EXECUTIVE SUMMARY

When a busy, mission-critical data center outgrows its current facilities, or when it becomes difficult to achieve the desired performance and reliability in an in-house data center, relocating to a specialized Internet-based data hosting environment is becoming the most attractive option for more and more enterprises. This can be especially true when data centers must be consolidated due to a merger or acquisition.

However, the process of relocating a fully operational ‘must-have’ data center is a complex undertaking that demands meticulous planning and implementation to assure a successful transition. This article outlines a migration methodology developed by AT&T Network Integration, which has proven successful in a series of highly critical data center relocations or migrations. The article also summarizes the pivotal issues that must be considered at each step to avoid the most common pitfalls and dangers inherent in a relocation.

Introduction

As forward-thinking enterprises are discovering, the task of operating and maintaining high-performance data centers in-house is becoming more and more complex, and increasingly harder to justify, especially as web- and server-based applications become critical to every aspect of daily operations. This is especially true for enterprises that may have inherited a number of disparate data centers through acquisitions or mergers; multiple centers mean duplication of resources and management complexity.

Many IT teams also face the problem of providing a ‘hardened’ highly reliable environment for the data center in conventional office facilities. It is costly – and often impossible – to outfit generic office space with the same kind of protective and support infrastructure provided in the more advanced, purpose-built hosting environments.

AT&T’s Internet Data Centers, for example, are constructed with integral, electronics-friendly fire suppression technology, redundant uninterruptible power supplies, as well as high-performance environmental management systems, and multi-layered security measures. Each AT&T Internet Data Center supports clients’ data operations and provides network redundancy and path-diverse entrances and exits. Hosted applications are connected via dual access routers to the AT&T IP Network through multiple network access points – providing a level of bandwidth and fail-safe connectivity that would be cost-prohibitive to install in an office campus environment. In addition, AT&T Internet Data Centers meet Tier IV industry hosting standards, which require the most stringent fault-tolerant architecture and redundancies – difficult to
How To IDC

achieve in a small, company-housed data center. The Centers also undergo SAS 70 Type II auditing every year, assuring that the hosted data is protected by adequate control measures.

Planning the Move

For any transition – whether to a specialized Internet-based hosting environment or to any new location – the key is to design a process that:

- Minimizes or eliminates downtime and loss of functionality during the move
- Integrates the new data center into the existing network infrastructure
- Maintains or enhances the performance, disaster recovery and business continuity support of the data center operations

Overall, the process should start with a thorough audit of the existing data center to accurately inventory the equipment, functions, and processes that will be moved to the new location. AT&T Network Integration teams, for example, typically begin by detailing everything from the hardware to the data assets and processes that are currently housed in the data center.

From there, the process involves mapping the existing center to the new location, specifying the new technologies to apply, and identifying the applications with dependencies and the system and LAN/WAN equipment that is to be replicated. This is the must-have list for the new location; detailing the resources required in the new location, and designing of the new data center architecture. Most enterprises discover that a relocation presents a logical opportunity to dispose of outmoded hardware, to upgrade or enhance software, and otherwise improve the technological underpinnings of the data center. These opportunities should be clearly mapped out and planned in the overall relocation strategy.

Specifying the Hosting Options

When transitioning to a specialized hosting environment such as the AT&T Internet Data Centers, the planning should address the level of services that best support the enterprise operations in the new location. For example, depending on the needs of the business, resources, and the like, AT&T’s hosting services allow a company a choice of:

- Monitoring and Management Options
- Hardware and Software Options

The Advantages of Internet Hosting

- Purpose-built, dedicated facilities
- Network redundancy
- Uninterruptible power supplies
- Fault-tolerant architectures
- Integrated fire suppression systems
- State of the art security
- Assured backup and recovery
- Traffic monitoring and management options
- 24 x 7 support

In addition, issues such as 24×365 staffing support, the need for resilient back-up and restore options, and sophisticated traffic monitoring and management capabilities make the business and technical case for specialized hosting environments even more compelling.

On the other hand, the idea of packing up and physically moving a busy, mission-critical data center — or consolidating several smaller ones — can be a daunting prospect, especially for IT teams without direct, hands-on experience with the complexities of migrating networks, applications and systems.

After managing scores of data center moves and consolidations, AT&T Network Integration has developed a methodology and approach that allows for very efficient moves that avoid the myriad pitfalls and risks involved in a relocation.
• Database Clustering
• Managed Load Balancing
• Managed Security Services
• AT&T Direct Control
• Intelligent Content Distribution Service
• Managed Storage Services

Getting There
Once the requirements are set, it’s a matter of preparing a project plan that takes into account a highly detailed and granular Work Breakdown Structure, which includes a comprehensive list of the specific tasks that must be completed – and when – at both ends of the move.

The multi-layered tasks involved in a move usually require a number of specialist providers and vendors who must be carefully and centrally coordinated to assure a smooth relocation. For example, when managing a relocation for a client, AT&T Network Integration typically serves as the Single Point of Contact, responsible for interfacing and coordinating with everyone from the client IT team to the movers, hardware/software providers, as well as the engineering teams at the hosting facility.

Where It Can Go Wrong
A project as complex as data center relocation can fall prey to any number of difficulties, ranging from strategic and planning shortcomings, to ground-level problems in the physical move. AT&T Network Integration teams find it critical to avoid the following common pitfalls:

### Essential Migration Elements

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An Inappropriate Cutover Strategy
Depending on the nature of the data center’s operations, business requirements and technical structure, there can be any number of ways to transition to the new data center. For example, the optimum cutover method can range from an incremental phased cutover, to a fast, one-weekend transition or somewhere in between. The decision depends on the expectations of the market, customers, or users. Do users expect 24x365 access? Or is it primarily business-day? Or some other model? There is also the question of how your functions reside on the technology and infrastructure. Are you operating essentially one system or function? Or does your data center rely on multiple functions and processes?

Inadequate Site Documentation
Even though the actual hardware and software may be deployed in an outsourced location – such as an AT&T Internet Data Center – the enterprise should always have access to detailed documentation of the data center, which must include physical and logical equipment diagrams, rack elevations, and cabling diagrams. Using an external solution does not mean sacrificing knowledge or understanding of data center operations and architecture.

Low-Visibility Management
Moving to a specialized hosting environment should not limit or decrease the information available to the data center manager. In fact, in the case of AT&T Internet Data Centers and AT&T Hosting Services, the enterprise IT team can actually have more visibility across their

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AT&T Hosting Services offers an impressive array of flexible and comprehensive web services to ensure uninterrupted access to your critical data and applications.

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environment about their network fabric layer, application infrastructure and business application layer through the AT&T BusinessDirect® Portal. An enterprise should never sacrifice access, control and insight for the convenience and cost-effectiveness of a specialized hosting environment.

The AT&T Network Integration Approach

For the IT team faced with a center relocation, a consolidation, or a transition to an Internet-based Data Center, AT&T Network Integration offers:

• A single point of contact for the migration of the data center infrastructure, including third party vendors
• Development and execution of master project plans, implementation plans, and project status reports
• Coordination of the moving of equipment and racks including packing, movers, trucks, and packing materials
• Management of re-racking of equipment within the new data center

Conclusion: Expert Help Will Avert Problems

Transitioning to a specialized hosting environment – or simply consolidating multiple inefficient data centers – can dramatically improve the reliability, efficiency and resilience of internal and web-based applications. But making the move from an in-house operation to a hosted environment must be carefully planned, executed, and tested to assure a seamless transition. It is critical to rely on real-world, hands-on experience with actual relocations.

“If I didn’t have AT&T managing our servers, I’d need to increase our MIS staff to cover 24 hours a day. I try to keep operating costs as lean as possible. AT&T’s management of our web servers provides a very cost-effective kind of outsourcing.”

Sam Ash
Sam Ash Music

Sam Ash, the renowned supplier to musicians worldwide, opted to host their fast-growing online retail operations at AT&T Internet Data Centers to deliver a high level of service without straining their internal resources.

Says founder Sam Ash, “If I didn’t have AT&T managing our servers, I’d need to increase our MIS staff to cover 24 hours a day,” Ash said. “I try to keep operating costs as lean as possible. AT&T’s management of our web servers provides a very cost-effective kind of outsourcing.”

If you are considering a relocation or migration, the expertise and experience of AT&T Network Integration can be helpful in deciding on a seamless and trouble-free course of action.

For more information, visit www.att.com/ni.