

Extreme Makeover: Data Center Edition Part I

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Many companies are looking at ways to cut IT costs while maintaining or improving service levels to their end-users. One not-so-obvious area to look is data center network technologies. Centralized data centers are en vogue again, with many of the technologies migrating back to a single environment. File servers, print servers, and mission-critical applications are all being evaluated as potential consolidation efforts. This mass migration of technologies is causing a new set of challenges for the data center manager: namely: how best to virtualize and optimize available resources.

One way to do so is to use the common thread between every data center, branch office and remote office as a tool to gain a competitive advantage. By looking at the network proactively, organizations can gain productivity and have access to resources like never before. Adding more bandwidth, incorporating optimization technologies and creating service-oriented network architecture can help transform the data center for better, more cost-effective performance.

Data Center Switching is no longer just basic routing and switching. Modular, top-of-rack and blade switches are available to support security, load balancing, and application acceleration via blades or line cards — all integrated into the chassis. This architecture provides scalability, resilience and operational management throughout your data center networking environment. Your switch solution should support low latency, line-rate throughput, and advanced security features.

Storage Area Networking (SAN) is a cost-effective way to store and manage the business critical information across your enterprise. Intelligent

Fabric-based storage switches and directors typically have support for advanced storage services like virtualization, server-less backup, data replication, and continuous data protection to allow for enhanced business continuance and data migration. Within this architecture, one can have IP-based blades creating a unique mixture of real and virtualized storage direction. Storage services modules can also be inserted into data center-class switch chassis for space and power concerns.

Information Security in a virtualized data center is more important than ever. Data centers house the most critical and sensitive resources of any organization and consequently, the opportunities to target these critical data center networks, servers, and databases have increased exponentially. New and emerging regulatory requirements, such as HIPAA, Sarbanes-Oxley, Basel II, and PCI, place a special emphasis on protecting the access to, transmission, and storage of sensitive information, such as the personal and financial information of customers and employees.

The above are just three network-related elements of the virtualized data center to consider when looking at optimizing costs. We'll consider three other elements in Part II.

