



Windows 7 and Windows Server 2008 R2 Networking Enhancements Executive Overview

Microsoft Windows Family of Operating Systems

Published: January 2009

Microsoft

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According to IDCⁱ, the third quarter of 2008 marked the point at which computer manufacturers began shipping more mobile computers than desktop computers worldwide. In 2008, mobile workers will be 26.8% of the worldwide workforce, and that number will increase to 30.4% by 2011—about one billion employeesⁱⁱ. This transition is a clear indicator of the desire of users to be more mobile, whether working while traveling or simply working at home.

More users are working from branch offices, too. The changing structure of business puts more pressure on IT professionals to provide a flexible and secure infrastructure for connecting remote users and branch offices while minimizing costs.

Microsoft has designed the Windows® 7 and Windows Server® 2008 R2 operating systems to help users get the experience of working on a local area network even when they're not in the central office. Windows 7 networking also improves the security and manageability of all connected users. This document provides an overview of those features.

DirectAccess

DirectAccess increases remote user productivity by enabling remote users to seamlessly and securely access the corporate network any time they have an Internet connection, without requiring a virtual private network (VPN) connection. DirectAccess also enhances the security and flexibility of the corporate network infrastructure, enabling IT professionals to remotely manage and update corporate computers whenever they connect to the Internet—even when users are not logged in.

BranchCache™

In branch office scenarios, where slow application response times can hurt user productivity, optimizing network bandwidth usage and improving application responsiveness is a key challenge. BranchCache improves the responsiveness of intranet applications for remote offices while simultaneously reducing wide area network (WAN) utilization. BranchCache keeps a local copy of data that clients access from remote Web and file servers. The cache can be placed on a hosted server located in the branch office, or it can reside on users' individual computers. If another client requests the same file, the client downloads it across the local network without having to retrieve it over the WAN. BranchCache ensures that only authorized clients can access requested data and is compatible with secure data retrieval over SSL or IPsec.

VPN Reconnect

VPN Reconnect provides seamless and consistent VPN connectivity by automatically re-establishing a VPN connection if users temporarily lose their Internet connection. For example, if a user connected over mobile broadband passes through an area without reception, Windows 7 will automatically re-connect any active VPN connections once Internet connectivity is re-established.

Mobile Broadband

Windows 7 provides plug-and-play access and a consistent user interface for mobile broadband connectivity whether a user connects with a built-in or external wireless broadband data card. With Mobile Broadband, Windows 7 removes the requirement for any additional software to connect to mobile broadband networks.

URL-based Quality of Service (QoS)

Windows 7 and Windows Server 2008 R2 enable IT administrators to use Group Policy settings to prioritize Web traffic based on a URL. With URL-based QoS, IT administrators

can ensure critical Web traffic receives appropriate prioritization, improving performance on busy networks.

DNS Security Extensions (DNSSEC)

Supporting DNSSEC enables Windows 7 and Windows Server 2008 R2 computers to authenticate DNS servers, which mitigates man-in-the-middle attacks. A man-in-the-middle attack redirects clients to a malicious server, which can allow an attacker to intercept passwords or confidential data.

Support for Green Computing

With improved Wake on LAN (WoL) support, Windows 7 computers can reduce electricity consumption by going to sleep and staying asleep longer. Fine-grain control over wake-up packets keeps the PC asleep longer. Protocol offload to the network adapter allows a sleeping PC to remain reachable by network management tools without being woken up. Windows 7 also supports Wake on Wireless LAN (WoWLAN), which extends sleep scenarios to wireless client computers.

Windows 7 can also reduce energy consumption by turning off power to the network adapter when the cable is disconnected. When the user connects a cable, power is automatically restored.

ⁱ IDC Worldwide Quarterly PC Tracker, December 2008

ⁱⁱ IDC, "Worldwide Mobile Worker Population 2007–2011 Forecast," Doc #209813, Dec 2007.