



Data Center Relocation Services

ICS brings in-depth skills and practical experience in data center relocations to every relocation assignment. We leverage proven methodologies and tools to complete relocations on time and within budget. Our well-planned, detail oriented services will reduce both the risk and cost of critical relocation projects. Our success speaks for itself.

This document describes in more detail the various phases of our data center relocation services to provide you with important insight as to how the ICS methodology ensures that you have a successful data center relocation.

Contents

- MIGRATION STRATEGY REVIEW AND VALIDATION.....2
- DESIGN, BUILD AND MAINTAIN RELOCATION REPOSITORY.....2
- RELOCATION BUDGET DEVELOPMENT.....3
- RELOCATION PROJECT PLANNING AND PROJECT MANAGEMENT.....3
- RELOCATION VENDOR MANAGEMENT.....3
- DATA MIGRATION SERVICES.....4
- EQUIPMENT TRANSITION PLANNING.....4
- DATA BACKUP AND CONTINGENCY ANALYSIS.....5
- COMMUNICATIONS AND CONTROL PROCESS DEVELOPMENT.....5
- HOUR-BY-HOUR EVENT PLAN DEVELOPMENT.....5
- DATA CENTER INFRASTRUCTURE PREPARATION REVIEW.....6
- TESTING STRATEGY VALIDATION.....6
- EXECUTION MANAGEMENT.....6

Migration Strategy Review and Validation

The migration strategy review encompasses network and system configurations. As part of the review process, we will need to understand the overall strategy for the targeted end state environment. Specifically, what are the projected roles of the new data centers in supporting the production and development workloads or in supporting a strategy for internal disaster recovery. The common tasks to review and validate the existing migration strategy include:

- Review the “final state” data center configuration
- Identify Decision Issues
 - Assess the current migration strategies/plans, schedules, risks and constraints and identify and prioritize the issues that need to be addressed
- Develop Alternatives and Facilitate the Decision Process
 - Prepare decision support data for appropriate managers and assist them to analyze and decide upon issue resolution alternatives
- Revise Strategies, Plans and Schedules
 - Roll up the consequences of the decisions and their impacts into the overall strategy and develop or revise schedules as necessary

Design, Build and Maintain Relocation Repository

The Relocation Repository can support a wide variety of objectives within a relocation project. Once the objectives are defined, the repository structure can be customized to support those objectives. The information collection process is supported by software tools that will convert various data formats into compatible database records and will perform report scraping functions against reports generated from common configuration and backup management products. The following steps are required to build and maintain the repository:

- Assess Current Inventories
 - Information Source and Format
 - Accuracy & Currency
 - Maintenance Processes
- Customize ICS Repository (if requested by client)
- Customize Repository Load and Maintenance Process
 - One Time Load Utilities
 - Custom Interfaces (e.g. Asset Management Products, BCP Products)
 - Change Management Interfaces

The Relocation Repository can support most of the planning and execution activities. We strongly recommend that a repository be built to support the inclusion of the relationships between

business products, application systems and the server/system configurations that support these applications.

Relocation Budget Development

The relocation budget process is developed in two stages. The first stage identifies the cost categories and corresponding cost estimates based on relocation experience, specific factors within current relocation project and initial discussions with probable support vendors. Differentiation between technology refresh cost and actual relocation cost requirements should be understood and documented at this stage. Additionally, a contingency budget amount for each category is normally added to account for variances down the line. The second stage of budget development covers detail vendor negotiations and commitments for equipment, labor, communications and miscellaneous relocation expenses.

Note that target data center preparation costs, covering items like cabling, power distribution, new rack configurations, etc are sometimes included in the relocation budget. Some of these expenses are incurred well in advance of specific relocation events and will need to be identified and detailed early in the budget process.

Relocation Project Planning and Project Management

Our standard process used to support the detail project planning effort includes:

- Assemble the Master Plan and Detailed Planning Charts
 - Define milestones, critical paths, staffing requirements and schedules
 - Identify sub-project plan requirements and responsibilities
 - Extract and tailor tasks from our planning database to support selected strategy
- Sub-Project Integration
 - Review project plans and identify inter-relationships and dependencies
 - Expand plan details where needed to support required planning visibility

The project management process focuses on maintaining the Master Plan rollup of the sub-projects as well as issue identification and resolution. The project management methodology incorporates MS Project for overall progress tracking, a project book for recording week to week status, new issues and issue resolutions.

Relocation Vendor Management

Vendor services are needed through out the relocation process to support specific tasks such as:

- De-installing and installing equipment
- Moving equipment
- Data Center preparation (e.g. rack installation and cabling)
- Network installations
- Electrical and mechanical engineering support
- End to end data migration services



- Maintaining security of equipment during move event

Initial vendor selection requires documenting requirements, distributing Requests for Proposals (RFP) and subsequent RFP review. Once vendors have been selected, vendor activities must be managed and coordinated. In many cases there are interactions or hand-offs between vendors that are critical points in both preparation activities and relocation event activities. In our experience, we have found that a centralized approach to managing these vendor services eliminates many of the problems that can result from communication gaps. Our methodology for this process includes conducting vendor meetings and relocation walk-thrus where all vendors participate. We also assist the client in defining scope of vendor services and negotiating the service contract to ensure vendor coverage includes spare part availability, critical skill resource availability and well defined escalation procedures. Our relationships and internal contacts with key hardware vendor resources provides additional cross checks in the analysis and review of critical timing estimates provided by local vendor representatives (For example, in one case we were able to identify a significant alternative time table to moving a virtual tape configuration – reducing the time estimate by more than 8 hours).

Data Migration Services

Depending on the relocation strategies employed (e.g. swing equipment, lift and load, backup and restore, remote copy, etc.), and the overall size of the move, there are a number of steps supporting data migration and/or data audits that can be automated to reduce both the time and risk of the data migration such as:

- Critical Data Identification
- Tape Data Analysis
- Remote Copy Audits
- Data Copy Scheduling
- Tape Media Audits

Coupled with our experience with the leading vendor product offerings for data replication, ICS will effectively employ these technologies (as well as traditional data copy technologies) to support data migration requirements.

Equipment Transition Planning

Our methodology calls for grouping and organizing equipment inventory to meet the following objectives:

- Fastest, safest migration/re-install and validation process to reduce risk of an unplanned outage
- Reducing overall move event outage time
- Managing impact on business community by associating equipment to application to business function (information stored within relocation repository to support this type of



relationship analysis). Provide ability to schedule move events without impacting same business function within set time periods (e.g. not more than once a quarter)

Data Backup and Contingency Analysis

This analysis, supported by automated tools, provides a detailed review of data protection requirements to support the relocation strategy. The current backup and restore processes may need to be altered to support the relocation process to ensure:

- Data recovery capability
- Data backup and recovery timing “fit” within relocation event time parameters (timing information is maintained in repository to support detail event planning)
- Procedures are in place and tested to support recovery and/or fallback steps if they would be needed

Communications and Control Process Development

The communication process to support move events from multiple locations requires the establishment of a move coordination team. We can provide services to support the development of the team’s coordination processes and procedures and we can supply the team leader or experienced members where needed. The processes and procedures must include:

- Designating and establishing a Command Center / War Room area
- Providing electronic status tracking capabilities
- Establishing problem reporting, tracking and escalation procedures
- Defining management checkpoints for status updates and making go/nogo decisions
- Establishing open bridge lines for individual focus groups
- Establishing communications methods with all required locations (e.g. loading docks, from/to data centers, staging areas)
- Developing and managing control processes for responsibility hand-offs at the detail level

Hour-by-Hour Event Plan Development

The management of a complex move event requires a detail hour-by-hour activity plan and corresponding detailed staffing plan. Some of the critical objectives of a detail hour-by-hour relocation plan include:

- Ensuring early as possible testing of critical configurations
- Establishing staff location and function by time within event
- Defining the critical milestones for status reporting and overall time checking
- Validating recovery time windows and understanding potential outage impact
- Defining contingency/fallback decision points and tasks

We understand the key requirements for an effective hour-by-hour plan. The difference is not necessarily in number of tasks/events in the plan, but in the identifying the important checkpoints where it can be determined if the event is in jeopardy and contingencies must be invoked.

Data Center Infrastructure Preparation Review

Provide recommendations on steps to support the pre-production certification and preparation of the data center facility prior to production status.

- Plans for integrated testing of data center facility infrastructure components
- Preparation of pre-production data center space
- Maintaining production integrity of data center during relocation events

Testing Strategy Validation

We can support the effort to define the testing requirements necessary to support the relocation process. As part of this support, we will review and validate existing test plans where they have been designated for use in this project. The testing plans for validating relocation events generally do not have the same objectives as plans for supporting standard application or infrastructure change events. The minimum test plan requirements for relocation events must include:

- Pre move network test plans
 - Data center (e.g. cabling/switch/infrastructure connectivity)
 - Switched line infrastructure
 - Private line migration testing
 - Frame Relay providers
 - Voice requirements
- Base hardware diagnostics test plans
- System platform infrastructure and connectivity validation test plans
- Database integrity test plans
- Application test plans (not same requirements as typical change event test)
- Extended storage integrity testing (additional backups post application test)

Execution Management

After all of the planning and preparation is complete, management of the actual relocation to ensure that all tasks are executed in the proper sequence and that resources are managed to support both planned and unplanned activity. Prompt and concise decision making is essential during time constrained events and a dedicated execution management process and team will ensure the success of a well planned move.