

Enterprise Solutions

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From Microsoft and LEGATO

connection 

COLLABORATION 

Integration 



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INTEGRATION
FOR
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CONNECTION

Microsoft and LEGATO Systems, Inc. have enjoyed a long, close relationship over the years. During the past year, Microsoft and LEGATO have collaborated closely to create a great application experience on Windows Server™ 2003. LEGATO's flagship application, NetWorker, running on Windows Server 2003 will provide customers great assurance by meeting the rigorous standards of Microsoft's "Certified for Windows®" program.

Microsoft's "Certified for Windows" program is designed to provide high levels of availability, reliability, security, and supportability on Windows Server platforms. In order to meet these high standards, Microsoft and participating ISVs work closely in ensuring that key applications meet the certification criteria. The final validation is delivered through VeriTest, a third-party independent testing company who does the actual testing based on Microsoft's specifications. Customers will soon find LEGATO's Information Management Solutions on the certified application list.

Microsoft and LEGATO invite you to discover how we can create better business environment and solutions through LEGATO Information Management Solutions running on Windows Server 2003.

Victoria Grey
Vice President
Information Protection
LEGATO Systems, Inc.

Bill Veghte
Corporate Vice President
Windows Server Group
Microsoft Corporation

Microsoft Server Products Provide Reliable, Scalable Platforms for Mission-Critical Applications

Windows Server 2003 is designed to help customers do more with less. It builds on the strengths of the Windows 2000 Server Family to take application and hardware performance to new heights.

With Windows Server 2003 you receive:

- The most secure Windows Server release yet
- Scalability extending to 64 processors
- Overall enhancements in reliability, availability, and manageability

With Windows Server 2003, customers receive a Windows server environment that supports up to 64 processors and 512 GB of RAM on IA64 platforms (the 64-bit technology is offered on Windows Server 2003 Enterprise and Datacenter Editions), and 32 processors and 64 GB of RAM on IA32 platforms. The Windows Server 2003 family is comprised of the following four SKUs: Web, Standard, Enterprise, and Datacenter Editions.

Microsoft Windows Server 2003 Family

Windows Server 2003, Standard Edition Windows Server 2003 Standard Edition is the reliable network operating system that delivers business solutions quickly and easily. This flexible server is the ideal choice for small businesses and departmental use.	<ul style="list-style-type: none">• Supports file and printer sharing.• Supports secure Internet connectivity.• Allows centralized desktop application deployment.
Windows Server 2003, Enterprise Edition Windows Server 2003 Enterprise Edition is built for the general-purpose needs of businesses of all sizes. It is the platform of choice for applications, Web services, and infrastructure, delivering high reliability, performance, and superior business value.	<ul style="list-style-type: none">• Is a full-function server operating system that supports up to 8 processors.• Provides enterprise-class features such as 8-node clustering and support for up to 32 GB of memory.• Is available for Intel Itanium-based computers.• Will be available for 64-bit computing platforms capable of supporting 8 processors and 64 GB of RAM.
Windows Server 2003, Datacenter Edition Windows Server 2003 Datacenter Edition is built for business-critical and missioncritical applications that demand the highest levels of scalability and availability.	<ul style="list-style-type: none">• Is the most powerful and functional server operating system Microsoft has ever offered.• Supports up to 32-way SMP and 64 GB of RAM.• Provides both 8-node clustering and load balancing services as standard features.• Is available for 64-bit computing platforms capable of supporting 64 processors and 512 GB of RAM.
Windows Server 2003, Web Edition A new product within the Windows operating systems, Windows Server 2003 Web Edition is provided for both Web serving and hosting.	<ul style="list-style-type: none">• Is provided for building and hosting Web applications, Web pages, and XML Web Services.• Is designed to be used primarily as an IIS 6.0 Web server.• Provides a platform for rapidly developing and deploying XML Web services and applications that use ASP.NET technology, a key part of the .NET Framework.• Is easy to deploy and manage.

Security

Microsoft has invested heavily in the Secure Windows Initiative with the goal of delivering systems that are secure by design, default, and deployment. In addition, Windows Server 2003 is the first Windows operating system to ship under the Trustworthy Computing initiative (launched by Bill Gates in January 2002) which is based on four pillars: security, privacy, reliability, and business integrity.

Secure by Design

The improved security of Windows Server 2003 reflects Microsoft's \$200 million investment in 2003 to reduce code vulnerabilities in its platform, modify the development process, and improve accountability at every level for security. Focusing on security improvements, Windows Server 2003 includes a redesigned IIS, strong authentication protocols such as 802.1x and PEAP, and common language runtime (CLR) to create a safer computing environment.

Secure by Default

To secure Windows Server 2003 by default, the attack surface area was reduced by creating stronger default policies (e.g., file system Access Control Lists); redesigning IIS; and reducing the total number of services, reducing the number of services running by default, and reducing the number of services running as System.

Secure in Deployment

In addition to the more secure architecture design and added security features in Windows Server 2003, Microsoft offers its customers tools, prescriptive guidance, training, and services to help them deploy a secure, connected infrastructure.

Tools

- **Software Restriction Policy (SRP)** is a new feature in Windows Server 2003 and Windows XP that gives administrators a policy-driven mechanism to identify software running in their domain and control its ability to execute.
- **Security Configuration Editor (SCE)** is designed to help businesses secure Windows systems operating in various roles and deployment scenarios, such as a Web server that is connected both to the Internet and to a secure internal network. The goal of SCE is to help customers maximize the security of such systems without sacrificing functionality.
- **Microsoft Audit Collection Services (MACS)** is a tool used to monitor and audit systems. MACS collects security events in a compressed, signed, encrypted manner and loads them into a SQL database for analysis.

Internet Information Services (IIS) 6.0

One of the key highlights of the security enhancements in Windows Server 2003 is the complete redesign of IIS 6.0. This powerful Web service is available in all versions of Windows Server 2003. It helps to provide a highly reliable, manageable, scalable, and secure Web application infrastructure. IIS 6.0 makes it possible for organizations of all sizes to quickly and easily deploy powerful Web sites and applications, and IIS 6.0 provides a high-performance platform for all applications.

Because of the integration of the .NET framework into the IIS 6.0.

process model, applications built with the Microsoft .NET framework are faster and more reliable.

The benefits of choosing IIS 6.0 include:

- less planned and unplanned system downtime
- increased Web site and application availability
- lower system administration costs
- server consolidation (reduced staffing, hardware, and site management costs)
- a significant increase in Web infrastructure security

Scalability

Windows Server 2003 takes the scalability gains found in the Windows 2000 Server Family to new heights. It is designed for both scale-up and scale-out scenarios-with scale-up scenarios enabled by symmetric multiprocessing (SMP) and Cache Coherent Non-Uniform Memory Access (CC-NUMA) optimizations, and scale-out by the various types of clustering provided by Microsoft.

Internal tests indicate that, compared to Windows 2000 Server, Windows Server 2003 delivers up to 140 percent better performance in the file system as well as significantly better performance in various other features, including Microsoft Active Directory service, Web server, Terminal Server components, and networking services.

Key scalability enhancements include:

- **64-Bit Support.** Support for 64-bit architecture with Enterprise and Datacenter Editions and 512 GB of RAM.
- **Support for Intel Hyper-Threading.** Allows a single physical processor to execute multiple threads (instruction streams) simultaneously, potentially providing greater throughput and improved performance.
- **NUMA Optimization.** Most Windows applications will perform optimally without modification on NUMA systems running Windows Server 2003 because of automated NUMA features in the operating system (offered only on Enterprise and Datacenter Editions).
- **Hot Add Memory.** Allows ranges of memory to be added to a computer that supports this feature. This was made available to the operating system and applications as part of the normal memory pool-without requiring downtime or rebooting the computer (offered only on 32-bit versions of Enterprise and Datacenter Editions).

Reliability, Availability

Reliability and availability are woven into every aspect of Windows Server 2003 design to provide for a better customer experience. Key highlights include:

- **8-Node Clustering.** Increasing the number of nodes in a server cluster gives administrators more options for deploying applications and providing failover policies that match business expectations and risks. (8-node clustering is supported on the 32-bit and 64-bit Enterprise and Datacenter Editions.)
- **Network Load Balancing Manager.** This new utility in Windows Server 2003 provides a single point of configuration and management for NLB clusters.
- **Datacenter High Availability Program.** The Datacenter Program has been expanded to meet the growing customer demand for higher availability on Windows.

Windows Server 2003 Features

Features	Datacenter Edition	Enterprise Edition	Standard Edition	Web Edition
32-bit Max Processors	32	8	4	2
32-bit Max RAM	64GB	32GB	4GB	2GB
64-bit Max Processors	64	8	No Support	No
64-bit Max RAM	512GB	64GB	No Support	No
File Sharing Connections	Unlimited	Unlimited	Unlimited	Limited to 10; No CALs
Print Server	Yes	Yes	Yes	No
Active Directory	Domain Controller or Member Server	Domain Controller or Member Server	Domain Controller or Member Server	No
Terminal Services	App and Admin Mode	App and Admin Mode	App and Admin Mode	Admin Mode Only
Terminal Services Session Directory	Yes	Yes	No	No
UDDI	Yes	Yes	Local DB Only	No
Fail-over Clustering	8-Node	8-Node	No	No
Windows Media Server	Enterprise	Enterprise	Basic	No
VPN Connections	Unlimited	Unlimited	1,000 Maximum	1 Per Media Type
Internet Authentication Service (IAS)	Yes	Yes	Limited to 50 Devices	No
Certificate Server	Yes	Yes	Windows 2000 Level	No
Windows System Resource Manger	Yes	Yes	No	No
Datacenter High Availability Program	Yes	No	No	No

Manageability

Windows Server 2003 delivers enhanced management capabilities designed to simplify and automate the management of Windows environments, while providing the flexibility and reliability to meet customers' business needs.

Key highlights include:

- **Automated Deployment.** New and enhanced capabilities to automate the deployment and redeployment of the operating systems and applications.
- **Policy Based Management.** Provides fine-grained control over the definition and enforcement of IT policies.
- **Effective User Service Management.** IntelliMirror® gives users consistent access to their applications, roaming user profiles, and user data, from any managed computer (even when they are disconnected from the network). IntelliMirror also gives centralized backup of user data and configuration files department.
- **Enhanced Security Management.** Powerful tools to establish and manage the security of their Windows environments.
- **Scalable Operations Management.** Remote administration is enabled via Terminal Server, Windows Script Host, and Windows Management Instrumentation (WMI), the management infrastructure that provides access to more than 10,000 system objects in Windows Server 2003 via application, scripting, and command line interfaces.
- **Windows System Resource Manager (WSRM).** WSRM enhances application availability and quality of service by providing control over application CPU and memory utilization, making it easier to run mixed application workloads on a single server.
- **Active Directory Enhancements.** Increased flexibility and manageability enhancements, such as secure credential and certificate management, provide a consistent single sign-on experience and health monitoring visibility to easily monitor trusts and replication activity.

Virtual Server

Virtual Server (acquired from Connectix) addresses customer needs for application migration and server consolidation. Virtual Server enables customers to run multiple operating systems and applications in Virtual Machine (VM) environments (a VM is essentially a computer-implemented in software-running in isolated software partitions on a physical computer).

The benefits of VM technology for application migration and server consolidation include:

- **Simplicity:** Virtual Server supports every major x86 Microsoft provided operating system running in the VM environment, leveraging industry-standard device drivers. This capability enables customers to run their Windows NT™ 4-based applications (for example), without change or disruption in usage or management, on more powerful and more resilient hardware that takes advantage of the performance and reliability enhancements of Windows Server 2003.
- **Automation:** Virtual Server is fully extensible through a COM API that enables scripted or programmatic control over the configuration, operation, management, and integration of VM environments.
- **Flexibility:** Virtual Server can be configured on desktop systems and deployed on high-end Intel-based servers. Virtual Hard Drives (VHDs) are highly portable and system integrators can integrate and enrich XML configuration files for fast, economic deployment.
- **Security -** Virtual Server provides separate security contexts for each Virtual Server, allowing internal and external hosting environments to provide complete control of the VM to 'owners', without compromising the security of other VMs, or the system overall.

Company Overview

Integration
Solution
Connection

LEGATO® delivers the software and services that protect and manage your information, assure the availability of your applications, and provide immediate access to business-critical information.

LEGATO addresses your content and messaging needs through:

- Capturing multiple kinds of data from multiple business applications
- Organizing the data for easy reference
- Accessing information with an intelligent interface enabling the right person access to the right information at the right time

LEGATO meets your information protection challenges by:

- Centralizing control of diverse IT environments (often distributed over many sites) that you need to manage from a single location
- Knowing where your data is, and using your policies to decide where to store it
- Recovering your data when you need it, helping you choose the right secondary storage (disk-to-disk, snapshot, tape) based on your service level requirements

LEGATO's automated availability links applications and infrastructure by:

- Monitoring whether the application and surrounding infrastructure is operating correctly
- Remediating the situation (based on your policies) if it detects a problem
- Reducing both planned and unplanned downtime

Company description

LEGATO Systems, Inc. (NASDAQ:LGTO) delivers worldwide enterprise class software solutions and services that keep the world's business-critical information and applications available. With a direct sales force and through strategic partnerships and alliances, LEGATO delivers the advantage of business continuance through enterprise automation with information protection, application availability, and content, message, and storage management solutions.

LEGATO has a long tradition of adopting and driving storage-specific standards. LEGATO was the first in the market to introduce a common tape format (OpenTape), common media management interface (SmartMedia™), and the industry's first open storage management framework (GEMST™).

LEGATO is both a founding member and a member of the Board of Directors of the Storage Network Industry Association (SNIA) in the USA, Europe, and Australia.

The Bottom Line

Legato provides unified enterprise data management solutions that ensure high-performance data protection, universal availability, and simplified management of complex storage networks.



Inside NetWorker and Windows Server 2003

LEGATO's commitment to the Windows platform is clear from its status as a Microsoft Global Gold Certified Partner for Software Products. In addition, LEGATO earned Windows 2000 Datacenter and Advanced Server logo certification for NetWorker and RepliStor, and will have two of the first solutions certified for Windows Server 2003. LEGATO is also actively involved in beta programs for Microsoft Exchange Server 2003 and Microsoft SQL Server 2000 Enterprise Edition (64-bit).

As a founding sponsor of the Microsoft Partner Solutions Center, LEGATO and other strategic partners are working together to design, integrate, and document innovative solutions that solve business problems in the enterprise.

Version 7 of NetWorker includes new features that take maximum advantage of Windows Server 2003 to provide backup and recovery scenarios that are both robust and scalable and offer unparalleled flexibility. For example, the Advanced DiskBackup™ Option allows simultaneous reads and writes, lets you protect multiple clients in parallel, and automatically remove bad and/or expired backups. LEGATO's SnapImage™ Module allows block level image backup.

Additional features in the new version include:

- Enhanced resilient media database
- Scalable Resource Allocation Platform (RAP)
- Audit resource update logging
- Cross-platform browsing
- Intelligent device management, through unique identification of devices and tape alerts
- Microsoft SharePoint Server support

Coupled with centralized management, structured metadata, and Open Tape Format, NetWorker specifically addresses and facilitates fast data backup and recovery along with a quick return on your investment.

Highlights

- Recover and protect massive, increasing volumes of data faster
- Increase service levels and reduce downtime costs
- Reduce administrative overhead, increase staff efficiency, and lower TCO of NetWorker™ and storage resources
- Enjoy greater reliability, performance, and scalability of data protection operations across the enterprise
- Increase ROI of tape, NAS, and SAN investments

LEGATO Tames 200 Terabytes of Data

LEGATO customers typically have very large data centers. The enterprise in this hypothetical scenario is operating a data processing operation with nearly 200 terabytes of data under a 24X7 service level agreement. The company has 300 servers from various manufacturers, most running some form of Windows. Management constantly complains about the disproportionate size of the IT department, but one reason the staff is so large is that it is backing up each of these servers manually every day.

The company's business has been growing without a coherent plan since the 70s, when all its business was on mainframes. The company's new CIO is determined to bring order to this chaos and has put forward a plan to consolidate multiple servers onto a few datacenter class servers running Windows Server 2003. But before the migration can begin, a complete and reliable backup and restore policy must be implemented.

Due to their reputation and experience in the industry in handling large datacenters, the CIO turned to LEGATO products and services. Selection criteria included experience with Windows Server 2003, a strong help desk and service track record, cluster compatibility, and alignment with key hardware vendors. LEGATO representatives surveyed the site and found that the network fell into five discrete subnets (Web hosting, internal applications, dial-in access, for-hire accounting, and development), each separated from the other subnets by a firewall. They prescribed a solution of five NetWorker Servers, one for each subnet, all on one "NetWorker Datazone" that backed up to a SAN. The concept worked so well that the CIO carried it over to the migration plan, implementing five clusters of servers running Windows Server 2003.

Gaining centralized control of the backup and restore operations was one of the compelling features of LEGATO's solution. Automation reduced backup management to just one person, freeing the remaining staff to work on the migration. Using a combination of tape robots, jukeboxes, SAN and NAS, the firm is able to keep data on line for several months before retiring it to an archive. As the migration continues, the IT staff still has headaches—but managing, accessing and protecting their business-critical information is no longer one of them.

Town Council Meets SLAs

A mid-sized European city deals with two types of data, which it maintains on two separate networks. One network serves their internal administration, which includes payroll and general accounting, scheduling, and other office tasks; the other network serves public functions, including education, roads, and utilities. The two types of data must remain inviolably separate, and yet the town council wants to consolidate them to a single datacenter-level server with network-attached storage (NAS). Part of the motivation for the move rests with service level agreements the city made with its several thousand power customers that require a quick response to power outages.

Both current networks support Windows servers as well as non-Windows operating systems and are constantly growing. The town council needs a backup and recovery solution that is scalable, centralized, and capable of dealing with heterogeneous systems.

LEGATO and their partner representatives proposed keeping the two networks separate by means of VLAN technology. The backup server has a gigabit network card using VLAN trunk protocol 802.1Q, allowing it to access both networks. For security reasons, an IPSec policy on the backup server permits only backup traffic from selected servers.

With the LEGATO solution in place, the city was able to meet its service level agreements, keep its networks separate, and still consolidate servers for a huge savings in time and upkeep. NetWorker's scalability, combined with the scalability of Windows Server 2003, promises that this will be the last migration for the foreseeable future.

Contact Info

Microsoft Corporation
1 Microsoft Way
Redmond, WA 98052
425-882-8080

www.microsoft.com

LEGATO Systems, Inc.
2350 West El Camino Real
Mountain View, CA 94040
650-210-7000

microsoft@legato.com
www.legato.com/microsoft

Microsoft Links

Microsoft Windows Server 2003

www.microsoft.com/windowsserver2003/default.aspx

Security Services in Windows Server 2003

www.microsoft.com/windowsserver2003/technologies/security/default.aspx

Internet Information Services 6.0

www.microsoft.com/windowsserver2003/evaluation/overview/technologies/iis.aspx

Active Directory Enhancements

www.microsoft.com/windowsserver2003/evaluation/overview/technologies/activedirectory.aspx

Windows System Resource Manager

www.microsoft.com/windowsserver2003/downloads/wsrp.aspx

Microsoft Virtual Server Technology

www.microsoft.com/windowsserver2003/techinfo/overview/virtualization.aspx

Windows Datacenter OEMs

www.microsoft.com/windowsserver2003/partners/oems/default.aspx

Windows Server 2003 Datacenter Certified ISVs

www.microsoft.com/windowsserver2003/partners/isvs/isvs.aspx

“Certified for Windows” Homepage

www.microsoft.com/windowsserver2003/partners/isvs/cfw.aspx

“Certified for Windows” Applications List

cert.veritest.com/CfWreports/server/

LEGATO Links

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LEGATO Windows Solutions

<http://legato.com/solutions/windows/>

LEGATO Microsoft Alliance Page

<http://legato.com/partners/strategic/microsoft/>

LEGATO RepliStor

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LEGATO NetWorker

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Microsoft's Certified for Windows program is sponsored by industry-leading companies such as Intel and Unisys. Microsoft and VeriTest are working closely with these sponsors to provide a better testing environment for independent software vendors who participate in the Certified for Windows program.

The objective of this certification program is to provide customers the highest level of assurance when choosing applications running on Windows 2000 Server and Windows Server 2003. In order to have an application certified, an independent software vendor and Microsoft work together to ensure that the application meets the highest standards for reliability, availability, security and supportability. These standards apply to Microsoft and third-party applications.



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