NETGEAR®
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Solution Overview

Building A Network Foundation for Virtualization

Introduction

The deployment of virtualization technology has allowed businesses of all sizes to reduce costs and optimize resources. The impact has been particularly dramatic with server virtualization. By virtualizing their servers, many organizations have dramatically reduced their IT investment in hardware procurement, power and cooling, physical space and the IT resources it takes to house, manage and maintain them.

Virtualization technology helps organizations accomplish more with less by allowing multiple applications to run on a single physical server. What's more, workloads can be shared and dynamically moved to different physical servers, significantly eliminating downtime. Businesses routinely see an increase of 80% or more in server utilization, as well as a 10-1 decrease in server count.

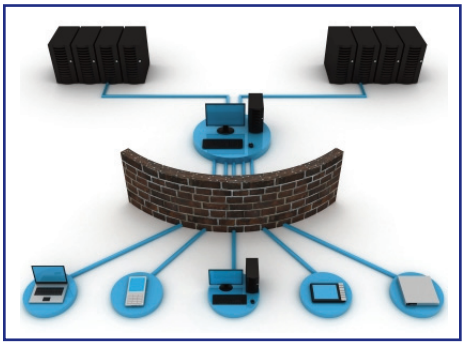
The dramatic increase in server utilization leads to a corresponding increase in network traffic generated by the server. This places new demands on the network. The network must be secure, provide high availability, be scalable enough to enable future growth and provide thorough manageability.

Improved security is also essential to a virtualized environment. Servers running virtualization applications are more important and valuable to the organization, due to the increased number of critical applications they run. A failure or security breach experienced by one virtualized server is the equivalent of the event happening to an entire rack of servers in the pre-virtualized world.

For these reasons, businesses must ensure that their network infrastructure is highly available, scalable and secure.

Infrastructure Needs to Support Virtualization

High Availability and Scalability



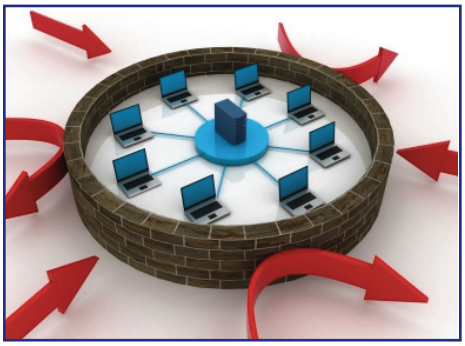
In a virtual infrastructure, high availability and scalability are more important than ever. While higher utilization rates lead to lower procurement, maintenance and housing costs, they also increase the magnitude of network downtime. Therefore, choosing the right hardware is essential for boosting high availability. Hardware that supports more efficient port aggregation technologies such as link aggregation and multiple network interfaces can augment fault tolerance of the network, thereby maximizing uptime. In addition, hardware with built-in redundancy features and failover capabilities help minimize downtime and protect against data loss.

NETGEAR® ProSafe® Switches meet the high availability demands of virtualization by supporting multiple network interfaces for maximum uptime. ProSafe switches have built-in redundancy features to minimize unplanned downtime, including intelligent switching technologies such as spanning tree, link aggregation, and hardware stacking (see figure 1).

With fewer servers running the organization's critical applications, designing the network for growth is more essential than ever. Virtual networks should be designed with the future in mind and should include components such as 10GigE ready switches, hardware stacking switches and stackable servers that support link aggregation to enable fast, easy network expansion.

NETGEAR ProSafe Switches are stackable and ready for growth with 10GigE ports to meet the scalability needs of virtualization.

Storage for Virtualization



Network storage plays an important role in virtualization. Server virtualization does support direct attached storage. However to enable the advanced features of virtualization for high availability, load balancing and site recovery options, shared network storage is required. Two or more virtual machines connected to the shared network storage can be migrated or moved actively with live operating systems and applications. Virtual machines can be backed up as files and then replicated to remote site for disaster recovery purpose. The benefits are - cost saving, flexibility and business continuity.

ReadyNAS provides reliable high-performance data storage along with integrated replication and backup options in virtualized IT infrastructures, enabling businesses to reduce costs and increase flexibility. With class-leading high performance, enterprise reliability, and unified system architecture, ReadyNAS supports from 2TB to 24TB storage capacity at very affordable price. It's the perfect network storage solution for small to medium sized business in virtualized IT environments.

Security

As with any network asset, virtual servers need to be protected with a comprehensive layered defense strategy. Security should be built into every level of the network. Unified threat management (UTM) and content security appliances should be deployed to help protect against an array of threats. Likewise, other built-in security mechanisms such wireless management systems with support for virtual local area networks (VLANs) to separate critical traffic from the rest of the network can help keep the network safe from intruders.

NETGEAR ProSecure Unified Threat Management (UTM) security appliances, through virtual private networks (VPN), provide secure remote access to the virtualized servers. NETGEAR ProSecure (UTM) and Security Threat Management (STM) content security appliances include an array of network security technologies to protect the network from a wide range of virtualization targeted threats.

Summary

With the tremendous cost advantages, coupled with increased availability of critical resources, companies of all sizes are adopting virtualization as a key IT strategy. NETGEAR ProSafe, PoSecure, and ReadyNAS solutions provide the infrastructure for highly available, scalable and secure virtualization ready network.

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