Novell® Open Enterprise Server
Future and Roadmap

Novell®

Speakers

- Rick Fowler
  - OES Product Manager
  - Novell, Inc.

- Troy Wilde
  - OES Product Manager
  - Novell, Inc.

- Jason Williams
  - OES Product Manager
  - Novell, Inc.

The Road to Open Enterprise Server

Past and Future

| NetWare	NLS 1.0	OES	OES Cypress	OES Ponderosa
• F: drive sharing • B`est File & print • OS components	• Proof of concept • NetWare services	• Coexist • NW Migration path • Best of NW & Linux	• Virtualized NetWare • Windows coexistence • x86 64-bit support	• Next generation collaborative platform • Virtualization advancements for dynamic workgroup management

"The Services" + Open Source

iFolder, iPrint, eDirectory services

"The Services" + Applications

Enterprise workgroup on Linux — Linux — N viX — Xen

Enterprise workgroup on Linux — Linux — N L L L — Xen

· Continued support packs
· Continued technical support

Novell® Open Enterprise Server

Novell Open Enterprise Server

Best of Both Worlds
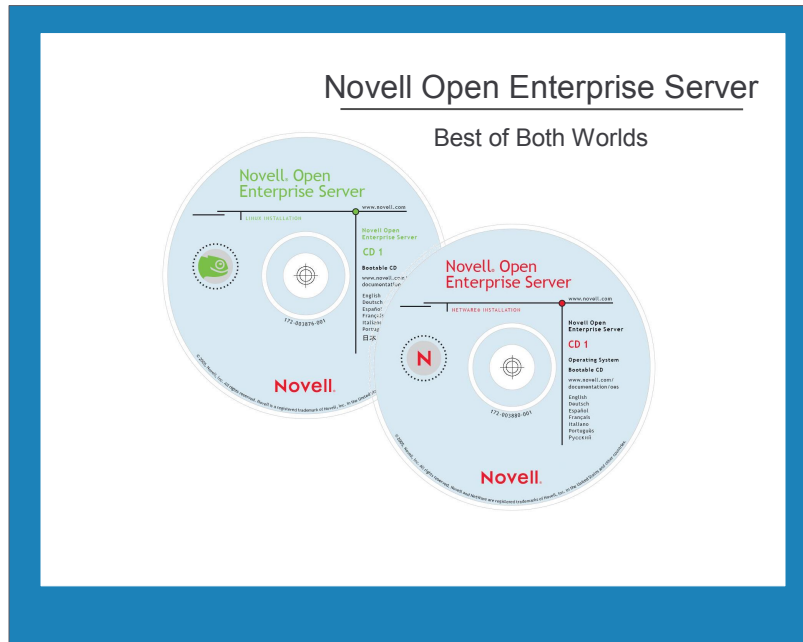
Customers using Open Enterprise Server have the flexibility to deploy services on the NetWare® and/or Linux platforms with common and familiar management experiences for both.

Futhermore, customers will be able to exploit the strengths of SUSE® Linux Server 9 as an application server and open source platform.

Thousands of Applications

Greater Choice and Flexibility

Realize Benefits from Open Source

Unmatched Enterprise Security

Common Management

Reliable, Scalable, Enterprise Service

Industry-Wide Support for SUSE LINUX
Can you find any applications your company uses?

Application Support

ca®
Tivoli. software
Lotus. software
MySQL.
WebSphere. software
bea™
Lutris — open source enterprise software & services
QUADRATEC
ORACLE®
egenera
SAP™
PROGRESS SOFTWARE
REUTERS
SENDMAIL.
VERITAS™
TIBCO — The Power of Now™
SYBASE
PolyServe™
arkeia®
bmcsoftware
metrowerks
tarantella
vmware
software AG — ACCEPT NO LIMITS
teamware®
LEGATO
SteelEye TECHNOLOGY, INC
TREND MICRO™

Hardware Support

hp invent
IBM®
AMD
EMC² — where information lives
NetworkAppliance®
FUJITSU COMPUTERS SIEMENS
intel®
Sun microsystems
DELL™
sgi®

OES Backup and Anti-virus

Support for :
- OES NetWare
- OES Linux

Planned Support for :
- OES NetWare
- OES Linux

Get more information at the OES Backup and Anti-virus website
http://www.novell.com/products/openenterpriseserver/partners/index.html

Industry Recognition for OES

"It's a new day, a new dawn, for Novell. And it's not just Novell saying it. It's thepeople who support Novell, who build their lives around Novell, who are enjoying the return of new light and life to an old company."
-eWeek, New Day, New Novell

"Gartner sees Open Enterprise Server as the start of a new era for NetWare file/print services."
-Gartner and John Enck, Bottom Line

For Novell, Linux Means New Life
After doing two major acquisitions to build its Linux portfolio and coming up with what at least one analyst calls a "clear roadmap" for moving its NetWare customers to Linux, Novell is winning credibility as a Linux player.
-Business Week

Desktop and Infrastructure Software (Relevant Again)
Importantly, Linux will change that materially, which should help drive new adoptions, and stabilize NetWare (again to become OES). Investors may want to note that maintenance renewals for NetWare have been good, and there has not been a meaningful run-off of the installed customer base.
-U.S. Equity Research
Baird

OES Picks Up the Top Spot

Novell Open Enterprise Server Sweeps Microsoft and Others in Products, Support and Partnership!

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ARC ANNUAL REPORT CARD WINNER

In VARBusiness Magazine's Annual Report Card awards, partners ranked Novell Open Enterprise Server the highest in the Server Operating System category. Open Enterprise Server outpaced the competition by sweeping all sub categories to take top honors. August 2005

Network Magazine named Open Enterprise Server the "Product Breakthrough" for Infrastructure Software. "...The successor to NetWare, OES smooths the path by implementing all the familiar NetWare services under Linux."
-Network Magazine, May 2005

"Novell's Open Enterprise Server... Caught Excellent judge's eyes for the migration options it offers for enterprises."
-eWeek Product Excellence
 Finalist, April 2005

Open Enterprise Server
Services Available on Linux and NetWare®

Open Enterprise Server

OES Services

NW 6.5 SP3 OS | SLES 9 SP1

- iFolder, NSS
- Novell Clustering
- iPrint
- eDirectory, IDM2 Bundle
- iManager
- Net Storage, Virtual Office
- RPM, RCD
- CIM
- Novell Client for Linux
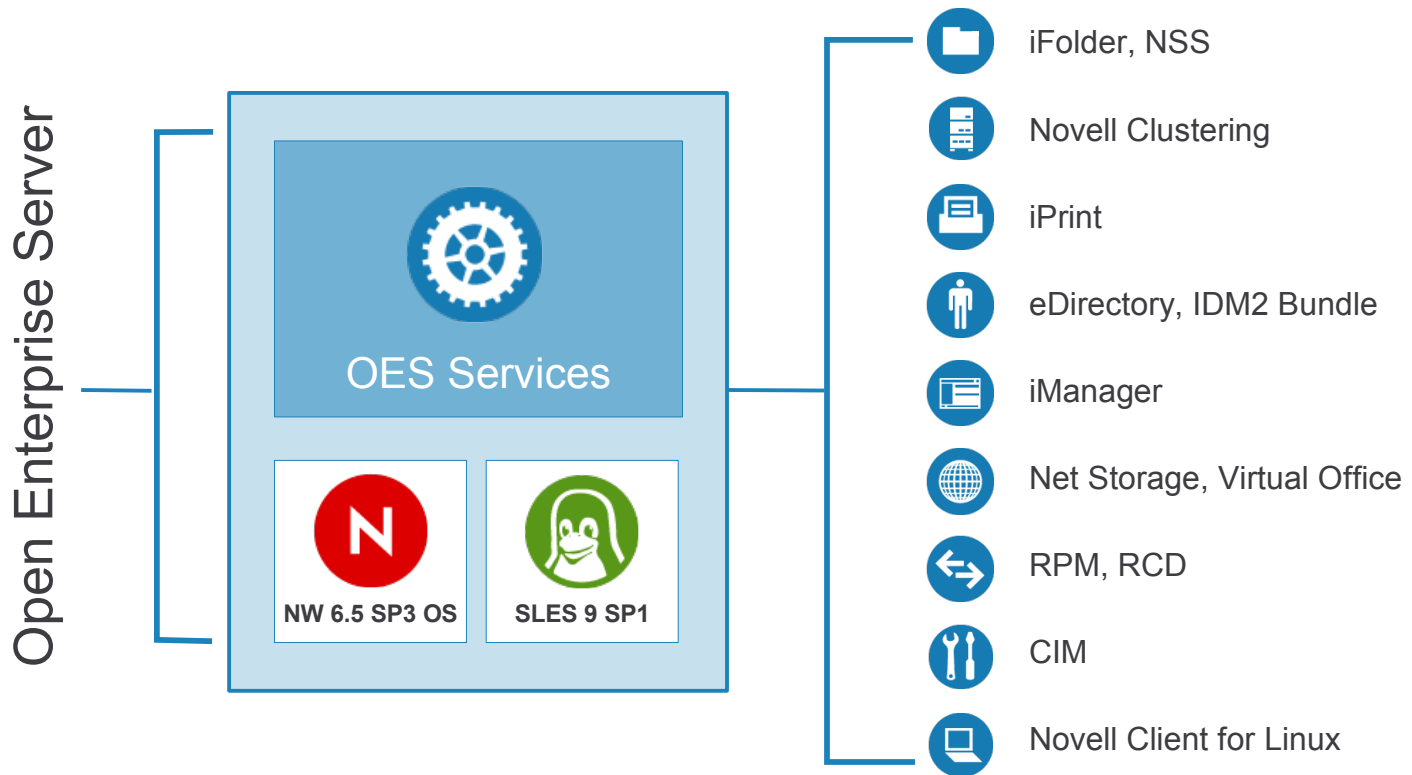
Open Enterprise Server Futures

OES futures overview

✓ SLES 10 values

✓ x86-64 SLES Support

✓ NetWare viX

✓ NetWare Services on Linux NSS, iManager, DHCP

✓ Windows Desktop Support

✓ Windows Co-existence - Kerberos

✓ Novell's Workgroup Suite

SLES 10 Hardware Support

- CPU
  - Available on x86, x86-64
  - Support and optimizations for the latest CPU technology, including Virtualization (Vanderpool, Pacifica) and Multi-core.

- Updated drivers for:
  - Storage (RAID, SAS, SATA, Multipathing, Fibrechannel)
  - Networking (including support for I/OAT and Wireless)
  - Platform management (IPMI) and Power management
  - Graphics, Audio, Bluetooth and USB devices

- Hotplug
  - Hotplug improvements through Hardware Abstraction Layer
  - Persistent device naming

- Scalability
  - Support for 10+ TB Memory and 12000 SCSI LUNs

SLES 10 Storage Foundation

- Integration of OCFS2, EVMS and Heartbeat
  - Complete solution with Cluster filesystem, cluster-aware volume management and HA failover with Heartbeat2
- OCFS2
  - Optimized for fast access to large files
  - Joint Development Effort with Oracle
- Storage Features
  - Improve and harden multipathing support
    - I/O Load balancing
    - HA failover
  - NFS 4.x Client and Server
    - Performance improvements
    - Improved security

Security

- Proactive
  - Code audits of potentially dangerous programs
  - Compiler improvements (buffer overflow checking with fortify)
  - Stack less predictable with randomize
- Server Jail
  - Secure encapsulation in VM via Xen virtualization
- AppArmor intrusion prevention
  - Creates "firewall" around applications
  - Protects against unknown application vulnerabilities
  - Comprehensive wizard-based tool set, integrated in YaST
  - No security expertise required
  - Low performance impact (typical: < 0.2 %, worst case: 2%)

Virtualization

- Xen 3.x
  - Hypervisor fully integrated and supported
  - Support for SMP, PAE and 64-bit CPUs

- Management
  - Based on CIM standard, CIM providers for VM management
  - YaST modules for easy management (setup, install, update, start, stop)

- Use cases
  - Server consolidation
  - Workload isolation (e.g. dedicated VMs, QoS policies)
  - Scheduled HW Maintenance w/o SW downtime
  - Compatibility environments
  - Concrete: SLES9 solution stack in VM running on SLES10

NetWare® 6.5 viX

- Out-of-the-box configuration option for running NetWare
- NetWare kernel optimized for performance on Xen hypervisor
- NetWare viX will help customers consolidate onto OES-Linux
- Extended hardware support for NetWare applications
- No retraining required

NetWare viX Capabilities:
- Backward compatible NLM support
- Preserve NetWare management tools
  - NetWare's Server Console
  - iManager Console
  - 95% of NoRM's functionality
  - Abend recovery
  - Internal NetWare debugger
- Tools for NetWare to NetWare viX migrations
- NLM's on new hardware!

NLMs	OES Services	3rd-Party Apps

NetWare viX	SLES

Xen

Hardware
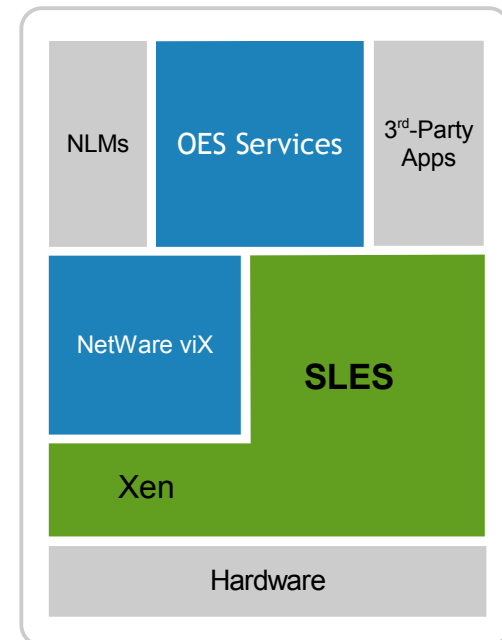
OES Linux closes gap

- File

  - DFS Junctions

  - Archive and Versioning server

- iManager 2.7

  - Plugins for GW management

  - Plugins for NSS management

  - Tree view

- eDir enabled DHCP

  - Migration Tools

  - Manage open source DHCP server from eDirectory™
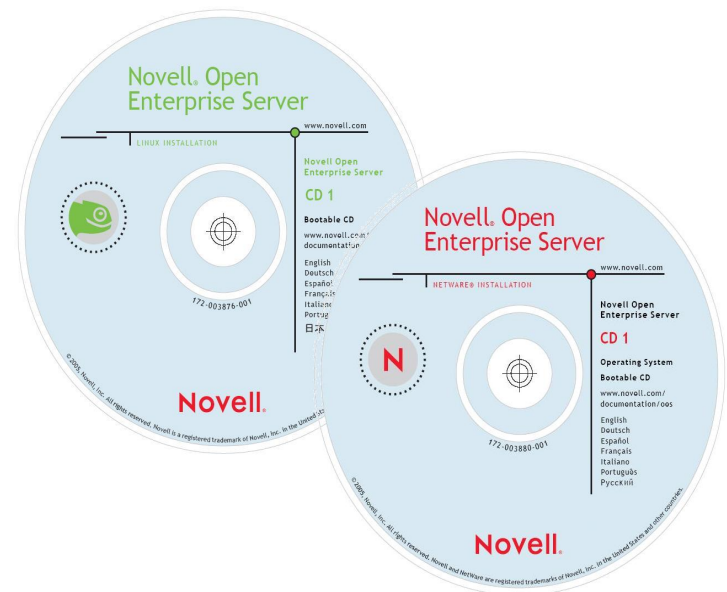
iPrint for the Workgroup
Cost control and allocation for enterprise print needs

Print Accounting

- Denial of Services
- Billing Codes
- Charge Back
- Most Requested

Remote Printer Management

- Printers follow users from workstation to workstation
- Assign printers remotely to users, groups and containers
- Remotely set default printer
- Users automatically inherit printers when they are assigned to a group or container
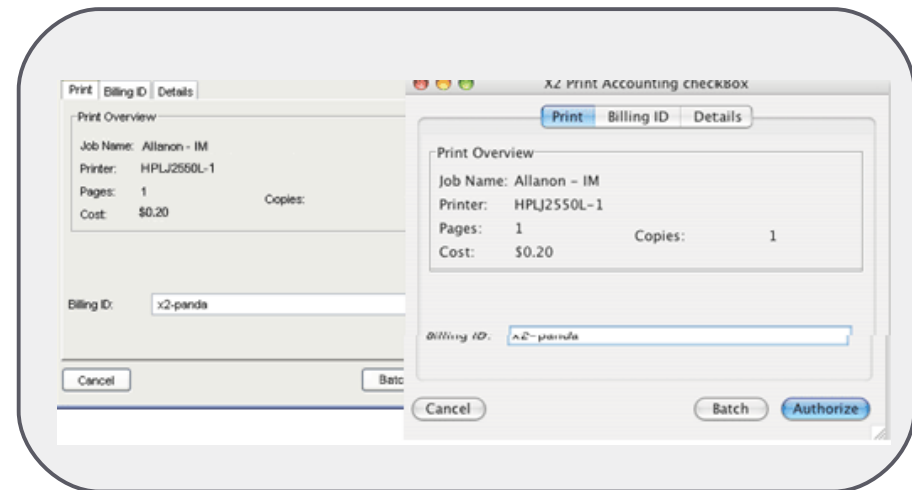
Hardware
64-bit Support for Workgroup services

- OES Workgroup Services:
  - SLES 10 x86-32 on AMD64/EM64T
    - Printing on 32-bit
    - iFolder on 32-bit
    - eDir on 32-bit with 64-bit interfaces

  - SLES 10 x86-64 on AMD64/EM64T
    - NSS compiled for 64-bit
    - Clustering compiled for 64-bit
    - SMS compiled for 64 bit
  - Cypress OES SLES entitlement
    - Cypress customers entitled to SLES 10 x86-64 same as OES 1.0.

Microsoft Interoperability
Out of the box support for Active Directory and Windows

- Provision with a single command
- Avoid complexity of individual Configuration of:
- Naming
- Authentication
- Directory Services

eDirectory

Kerberos Enabled Services

Active Directory

Familiar management tools for services

OES Services

Windows Services

Apps

Single sign-on to services

- Same user login
- Access to new services
- Multiple clients go away

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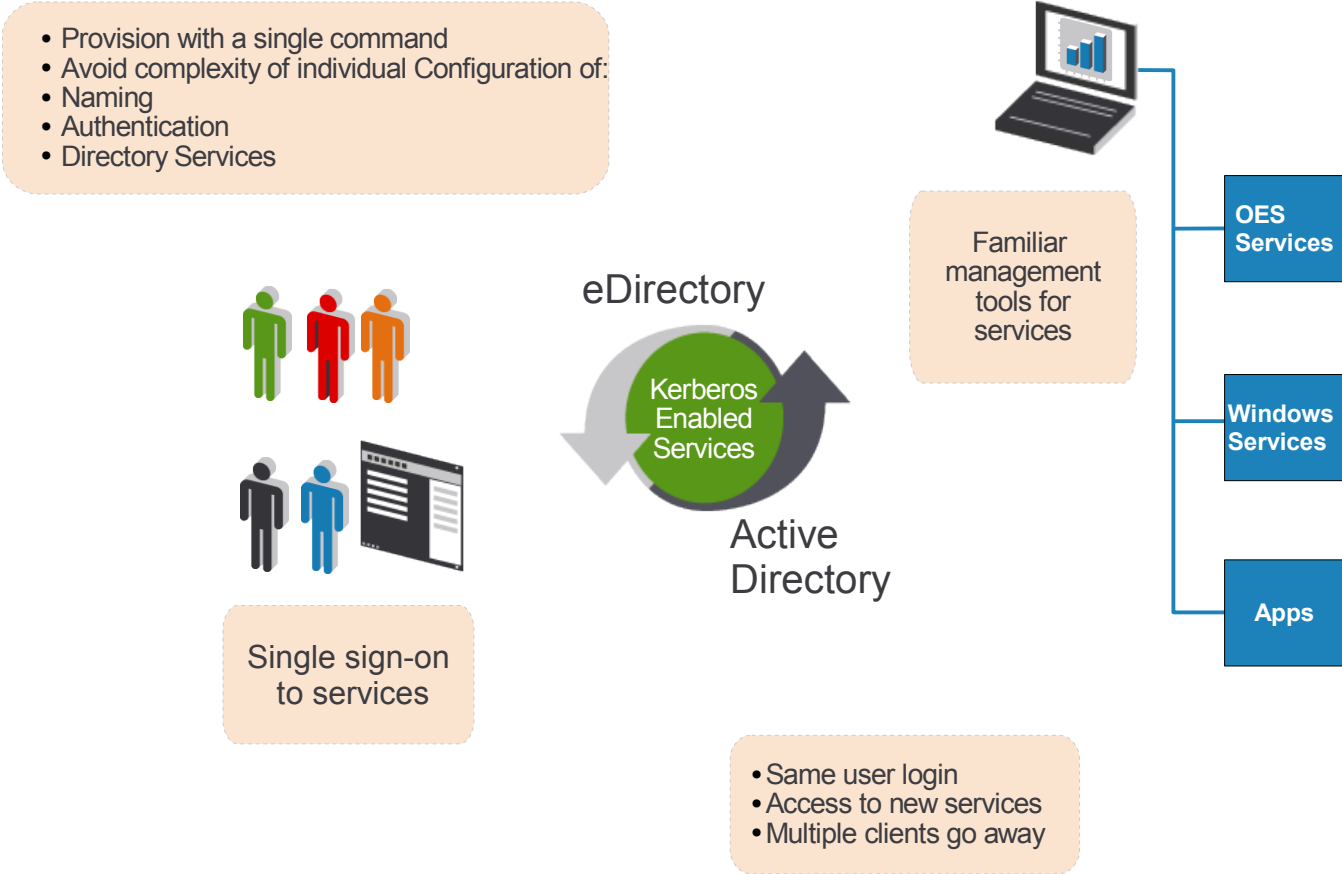
Microsoft Interoperability
Supporting Windows for the Workgroup customers

Windows Vista

· 32 and 64 bit clients

· re-architecture of print spooler

· re-architecture of file access

The Novell® client will add:

· Security

· Control

· Manageability

Windows Vista

arriving 2006

formerly Windows codename "Longhorn"

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Introducing Novell's Open Workgroup Suite

Novell® Open Workgroup Suite
Reclaim your IT-infrastructure with open and secure Workgroup software from Novell

- The Novell® Open Workgroup Suite provides core infrastructure software based on mixed source. It combines technical innovation from the open source world with Novell's experience and global reach.

  - **Open Enterprise Server**

  - **GroupWise®**

  - **ZENworks® Suite**

  - **New!! Novell Linux Desktop**

  - **NEW - OpenOffice on Windows**

- Open source server for applications

- Industry leading enterprise networking services

- Cross platform systems management

- Secure and reliable collaboration suite

- Finally an Office alternative for Windows

Open Enterprise Server Roadmap

2006	2007	2008

Cypress
- NetWare Virtualized
- Windows Coexistence
- x86-64 bit support
- Vista Client

Ponderosa
- Next generation collaborative platform
- Virtualization advancements for dynamic workgroup management

Open Enterprise Server

SLES 10
- Enhanced Security
- Virtualization
- 64-bit hardware

Suse Linux Enterprise Server

Novell's Open Workgroup Suite

Workgroup Suite
- OES
- GroupWise
- ZenSuite
- NLD
- OpenOffice

Component Update

Component Update

Component Update

Workgroup Suite
- OES
- ZenSuite
- OpenOffice
- Teaming Workspaces
- Application integration
- GroupWise
- NLD
- Realtime

▲ = committed project   ● = planned project

Open Enterprise Server Programs

OES Deployment Page

- Install a new OES NetWare-based server
- Install a new OES Linux-based server
- Migrate data from 5.x or 6.x Netware to OES NetWare
- Consolidate data from Windows or NetWare to OES NetWare or OES Linux

http://www.novell.com/products/openenterpriseserver/deployment.html

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SLES Entitlement

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Novell Open Enterprise Server Linux Entitlement Tool

Solution home

solution information   ▸
evaluate   ▸
implement   ▸
item without menu

Training
Support
Partners
Communities

If you are deploying Novell Open Enterprise Server—one of the most secure, reliable, and easy-to-deploy enterprise-class networking servers in the industry—did you know that you're entitled to deploy a number of SUSE Linux Enterprise Server 9 servers with updates and support?

Thats right! Not only do you get a robust suite of proven networking, communication and collaboration services in Novell Open Enterprise Server, but now you also have the ability to deploy the most advanced and secure application server in the world: SUSE Linux Enterprise Server.

Use the entitlement tool below to find out how many SUSE Linux Enterprise Server activation codes you're entitled to.

Entitlement Calculator

Enter the number of Open Enterprise Server licenses you purchased.   [   ]   calculate ▶

As an owner of OES licenses you are entitled to SLES licenses. This page will quickly help you calculate the SLES servers you are entitled to deploy.
http://www.novell.com/licensing/calc_tool.html

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Bridge Your Skills From NetWare® to Linux
Free Training

- Novell® is helping NetWare® customers prepare for Linux by providing a free online training course.

- This course will help administrators transition their NetWare skills to Linux and develop a plan for meeting additional training needs.

- Course is open to ANYONE

- 20-hour course delivered online in self-study format

- www.novell.com/netwaretolinux.com

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