

Migrating to Linux Across the Enterprise

Matt Skipton
Network and Systems
Management Specialist
Novell
mskipton@novell.com

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Darren Harvey
Information Architect
HP
darren.harvey@hp.com



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Today's Agenda

- Introduction and Overview
- Novell Open Enterprise Server
- What Migration Approach is Best for You?
- Tools that Can Help
- Special Considerations
- Where Can You Start Today?

Introduction and Overview

- Every migration is different
- We want to talk about and show some tools available
- 3 Major types of Migrations to Linux
 - NetWare to Linux
 - Windows to Linux
 - UNIX to Linux
- Each can have many different types of applications

Introduction and Overview Cont'd

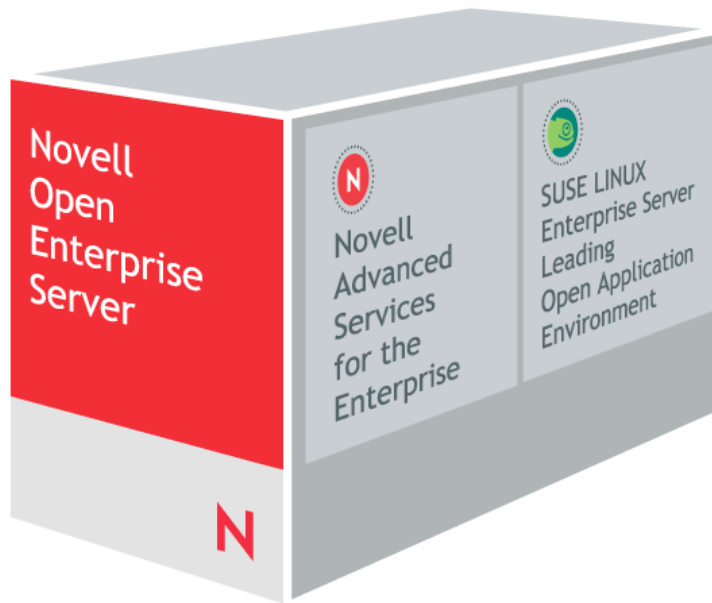
- Hardware Configuration
 - 2 HP Proliant DL585's
 - 2.2Ghz Opteron Processors
 - 16GB RAM
 - 150GB Hard Drive Space
 - HP Procurve 8-port GB switch
 - HP NC4200 laptop
 - HP TC4200 tablet







Introduction and Overview Cont'd

- Operating System/Software Configuration
 - VMWare ESX 2.5
 - NetWare 5.1
 - NetWare 6.5
 - Windows NT 4
 - Windows 2000
 - Windows XP Professional
 - OES-Linux

Open Enterprise Server










Novell® Open Enterprise Server



-  Reliable, Scalable, Enterprise Services
-  Common Management
-  Unmatched Enterprise Security
-  Thousands of Applications
-  Greater Choice and Flexibility
-  Realize Benefits from Open Source

Open Enterprise Server

Advanced Services for the Enterprise

	File Services	Novell®iFolder®, NSS, NetStorage	Personal file backup and anytime/anywhere access. Granular file access control and management.
	Print Services	iPrint	Supports IPP standards-based printing for Windows, Mac and Linux clients. Using web-based maps, users can quickly find and install printers.
	Web Experience	Virtual Office	Provides the end user with browser-based access to files, printers, email, applications, links, corporate information, etc.
	Web Collaboration	Virtual Teams	End users can quickly create their own team workspaces— Including: shared directories, discussion boards, chat, team web sites, etc. without the assistance of IT staff
	Identity Services	Novell eDirectory™	Provides single user identity which enables global security and management policies for access to resources. Web address book w/search and self-administration.
	High Availability	Novell Clustering	Clustering / high availability for both NetWare and Linux servers
	Install and Patch/ Update Services	Novell ZENworks®	Includes Novell ZENworks components for easily updating both NetWare and Linux servers.
	Administration/ Monitoring Services	Novell iManager® & CIM	Browser-based single point of administration for all OES Services. CIM-based management and providers. Server health monitoring integrated into Novell iManager.
	Desktop Integration	Novell client experience	Login script support, file access, background authentication, iPrint, Novell iFolder available both on Windows and Linux desktops

OES Install

OES Install

- Network Install Server
 - Any OS can host
 - can run over HTTP, FTP, NFS
 - our setup uses NFS on a SLES9 VM

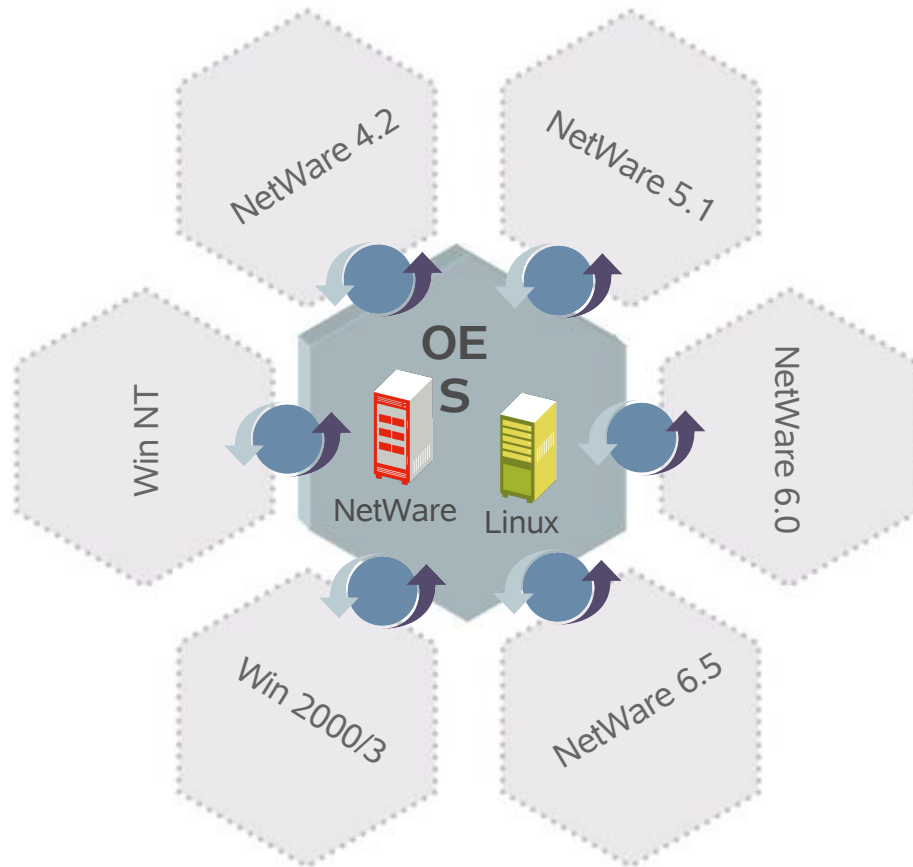
INSTALL

What Migration Approach is
Best for You?

Identify Goals and Constraints

- Is this a migration or are you just adding new capabilities?
- What areas are you moving over?
- How much change to current management tools is acceptable?
- Can modifications be made to the desktop?
- Is part of the goal to implement a global identity system
- Is the goal to reduce the number of OS platforms supported?
- Are you looking to consolidate servers?
- How susceptible are you to down time?

Coexistence—No Rip & Replace



Directory Services Additive
NW 4.x: NDS 6.21
NW 5.x: NDS 7.62c, 8.58
NW 6.x: eDir 8.7.0, 8.7.1

Seamless file services integration
(Windows, NetWare, UNIX, Linux)

Linux and Windows
desktop support

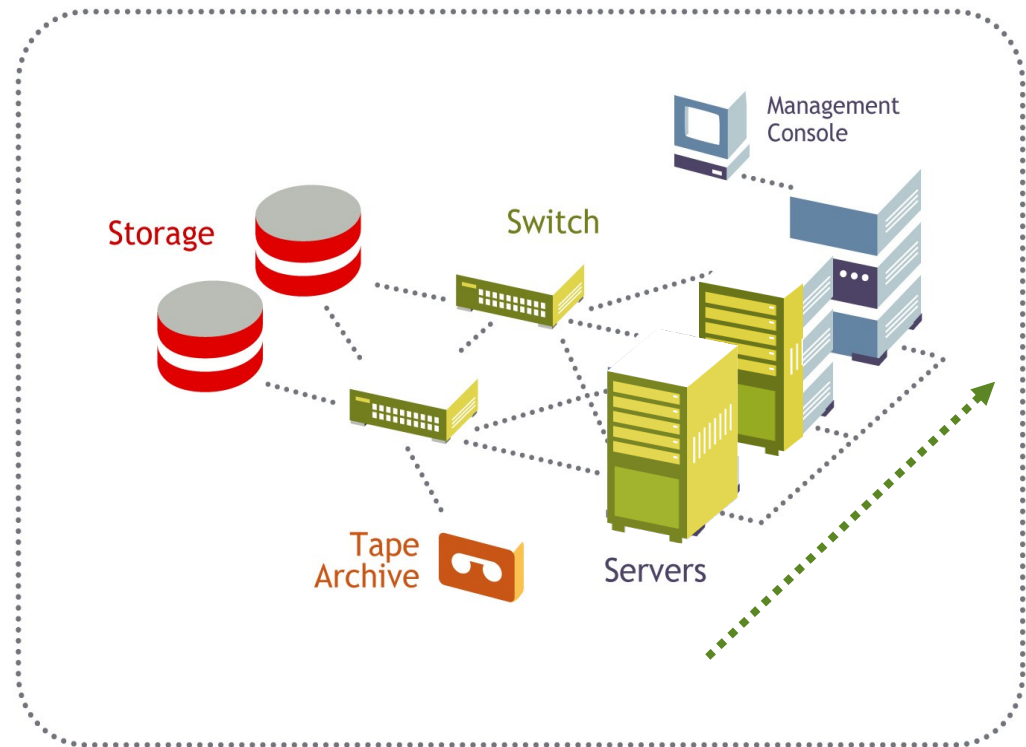
Directory interoperability (NT,
AD, Novell eDirectory, etc)

Replace NetWare Server With a Linux Server

Migrating	To	Recommended Approach
Users, Groups in eDir	Users, Groups in eDir	Server Consolidation Utility
NSS or Traditional FS	NSS	Server Consolidation Utility
SAN/Cluster	SAN/Cluster	Cluster Rolling Upgrade
Non-Cluster SAN	Non-Cluster SAN	Non-Cluster SAN Migration
NDPS, iPrint	iPrint	Server Consolidation Utility (SP1)
Queue-Based Printing	iPrint	Documented Manual Migration
iFolder v2	iFolder v2	Documented Manual Migration
AMP	AMP	Documented Manual Migration
Virtual Office	Virtual Office	Documented Manual Migration

Cluster Rolling Upgrade

- Rolling Upgrade is available for SAN/Clustered NetWare implementations.
- Each individual node can be upgraded to OES-Linux and reinserted into the cluster
- Involves zero down time
- Since data is not moved, rolling upgrades can be done very fast.



Replace a Windows Server With Linux

Windows NT or 2000/3 with AD, same approach

Migrating	To	Recommended Approach
Users, Groups in Domain	Users, Groups in eDir	Server Consolidation Utility
Users, Groups, WS and Server objs in Domain	Users, Groups in Samba + eDirectory	Vampire
NTFS	NCP + Any FS	Server Consolidation Utility
NTFS	Samba + Any FS	net rpc share migrate
Windows Printing	iPrint or Samba + iPrint	Windows to Linux Print Migration Tool (SP1)
NT Shares	Samba Shares	net rpc share migrate
SQL Server	MySQL, DBS, Oracle	Tools from Novell partners
IIS	Apache	Documented Manual Migration

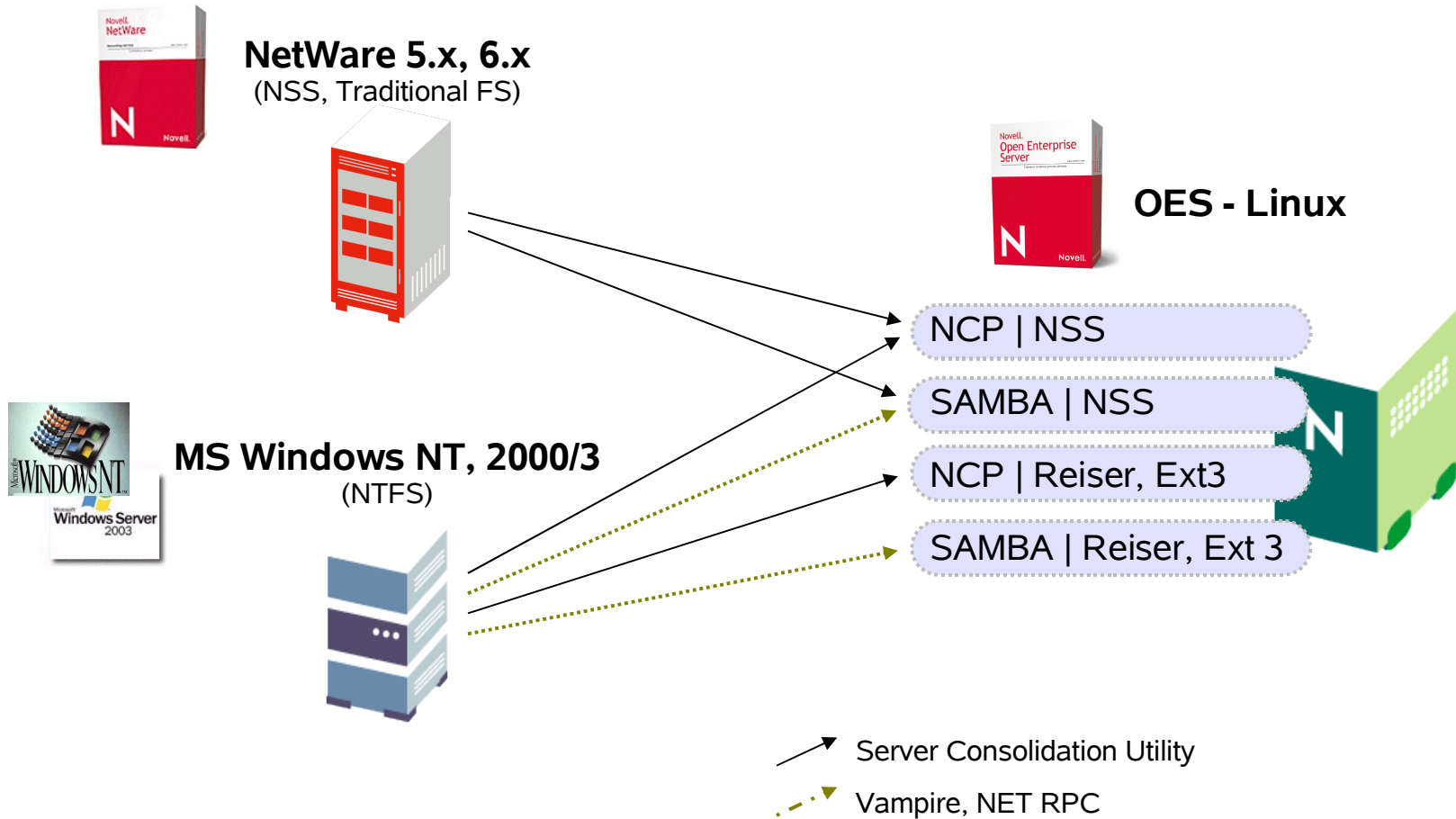
Replace a UNIX Server With Linux



Migrating	To	Recommended Approach
Users, Groups in NIS or Open LDAP, etc	Users, Groups in eDir	ldif export and import
UNIX file shares	Any Linux FS (reiser, ext3, OCFS, PolyServe, Lustre)	tar, etc
UNIX Printing	iPrint or Samba + iPrint	Copy CUPS config files or re-create
Applications	Apps on Linux	Check vendor for availability

Tools That Can Help

User Data Migration Options



Server Consolidation Utility

Migration capabilities

NetWare to Open Enterprise Server (Linux)

- Users
- Groups
- Containers
- User Data along with trustees, ownerships and all file attributes
- NDPS and iPrint on NetWare to iPrint on Linux (SP1)

Windows to Open Enterprise Server (Linux)

- Users
- Groups
- Containers
- User Data along with trustees, ownerships and some file attributes

Windows to Linux Print Migration Tool

- Script-based tool to migrate Windows-based printing to iPrint on Linux.
- Read the print setup information from a Windows server.
- Makes calls into an Open Enterprise Server (Linux) server to create the equivalent print setup.
- Very simple browser-based interface, used mostly for progress reporting.
- Can read the printer driver associated with the Windows printers and copy it to Open Enterprise Server.

Desktop Queue/NDPS to iPrint Migration

- From Queues to iPrint Printers.
- From NDPS Printers to iPrint Printers.
- The capability is embedded in the iPrint client that ships with Open Enterprise Server.
- Administrators specify what queues or NDPS printers to migrate to what iPrint printers using iManager.
- The client automatically replace specified queues and NDPS printers with iPrint printers, without the administrator having to personally visit each desktop.



Server Queue/NDPS to iPrint Migration

- Coming in OES SP1 in Mid August

UNIX Migration Business Drivers



What problem needs to be solved?

Unix is expensive and customers are looking for a low cost alternative



Where components are must haves?

1- Application Certification



2- Reliability, Availability, Scalability, Manageability



3- Migration & Consolidation (Easy and High ROI)

Four Types of Cost Savings with Unix to Linux Migration

Lower Server Costs, Higher Performance

- Cost effective Intel-based servers
- Better performance than RISC (spec.org)

Lower Lifecycle Costs

- No need to pay Unix level hardware maintenance
- No forklift upgrades – just add servers when you need them
- Lower cost of availability: 20% Intel 100% on RISC

Better Utilization of Assets

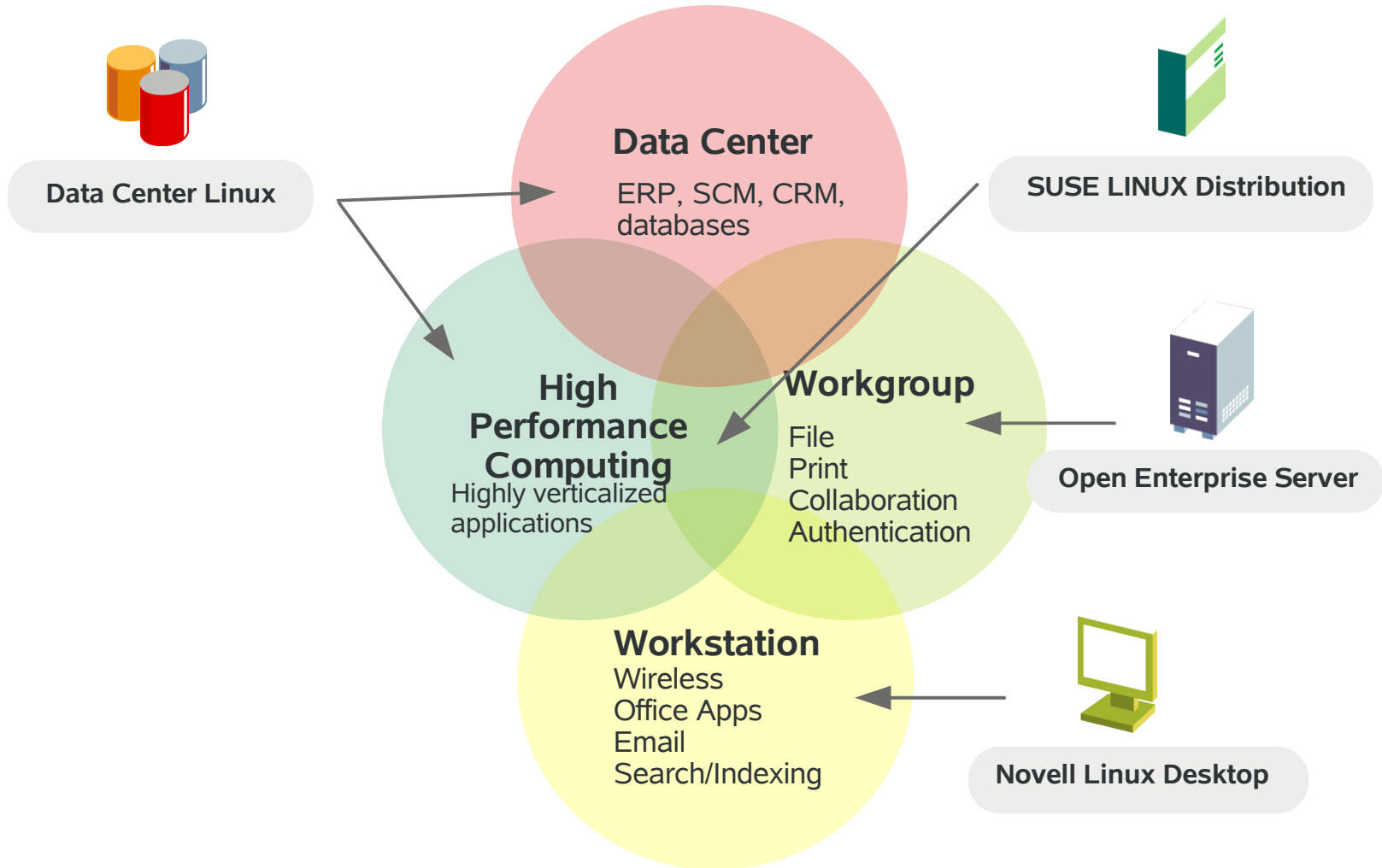
- Move servers to where they are needed
- No stranded capacity or over-provisioning

Operational Efficiency

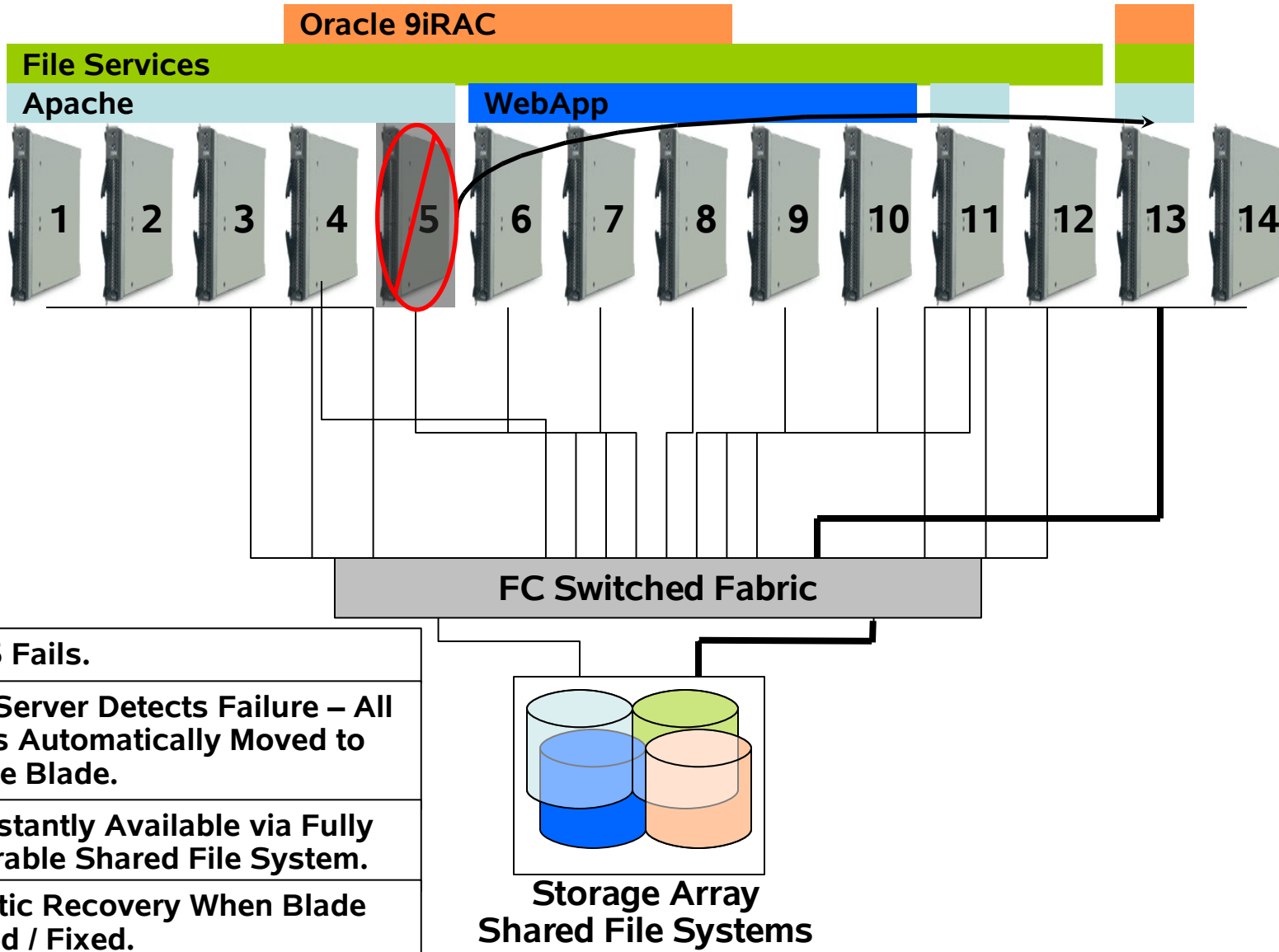
- One place to install software
- One place to manage software
- One set of file systems to backup



Linux Workloads: Data Center Defined



Application and Blade Level Failover in Data Center



- Blade 5 Fails.
- Matrix Server Detects Failure – All Services Automatically Moved to Alternate Blade.
- Data Instantly Available via Fully Recoverable Shared File System.
- Automatic Recovery When Blade Replaced / Fixed.

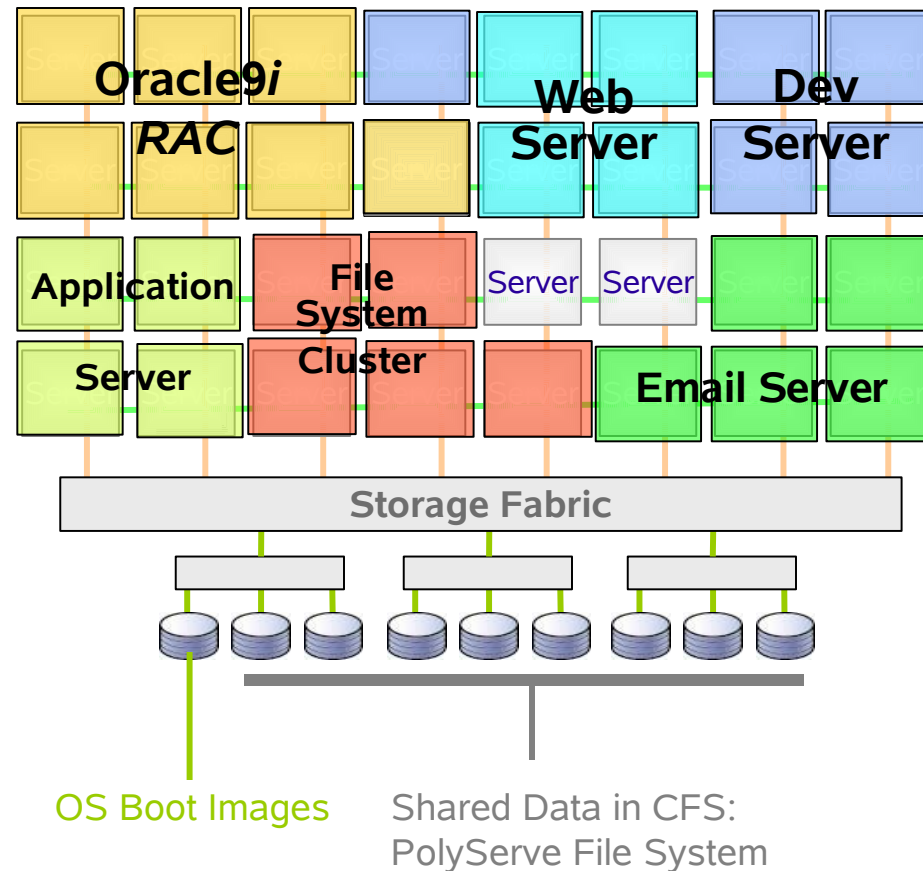
Stateless Computing in the Data Center

Allows *point-to provisioning* of applications and databases

- Install once and run anywhere
 - e.g., Single shared Oracle home
- Application “personality” of a blade adjusted on the fly
- Analogous to UNIX partitioning applied to Intel-based clusters

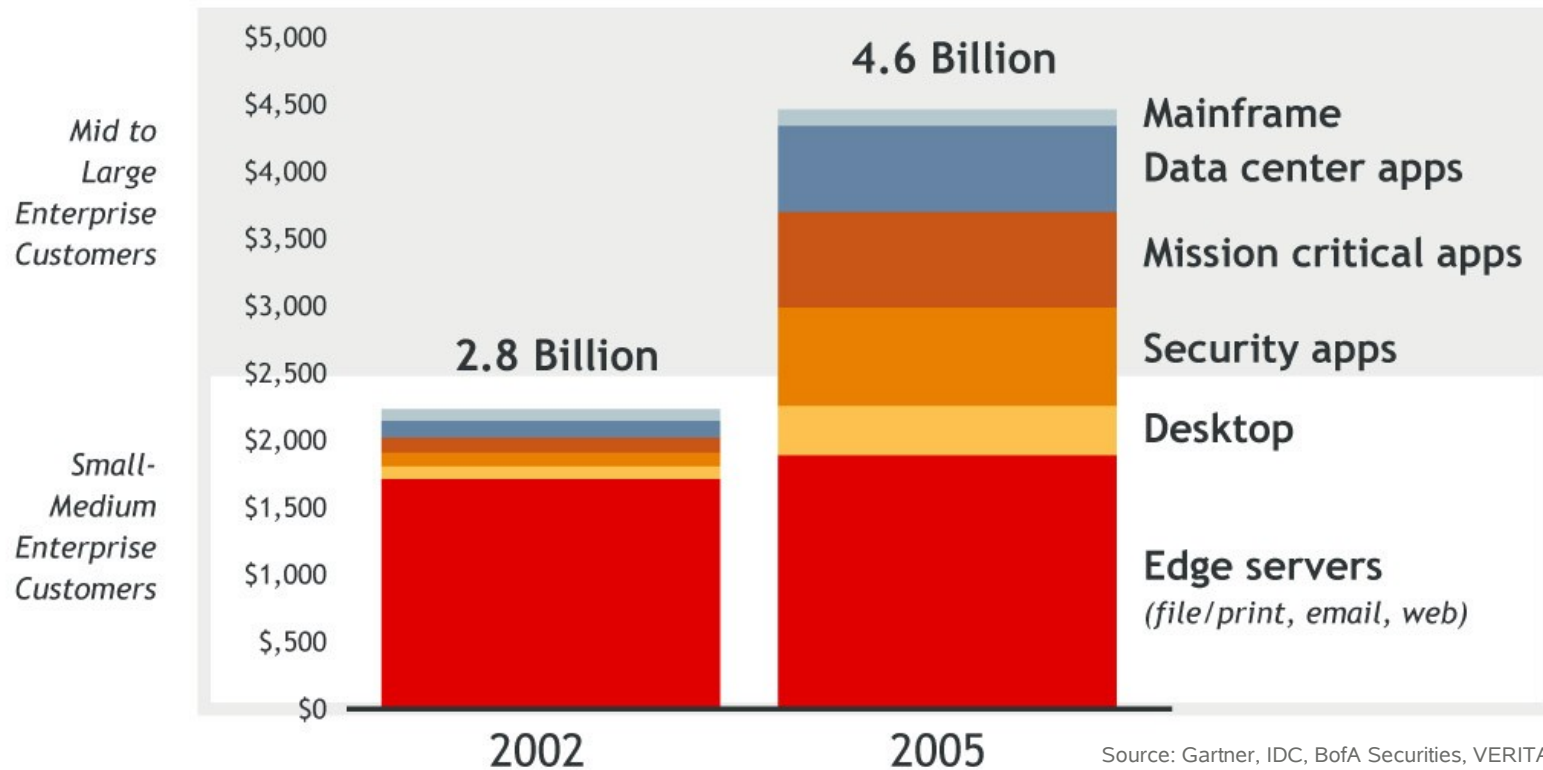
Boot from the SAN

- Allows the OS “personality” to be flexible
- Allows for genuinely stateless servers or blades
- If a blade has a problem, just rip and replace
 - New blade boots from SAN and mounts file system/application through *point-to provisioning*
 - No time consuming configuration and loading of OS and application images



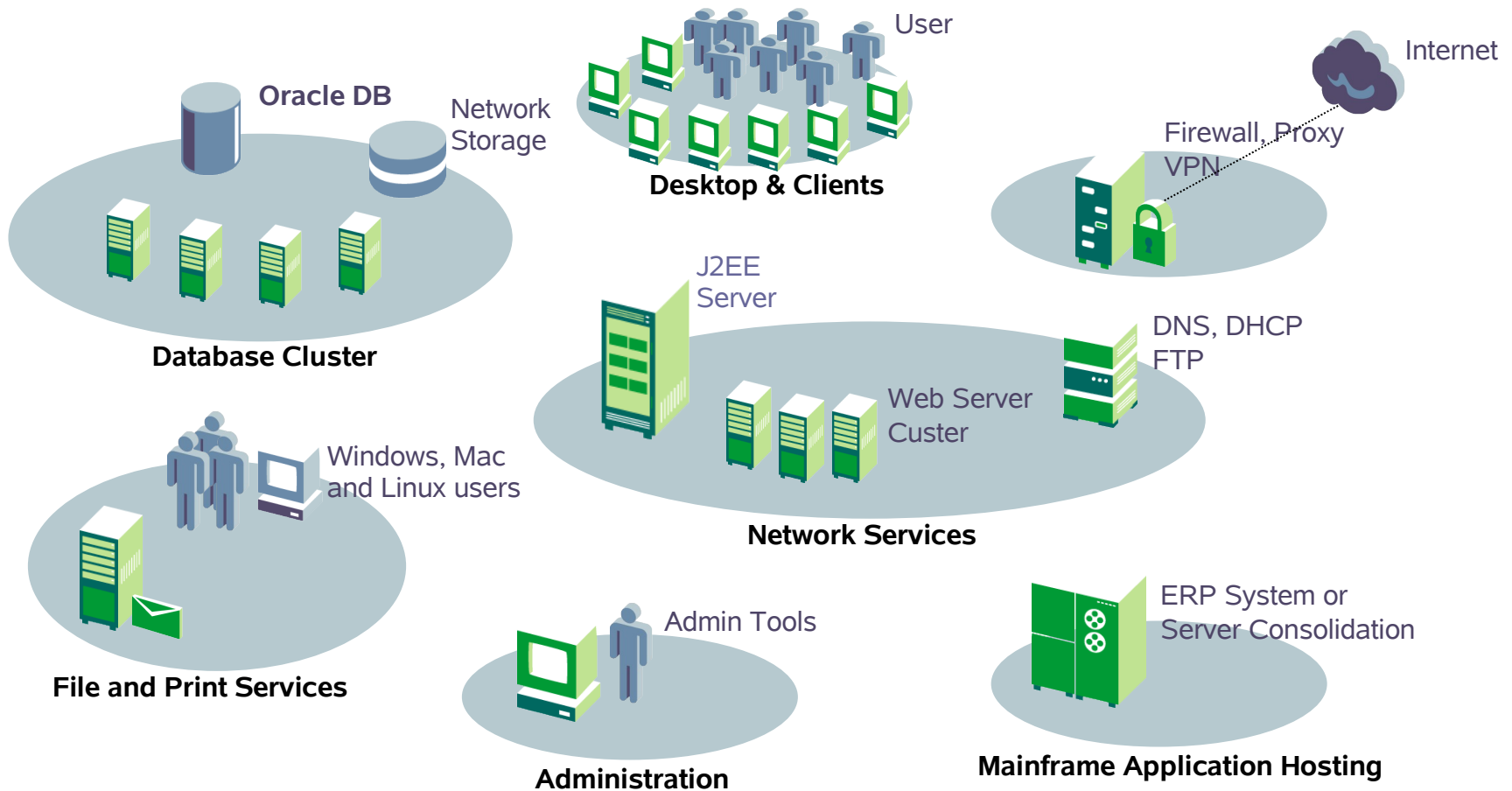
More Software Moves onto a Linux Platform Every Week

Linux Market by Application



Source: Gartner, IDC, BofA Securities, VERITAS analysis

SUSE LINUX across the Enterprise



Open Enterprise Server Deployment Web site

- Details about Six Easy Projects to Migrate
- Windows Migration White Papers
- UNIX Migration: <http://www.novell.com/linux/migrate/>
- Beige Papers

www.novell.com/deployment

Special Considerations

Gotcha: Migrating from IPX/SPX

IPX is not supported on Linux

- It is assumed that customers with IPX networks will have taken care of isolating/tunneling IPX communications prior to deploying Open Enterprise Server (Linux) into their networks.

Gotcha: Migrating from Windows

Local accounts in other domains

- The Server Consolidation Utility migrates only global user accounts in the selected domain - it does not migrate local accounts provided in the domain for users whose regular accounts are in another domain

Need to determine which Windows servers to migrate first and how many servers to migrate at one time.

When migrating users and groups, migrate all files and directories they have access to at the same time that you migrate their User objects

Gotcha: Migrating from Windows

Trusted domains

- Must reassign any trusted domain permissions to the appropriate Windows users and groups after the migration is complete
- Use ConsoleOne to reassign all lost trusted domain permissions

Where Can You
Start Today?

Get More Information

Visit www.novell.com/upgrade

Learn more about how to add Linux to your environment

Read a white paper: “Upgrade your business to Open Enterprise Server”

Download your evaluation copy of Open Enterprise Server

Register for the OES Insider e-mail & live chat series

Call our Customer Resource Center for more information:

- 1-888-321-4272 (US/Canada)
- 1-801-861-4272 (Worldwide)

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