



# Infrastructure and Edge Computing on SUSE® Linux Enterprise

Edge computing is a core component of every IT organization. Sitting on the outside, or “edge” of the data center, these servers run a variety of essential tasks that connect the enterprise to its business partners in a secure and reliable fashion. These edge servers—Web servers, firewall servers, file and print servers, storage servers and mail servers—often comprise the largest segment of a company’s IT infrastructure.

When these servers were originally deployed—in some cases, more than a decade ago—IT administrators chose UNIX\* or Windows\* as the operating system, because those were the only options on the market. While UNIX was secure and reliable, it was also expensive. Windows presented a less expensive option, but the Windows option came with less security and less reliability.

With the maturation of Linux\* into an enterprise-class operating system, IT executives now have a choice. By migrating to Linux, IT executives can deliver the same set of Web and edge services (Apache, DNS, SAMBA, CUPS, SMTP and more) to their end users, with UNIX-like levels of performance, reliability, scalability and security—but at much lower levels of annual

- **Solutions:**  
Data Center
- **Products:**  
SUSE Linux Enterprise Server  
ZENworks Linux Management



“SUSE Linux Enterprise Server provides a stable, low-maintenance platform for our Web-based systems. As we move more services into the Web site and portals, the availability of our systems will become crucial. In the eight months since the start of our project, our SUSE Linux servers have never been down, which means excellent service for our users and low management overheads for us.”

**Dennis Deursen**  
Technical Project Manager  
ROC van Twente

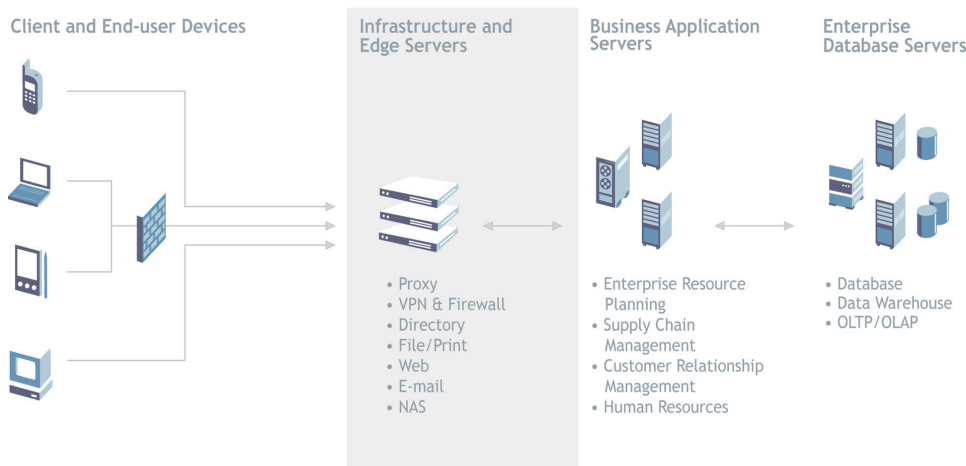


Figure 1. Linux Deployment in the Enterprise



# SUSE Linux Enterprise Server is backed by Novell. With global scale and a wealth of enterprise experience, Novell has an established track record of success in the data center.

## Infrastructure Workloads

- Web servers
- Firewall
- DNS servers
- DHCP servers
- File/Print servers
- Mail servers
- Proxy
- Caching
- VPN
- WAP
- VoIP gateway
- Directory
- Security
- Load balancing
- NAS

investment than either UNIX or Windows and with increased flexibility. Savings of up to 80 percent for hardware, maintenance and software expenses are not uncommon. As a result, savvy IT directors everywhere are now adopting Linux for edge computing loads.

Linux can be deployed on all the major enterprise hardware architectures, including x86 boxes, clusters, grid environments and mainframes. For new deployments or existing IT initiatives, Linux is now the preferred operating system for edge infrastructure workloads.

If you are still running your edge servers on UNIX or Windows, then you should consider switching to SUSE® Linux Enterprise Server from Novell®. You'll be able to replace your expensive infrastructure with a rugged enterprise-class Linux operating system that delivers industry-leading reliability, scalability and security. Best of all, SUSE Linux Enterprise Server is backed by Novell. With global scale and a wealth of enterprise experience, Novell has an established track record of success in the data center.

## Use SUSE Linux Enterprise on the Edge

Backed by the extensive Novell support infrastructure and partner network, the SUSE Linux Enterprise platform is a secure, reliable platform for open source computing in the enterprise. SUSE Linux Enterprise Server offers unmatched performance and scalability, comprehensive open source functionality and support for a broad range of hardware platforms and software applications. SUSE Linux Enterprise Server also provides open application programming interfaces (APIs) and other development tools that simplify Linux integration and customization. As a result, organizations can lower operational costs across servers, increase computing utilization and protect corporate data.

SUSE Linux Enterprise Server offers rich software-development capabilities through built-in network services and protocols, including CUPS, DNS, DHCP, IMAP, NTP, SLP, Postfix, PXE, Proxy, Samba, SNMP, SMTP and many others. It also includes open source application and database services—such as Apache, Tomcat, MySQL\* and PostgreSQL.

## Guarantee Data Privacy

Edge computing represents the gateway to your enterprise. That means security and data privacy are critical to any operating system that you choose.

## Why Linux? Why Now?

Linux has become the operating system of choice for edge deployments in the enterprise. Highly scalable and extremely secure, Linux delivers UNIX-like performance, scalability and reliability without the need to purchase and maintain expensive and specialized hardware. In short, Linux delivers UNIX performance at commodity hardware prices.

Novell is deeply committed to ensuring the security of its products and services. As part of that commitment, Novell strongly supports the Common Criteria Evaluation and Validation Scheme. The Common Criteria evaluation and certification system creates a reliable, internationally recognized way for consumers to evaluate and gain confidence in the security of IT products. By defining clear, robust security standards and establishing an independent security evaluation process, the Common Criteria promote the benefits and efficiencies that secure computing environments can provide to individuals, businesses and governments. SUSE Linux Enterprise Server 10 with Service Pack 1 is currently under evaluation of being compliant with Common Criteria-Controlled Access Protection Profile, Evaluation Assurance Level 4+ (CC-CAPP/EAL4+), a certificate previous versions of SUSE Linux Enterprise Server have also achieved.

Moreover, SUSE Linux Enterprise Server 10 builds on the inherent security of Linux by integrating a wide range of essential server- and desktop-specific security capabilities, including encryption, firewalls, certificate creation and management, authentication, access control and proxy management.

You can further secure your Linux deployments with AppArmor™, an open source offering from Novell included with SUSE Linux Enterprise

Server. AppArmor is the most effective and easy-to-use Linux application security system on the market. It protects the operating system and applications from the harmful side effects of internal or external attacks, malicious applications and viruses. As a result, you can protect mission-critical data, reduce system administration costs and ensure compliance with government regulations.

### Lower Management Costs

With an array of unique management features, SUSE Linux Enterprise Server is the easiest Linux to deploy, configure and maintain across the enterprise.

SUSE Linux Enterprise Server simplifies management with YaST, a comprehensive installation, configuration and administration suite unique to the SUSE Linux Enterprise platform. YaST gives IT administrators a common foundation for managing not just operating system components but also accompanying services and third-party applications. Novell ZENworks® Linux Management complements YaST by enabling IT administrators to centrally control how they deploy and update systems inside the firewall. By using YaST and integrating ZENworks Linux Management, administrators can easily install, configure, update, secure and manage SUSE Linux Enterprise Server.

### What Will I Save?

Because every organization is different, it's difficult to predict exact expense reductions or ROI returns that will result from a Linux implementation. However, an August 2005 study from the Robert Francis Group shows that migrating a UNIX database solution to Linux on x86 machines can reduce hardware costs by up to 51 percent and reduce software costs by up to 62 percent. When comparing a Linux solution on x86 hardware to Microsoft Windows on x86, the same study showed that Linux offers a 43 percent hardware savings and a 45 percent software savings over Windows.

—TCO for Application Servers: Comparing Linux with Windows and Solaris, Robert Frances Group, August 2005

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### Supported Hardware Vendors

- HP
- IBM
- Dell
- EMC
- AMD
- SGI
- SUN
- Fujitsu Siemens Computers
- Network Appliance

### Supported Chip Architectures

- AMD 64
- Intel64
- Intel Itanium
- IBM POWER
- IBM System z
- IBM S/390
- x86 32-bit
- Dual and multi-core processors

## Virtualize Your Infrastructure

With SUSE Linux Enterprise 10, Novell offered the first enterprise-class Linux platform to fully support Xen\* 3.0 for virtualization. The Xen code and management tools ship as part of SUSE Linux Enterprise 10. With Xen, you can run multiple network infrastructure applications on the same piece of hardware with minimal performance impact. As a result, you can more than double server utilization, reduce server sprawl and lower costs.

## Choose Novell for Linux

When you choose the SUSE Linux Enterprise platform, you get the best-engineered Linux from a vendor who can deliver a global ecosystem to surround it. When you choose Novell, you get:

- *Technical support available 24x7x365 from more than 800 support technicians*

- *A consulting organization to support you from design through implementation*
- *Training that can bring your IT staff up-to-speed on the latest technologies*
- *Indemnification to protect you financially*
- *A broad selection of open source and proprietary software optimized to run on a Linux platform*

Novell has more than a 20-year history of delivering the support and services that an enterprise expects from its vendor. When you make the move to Linux, it's important to select a vendor that will be your partner every step of the way.

Contact us today to learn more. Visit [www.novell.com/datacenter](http://www.novell.com/datacenter) or call 1 800 529 3400 to set up a meeting with a Novell sales representative.



Contact your local Novell Solutions Provider, or call Novell at:

1 800 714 3400 U.S./Canada  
1 801 861 1349 Worldwide  
1 801 861 8473 Facsimile

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## When Is the Best Time to Move?

The sooner you move to Linux, the sooner you'll enjoy the savings that Linux deployments can bring to your organization. However, for most organizations the logical time to make the move to Linux is during a major IT milestone. Typically, operating system upgrades make the most sense at the time of a planned hardware upgrade, a renewal of software or hardware maintenance or when a major software application is upgraded. Because hardware costs and hardware maintenance costs are often the largest contributors to an IT organization's expenses, migrating to Linux when you update your hardware will deliver you the most savings.