A White Paper by

ALTUS TECHNOLOGIES CORPORATION

Data Center Migration Planning Check List

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Introduction

Data center migrations are among the most complex projects that a project manager or IT professional can undertake. The biggest problem that we have witnessed is that most organizations think that all migrations are very similar and all you need to do is find an old migration plan that worked and copy it.

Problem Statement

The problem is that while the migration methodology can be re-used; the plan itself cannot. Each migration is unique as a snowflake. The chief reason for this is that the relationship between applications and servers represents a unique set of dependencies in every organization and probably unique in each facility in an organization.

Altus Solution

To assist you in getting started we have compiled a Data Center Migration Planning Checklist to help you begin your migration planning and to make sure you get headed in the right direction early so you can take full advantage of the time you have been allotted for your project.

Checklist

1. **Treat the relocation as a business issue, not a technical issue.**

From a technical perspective, relocation plans can be pretty straightforward. From the business perspective, it is a much more complicated issue, especially when you consider cost, risk, and customer service level agreements.

In a perfect world, there is only one way to relocate a data center. You start by replicating all of the equipment, test everything fully, and *then* migrate the workload and data. It's the least risky approach, with a built-in back out capability.

However, it is so expensive that very few companies do it that way. You will have to balance the best technical solutions with the needs of the business. You need to let the business executives make the final decisions, not the technical staff. Data center relocations are *always* a business issue.

2. **You can never over plan this project.**

Data Center relocations by their very nature are complex. The further you can drill down into the detail, the less likely you are to miss something. The problem here is that in almost every case, you will find that it will take hundreds of hours of work to get all the detail you need. The worse thing you can do is to use just high-level information without really thinking it through. The more detail you have, the more likely that someone is going to catch a problem before it becomes a disaster.

3. **Plan For The Worst**

A healthy streak of paranoia is not a bad quality to have when planning your relocation. It is important to understand the interrelationships between your systems, both from an infrastructure and a business-flow perspective. By building good contingency plans to address any unexpected problems quickly, efficiently, and with minimal business interruption; you will lessen the business impact for any "move group" that encounters problems.

It is always better to have a contingency plan that you don't use then to need a contingency plan that you don't have.

4. **Make performance a concern during planning**

Unless you are planning a "big bang" single move event, you are looking at a couple of weeks or possibly months to complete the move to your new facility. During interim stages, some systems will operate from their original locations while others will operate from the new center. Putting distance between servers – even temporarily – can crush performance.

The impact that this separation between servers has on application performance can be dramatic and unexpected because computing processes are almost never designed to accommodate significant inter-server latency.

You might not have many application turns between the client and the front-end application, but there are probably many turns between the servers. Thus, if distance between these servers is introduced during a move, there could be a severe impact on application performance.

Any IT organization planning a data center move must therefore ask a variety of questions. What happens when servers with critical inter-dependencies are temporarily separated? Which servers must be moved with other servers? When should Active Directory servers be moved? Which servers will need to be replicated for the duration of the move?

5. **Keep changes to a minimum**
Making a lot of changes to your environment will limit your ability to plan effectively and thoroughly. These changes will also pull your resources into other activities that will reduce the time they spend planning your relocation.

6. **You cannot over communicate your planned activities**
Outage impacts should be discussed early with your internal and external business users to manage their expectations of what the migration will entail.

You should review your initial move plans with all of your equipment vendors. Special shipping containers or vendor personnel may be required to maintain equipment warranties.

7. **Apply dedicated resources from your staff**
One of the top five reasons that relocations go poorly is that the project either did not get enough focus from knowledgeable staff members (because they still have their regular job to do) or the best/brightness of the IT staff was not allocated to the project (because it was a very long project).

Most companies fail to adequately staff relocation projects because they are seeking a project cost reduction by using part-time resources or they are concerned about the impact on normal activities during the long life cycle of a relocation project. They usually neglect to consider the cost of lost revenue due to downtime, and any cost overruns that occur when execution falls behind schedule when making these staffing decisions. The staffing decision ultimately comes down to one key question, "What is the cost of failure?"

8. **Know what it is you are moving**
Create/Verify a current inventory of all of the physical equipment that exists in the sources data center and that includes logical environments too. You need to know what you are moving because an accurate inventory is the foundation of any migration plan. Once you have a physical / logical inventory, you will then need to create an application to server mapping, document any network circuit usage, and note any backup requirements with any associated items like backup tapes.

The inventory will help you identify any long lead-time items like bandwidth provisioning or special equipment needs.

9. **Understand the risks inherent in your Data Center Relocation.**

Risk and uncertainty shadow every project but loom large over projects such as data center relocations. A relocation project involves using multiple layers of personnel within an organization to pull together information from diverse sources to identify the potential risks. If you have never participated in a relocation project before, you probably have little knowledge of all the risks and hazards that can await the unknowing relocation team.

Each relocation has its own set of challenges, such as the destination not being ready for occupancy on time, delayed equipment delivery or the loading dock not being large enough to accept the equipment. Not only do you have to plan for risks occurring, but you also need to include time in the schedule to accommodate changes and adapt to modifications of the plan as issues surface.

Project risks are anything that if they were to occur would have a negative impact on the project in terms of time, money, or effort. Understanding these risks early allows you to pro-actively address them so that they have a minimal impact on the overall progress and success of the project.

10. **Engage an experienced relocation team as soon as possible.**

Your internal resources know everything they need to know about how to operate your systems but moving a data center is no easy task. So, let trained professionals worry about migration activities, as it will take significant professional project management coupled with relocation experience to address the task of relocation without accepting significant risk or incurring unnecessary costs.

One of the most wrenching of pitfalls that IT organizations make when doing a data center relocation is either they don't get the right people to the table early enough or they don't allocate enough of their time to the project. There have been several relocation projects where the "wrong" people were assigned to critical tasks. This mistake is quite common, and can be quite disastrous. Don't let your relocation become the poster child for one of these failed data center relocation studies

Summary

Altus Technologies Corporation has been a leader in data center relocations for several years. Based on our experience gained in doing those relocations, we recommend that you contact us *BEFORE* you start planning your data center move. Allow us to bring our expertise and insight to bear on your project so we can led you through the "mine field" that can wreck your project during the planning stages. *Remember, lost time can never be recovered.*

Contact our experienced team today to schedule a no obligation review of your data center migration project and to discuss how Altus Technologies Corporation can help you.