



# High Availability Server Management



Maintain high server availability through active performance monitoring and low-impact, on-demand remote management services.

# Maintain high server availability with minimal performance impact

## The Challenge:

Maintaining high server availability is critical for core business services. Problems need to be identified and fixed quickly, and at minimal cost in terms of time, money and server resources. Stability demands minimal intrusion on the server's operating environment, because there's no time to waste and performance and availability trump all other issues.

## Being invisible is hard work

When server administrators are effective, no one notices—the servers simply run and services remain available. You can't afford to let your users be your early warning system. If they're the first to notice a problem, then productivity has already taken a hit.

You need to identify problems fast and solve them before someone calls to complain. But you can't spend your day glued to a monitoring screen; you have work to do. Predictive failure analysis through active performance monitoring and alerting is critical.

## Find the real problem

To proactively solve a server problem, you need to correctly identify its root cause. Server environments are a complex interaction of hardware, software and network infrastructure, and finding the source of a problem can be both time-consuming and frustrating.

Redundant components, replaceable drives and hot-swap buses can address symptoms, but do nothing to actually fix the underlying problems. It's expensive to keep spares, and you still end up with a damaged component to evaluate and repair or replace, costing time and money that you just don't have.

## Rapid repair

Even in data centers where infrastructure servers are grouped together, it can be time consuming to identify which server requires attention, especially for software-related problems. Remote control technology can

help, but it could create security issues. If you have servers at multiple sites, the logistics of maintaining or updating those machines can become all but impossible.

Manually installing software or security patches to multiple servers on-site can be quite time consuming, encouraging server administrators to hold off on critical updates, and leaving servers potentially vulnerable to malicious attack. With the time between vulnerability exposure and exploit shrinking to only a few days, that kind of delay could be disastrous. Rapid distribution of updates is critical.

## Can't stand the weight

Automated server management tools can help you monitor performance and resolve problems, but most require heavyweight agents that can impact overall server performance and create software conflicts. Server administrators simply can't take that risk—performance and stability are first priority.

## Time is money

Server administrators don't have the time, money or luxury to take a chance on a server management tool that doesn't show clear and direct benefits. With multiple servers to maintain and critical business processes to support, you can't afford to compromise performance or risk potential downtime.

High-availability server management requires anytime, anywhere access to real-time server health and performance data, tools to address

## OVERVIEW

**Business Need**—Maintain high server availability with minimal impact on server performance.

- Actively monitor server status and know when performance issues arise
- Quickly access real-time server status information
- Maintain secure server configurations
- Respond immediately to server problems with remote access and control
- Remotely restart server processes to restore services if software problems occur
- Remotely install software to reduce hands-on support of remote servers
- Minimize management resource impacts on the server operating environment
- Report compliance to service level agreements and regulatory requirements

**Solution**—On-demand server management from LANDesk Software

- Real-time performance monitoring and alerting
- HTML-based dashboard and console provide anytime, anywhere access to server health, performance and status data
- Integrated vulnerability scanning and patch deployment
- Remote problem resolution tools enable fast troubleshooting and remote repair
- Support for IPMI-enabled hardware provides out-of-band information-gathering and recovery
- Software distribution tools minimize need for hands-on installation support
- On-demand remote control and software distribution agents minimize impact on server configuration and performance
- Detailed hardware and software inventory enables compliance reporting and capacity planning
- Support for IBM and Intel-architected blade systems enables robust blade management

configuration and performance issues remotely, and the ability to quickly recover crashed machines with minimal hands-on support.

But most importantly, effective high-availability server management has minimal impact on server reliability and performance, using only the minimum resource necessary to perform management tasks. Server management should be an enhancement to server function, not an additional burden for administrators.

## The LANDesk® Solution

LANDesk® Server Manager enables high levels of server security and availability through real-time monitoring, patch deployment, predictive hardware failure analysis and recovery tools optimized for critical server environments. Low-impact management services minimize intrusion on critical server environments.

LANDesk Server Manager features include:

- Support for IBM and Intel-architected blades and blade chassis
- Stable, lightweight agent that uses on-demand technology to load inventory, software distribution, remote control and patch management resources only when needed for management activities
- Active performance monitors extract robust information directly from hardware, software and OS through standard interfaces, including CIM, WMI, SMBIOS, WBEM and WfM
- Alert management system that enables you to configure performance thresholds that generate alerts, create log entries or trigger automated management events such as running an application or batch file
- Integrated vulnerability scanner and patch management tools use on-demand technology to minimize resource usage while providing strong patch and security management for Windows and Linux servers
- Application layer remote control provides efficient, stable remote problem resolution and maintenance for Windows servers
- SSH and SFTP support enables remote problem resolution for Linux-based servers
- IPMI 1.5/2.0 support enables out-of-band information gathering, remote access and remote recovery for properly equipped servers, even if the OS or processor is non-responsive
- Process control enables administrators to start or stop server processes remotely to troubleshoot problems and keep services available
- Software package building and distribution uses on-demand technology to load management resource only when needed to maintain proper server configuration
- Extended reporting tools enable administrators to analyze server and application performance, demonstrate compliance and document server management activities

Server Manager supports enterprise servers, commodity servers and blade servers with low-impact management services that extend your reach while reducing response times so you can maintain high server availability throughout the enterprise.

## Active performance monitoring

One of the keys to high-availability server management is the ability to monitor key performance attributes so you can detect potential configuration problems or hardware failures before they happen. Predictive failure analysis gives you the power to proactively repair or replace affected systems before server performance suffers or services are interrupted.

LANDesk® Server Manager enables you to monitor specific hardware, software or OS attributes in real time. Set performance thresholds that trigger alert responses such as email or pager messages, log entries or automatic program or batch file launch. Define different thresholds to perform different actions to help you sort merely informational issues from critical performance problems.

Because you control which attributes to monitor, you use only the minimum necessary server resource to meet your management needs. The result is increased visibility into server performance without being deluged by unimportant or unhelpful data, helping to optimize both your servers' performance and your own management efficiency.

## Instant access—anytime, anywhere

LANDesk® Server Manager features a lightweight, HTML-based dashboard view that helps you track the overall health and performance of all your servers at once. This high-level informational view keeps you informed of key alerts and provides graphical feedback on current server status without distracting you with irrelevant information.

If a monitored performance indicator generates a critical alert, the dashboard view immediately highlights that server and gives you overview information on the nature of the alert so you can determine whether further intervention is necessary. Quickly gather more detailed information on individual servers with a simple click.

When problems do arise, you can access the full Server Manager console directly from the dashboard for full access to remote information-gathering and problem resolution tools. The Server Manager console runs in a standard Web browser to enable you to intervene immediately when need arises, from any computer with access to the network.

Reducing the time between problem and solution minimizes the potential impact of server problems and helps you maintain high server availability. Where server performance is concerned, time really is money—and you need to conserve both.

## Low-impact management

Servers are designed to provide information, access and services to your users. Anything that reduces your servers' efficiency is a drain of resources that ultimately costs you in time, money and user satisfaction.

LANDesk® Server Manager uses a small, rock-solid management agent that requires a minimum of RAM and processor usage to provide extended management services. Inventory scanning, vulnerability scanning, remote control and software distribution functions are loaded only when required, and unload immediately when management functions are complete to minimize overall impact and keep server resources available for their primary purpose—business services.

Because the majority of management services run in the application layer, the chances for software conflict are minimal and impact on overall server stability is essentially non-existent. You gain access to robust management services without being required to run a heavyweight agent that persistently dedicates server resource to management tasks.

## Remote problem resolution

Reducing the time between problem and solution is critical to ensure high availability. Whether you're performing simple maintenance, resolving small

“LANDesk Server Manager agents only use server resources when they perform a task. Otherwise, the agents lie practically dormant on the system, waiting for a call from the central management console.”

CAMERON STURDEVANT

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MARCH 7, 2005

issues before they emerge into real problems, or recovering from a full or partial system failure, remote problem resolution tools can help you restore optimal server performance.

### In-band control

LANDesk® Server Manager uses an application layer remote control agent to give you complete remote access and control over your servers. The remote control agent is optimized for minimal resource usage and low latency to enable quick configuration maintenance and remote problem resolution with low impact on server performance.

Configure services, run utilities and troubleshoot problems. Transfer files and execute applications. View a list of server processes remotely and start or stop them to restore proper server function. Even control server power as needed to complete a remote repair or update. Most importantly, do it all from your own desktop so that you can continue to manage the rest of your servers while you take care of problems on one server.

### Out-of-band recovery

LANDesk Server® Manager features full support for versions 1.5 and 2.0 of the Intelligent Platform Management Interface (IPMI), giving you extended hardware-based access, control and recoverability for IPMI-enabled servers.

IPMI provides an independent management bus that gives you direct access to hardware health and status data even if the OS has crashed or the CPU is non-responsive. IPMI even provides basic discovery, inventory and custom data storage in persistent memory.

LANDesk® Server Manager's ability to directly access server hardware through IPMI can extend your power to monitor server attributes and performance conditions. Maintain extended inventory and part number tracking for improved asset management and compliance reporting. Recover crashed servers quickly through

the Server Manager console without being required to physically interact with the server—even if the server is powered off.

The result is increased efficiency, access and control that can help you perform extended troubleshooting and root cause analysis, and quickly recover crashed servers to minimize interruption and keep services available.

### Patch security

LANDesk® Server Manager features robust vulnerability scanning and remote patch installation to help you efficiently maintain security on your critical servers.

Server Manager leverages LANDesk Software's centralized security database to obtain the latest patch and security data. The vulnerability scanner identifies patch needs and enables rapid patch deployment with only a few clicks. Full support for Windows and Linux patches helps you close potential security holes and protect your servers against malicious attack.

With the shrinking window between the initial announcement of a potential vulnerability and the time that a malicious exploit is released, active vulnerability scanning and patch deployment is a necessity. No one can afford to be taken by surprise by the next Slammer worm.

### Software distribution

LANDesk® Server Manager features software package building and distribution tools to help you update and maintain servers over the network. Build your own software packages using our tool, your own package building tool or distribute vendor-supplied MSI or other package formats.

By separating the distribution package from the delivery method, Server Manager makes it easy to create a single application package, then use different settings to deliver and execute packages on individual servers. A full-featured scheduler helps you install software and control server reboots to minimize service interruption.

“Our tests showed that LANDesk Server Manager 8.5's management agents...will not cause memory leaks or introduce instability into the managed server.”

CAMERON STURDEVANT

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You gain the benefit of an automated package management system combined with the high levels of control needed to optimize delivery to each individual server. The result is intelligent automation that understands the fact that servers need to be managed individually, and provides you with the tools to do so quickly, efficiently and with minimal impact on server operating environments.

### **Blade support**

LANDesk® Server Manager provides robust support for the IBM BladeCenter and Intel-architected blade servers to support high-density computing management alongside rack servers and heavy-duty enterprise servers.

Discover and track not only the individual blades, but the chassis that contains them. Group blades by function, chassis, rack or any other criteria to enable more effective data-gathering and interpretation. Distribute software and patches to blades just as you would to any other server.

By using the same tools and processes to manage blades that you use for other servers, LANDesk Server Manager helps you more efficiently perform management tasks at the same time that it supports the unique elements of blade/chassis management.

### **Rapid Results**

LANDesk® Server Manager is easy to set up and deploy, giving you the power to quickly take control of server management. The dashboard gives you instant insight to critical status and performance information and enables easy access to extended information-gathering and control features through the console to support rapid problem resolution.

You know what it takes to keep your servers healthy and functioning at peak efficiency. LANDesk Server Manager provides the tools to extend your reach and efficiency with remote management through a consistent, easy to use solution that helps you save time and money.

More importantly, LANDesk Server Manager minimizes the impact of management services on your critical servers so you gain the benefit of extended performance, security and configuration management without the heavyweight agents, software conflicts or performance impacts typical of automated server management tools.

# LANDesk Software, Leading Solutions for Server Management

LANDesk Software is an industry leading provider of easy to use, integrated solutions for desktop, server and mobile device management. LANDesk® management solutions are proven, with millions of managed nodes deployed worldwide.

Find out for yourself. Call or visit our Web site at <http://www.landesk.com/> to learn more about LANDesk solutions, then download a fully functioning, time-limited product trial so you can see for yourself how LANDesk solutions can help ease your systems management pain from the first day of deployment.

Download a fully functioning, time-limited product trial so you can see for yourself how LANDesk® Server Manager can help ease your management pain from the first day of deployment.

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