

O40 ZENwork & Red Carpet Enterprise: Linux Management

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Novell Resource Management with ZENworks® and Red Carpet™ Enterprise™

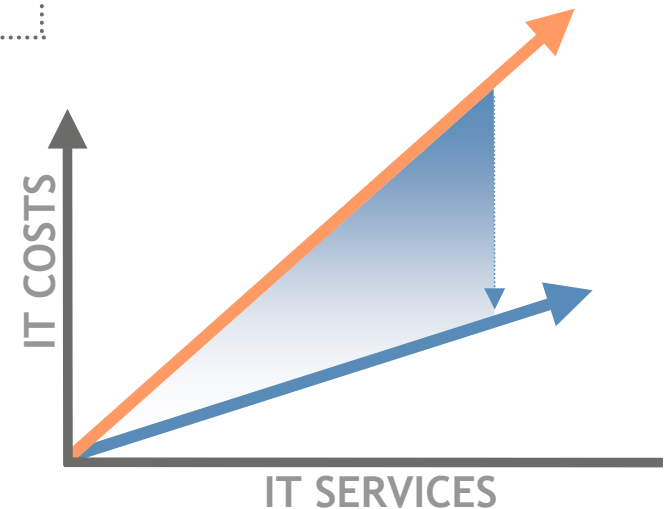
Managing the Diverse Enterprise through Policy-Driven Automation

- Maintaining Resource Integrity security • recovery • uptime
- Managing Mobility productivity • security • cost
- Simplifying OS Migration cost • productivity • time



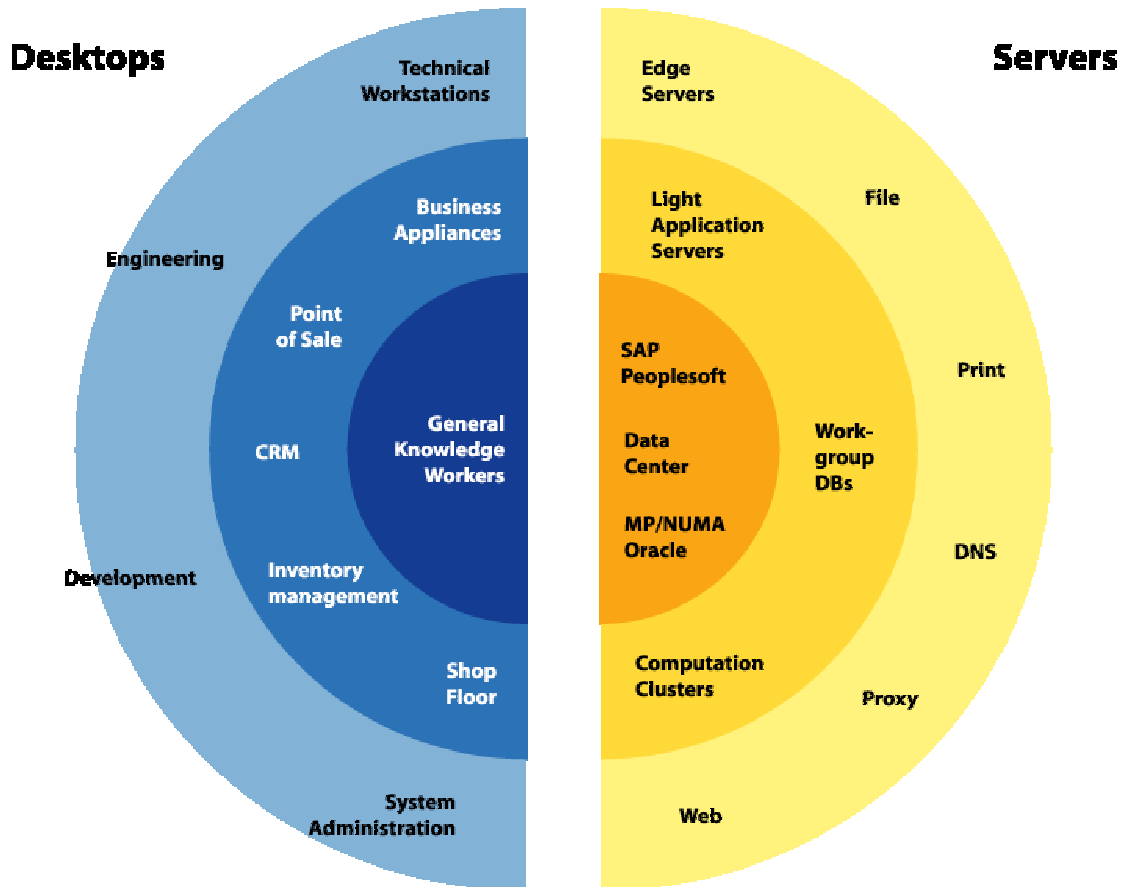
Novell Resource Management

- Reduce management costs
- Improve user & staff productivity
- Ensure security
- Ensure business continuity
- Optimize resource value



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Linux Adoption



Server

- Installed base CAGR 28%
- 35% installed base share by '07

Desktop

- Installed base CAGR 44%
- Linux desktop run rate exceeds Mac
- 10% new unit share by '07
- 7% installed base share by '07

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Common customer requirements

Customers deploying Enterprise Linux have two areas of focus today:

-Linux Servers

- rapidly gaining massive acceptance in the datacenter
- now trusted as more than web/infrastructure/departmental server

- Linux Desktops

- High-end workstations first
- General desktops follow - lots of attention here!

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Enterprise Linux Server Challenges



Broad range of Linux distributions (Red Hat, SuSE, Debian, Mandrake, Connectiva, Red Flag, ...)



Decentralized, "backdoor" deployments now at critical mass



As deployments grow, IT seeks to enforce standards

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Enterprise Linux Server Challenges

- administrative and management costs



Barriers to lowering TCO

- frequent revision of Linux, open source software
- past grassroots, decentralized adoption
- perceived lack of enterprise management tools
- costly and complex manual solutions
- Linux administrative overhead impacts IT budgets



Solution requirements

- easy to use administrative interface
- power tools to dramatically improve administrator productivity
- direct integration to Red Hat, SuSE and other OS vendor updates
- out of the box, behind the firewall management functionality
- powerful software dependency resolution technology

Red Carpet Enterprise

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Red Carpet Enterprise Overview



**Red Carpet™
Enterprise™**

- Cross distribution software package deployment, conflict resolution, updated and package rollback
- Rapid deployment, rapid payback
- Centralized and secure
- Customizable
- Automated
- Updates leading Linux distributions and applications: SUSE LINUX, Ximian, Red Hat

1 million Red Carpet users

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Red Carpet Enterprise 2.2

This is a updated release of Red Carpet Enterprise offering:

- expanded platform support
 - RCE server - SLES 8, SLES 9, RHEL 3
 - managed device - SLD 1, SUSE LINUX 9.1, RHEL 3
 - hardware support - IBM eServer pSeries, iSeries and zSeries servers management
- improved resilience and scalability
- enterprise and partner deployment documentation
- ready for bundling with ZENworks 6.5 suite

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Red Carpet Enterprise: The Best RPM Solution



Resolves Recursive Dependencies

- Can graph all requirements for packages to be installed against currently installed packages, and packages available but not installed on the system



Organizes Software

- Allows RPMs to be organized into channels for better management



Controls Distribution

- Allows managed systems to be grouped to control software distribution across entire organization

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Benefits

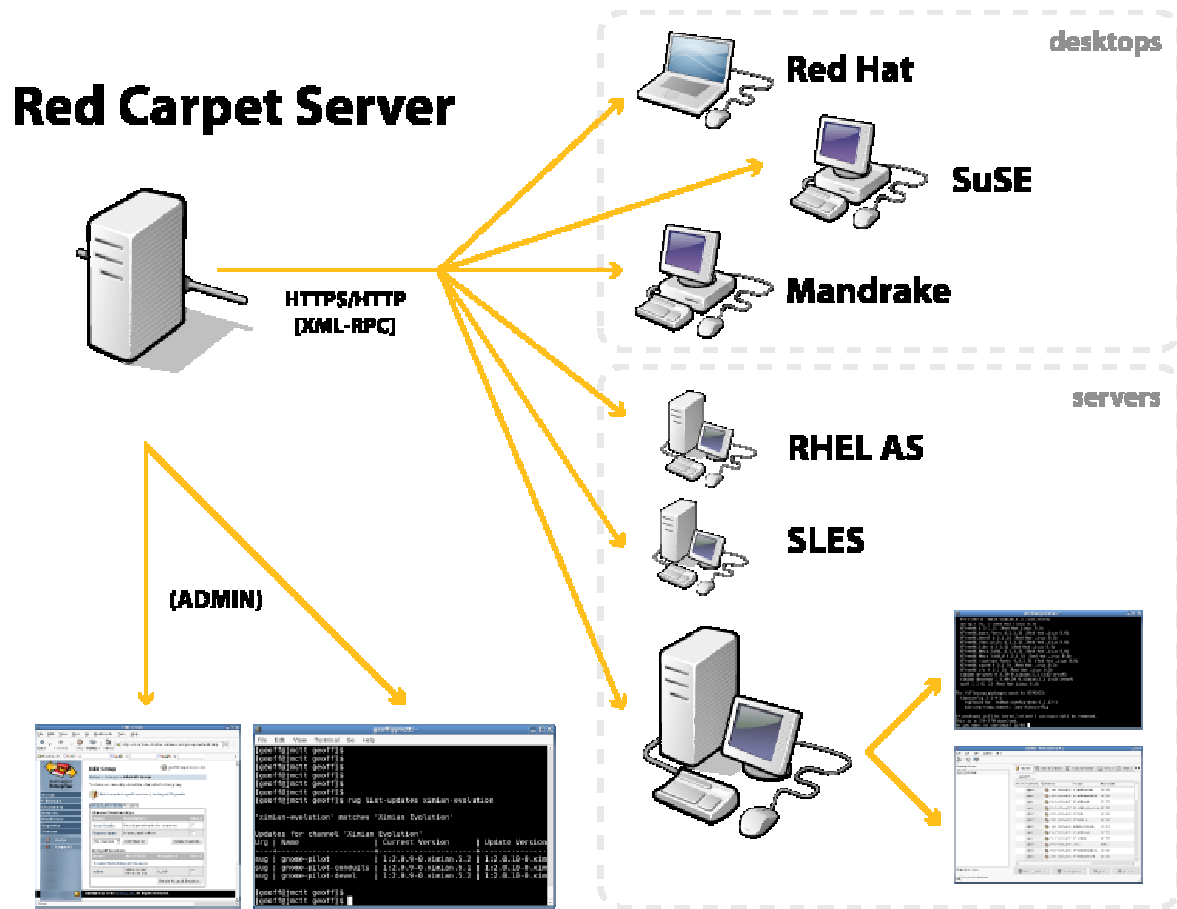
- Decrease time needed for software updates
- Increase security and reliability
- Ensure software standards
- Reduce software complexity



Reduce the total cost of managing and maintaining Linux systems!

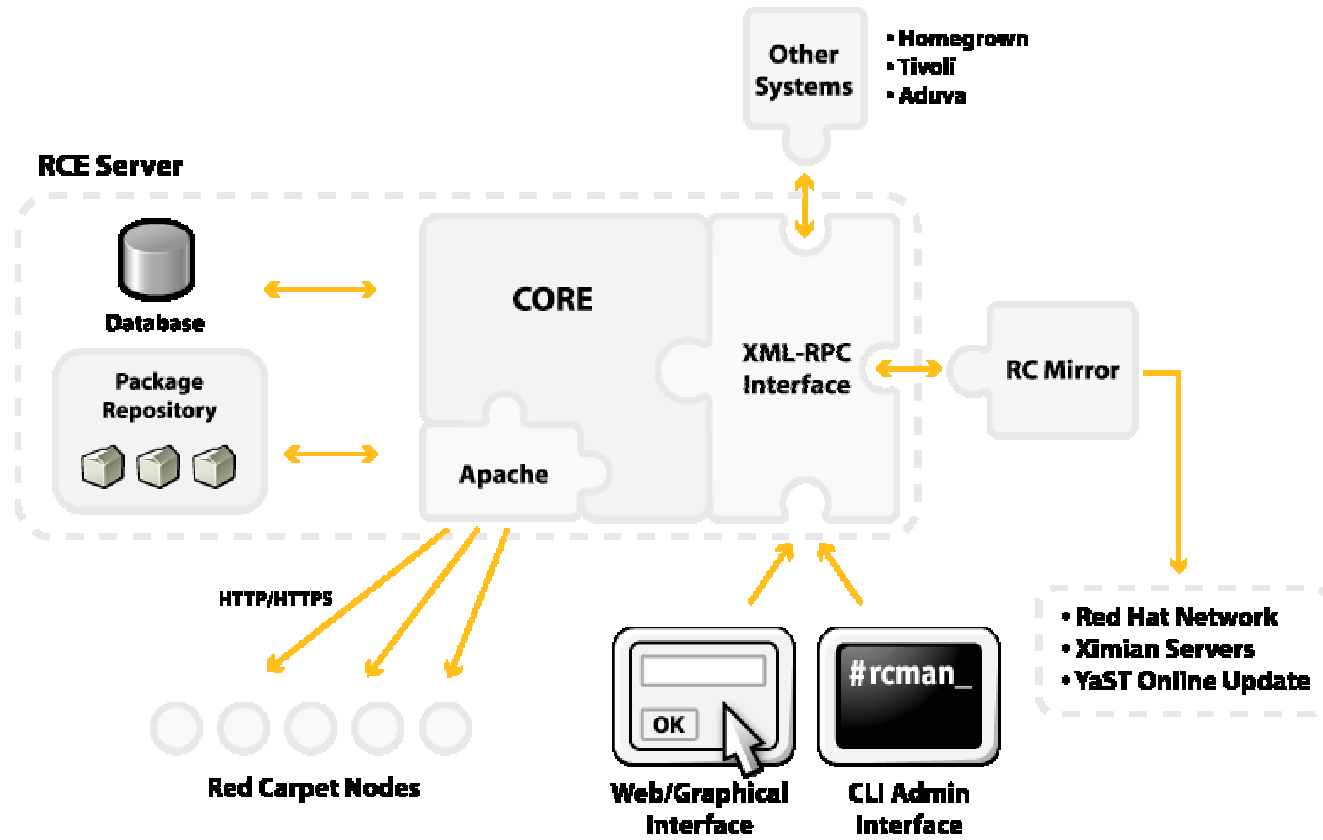
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RCE Management Domain



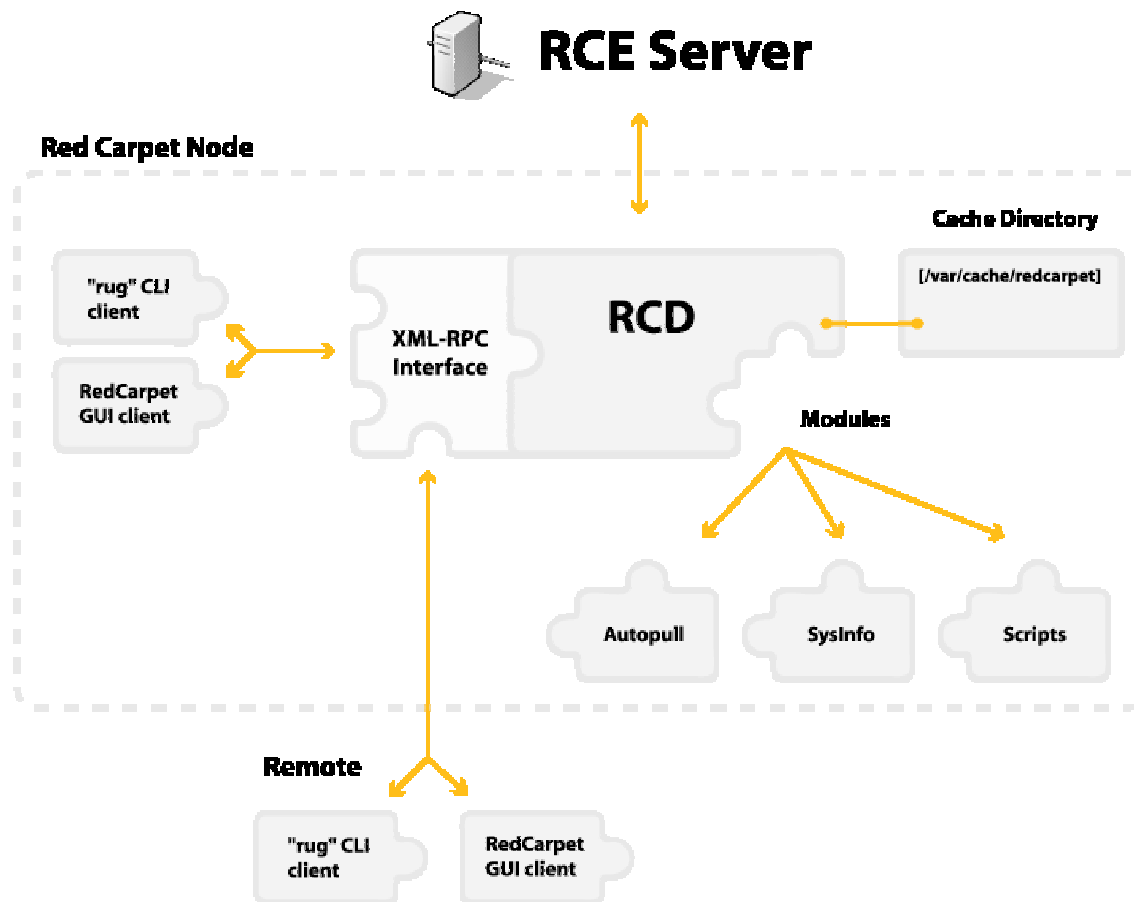
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RCE server block architecture



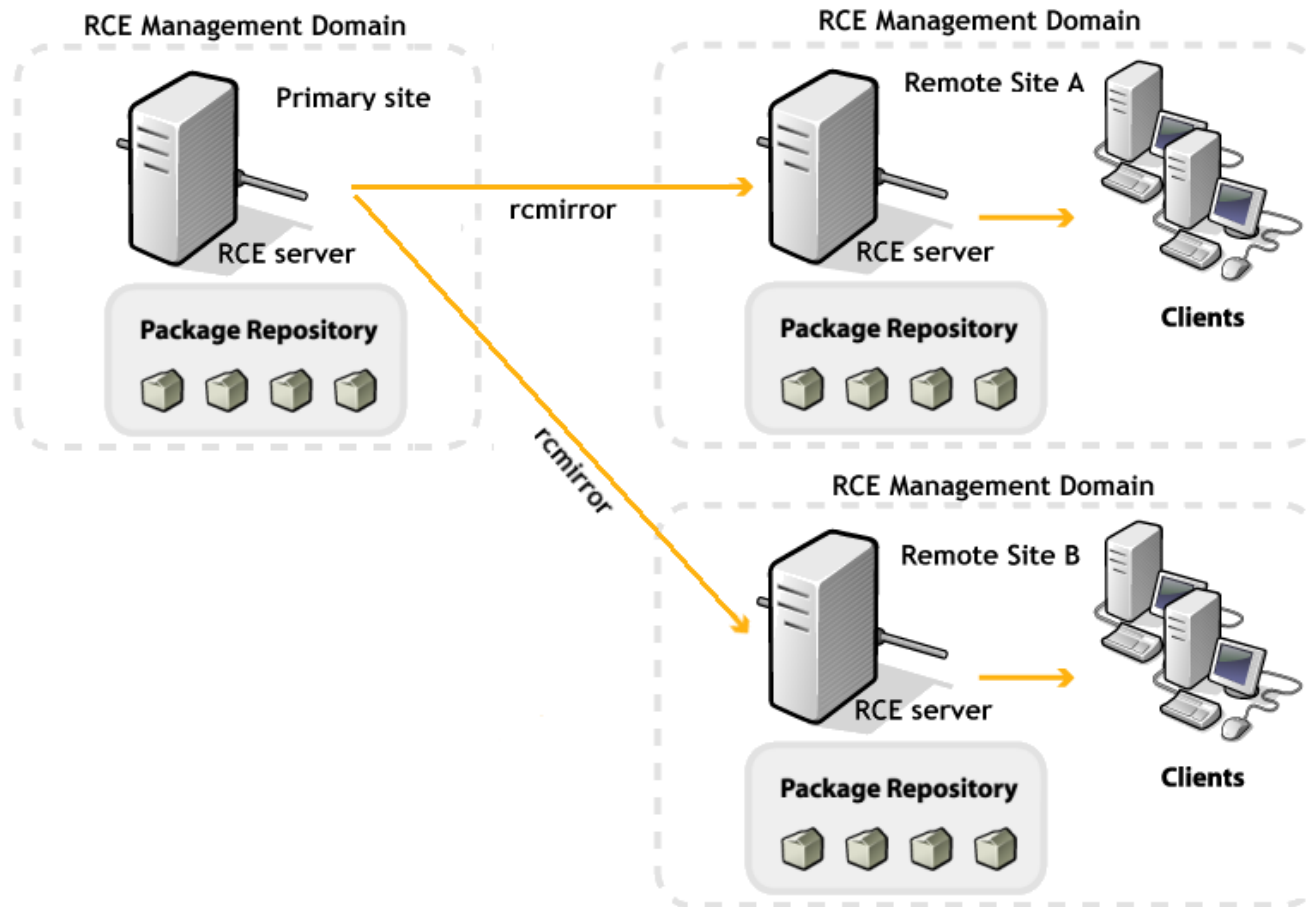
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Red Carpet Client - block architecture



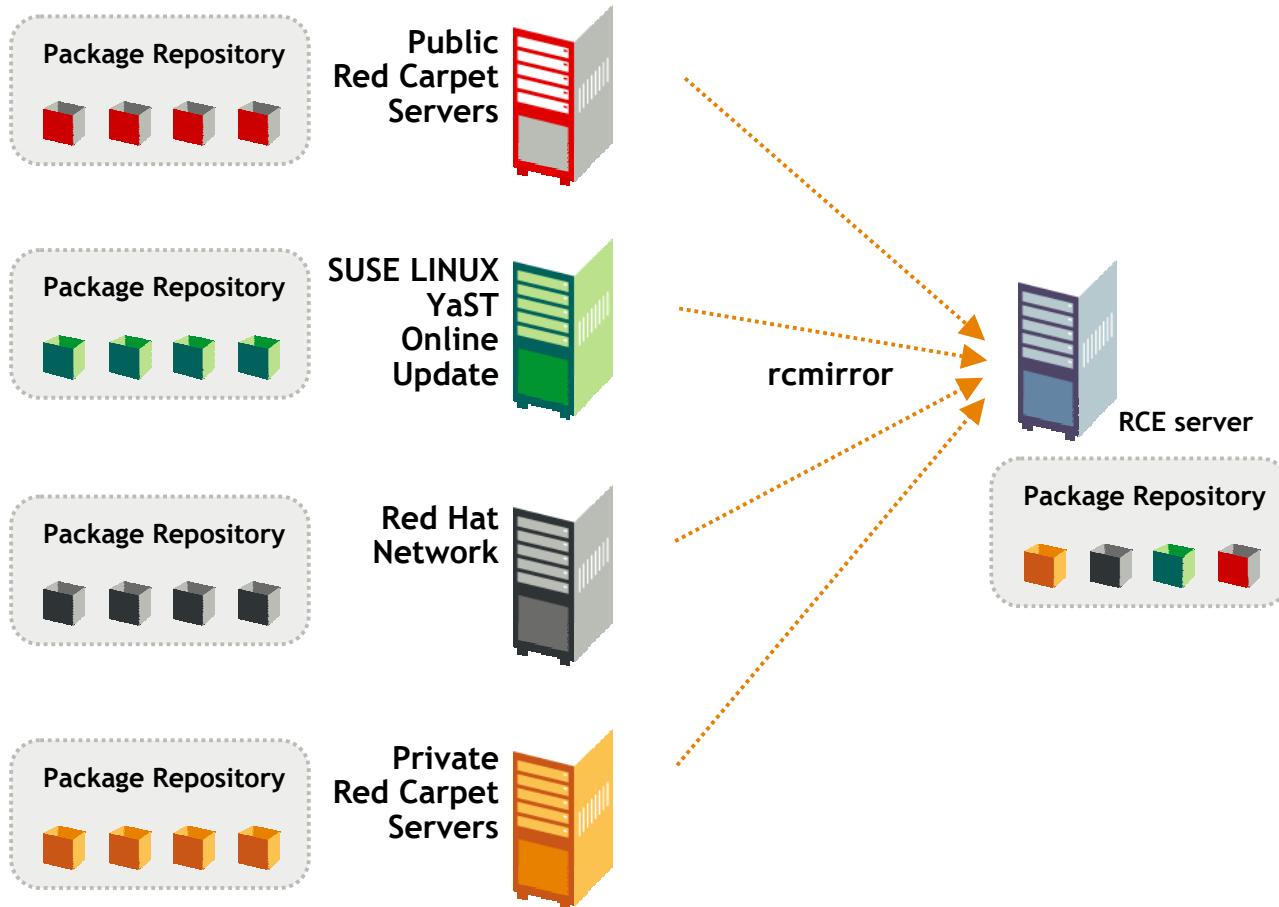
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Using rcmirror to link RCE management domains



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Using rcmirror to aggregate updates



Red Carpet and Open Carpet

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Red Carpet client is open source

The Red Carpet client components are open source.

The rug, rcd, rcd-modules and the GUI are available - along with source RPM packages - from <ftp.ximian.com>

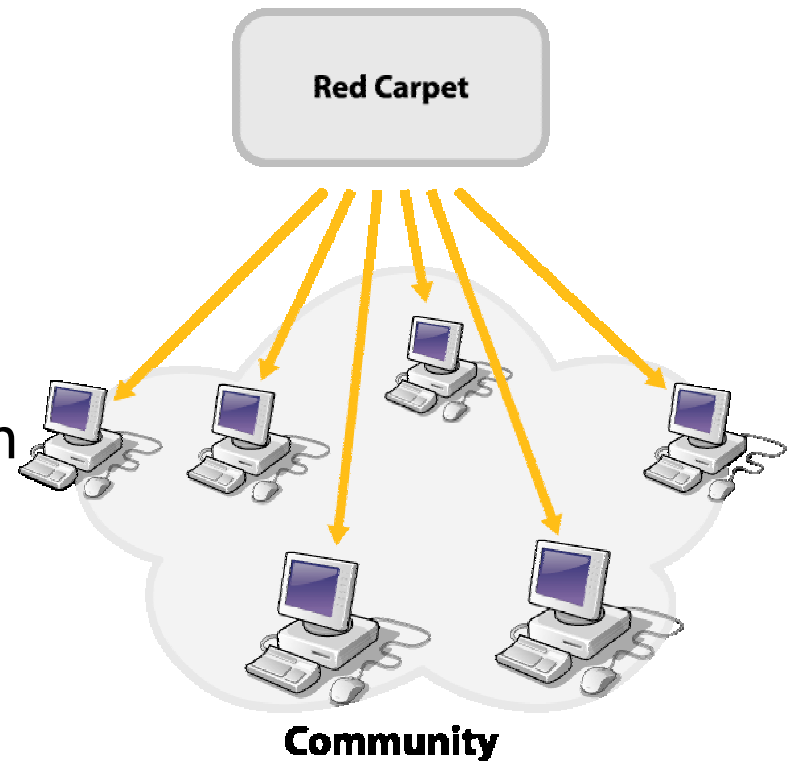
There are many platform ports available for rug and rcd; not all are *supported*.

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Red Carpet

Red Carpet can be used as a free, zero cost solution to manage Linux machines.

Red Carpet offers none of the Enterprise control, bandwidth efficiencies or one-to-many administration found in Red Carpet Enterprise.

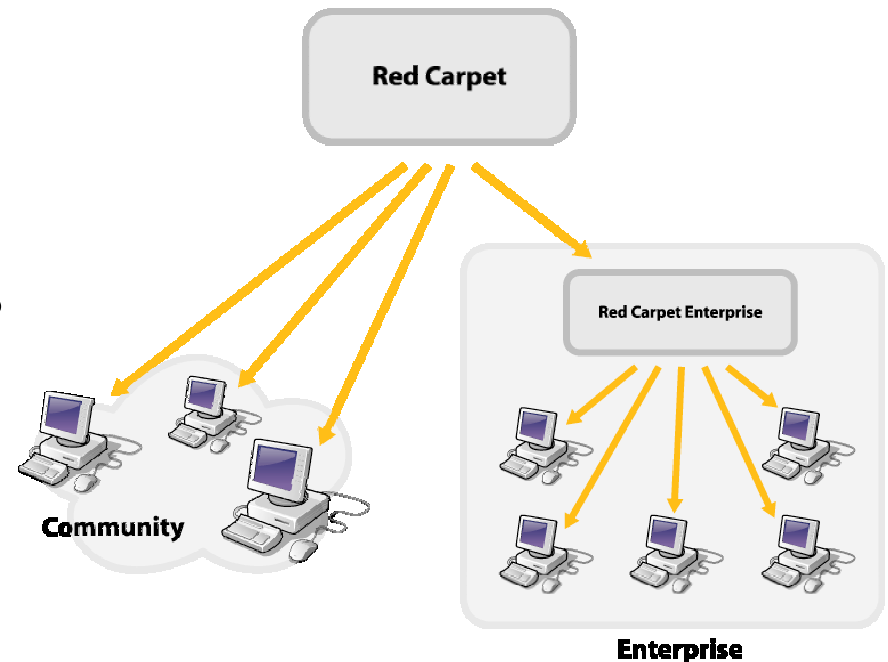


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Red Carpet and Red Carpet Enterprise

The free Red Carpet service can be used as a package source for Red Carpet Enterprise.

Use rcmirror to download RPM packages from the Red Carpet server.

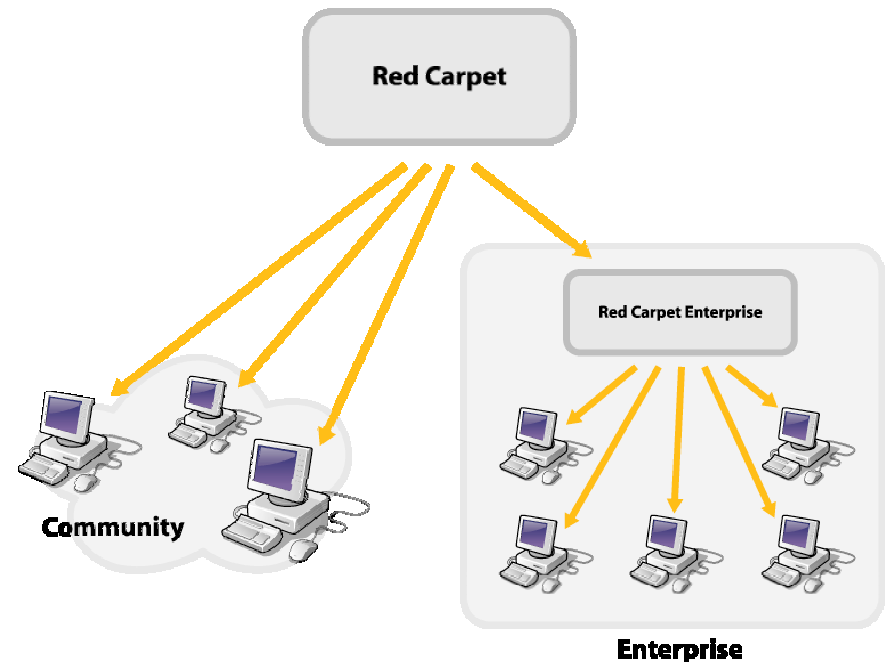


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Open Carpet

Open Carpet is a free project which helps community projects set-up and host their own Red Carpet server.

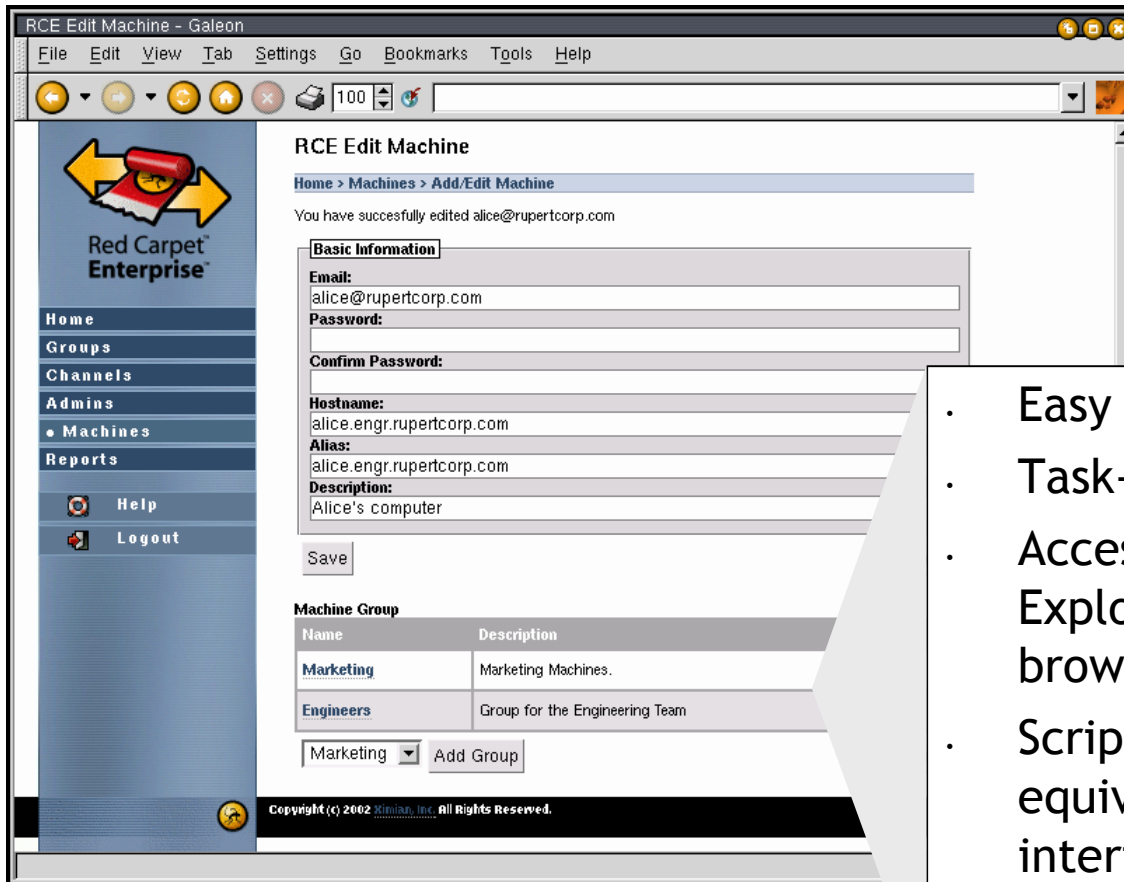
Note that this is purely a Red Carpet server - it is not providing Red Carpet Enterprise functionality. It is simply an RPM package repository.



GUI Interfaces
rcman, red-carpet

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Web Administration Console



- Easy to use
- Task-based
- Access from MS Internet Explorer 6 or Mozilla browsers
- Scriptable, feature-equivalent command line interface also available

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Groups

RCE Edit Group - Galeon

File Edit View Tab Settings Go Bookmarks Tools Help

http://test-master.rc.ximian.com/groups/addedit.php?edit=9

Red Carpet Enterprise

Home

- Groups
- Channels
- Admins
- Machines
- Reports

Help Logout

RCE Edit Group

Home > Groups > Add/Edit Group

Basic Information

Name:
Engineers

Description:
Group for the Engineering Team

Save

Administrators

Name	Email
Rupert Chowdury	rc@rupertcorp.com
Joe Shaw	joe@ximian.biz
Keith Erskine	keith@rupertcorp.cc
Pete Goodall	repete@ximian.com

Vladdie Add Administrator

Channel Memberships

Name	Description
Rupert SW Development	

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Done.

- Organize systems with group profiles
- Flexible - allows any criteria
- Associate specific software with groups
- Assign admins to groups

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Custom Software Channels

RCE Edit Channel - Galeon

File Edit View Tab Settings Go Bookmarks Tools Help

Home > Channels > Add/Edit Channel

Basic Information

Channel Name:
Rupert SW Development

Description:
Collection of software development tools for Rupert Corp engineers and developers

Alias:
Rupert-SW-Development

Channel Icon URL:
rupert.png

Advanced Information (Optional)

Base Path:
http://primates.ximian.com/~keith/rsw

Subscribed URL:
sub.html

Unsubscribed URL:
unsub.html

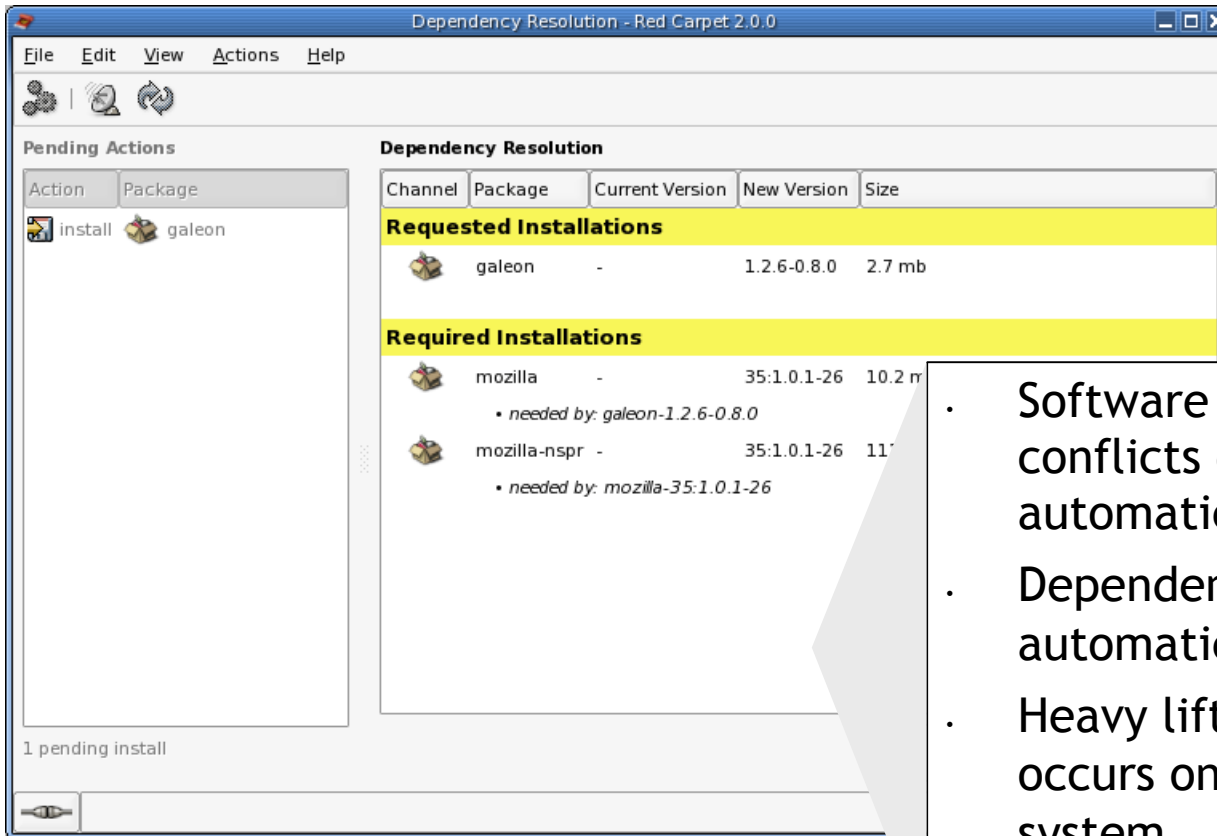
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- Manage custom or internally developed software
- Organize access to software by group
- Assign admins to specific channels

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Automatic Dependency Resolution



- Software package conflicts detected automatically
- Dependencies resolved automatically
- Heavy lifting for analysis occurs on managed system

Command line interfaces

rug, rcman

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rug



rug is the command line interface to the Red Carpet Daemon.



rug communicates with rcd via XML-RPC
• rug can communicate with a remote rcd.



Learn rug shorthand - **rug lu** - rather than **rug list-updates**



Help is close to hand:

```
man rug  
rug --help
```

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rcman



rcman is the command line interface to the Red Carpet Enterprise server.



rcman communicates with Red Carpet Enterprise via XML-RPC. rcman can also communicate with a remote Red Carpet Enterprise server.



rcman can do everything the Management Interface can!



Help is close to hand:

```
man rcman
```

```
rcman --help
```

N Benefits - revisited

Eliminate Complex Processes, Reduce Staffing, Mgt Costs

- ✓ Ease of deployment
 - 30 minute installation, behind the firewall deployment, intuitive web management console, single solution for servers & desktops.
- ✓ Powerful and customizable
 - Software channels and group profiles customizable “out of the box”, scriptable command line interface.
- ✓ Integrated management
 - Integrates with Red Hat NetWork, SuSE YaST systems for enterprise Linux software updates.
- ✓ Flexible architecture
 - Enterprise and service provider, broad OS support, multi-organizational support, no lock-in strategy
- ✓ Software dependency resolution
 - Unsurpassed RPM dependency detection and resolution algorithm.

The Competition

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Homegrown management

This is by far the largest competitor to Red Carpet Enterprise.

Customers who have some Linux and have an in-house guru to manage it all.

Red Carpet Enterprise offers:

- Lowered risk
- Increased agility and productivity
- Re-use of previous scripting knowledge (not rip'n'replace)
- Supportable

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Red Hat: Red Hat Network

Customers making a Red Hat platform choice often choose Red Hat Network. Partly because of lack of awareness of other solutions.

Competitive points:

- RCE is dramatically lower cost to purchase and deploy
- RHN is only Red Hat Enterprise Linux

Project Birdman



Birdman

Extends Red Carpet Enterprise reach:

- Deployment
- Software installation, update and patch
- Asset inventory and reporting
- Remote control and management
- Policy configuration and lockdown





Birdman

Birdman provides the architecture, policy framework and management interface for the next major release of **ZENworks**.



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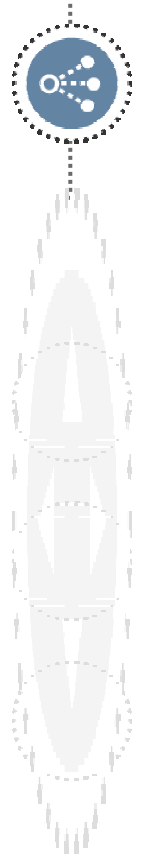
Deployment

Linux imaging solution

- Built on proven ZENworks Imaging Engine
- Support for ext2/ext3/(ReiserFS) filesystems
- Support for GRUB/LILO bootloaders
- Web based administration
- Remotable eDirectory
- Novell PXE stack

AutoYaST integration

- Uses Novell PXE stack
- Policy enablement of AutoYaST



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Software deployment

Continues to drive best-of-breed RPM deployment and dependency and conflict resolution

Additional support for apt RPM repositories

Simplification of rcmirror configuration



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Inventory and Reporting

Full hardware, OS and software inventory

- Rollup to single RCE server database
- Export of hardware inventory to ZENworks inventory database

Web-based reporting and query

- All reporting and query in Posiedon

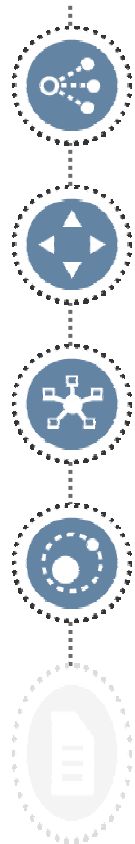


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Remote Management

Extension of VNC remote control solution

- Adds security and authorisation via policy
- Web based management console
- Focused on Desktop management



N Policy Management

Comprehensive Policy management

Desktop:

- gconf policy
- Text file policy
- OpenOffice.org policy
- Novell Linux Desktop (Sundance) configuration

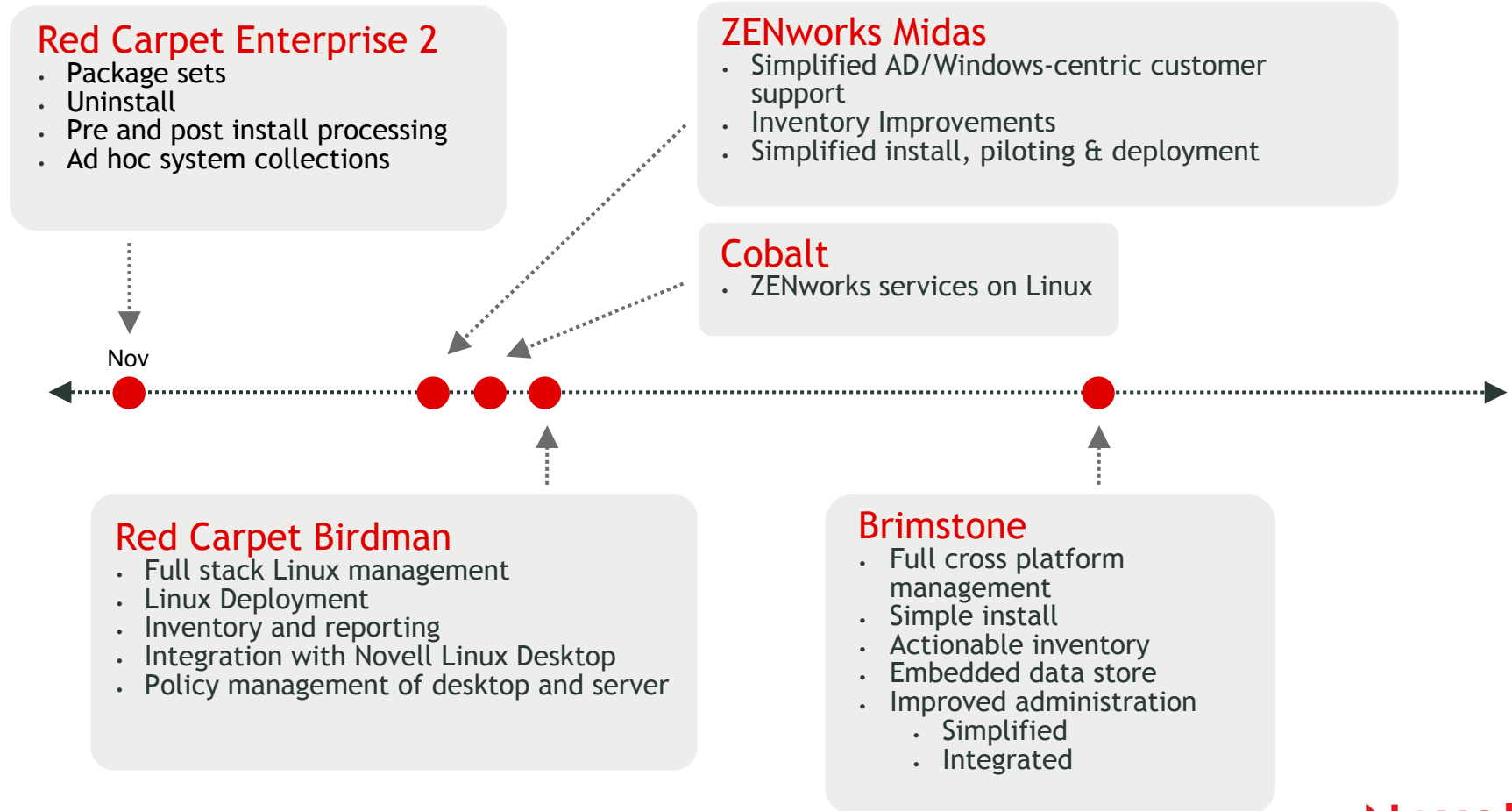
Server

- Configuration via YaST
- Text file policy



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Novell Resource Management Roadmap



Case Studies


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Case Study: Cisco Systems

	Enterprise Linux Management and Support (a Joint IBM/Novell Win)
Problem:	<ul style="list-style-type: none">· Desktop and server management for over 10,000 systems· Linux desktop & server migration from UNIX· Desktop messaging integration
Needs:	<ul style="list-style-type: none">· Tools to manage complex Linux software· Common Red Hat, Solaris desktop UI· Integrated calendaring with Exchange 2000· Global support and training
Solution:	<ul style="list-style-type: none">· Service and support contract with IGS· Site license RCE to manage 2,000 servers· Site license Ximian Evolution, Connector· Site license Ximian Desktop 2


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Case Study: Amerada Hess

	Lower TCO for Linux Server Cluster
Problem:	<ul style="list-style-type: none">· Using Linux server cluster with over 300 systems.· Supporting custom geological exploration application, customized Red Hat OS.· System management and maintenance requiring senior, expensive IT personnel.
Needs:	<ul style="list-style-type: none">· Easy to use management system with support for multiple administrators.· Secure, behind the firewall deployment.· Ability to distribute custom Linux packages, internal applications.· Advanced conflict resolution capabilities.
Solution:	<ul style="list-style-type: none">· Red Carpet Enterprise installation and deployment.· Reduced personnel costs by 75% with junior IT staff.


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Case Study: Ford Motor

	Reduce IT Infrastructure Costs
Problem:	<ul style="list-style-type: none">· Server consolidation, migration and OS rationalization.· 3,500 UNIX servers moving to Linux.· Lack of tools to lower administration costs.
Needs:	<ul style="list-style-type: none">· Ease of installation, use and deployment for multiple administrators.· Minimal training and learning curve.· Tight integration with updates for SuSE Linux Enterprise Server OS.· Sophisticated conflict detection & resolution.
Solution:	<ul style="list-style-type: none">· IBM GS working to provide full stack solution, including SuSE OS and Red Carpet Enterprise.

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Case Study: Met Office

	Managed Linux Desktop Solution
Problem:	<ul style="list-style-type: none">· Moving 400 UNIX X terminals to Linux.· 800 Windows PC users already in place.· Microsoft Exchange 2000 for collaboration.· Integrating, managing Linux users.
Needs:	<ul style="list-style-type: none">· Enable centralized management of new desktop deployments.· Integrate Linux users with Exchange 2000 standard.
Solution:	<ul style="list-style-type: none">· Deployed Red Carpet Enterprise.· Purchased Ximian Connector for Microsoft Exchange.

Q&A

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Scalability and Resilience

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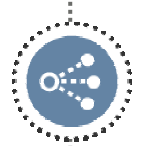
Deployment with AutoYaST

SUSE LINUX AutoYast

- PXE boot
- Scripted OS installation
 - XML response files

Post installation scripting

- Install Red Carpet Enterprise client
- Activation



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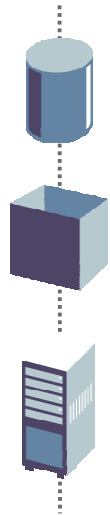
Scalability and resilience

These requirements are addressed in the same manner:

Split the Red Carpet Enterprise server into modules

- database
- package repository
- RCE servers (Apache + PHP)

Load balance (L4 switch) or DNS round robin



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Scalability and availability

Database

PostgreSQL scales well

certainly beyond 10,000 machines

Oracle 9i scales far better

cost and training make this only for Oracle shops.

Both PostgreSQL and Oracle 9i can be installed on a dedicated server. Multiple RCE servers can communicate to the same database server.



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Scalability and availability

Package repository

Again - create a dedicated, resilient tuned server for this. Export and mount the package repository on all Red Carpet Enterprise servers

Also consider dedicated rcmirror servers if you will be mirroring large quantities of data. Again mount the exported package repository and connect to the central database server.



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Scalability and availability

Red Carpet Enterprise servers

Apache and PHP are the bottle neck.

Create a farm of Red Carpet Enterprise servers

- connect to the central database, mount the exported package repository.

Typically expect around ~250 concurrent sessions for each server.



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Scalability and availability

What it looks like

