

# Microsoft and Cisco Together: Optimizing Branch IT Services

## What You Will Learn

Organizations spend a significant amount of time and money deploying and managing a complex set of IT infrastructure in distributed branch offices. This document describes the performance, agility and cost challenges faced by organizations with branch offices, and how Microsoft and Cisco® solutions can help organizations optimize application performance and IT service agility at their branch offices while minimizing total cost of ownership (TCO).

## Branch Offices Today

Numerous research reports consistently point to the fact that the number of branch offices has been growing rapidly in recent years. This expansion brings significant challenges in controlling branch-office IT costs, complexity, and compliance:

- Branch Offices account for a large percentage of enterprise workforce: On average, 91 percent of employees work away from the headquarters.
- Branch offices are at the forefront of where business is won or lost and so consume a large percentage of corporate and IT resources: Branch offices consume 70 to 90 percent of business resources<sup>1</sup>, and companies spend US \$6 billion per year on branch-office servers, storage, backup and management<sup>2</sup>.
- Managing Cost and Protecting Data in the Distributed Branch-office Infrastructure is challenging: Most enterprises have many servers running at 15 percent or less utilization, but still requiring 100 percent administration<sup>3</sup>.

## The Balancing Act Between Centralized and Localized IT Services

To reduce remote IT complexity and control costs, organizations often adopt branch-office server and storage centralization initiatives, taking advantage of economies of scale and virtualization technology in the data center. However, a fundamental compromise remains between maintaining acceptable end-user application performance and the capability to provide required local IT services and controlling branch-office infrastructure costs.

If servers are fully centralized into the data center and applications are accelerated across the WAN, organizations can simplify and reduce the costs of overall server management — but lose the ability to deploy services locally at the branch. Many organizations want to retain certain critical infrastructure services in their branch offices, to ensure performance and site autonomy. Examples for such services include printing, Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Microsoft Active Directory, and often certain line of business applications. Full centralization does not meet this requirement.

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<sup>1</sup> Network World, 2007

<sup>2</sup> IDC and Cisco Analysis, 2007

<sup>3</sup> Gartner, 2007

If servers are fully decentralized, local service performance and availability are maximized, but at the expense of managing a more complex infrastructure. It can also be difficult to integrate and protect data across such a highly distributed environment.

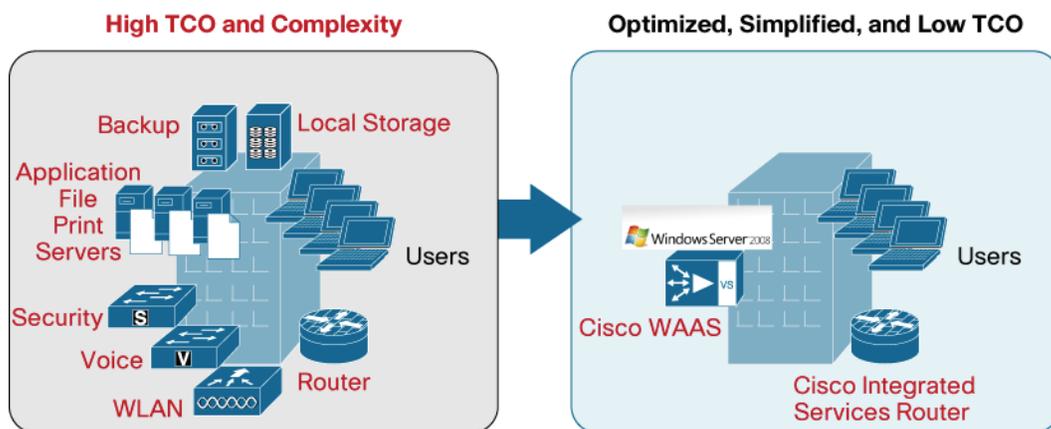
The right solution should provide flexible selection of centralized and localized services with optimized user experience.

### Microsoft and Cisco Vision: Flexible and Optimized Branch Office IT Services

Microsoft and Cisco are collaborating to allow organizations to accelerate application delivery from centralized data centers using Cisco Wide Area Application Services (WAAS) WAN optimization solutions, while simultaneously delivering local Windows Server 2008 services in the branch, for maximum performance and availability. Microsoft and Cisco have aligned to help IT organizations achieve the following objectives:

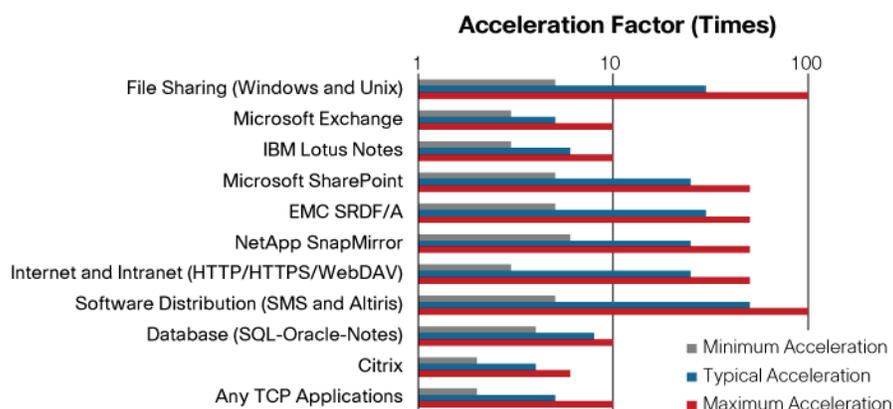
- Accelerate end-user performance while accessing centralized data, applications and resources
- Improve IT agility and availability by hosting Windows Server 2008 services locally while provisioning them centrally
- Optimize IT costs by consolidating multiple branch-office services into a single platform
- Simplify remote infrastructure management through Microsoft System Center and Cisco Central Manager

**Figure 1.** Microsoft and Cisco Branch-Office IT Vision for Optimized Branch-Office IT Services



### Cisco WAAS—Accelerating Centralized Applications

Cisco Wide Area Application Services (WAAS) is a powerful application acceleration and WAN optimization solution for the branch office that improves the performance of any TCP-based application operating in a WAN environment. With Cisco WAAS, IT organizations can offer LAN-like application performance to centralized applications for any employee, regardless of location. The Cisco WAAS solution provides LAN-like performance for a wide variety of enterprise applications delivered across the WAN. Typical acceleration factors range from 3X to 10X. Some of the most popular applications, such as file sharing and software distribution, can be accelerated by up to 100 times (Figure 2):

**Figure 2.** Cisco WAAS WAN Optimization and Application Acceleration

### Microsoft Windows Server 2008—Main IT Services for the Branch

Windows Server 2008 is designed to provide organizations with a solid foundation for powering applications, networks, and Web services, from the workgroup to the data center. Windows Server 2008 includes several refinements to the base operating system plus powerful new functionality that make it the most valuable Windows Server operating system yet. There are many reasons to upgrade to Windows Server 2008 to address the branch office IT requirements:

- **Improved Deployment and Administration:** New management tools like the Server Manager Console provide a single, unified console for managing a server's configuration and system information, displaying server status, identifying problems with server role configuration, and managing all roles installed on the server.
- **Mitigate Security Risks:** Windows Server 2008 simplifies identity management in branch offices with enhancements to Active Directory, and provides increased security by using Read-Only Domain Controllers and administrative role separation. BitLocker Drive Encryption provides hardware-based protection for data on branch office servers, and the Server Core installation option helps decrease server vulnerability by significantly reducing the operating system footprint.

### Cisco WAAS with Windows Server 2008 Improves IT Agility and Reduces Branch IT Costs

Cisco is developing a new virtualization component within its Cisco WAAS appliance family that enables customers to deploy Windows Server 2008 within their network infrastructure for branch offices. This new capability will allow Cisco to offer Windows Server 2008 Server Core pre-installed on its new virtualized Cisco WAAS appliances.

The Windows Server 2008 services that will be integrated in Cisco WAAS platforms include Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Active Directory, and Print Services.

To optimize the value of this solution for organizations, Microsoft and Cisco are testing and validating the resulting architectures for remote IT infrastructure in the branch office, as well as providing integrated customer support services.

By combining Windows Server 2008 services with Cisco WAAS appliances, organizations can reduce the number of devices and complexity of infrastructure they have to deploy and manage in distributed branch offices.

## Conclusion

The Microsoft and Cisco vision and integrated Microsoft Windows Server 2008 and Cisco WAAS solution enables organizations to optimize their deployment of localized and centralized IT services for branch offices. By partnering with Microsoft and Cisco, organizations can focus on creating strategic advantage through IT, rather than on solving the operational issues that arise when remote infrastructure become overly complex and distributed.



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