



Keys to a Successful Data Center Relocation

A StraTech White Paper
February 2010

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What You Will Learn

Relocating your data center – whether to save money, support corporate expansion, or due to some other business condition – is not trivial. Together with our Data Center Relocation Partner Hi-Tech Transportation, StraTech data center 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 center 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.

Business Issues Driving the Need for DCR

In an effort to survive in today's challenging economic climate, more and more companies are relocating their data centers. There are solid business reasons for data center relocation (DCR): consolidation of regional centers into a single site, mergers and acquisitions, and corporate relocations. Other, more cost-related triggers include: aging infrastructure, insufficient power or cooling, space limitations and lease renewal. Regardless of the business decision to relocate a data center, the same level of careful planning, experience and expert execution is required to make the move a success.

How to Choose a Data Center

When choosing a data center, the first decision to make 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 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 capability
- World-class IT infrastructure and data center design
- Knowledgeable support staff dedicated to servicing customer needs through the entire relocation process

A data center infrastructure that is fully-redundant, with primary systems and backup methods for all critical components, is an absolute necessity. You want to know that your data is protected 24x7x365 and available 99.999% of the time. If you are building your own facility these are critical considerations. If using a partner you should learn if the data center provider has received a favorable SAS70 audit, the standard for IT service organizations, which confirms the reliability, security, and availability of stored data.

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 region, far enough away from the business location to ensure each environment does not experience identical natural or man-made disasters simultaneously.

The facility itself should be sturdy, exhibit low risk in terms of natural disasters such as fire and earthquakes, and should be secure. Energy efficiency is also something to keep in mind as it can save significant expense reflected in your monthly provider fees or your own run rate. Fire detection and suppression, power supplies, and HVAC can impact the integrity of your data as well; make sure you understand the variables surrounding each of these.

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 a 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 “real” job. 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 recommended you take advantage of the expertise a DCR specialist can offer:

- Planning assistance
- Insurance
- Transportation capabilities
- Experience
- Project management
- Complete end-to-end support
- Proven DCR methodologies and best practices
- Ability to work with a diverse collection of technologies
- Comprehensive, skilled resources

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: A Method to the Madness

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 supposed to run.

And it’s worth noting—ALL these steps occur BEFORE the first server is even uninstalled and moved to the new location.

The more comprehensive the PMO, the more successful the execution of the move.

StraTech can provide the skilled support needed to successfully manage the project planning effort.

The 4 Must-Have Docs

1. Present Method of Operation
2. Desired Future State
3. Design Plan
4. Implementation Plan

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 your 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 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 any other data that will insure the PMO is crystal clear. It also includes logical and physical interactions between components (hardware or 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.

Desired Future State

Here, the definition of success is determined. The documentation of the Desired 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 servers, network upgrades, etc.). It also records the expected end state in sufficient detail to allow 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 allow 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 these two documents defines the end of the “Requirements Process” and upon approval by a client, the next phase begins.

Design Plan

The project team is responsible for creating the “roadmap” for getting from the PMO to the DFS. This document, called a Design Plan, includes the various move groups, any new hardware and/or software that might be required, pre-requisite steps required or desired (such as virtualization), known risks along with the contingency plans for the risks, a high level timeline, communication plan and the impact of client processes on the design. The end result should provide a good understanding of the process that will be used to accomplish the data center relocation and any incremental budget that might be required to acquire the enabling components.

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 a 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 mitigation strategy established. A Communications 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.

The Design Plan is the basis for the final piece, the Implementation Plan.

Optional Docs

- Risk Management Plan
- Communications Plan
- Quality Plan
- Resource Management Plan
- Financial Plan

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 the 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 as directed). Normally, the reality is somewhere in-between. However, there will never be a successful move without some participation of in-house resources.

Keep in mind that each 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.

Because every move is different—resources need to be customized based on the situation.

A DCR Success Story

The Situation: ESL Federal Credit Union made a decision to relocate to a new custom-built facility housing corporate offices, headquarters, operations, and a data center. Plans for the data center included significant upgrades as well as new hardware acquisition. The facility was designed to house all data center operations plus include room for future growth. This represented a significant improvement to the current location where space was limited and devices were located randomly throughout the building.

Project Requirements: Relocate 200 servers and devices to the new location over a holiday weekend beginning after the 2pm close of business day on Saturday and returning the data center to normal operations by Sunday afternoon. Approximately 80% of the devices had to be relocated and fully operational in a twelve-hour-move window.

A Strategic Solution: Planning for the migration began eight months prior to the move date. Recognizing the need for professional expertise, the client selected Hi-Tech Transportation and their partner StraTech to assist their staff plan and execute the move.

The StraTech Project Manager led the intensive eight month planning process using a four phase process: (1) Requirements Gathering; (2) Design Planning Process; (3) Implementation Planning and (4) Execution. Planning was completed in the first six months with Day-of-Move scripting taking place for the next two months.

In the first phase, the team documented the Present Method of Operation (PMO) that formed the basis for all the following phases. During the process, subject matter experts augmented the work of the staff team, developing detailed inventory lists and drawings as well as documenting network and application linkages. Using the previously created PMO, the planning team then developed the recommendations for the Desired Future State (DFS).

With the PMO and DFS identified and approved by the client, efforts shifted to the design phase where the “roadmap” to get from the PMO to the DFS was created. Here, new equipment needs were identified, changes to the telecommunications architecture were developed and the new building network was designed.

The Implementation Plan included rack layouts and data center cable schematics. There was a comprehensive list of each task to be completed in advance of the day of the move, including hour-by-hour tasks, owners and prerequisites. The detailed Day of Move (DOM) Plan identified three move groups to reduce down time and limit risk. In addition, the new location was integrated into the overall network infrastructure (via a new network infrastructure installed at the new location) so that all network capabilities were able to be tested in advance of the move.

As much equipment as possible was installed in advance and all cabling was prepositioned to reduce actual downtime on the day of the move. At every step along the way, the combined teams of ESL, Hi-Tech, StraTech and other ESL vendor/partners worked as a coordinated unit to ensure the new ESL Data Center was ready when required.

Eight months of planning to move 200 servers in a twelve-hour-move window.

The right combination of project management planning, logistics, resourcing, and leadership made the move a success.

Conclusion

This move clearly demonstrates the **five keys** needed for a successful move: **Project Management**, solid **Planning**, a great **Logistics Partner**, **Management Support** and **Appropriate Resources**. In this engagement, every detail of pre-planning and execution was carefully documented and tested. The client was also able to dedicate appropriate resources to insure the planning was comprehensive—assigning a professional project manager to oversee the move helped guarantee success. StraTech, in partnership with Hi-Tech Transportation, worked closely with the client's project manager to ensure every step of the project plan was completed in the defined order and milestones were met. Additionally, ESL's management team was actively engaged in the project from start to finish, which explains how the appropriate resources were able to perform as well as they did. Finally, this client selected the Hi-Tech/ StraTech team as their logistics provider. Hi-Tech was able to take the move requirements and convert them into a customized Logistics Plan designed to meet the client's specific deadlines. The right combination of skilled project management, planning, logistics, resourcing and leadership made this data center relocation an overwhelming success!

StraTech and Hi-Tech Transportation: Partnered to Serve You Best

StraTech, together with Hi-Tech Transportation, offers end-to-end DCR capabilities to achieve successful, incident-free data center relocations. From project planning and management, to the actual move, plus everything in between, we can meet your requirements, satisfy your needs, and exceed your expectations.

More than just a data center relocation partner, StraTech has over 20 years of data center experience including hosting, infrastructure design, IT consulting and more. Our data center capabilities include:

- Fault-tolerant and secure data centers featuring AllWaysOn™ technology
- 24x7x365 system monitoring and IT management
- SAS70 Type II compliance
- Fully redundant network infrastructure
- Guaranteed 100% service uptime
- Full access to StraTech's certified engineers
- Embedded disaster recovery capability
- Disaster-proof data center management systems
- Construction techniques and cutting-edge technology that guarantee data security in the event of a disaster

Trust StraTech and Hi-Tech to ensure your data, your applications, your equipment are always protected. We have the experience, skill, and resources needed to make your DCR a complete success.

About StraTech

StraTech is an IT solutions provider of data centers, IT consulting and infrastructure, and managed services. Our comprehensive suite of IT infrastructure services combined with our highly-secure and reliable data centers, allow us to address the critical needs of our customers: data protection, disaster recovery, and virtualization. To learn how StraTech can advance your IT efforts, visit www.stratech.com.

About Hi-Tech Transportation, Inc.

Hi-Tech Transportation provides the comprehensive planning, technical skills and best-practices required to achieve a successful, incident-free data center move. Offering the highest level of service and protection in the industry, including a private fleet of company-owned trucks to transport your most mission-critical information, we stand behind our services, assuring complete customer satisfaction. Find out how we can make your data center relocation a success.

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