner is critical to this step.

Four: Appropriate Resources

By now, it should be evident that a DCR project has to be resourced properly for it to be a success. Many times, the operations staff is asked to plan and execute these moves because the task itself is grossly underestimated in its complexity. To be successful, there needs to be the proper mix of resources – those who know the environment and those who know how to plan and execute a data center relocation.

Normally a firm will engage a vendor/partner with the expertise to augment in-house resources. The mix may vary from 25% vendor and 75% in-house (where you do the planning and project management and the vendor executes the move) to 90% vendor and 10% in-house (where the vendor provides the project management, planning and execution and you participate in the planning and execution).   Normally, the reality is somewhere in-between.   However, there will never be a successful move without some participation of in-house resources. If you don't know what the right mix should be, take some time to discuss your capabilities with potential partners to see what they recommend and why. A reputable vendor is more concerned with a successful move than they are with what percent of the work they are assigned. It is important that you are just as objective. If you know your staff is busy with keeping the lights on and doors open, don't make their participation at a high level an assumption.

Keep in mind that every move is different – resources should be customized to the situation. Nevertheless, the key is to make sure this area is not ignored. The correct resources for planning and execution are an absolute requirement.

Five: Management Support

The final key to success, management support, may seem fairly obvious. But unfortunately, it is often overlooked. Management has to be supportive of the project. They need to be kept in the loop at all times and trusted to remove hurdles that may be encountered. There is no question DCR is expensive. The management team has to understand the process at all times so they can report back to stakeholders and keep them informed.

Furthermore, this means that the management team has to be supportive of potentially deferring operational changes during the move. A data center that is changing all the time is much harder to move than one that has been stabilized during the planning process. The deferral of operational changes also provides some time for the operational staff to participate in the process.

Other Important Decisions

One of the questions that are always asked is whether these projects should be paid for in a fixed price contract or on a time and materials basis. At MIGRA we have done it both ways but here are some thoughts to consider when deciding your preference.

1. The planning process timeframe is often determined by the availability of your staff. We have general estimators that we can use based upon the number of servers, storage arrays, network complexity, etc. We typically prefer to invoice on a time and materials basis for this phase because we know that unexpected delays are almost always going to occur. If we bill on a T&M basis we only invoice for the hours we are working on your project. If we have to provide a firm fixed price it will be based upon the number of hours we think it will take plus some risk factor based upon delays that we think may occur. At the end of the day, for consulting projects that are priced as fixed price, generally someone is either over-charged or under-paid. With T&M you know exactly the number of hours that were invoiced, can compare it to the estimate in the proposal and then have discussions about what caused the variance. At MIGRA, we never go over the proposed number of hours without that discussion.

2. For the Move Event phase we typically recommend fixed price contracts. We know what it costs to move the various items, disconnect, reconnect, document, etc. Once the plan is completed there really isn't any guesswork. We are moving X number of devices, some number of miles in some amount of time and there are no longer any unknown variable. We allow for a 10% difference before a Change Request is in order.

3. Finally, we recommend that you have us provide you with a hybrid proposal that has the T&M consulting as Phase 1 and the Fixed Price Move as Phase 2.