

SUSE[®] Linux Enterprise Server 11

Frequently Asked Questions

March 2009

What is SUSE® Linux Enterprise Server 11?

SUSE Linux Enterprise Server 11 is one of the key products included in the SUSE Linux Enterprise 11 platform. SUSE Linux Enterprise Server is a highly reliable, scalable and secure server operating system, built to power both physical and virtual mission-critical workloads. With this affordable, interoperable and manageable open source foundation, enterprises can cost-effectively deliver core business services, enable secure networks and easily manage their heterogeneous IT resources, maximizing efficiency and value. Recommended by SAP and Microsoft, SUSE Linux Enterprise Server is optimized to deliver high-performance, mission-critical services, as well as run edge of network and Web infrastructure applications. This modular operating system runs on five processor architectures and is available with optional extensions for real-time computing, high availability clustering, and running .NET applications on Linux.

What target workloads and use cases are ideal for SUSE Linux Enterprise Server?

SUSE Linux Enterprise Server is suitable for a wide range of workload types and sizes. As it has been since the first days of Linux, SUSE Linux Enterprise Server is still an optimal development environment, as well as a robust and cost-effective platform for reliable and secure infrastructure and edge computing services. The Internet boom of the late 1990s accelerated the deployment of Linux in the enterprise, as its low cost and scalability made it an attractive alternative for cost-conscious, Internet-based companies. Today, the majority of Linux server operating system deployments are on this middle tier of Internet services and Web-based workloads. Not only is SUSE Linux Enterprise Server a reliable, scalable, secure, high performance platform for Web servers and Web application servers, but in recent years it has also become recognized as an established platform for running mission-critical enterprise workloads. Increased ISV acceptance and endorsement has resulted in the growing availability, certification and support of many third-party enterprise applications on SUSE Linux Enterprise Server. Together with the ongoing enhancements and continual hardening of the Linux kernel, SUSE Linux Enterprise Server is now considered a Tier One operating system by customers and ecosystem partners.

Why is SUSE Linux Enterprise Server the best choice for my mission-critical workloads?

SUSE Linux Enterprise Server has been designed to support the most important workloads in the data center. It delivers UNIX-like performance and reliability at commodity hardware prices. SUSE Linux Enterprise Server has been rigorously tested in the labs of leading hardware and software vendors, and is the only Linux distribution that includes code to optimize the operating system for Oracle* and SAP*. And it is the only enterprise Linux distribution that is officially recommended by Microsoft and SAP for their customers who choose to run Linux.

How can my organization or company benefit from SUSE Linux Enterprise Server?

SUSE Linux Enterprise Server helps you to cost-effectively meet your internal and external service level agreements, and efficiently secure and manage your IT infrastructure. With SUSE Linux Enterprise Server, you will:

- Save money: You can not only reduce the cost of your server infrastructure software, but also save money on server hardware. SUSE Linux Enterprise Server is offered with attractive support

subscription pricing, and it allows you to leverage low-cost, industry-standard hardware. A modular, general-purpose operating system, SUSE Linux Enterprise Server is offered with optional extensions that provide advanced capabilities. Pay for just what you need and avoid unnecessary extras. As your needs change, you can easily add the additional capabilities you require.

- **Simplify management:** SUSE Linux Enterprise Server comes with integrated tools to quickly and easily install, configure and manage your systems, helping you simplify the management of your IT environment and saving you time. It includes an industry-leading package management stack, enabling dramatically faster updates than competing solutions. With the integrated installation tools and pre-configured profiles you can rapidly set up popular services, both locally and remotely. Powerful subscription management tools help you easily track and manage your operating system software assets. SUSE Linux Enterprise Server is CIM (common information model)-instrumented, so you can manage it with your choice of CIM-enabled solutions. Finally, built-in support diagnostic tools accelerate support communications, resulting in faster issue resolution.
- **Minimize risk:** SUSE Linux Enterprise Server helps you reliably deliver a wide variety of mission-critical services. Recommended by both Microsoft and SAP, you can minimize risk and run your SAP applications or operate your mixed Linux and Windows environments with confidence. Unlike proprietary operating systems, SUSE Linux Enterprise Server ships with source code, as well as operating system binaries. Transparent licensing terms and conditions, together with readily available source code, encourage choice, competition in the marketplace and technical innovation.

What are the key innovations in SUSE Linux Enterprise Server 11?

SUSE Linux Enterprise Server ships with many innovative and essential capabilities, making it the preferred choice of customers seeking reliable and highly manageable server solutions:

- **Fast update stack:** SUSE Linux Enterprise Server 11 includes a new set of technologies that enable IT managers to rapidly update systems and install new packages. ZYpp, the software package management subsystem in SUSE Linux Enterprise Server 11, automates the process of installing, removing, upgrading and configuring software packages. It includes new versions of the libzypp library and ZYpper, an easy-to-use command line tool. Together, they dramatically accelerate the resolution of dependencies, providing the fastest performance of any enterprise Linux distribution. Systems that might have taken hours to update now take minutes. Furthermore, improvements to the YaST systems management and configuration framework, including the YaST partitioner and AutoYaST, enable the faster deployment of systems. The inclusion of CIM providers also enables more cost-effective and efficient administration, issue resolution, and management of these systems in heterogeneous IT environments.
- **Reliability, Availability and Serviceability (RAS) advances:** SUSE Linux Enterprise Server 11 supports swap over NFS, or support for using network file system (NFS) over Internet protocols (IP) to leverage remote storage for local server needs. No longer restricted to local storage for swap space, you can utilize less costly hardware and storage, use denser “diskless” server systems and simplify server administration. This reduces acquisition, implementation, administration and management costs. By using swap over NFS, you can cost-effectively protect your systems against application restarts and expensive downtime. Also new in SUSE Linux Enterprise Server 11 are control groups for more fine-grained management of CPU, memory, storage and networking resources. Control groups allow IT managers to assign specific hardware resources to applications, processes and threads, providing more granular control of resources and prioritized processing. This enables you to ensure that your high-priority processes and threads do not experience resource starvation and continue to execute as required. Cpuset is the new user tool that facilitates the creation of these control groups and enables the efficient coordination, matching and management of applications and resources. Finally, SUSE Linux Enterprise Server features scheduler enhancements that enable you to optimize your platform for specific workloads.
- **Green IT innovations:** SUSE Linux Enterprise Server features innovative power saving capabilities that let you derive maximum performance per watt. For example, the Linux kernel uses periodic timer events called “ticks” that wake up the system and bring it out of its power saving “sleep” states, causing unnecessary power consumption. “Tickless idle,” a new kernel feature, eliminates periodic

timer ticks when system CPUs are idle. This allows the CPU to remain in power-saving states for longer periods of time, lowering system power consumption and reducing cost. Also included in SUSE Linux Enterprise Server 11 are enhancements that eliminate unnecessary timer events, as well as improved, more granular power profiles which are file-based and can be more easily used by IT managers for enterprise-wide power management.

- **Modular extensions with advanced capabilities:** SUSE Linux Enterprise 11 also delivers new modular extensions that offer advanced capabilities for high availability clustering and running .NET applications on Linux. SUSE Linux Enterprise High Availability Extension is an integrated suite of open source clustering technologies that enables firms to implement enterprise-class clusters at the lowest cost, making high availability more affordable than ever. You can use this extension with SUSE Linux Enterprise Server to create highly available services, ensure continuous access to your systems and data, and reduce unplanned downtime. SUSE Linux Enterprise Mono Extension enables organizations to run Microsoft .NET-based server applications on SUSE Linux Enterprise Server. Customers can leverage existing .NET-based applications, build new ones and run them both on Linux, reducing cost, increasing performance and improving productivity. These new extensions complement an existing server add-on—SUSE Linux Enterprise Real Time Extension.

What other areas have improved in comparison with previous versions?

In addition to innovations in the area of integrated systems management, green IT, RAS, and the modular extensions, the following features have been added or enhanced in SUSE Linux Enterprise Server 11 to improve on the capabilities available in previous versions:

- **Virtualization:** SUSE Linux Enterprise Server comes with the newest version of the open source Xen* hypervisor. You can use it as a robust open source virtualization host to consolidate both Linux and Windows workloads. Xen 3.3 offers greater scalability, performance and security due to architectural improvements, enhanced power management and improved graphical capabilities.
- **Interoperability:** The technical collaboration between Novell and Microsoft in the areas of virtualization, directory and identity federation, and systems management, as well as its support for .NET applications (with SUSE Linux Enterprise Mono Extension), make SUSE Linux Enterprise Server the ideal choice for heterogeneous IT environments.
- **Supportability infrastructure:** With Novell Support Link and enablement for Novell Support Advisor, SUSE Linux Enterprise Server delivers innovative diagnostic and reporting tools to accelerate problem determination and issue resolution.
- **High-performance computing:** SUSE Linux Enterprise Server 11 contains the very latest and most stable Linux multipathing implementation available today. Advanced memory management, multipathing and I/O capabilities, coupled with support for high-speed interconnects and multi-threaded file systems, make SUSE Linux Enterprise Server the preferred operating system today for high-performance computing.
- **Comprehensive security:** SUSE Linux Enterprise Server integrates numerous security features, among them the new version of the AppArmor application security framework, and for the first time support for the Trusted Platform Module. When used together, they give you a better way to secure your systems from attacks, malicious applications and viruses.
- **Advanced networking:** SUSE Linux Enterprise Server contains support for today's advanced networking protocols. It supports IPv6 and SNMP and includes the latest version 1.4 of the Open Fabrics Enterprise Distribution (OFED), an open source software stack used for implementing high-speed RDMA-capable fabrics. New in SUSE Linux Enterprise Server 11 is support for Fibre Channel over Ethernet (FCoE) and Data Center Bridging (DCB), which you can use to run SAN and LAN traffic over the same link—saving you time and money.

What version of the Linux kernel is used in this release?

All products in the SUSE Linux Enterprise 11 platform, including SUSE Linux Enterprise Server 11, use the Linux kernel 2.6.27.

Can I upgrade my existing systems from SUSE Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10 to SUSE Linux Enterprise Server 11?

You are fully entitled to upgrade any systems with an active SUSE Linux Enterprise Server subscription to SUSE Linux Enterprise Server 11. However, a direct upgrade or migration via bootable media is supported only from SUSE Linux Enterprise Server 10 Service Pack 2 to SUSE Linux Enterprise Server 11.

If you want to upgrade from SUSE Linux Enterprise Server 10 to SUSE Linux Enterprise Server 11, we recommend you perform a multi-step upgrade by first upgrading to SUSE Linux Enterprise Server 10 Service Pack 1 and then upgrading to Service Pack 2. Similarly, if you wish to upgrade from SUSE Linux Enterprise Server 10 Service Pack 1, we recommend you first upgrade to SUSE Linux Enterprise Server 10 Service Pack 2.

If you plan to upgrade to SUSE Linux Enterprise Server 11 from SUSE Linux Enterprise Server 9, we strongly recommend that you back up your configurations and your data, and perform a completely new installation for SUSE Linux Enterprise Server 11.

Can you tell me more about virtualization and SUSE Linux Enterprise Server?

SUSE Linux Enterprise Server delivers the leading implementation of Xen, the proven open source virtualization hypervisor. It includes graphical and command line tools for the creation, configuration, deployment, migration and lifecycle management of Linux and Windows virtual machines. You can increase resource utilization, provision business services faster, and increase business continuity by using this capability integrated in SUSE Linux Enterprise Server. It supports paravirtualization (with modified guest operating systems) as well as full virtualization (with unmodified guest operating systems), delivering maximum flexibility and performance.

Novell offers a complementary product that includes device drivers for certain Linux and Windows operating systems. SUSE Linux Enterprise Virtual Machine Driver Pack includes paravirtualized network, bus, and block device drivers that allow you to run fully virtualized Windows 2000, XP, Server 2003 and Server 2008, and Red Hat Enterprise Linux 4 and 5 workloads on SUSE Linux Enterprise Server with near-native performance.

In addition, SUSE Linux Enterprise Server is optimized to run as a guest on popular third-party virtualization hypervisors, including VMware ESX (the hypervisor component of VMware Infrastructure) and Microsoft Hyper-V. It includes a VMI-enabled (VMware Virtual Machine Interface) kernel, allowing more efficient communication with VMware ESX and thus delivering superior performance when running as a guest operating system. In addition, the deep technical collaboration between Novell and Microsoft has resulted in optimized cross-platform virtualization, ensuring you have maximum choice and achieve the best performance from your virtualized workloads—whether you are running Windows Server guests on SUSE Linux Enterprise Server with Xen, or SUSE Linux Enterprise Server guests on Windows Server with Hyper-V. Finally, you can run unlimited SUSE Linux Enterprise Server guests per physical system, for the price of a single subscription, making it the lowest-cost operating system for virtual deployments.

I've heard that systems management for Linux is quite difficult. What does SUSE Linux Enterprise Server offer?

No other Linux server is as easy to deploy, configure and maintain as SUSE Linux Enterprise Server 11. It ships with a comprehensive set of installation, configuration, deployment and administration tools, all powered by the market's fastest integrated package management subsystem, ZYpp.

- The YaST environment is the most powerful and extensive Linux tool for installation, configuration and system administration, and in addition to its command line tool options, it features an entirely graphical and modular design. You can use YaST to simplify server installation and easily configure networks. Moreover, you can use it to efficiently implement robust open source services included with the operating system—such as file and print, DNS, DHCP and Apache Web services—both physical and virtual. Finally, you can also use open APIs to write YaST plug-ins for your own applications.
- AutoYaST, which uses control files, is an extension to YaST that automates installation to a large number of machines. You can deploy groups or subsets of fully configured systems in parallel and without user intervention, saving time and money.
- As an optional choice, you can use a Novell ZENworks Linux Management server to patch and update all your on-site and remote Linux machines—and ensure that all your production machines are protected behind the firewall.
- The adoption of open industry standards such as Web-based Enterprise Management (WBEM) and Common Information Model (CIM) is an important step toward true integrated systems management of distributed and heterogeneous computing environments.

Can you tell me more about the industry standards for systems management?

It is no longer sufficient to manage personal computers, servers, subnets, network core, storage and software in isolation. These components all interoperate to provide connectivity and services. Information regularly crosses these boundaries, and management must do the same. To address these requirements, SUSE Linux Enterprise Server 11 integrates and supports the open WBEM/CIM industry standard as a vendor-independent, robust and descriptive framework for systems management. With SUSE Linux Enterprise Server 11, Novell promotes this open standard and achieves enterprise readiness for true integrated systems management in today's complex and heterogeneous networks. Designed for interoperability, SUSE Linux Enterprise Server can be managed alongside Windows* servers by Microsoft System Center or any solution using CIM.

What is WBEM?

Web-based Enterprise Management (WBEM) is an industry-based systems management architecture initiative based on a set of management and Internet standard technologies. It was developed to unify the management of enterprise computing environments across multiple vendor applications. It is an open standard managed and promoted by the Distributed Management Task Force (DMTF, <http://www.dmtf.org/>)—the industry organization leading the development of management standards. WBEM simplifies systems management, enabling the industry to deliver a well-integrated set of standards-based management tools by leveraging emerging Web technologies. WBEM is compatible with all the major existing management protocols, including SNMP, DMI and CMIP.

What is CIM?

The Common Information Model (CIM), developed by the Distributed Management Task Force, is an industry standard providing a consistent and common definition and structure of management information data for applications, systems and services, ensuring interoperability across enterprises. System administrators and

management programs will be able to control devices and applications from different manufacturers or sources in the same way. For example, a business that purchased different kinds of storage devices from different companies would be able to view the same kind of information (such as device name and model, serial number, capacity, network location and relationship to other devices or applications) about each of them or could access the information from a management solution that uses CIM.

How can I manage my relationship with Novell?

Managing server subscriptions and support entitlements is easy with Novell Customer Center and the Subscription Management Tool, included with each SUSE Linux Enterprise subscription.

Novell Customer Center is a Web-based portal that facilitates the registration, entitlement and tracking of SUSE Linux Enterprise subscriptions. Novell understands that customers have many different kinds of employees who need access to customer support. Novell Customer Center addresses those needs by providing all the information, tools and resources for the many customer contacts who have business and technical relationships with Novell. This broad approach includes system administrators, IT managers, purchasers and others. System administrators easily get access to system information, subscription registration, and the patches and updates they need to address security and supportability concerns. IT managers are able to view the entire scope of their software contracts, including expiration dates, to effectively plan their spending. Purchasing agents can handle their part of the ordering process while leaving more technical tasks to their IT staff. By combining product, service and support options for customer contacts, Novell Customer Center simplifies administration, making it faster, easier and more cost-effective for companies to do business with Novell.

The Subscription Management Tool for SUSE Linux Enterprise goes one step further by establishing a proxy system with repository and registration targets. This helps customers centrally manage software updates within their firewall on a per-system basis, while maintaining corporate security policies and regulatory compliance.

What are the benefits of a SUSE Linux Enterprise Server subscription?

When you choose SUSE Linux Enterprise Server, you're selecting the most interoperable Linux platform for mission-critical computing. SUSE Linux Enterprise Server 11 is backed by a seven-year lifecycle guarantee. During that time, via your access to the Novell Customer Center, you'll receive the latest software enhancements, bug fixes and security patches through regular updates. This ensures that you always have the newest functionality and the best hardware support. Throughout the term of your subscription, Novell works with leading hardware and software vendors to ensure that their latest products and enhancements are fully supported. You also have access to numerous support services. Depending on the services you choose, your support can range from electronic assistance (via the Web and e-mail), to three tiers of telephone support or even the daily expertise of an on-site dedicated support professional.

Why does Novell say that SUSE Linux Enterprise is the "best-engineered" Linux platform?

Novell creates products based on the SUSE Linux Enterprise platform with AutoBuild, a unique Novell development and testing methodology. AutoBuild ensures that all Linux software code from Novell meets the highest technical standards for reliability and integrity. Using AutoBuild, Novell can create and deliver important software updates in hours, rather than days or weeks. AutoBuild also allows Novell to create SUSE Linux

Enterprise products for multiple platforms simultaneously. As a result, you can configure a more efficient IT infrastructure, running and managing the same Linux operating system on all your mainframes, grids, clusters, workstations, desktops and more.

On what architectures and hardware does SUSE Linux Enterprise Server run?

SUSE Linux Enterprise Server is supported by all leading hardware vendors. You can run SUSE Linux Enterprise Server on the following architectures: x86 (32-bit), x86-64 (64-bit), Itanium* Processor Family (Itanium II or newer), IBM* POWER* and IBM System z* (64-bit).

Novell works closely with the chip manufacturers Intel and AMD, and it supports 32-bit and 64-bit architectures as well as single-, dual- and multi-core processors. With SUSE Linux Enterprise Server 11, Novell adds support for new processor technologies, including Quad-Core Intel Xeon* and Quad-Core AMD Opteron* processors. Through joint engineering work with these processor vendors, SUSE Linux Enterprise Server enables multiple virtual machines to run varied data center workloads in native and Xen virtualized environments with outstanding performance, energy efficiency and reliability.

What software applications are available for SUSE Linux Enterprise Server 11?

A complete list of certified software applications for SUSE Linux Enterprise Server (all versions) is available at <http://www.novell.com/partner/isv/isvcatalog>.

What is the difference between the SUSE Linux Enterprise High Availability Extension for SUSE Linux Enterprise Server 11 and the High Availability Storage Infrastructure included in SUSE Linux Enterprise Server 10?

The SUSE Linux Enterprise High Availability Extension features several completely new capabilities, as well as significant enhancements to existing technologies. New features include Pacemaker, a cluster resource management application; cLVM2, a cluster logical volume manager; support for the Open Source Initiative's certified implementation of the Service Availability Forum Application Interface Specification (OpenAIS—a communication protocol for server and storage clustering); a unified command line tool for easier configuration and administration; and an assortment of resource agents. Other features including OCFS2 (the Oracle cluster file system) and DRBD (for continuous data replication) have been significantly enhanced. OCFS2 is now POSIX-compliant, making it suitable for clustering a wider range of applications with cluster-aware POSIX locking. DRBD now supports active/active usage, providing replicated storage area network (SAN) semantics and allowing cluster-aware file systems to be used without additional SANs. The High Availability Extension is fully supported by Novell, and runs on all architectures on which SUSE Linux Enterprise Server is supported.

I need to run UNIX* and Windows machines in my enterprise and would like to add Linux. Can I integrate SUSE Linux Enterprise Server?

Every large enterprise has a mix of operating systems and hardware. SUSE Linux Enterprise Server 11 has been designed with that heterogeneous environment in mind. Leveraging Samba technology, SUSE Linux Enterprise Server seamlessly integrates into and supports existing Windows file and print environments. In

addition, it plugs into existing directory and domain infrastructures, including Microsoft* Active Directory* and Domains, Novell eDirectory™ and openLDAP.

In addition, the ongoing technical collaboration between Novell and Microsoft has resulted in optimized cross-platform virtualization. The collaboration ensures you have maximum choice and achieve the best performance from your virtualized workloads.

SUSE Linux Enterprise Server also interoperates well with traditional UNIX operating environments. SUSE Linux Enterprise Server adheres to the Portable Operating System Interface for UNIX (POSIX), a family of specifications and standards for user and software interfaces to an operating system. As a POSIX-compliant operating system, SUSE Linux Enterprise Server is compatible with other POSIX-compliant UNIX variants, such as Solaris, AIX, and HP-UX.

With its broad use of open standards, SUSE Linux Enterprise Server enables you to share information across any IT system so that you can easily communicate between business divisions or business partners.

Can SUSE Linux Enterprise Server 11 be used for appliances?

SUSE Linux Enterprise 11 was built specifically with appliances in mind and offers a minimal operating system configuration—called SUSE Linux Enterprise JeOS (Just enough Operating System)—that is expressly built for appliances. In conjunction with SUSE Studio, a graphical, Web-based appliance building toolkit, other tools and a vibrant appliance partner ecosystem, SUSE Linux Enterprise JeOS is a key part of the overall SUSE Appliance Program from Novell. For more information please visit <http://www.novell.com/linux/appliance/>.

Is SUSE Linux Enterprise Server 11 offered in cloud computing infrastructures?

As of March 2009, IBM is offering a set of “development only” (unsupported) software images in Amazon EC2—including offerings of IBM DB2, Informix Dynamic Server, WebSphere Portal, Lotus Web Content Management and WebSphere sMash—all running on SUSE Linux Enterprise Server 10 SP2. IBM plans to make software images of those applications available on SUSE Linux Enterprise Server 11 in Amazon EC2 in the second half of 2009. In addition, Novell plans to make SUSE Linux Enterprise Server 11 available in Amazon EC2 on a standalone basis in the second half of 2009. Novell is also working with other cloud vendors and independent software vendors to make SUSE Linux Enterprise Server 11 available in other cloud computing infrastructures in order to meet a wide range of customer needs.

I need to develop my own applications. How can SUSE Linux Enterprise Server help me in this area?

SUSE Linux Enterprise 11 is delivered with a complete software development kit for both server and desktop to facilitate the quick customization and rapid development of a broad range of applications. Included with SUSE Linux Enterprise Server is a comprehensive development environment. SUSE Linux Enterprise Software Development Kit includes all of the major open source compilers, libraries, debuggers, simulation tools, and editors necessary for developers, IHVs and ISVs to create applications, or port them to SUSE Linux Enterprise Server. The toolkit contains several integrated development environments, as well as support for popular modern programming languages, such as C, C++, Java, Perl, Python, PHP and Ruby. Also included is Tomcat, a popular application for serving Web applets.

And SUSE Linux Enterprise is the only Linux distribution to include support for Mono, an open source implementation of the .NET framework. The open source Mono project, and the supported product SUSE Linux Enterprise Mono Extension, allow corporate IT and ISV developers to develop new applications or port existing .NET applications to Linux without the need to invest substantial resources in rewriting their code.

We need to have our Linux systems up and running. Can we rely on Novell for Linux support?

SUSE Linux Enterprise Server 11 is backed by the award-winning Novell technical support team. With nine major global support centers and hundreds of Linux-trained engineers providing 24x7x365 availability, our support service has global around-the-clock reach, but you also can always talk to an engineer in your local language and time zone. Novell has an expansive team of field engineers and Service Account Managers who speak your language and can engage proactively with you on your site.

Novell is committed to providing self-support resources that are powerful, yet easy to use. You can access the same knowledgebase our own support engineers use, post questions in our support forums, download patches and drivers and access a number of other tools. Our focus on quality self-support resources was recently recognized by the Association of Support Professionals, who named Novell as a “Best Support Web Site” winner for 2008. Novell was also named to the ASP Web Support Hall of Fame. Moreover, Novell has invested in state-of-the-art systems, infrastructure and processes to ensure you receive the same exceptional experience every time you contact support. As a result of our commitment to quality, the Help Desk Institute has honored Novell with its “Team Excellence Award for External Support.” The Novell support organization has also earned and maintains the following certifications: ISO 9000:2001, Service Center Practices (SCP) certification, Field Support Practices (FSP) certification and IQNet.

Finally, SUSE Linux Enterprise Server 11 delivers innovative diagnostic and reporting tools to accelerate problem determination and issue resolution. Novell Support Link is a new YaST module and data collection technology that automatically captures support configuration information and sends it to Novell via secure HTTP, if and when the user chooses. Novell Support Link works with Novell Customer Center and Novell Support Advisor—a proactive support automation, diagnostic, and self-help tool—to help resolve issues faster and more accurately. Novell Support Advisor reads log files and configuration settings, maps them to the latest known issues, analyzes the data, and generates results and recommendations for the user. You can diagnose problems more effectively, and resolve issues faster with more efficient, accurate, and holistic incident reporting.

Novell has more than 25 years of experience supporting global enterprises with complex systems. More than 50,000 customers worldwide, representing every type of business, rely on Novell. No matter the size of your company or what business you are in, Novell has the right level of support for you. You choose the resources you need to run your business efficiently and productively. An independent research survey by Lighthouse Research confirms that Novell leads the industry in overall quality of Linux-based technical support (see www.novell.com/linux/support-survey.html).

What kind of support does Novell offer for SUSE Linux Enterprise Server?

All subscriptions to SUSE Linux Enterprise entitle you to upgrades, patches and security fixes; access to technical support; IP indemnification, and much more. A Basic subscription entitles you to 30 days of 12x5 e-

mail and phone-based technical support (with four-hour response time). A Standard subscription entitles you to 12x5 e-mail and phone-based technical support (with four-hour response time) over the duration of the subscription (either one or three years). A Priority subscription entitles you to 24x7 e-mail and phone-based technical support (with one-hour response time) over the duration of the subscription (either one or three years).

For more information about the support and services options, please visit

www.novell.com/products/server/services_support.html

We plan to implement Linux but have no in-house experience. How can Novell help us?

You can adopt and manage your SUSE Linux Enterprise solutions with complete confidence, knowing you're backed by the world-class Novell Services organization. Whether you run a small business or a global enterprise, Novell delivers the resources you need to build and manage your IT environment. Leverage the expertise of our consulting experts, obtain industry-leading training, and access our award-winning support organization to ensure you get the most from your IT investment. You can count on Novell to provide the services so you can focus on what matters most to you—your business.

However, the value that we deliver is not from our solutions alone. Interoperable solutions and mixed IT environments simply can't work without strong, productive partnerships. We share our product expertise, best practices and delivery methodologies with our qualified service partners so they can provide best-of-breed services for our solutions. We have nearly 5,100 partners, including some of the most respected names in the industry. These partners include 3,200 solution providers, value-added resellers (VARs) and value-added distributors (VADs), more than 500 training partners, and more than 1,300 technology partners, both independent software and hardware vendors.

The bottom line is that with our partners and through our ecosystem, we can provide the services and tools that will best meet your unique needs. So no matter how you get our solutions—directly from us or through our partners—you can be assured that they are based on the processes, best practices and delivery methodologies developed by Novell Services. You can count on Novell and our partners to provide the support you need so you can focus on what matters most—your business. The Novell consulting and partner organizations back SUSE Linux Enterprise Server 11 with a comprehensive set of offerings for implementation and training partners, with specialized practices in enterprise platform services, data center technologies and open source development. Novell and its partners are ready to help you quickly deploy SUSE Linux Enterprise Server inside your organization.

Why should I choose SUSE Linux Enterprise Server instead of Microsoft Windows Server, Red Hat Enterprise Linux, or Sun Solaris?

SUSE Linux Enterprise Server is differentiated from other server operating systems by its interoperability, affordability, and vendor recommendations.

- SUSE Linux Enterprise Server is uniquely designed for maximum interoperability with Windows environments. Since 2006, Microsoft and Novell have been working together, specifically in the areas of cross-platform virtualization, identity and directory federation, and cross-platform systems management. The companies' goal is to ensure that SUSE Linux Enterprise Server environments and Microsoft Windows Server environments share data, communicate more easily with each other, and can be managed with a common set of tools. Furthermore, an optional SUSE Linux Enterprise Mono

Extension allows customers to run Microsoft .NET server applications on Linux, increasing interoperability and performance, reducing cost and improving productivity. Interoperability is part of a larger, more pragmatic company-wide mission to give Novell customers the ability to use the best technology in support of their business objectives. We recognize that heterogeneous data centers are today's reality, and we are committed to helping our customers maximize the utilization of their heterogeneous IT resources.

- SUSE Linux Enterprise Server is the lowest cost server operating system platform. SUSE Linux Enterprise Server environments cost less than traditional UNIX environments when you consider the cost of operating system licenses, support and maintenance, hardware, and systems management tools. Subscription pricing for SUSE Linux Enterprise Server is lower than Solaris for x86 and x86-64 on systems with more than two CPUs. Sun also charges extra for server management tools that are included with SUSE Linux Enterprise Server. Subscription pricing for Solaris for SPARC mimics that of Solaris for x86, but SPARC hardware is generally more expensive than hardware based on Intel and AMD processors. When all these facts are taken into consideration, SUSE Linux Enterprise Server is more affordable than traditional UNIX.
- SUSE Linux Enterprise Server offers the strongest partner ecosystem of any enterprise Linux vendor. It is the only Linux server operating system recommended by both Microsoft and SAP. Microsoft recommends SUSE Linux Enterprise Server to customers who run Windows and Linux in their data centers. This unique endorsement is made possible by the technical collaboration that exists between the two companies, together with the joint support programs that have been implemented to ensure customers have seamless, comprehensive one-stop support for their virtual Linux and Windows services. Similarly, SAP also recommends SUSE Linux Enterprise as a preferred platform to customers that want to deploy SAP applications on Linux. Together, SAP and Novell are reducing the complexity of application deployments, lowering costs and giving customers a single point of contact for acquiring and supporting a complete data center stack.

How much does SUSE Linux Enterprise Server cost?

There is no license cost for SUSE Linux Enterprise Server, and you can download the code for free from <http://download.novell.com>. However, a subscription to SUSE Linux Enterprise Server comes with major benefits—immediate delivery of upgrades, patches and security fixes; access to award-winning Novell technical support; IP indemnification; and much more.

For our most current pricing, and more information about our Basic, Standard and Priority support subscriptions, please visit www.novell.com/products/server/howtobuy.html

Where can I get SUSE Linux Enterprise Server?

You can purchase SUSE Linux Enterprise Server from a Novell sales representative, online at www.novell.com, or from our solution provider, reseller, distributor and hardware vendor partners.

- To request a sales call so that you can purchase from a Novell sales representative, please visit <http://www.novell.com/products/server/howtobuy.html>
- To buy online, please visit <http://shop.novell.com/store/novell/Content/pbPage.sles-options>
- To locate a partner from whom to purchase, please visit <http://www.novell.com/partnerlocator/region.do>

Where do I get more information about SUSE Linux Enterprise Server and the related bundles, extensions, and products?

For more information about SUSE Linux Enterprise Server, please visit

- www.novell.com/products/server

For more information about the modular extensions for SUSE Linux Enterprise Server, please visit

- www.novell.com/products/server/modular.html

For more information about additional offerings, please visit

- SUSE Linux Enterprise Server Priority Support for SAP Applications
www.novell.com/products/server/sap.html
- SUSE Linux Enterprise Server Subscription with Expanded Support
www.novell.com/products/server/expandedsupport/offering_summary.html

For more information about support and services for SUSE Linux Enterprise Server, please visit

- www.novell.com/products/server/services_support.html

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