



## Civilian Agency Use Case: Data Center Relocation

### Challenge

Data center relocations are complex initiatives that cross every aspect of IT and the business. Preparing for success requires an in-depth understanding and proper documentation of all facets of the interrelationships between the technology infrastructure and the supported business operations.

The federal department was faced with relocating one of these seven units to a new location several hundred miles away. This location employs a “network storage” strategy where users need to distribute their data to a shared disk on the network. Following the move, the simple task of saving a file to disk had unbearable execution times. This created an unacceptable situation with multiple repercussions, including reduced productivity and data loss.

### Solution

To address the performance issue and better understand the end-user’s perspective, the federal department engaged its architecture team. This team needed to be able to precisely recreate the production environment, including network constraints. To accomplish this, the team selected Shunra’s PerformanceSuite to emulate network conditions between the remote sites.

The architecture team recreated two scenarios in their test lab (Figure 1), representing both the original data center location and the new location. In this manner, they were able to benchmark expected application performance and test it against actual performance, all under precise real-world conditions. After conducting their tests and analyzing results with PerformanceSuite, the architecture team was able to successfully identify the root cause of the performance degradation.

The architecture team discovered that the Server Message Block (SMB) protocol was the culprit. Operating as an application-level network protocol, SMB is mainly used to provide shared access to files, printers, serial ports and miscellaneous communications between nodes on a network. By reconfiguring their network environment (Figure 2), the team was able to implement new communication protocols to the shared disks and recognized significant performance gains.

### Background

A federal agency with vital security initiatives and over 230,000 dedicated employees, was undergoing a major data center relocation initiative. When relocating one data center to a new home base hundreds of miles away, the agency experienced unacceptable delays in application response times that resulted in lost productivity and data that was essential to the agency’s ongoing operations for security, emergency response and other critical functions.

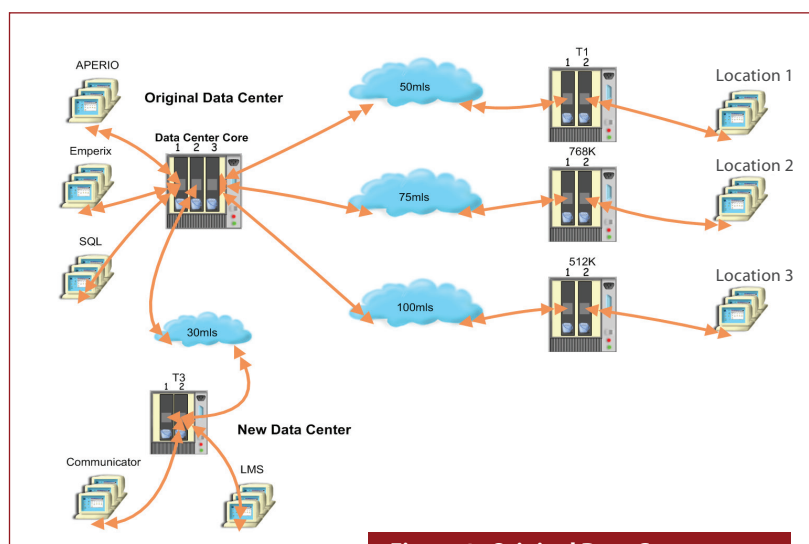


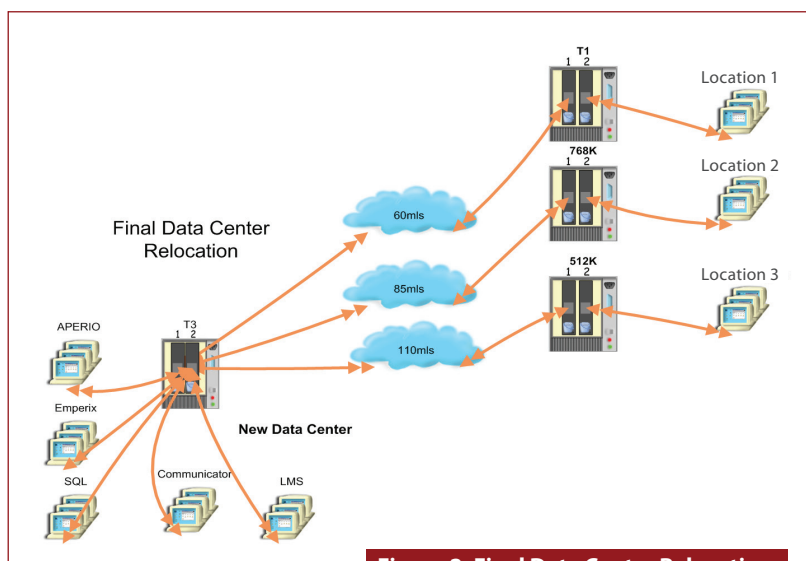
Figure 1: Original Data Center

## Conclusion

There are many potential risks involved in a data center move. Understanding those risks and minimizing the potential issues that may arise is key to completing a move successfully. A strategy needs to be put in place, understood and communicated to all parties involved. Decisions about which servers should be grouped together, how much bandwidth should be allocated to the new links, and the order in which the move should be executed must be determined.

Successful data center relocation can completely transform the overall operating environment – its processes, procedures, documentation and personnel – in a way that has significant, lasting benefits for an organization’s disaster recovery readiness as well as day-to-day operational efficiencies.

Shunra’s PerformanceSuite and expert Professional Services offer a proven means for evaluating and guaranteeing the success of a data center relocation project. Shunra’s best practices approach to APE eliminates the risk of the unknown, allowing organizations to precisely understand how a data center move will affect application performance prior to making the actual move.



**Figure 2: Final Data Center Relocation**

## About Shunra Software

Headquartered in Philadelphia, PA privately held Shunra, Ltd. is the recognized authority in application performance engineering. Shunra emulates, tests, analyzes and remediates business-critical applications across all network environments – WAN, Web, Mobile and Cloud. Shunra enables over 2000 enterprises worldwide to deploy their applications with complete confidence in their performance. Over 60% of the Fortune 100 companies use Shunra as an essential best practice in their Application Delivery Lifecycle (ADL), including Apple, Bank of America, Best Buy, Cisco Systems, eBay, FedEx, GE, IBM, Intel, Marriott, Oracle, Pepsi, Pfizer, Siemens, Verizon and the U.S. Federal Reserve System, to ensure the best possible end-user experience. For more information, call 1.877.474.8672 or visit [www.shunra.com](http://www.shunra.com).

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