

Data Center Consolidation: Risks and Rewards

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Generally speaking, organizations undertake data center consolidation to reduce cost and improve efficiency or in support of strategic goals—such as improving security, implementing a disaster recovery strategy, or perhaps streamlining compliance with regulations such as the Sarbanes-Oxley Act. While “data center consolidation” is sometimes used to mean “server consolidation” or “facilities consolidation,” to drive the full benefits available, it should also encompass network, platform, application, operations, workload, and storage consolidation.

Regardless of the initial driver, data center consolidation can provide a number of benefits. Economies of scale can considerably reduce the cost of IT purchases and management now and in the future. Reducing complexity in the environment can lead to increased quality and reliability of applications, resulting in higher service levels. Improved utilization rates for applications and platforms can reduce operating costs. Increased efficiency of the operating environment can enable administrators to be more productive and better able to proactively manage from a more strategic level. And, of course, strategic goals such as improved security, disaster recovery capabilities, and compliance can also result. The potential benefits are substantial, but only if planned and executed properly. If not, the risks can be greater than the rewards.

Common Pitfalls

Some data center consolidations fail to meet their anticipated financial or operational objectives. Others take far longer to implement than planned. While the specifics of each situation may vary, the list of pitfalls leading to such disappointments is fairly standard.

Size and scope of the effort required are underestimated. A data center consolidation is a complex initiative. Failure to properly understand, prepare for, document, and communicate all requirements—technical, operational, personnel, logistical, and even political—can doom a project from the start.

The function of third-party service providers is not fully understood. Some organizations assume that, when they contract with a service provider to assist with their

consolidation project, that vendor will handle all facets of evaluating the current environment, designing a solution, and implementing and managing the consolidated environment. Be sure to confirm what exactly the service provider has contracted to—and is capable of—delivering.

Tools are inadequate. The tools an organization is using to monitor and manage systems in its current environment are frequently insufficient to handle the needs of the new environment, particularly when the consolidation involves migration to new platforms or new operating systems.

The wrong staff is assigned. Some organizations focus on “head count” when assigning administrators to the new, consolidated environment, without reviewing, matching, and updating, as necessary, the skills of those individuals. Make sure assigned staff has the appropriate training to work efficiently with the tools and technologies in the new environment.

Adaptability to changes during the consolidation process is insufficient or non-existent. Inevitably, changes will impact the business even during the course of the consolidation project. It is critical to build flexibility into the implementation phase to avoid unnecessary disruption and downtime.

The business case cannot be validated. Even after a successful, phased deployment of a consolidated environment, if the benefits of the consolidation cannot be adequately measured and validated, the consolidation may be deemed a failure.

Failure to plan thoroughly and thoughtfully. To maximize the benefits of consolidation with minimal cost, complexity, risk, and disruption, it is crucial to plan and validate all steps of the project, including the project timeline, with appropriate input and buy-in from all stakeholders.

Tips for a Successful Data Center Consolidation

Though each organization’s environment is unique, some basic guidelines are important when consolidating technology, whatever the scope of the project.

Validate goals. Scrutinize the drivers behind the consolidation project. Is the project overly ambitious? Does it need to be more aggressive to reap the return on investment required?

Cost reduction is often the primary driver, but it may be a narrow or shortsighted objective. It is important to think long term, and take factors such as anticipated future growth into consideration. Review your strategies for increasing utilization rates, optimizing skill sets, and maximizing the efficiency of every square foot of the data center in this context. Economies of scale may be a more rewarding objective than current cost savings.

Be realistic about costs and double-check the math. Make sure every cost has been factored in. The last thing you need is to reverse a consolidation midway through the project because an unforeseen expense has wiped out not only the projected cost savings, but the budget as well.

Have data ready and waiting. Obtaining funding approval for a consolidation project is only half the battle. To maintain executive support and advocacy, it is usually necessary to produce—and document—evidence of its success quickly. Be sure to benchmark application performance and availability levels prior to consolidation to have hard data for comparison once the consolidation is completed.

Spell out the schedule and stick to it. A complex data center consolidation project is all about timing. Successful timing requires breaking it down into manageable subtasks and assigning responsibility for each subtask to specific individuals with precise deadlines.

Make business interruption plans. A primary goal of every consolidation plan is to minimize any disruption to business operations. Careful planning of the timing for shutting down and recovering essential applications and services is crucial to achieving this goal. Every change to the environment must be viewed as a controlled disaster recovery event.

Plan for the worst. Have a contingency plan that accounts for the worst-case scenario. Know what the impact of different snags would be. This requires understanding the interrelationships of systems, from both an infrastructure perspective and a business-flow perspective. The end result should be a business impact assessment for each “move group” in a data center consolidation project.

Test thoroughly. Budget plenty of time to test critical applications in the consolidated environment. Often, unexpected application behaviors or performance issues will arise. It is much less expensive—and risky—to resolve issues in the testing phase than after the consolidated production environment goes live.

Resolve and document issues immediately. Correct any problems revealed by testing as quickly as possible. Document any problems and file the report in a safe place.

Use the existing disaster recovery plan as a starting point to understand the service-level agreements (SLAs) and service-level objectives (SLOs) for the infrastructure, applications, and data that support the business areas being affected. Use the consolidation as an opportunity to validate the recovery groups, recovery time objectives (RTOs), documentation, and processes outlined in your disaster recovery plan.

Validate the asset management repository. Ensure that assets, ownership, licensing, and maintenance are current and reflect appropriate levels. To fully benefit from the investment made in your consolidation, use the information to support your day-to-day operations in the new, consolidated environment.

If planned and executed carefully, a data center consolidation can provide enormous, long-term financial and strategic benefits. A successful consolidation can completely transform the efficiencies, performance, and manageability of an environment in a way that has long-lasting results for an organization’s day-to-day IT operations and the business objectives they support.

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