

# Linux Server Business Case for Microsoft Users

## Powerful and User-Friendly Linux Systems Management Tools Dramatically Reduce Switching Costs

For companies that currently rely heavily or exclusively on Microsoft servers, the perceived switching costs to move to Linux can be high – so high, in fact, that they may outweigh the savings in lower Linux license fees. The availability today of intuitive and cost-effective GUI-based Linux management tools eliminates this hurdle.

The analysis in this paper demonstrates that even a commercial Linux server solution, such as Red Hat Enterprise Linux, with patching and provisioning provided by Red Hat Network and ongoing configuration management from Emu's NetDirector, is still dramatically less expensive than an equivalent solution from Microsoft. And, because NetDirector and Red Hat Network deliver powerful, GUI-based administration, the feared retraining and rehiring costs that can prevent some Microsoft users from switching to Linux are eliminated.

**“NetDirector is one of the best tools I've seen to help a Windows Server Administrator manage dozens of Linux servers without being a Linux expert.”**

*David Allen, Author of  
Windows to Linux  
Migration Toolkit*

With contributions by Red Hat

## Introduction

A debate is taking place in the IT industry – is Linux really less expensive than proprietary alternatives? As with many important questions, the answer is -- it depends. Certainly, for companies with on-staff Posix (Linux, UNIX, BSD, etc.) expertise, Linux delivers very cost-effective, stable, flexible and secure performance. On the other hand, for companies whose server environments are dominated by Microsoft, the cost of switching to Linux is frequently perceived to be too high. The concern is that these companies will face significant IT retraining and/or rehiring costs in order to effectively and efficiently manage a new Linux server environment.

The combination of Red Hat Network and NetDirector from Emu Software erases this last hurdle to Linux adoption for Microsoft shops. Red Hat Network provides point-and-click provisioning and patch management to individual servers and groups of servers, and NetDirector from Emu Software gives administrators a single, secure and intuitive Web console for the ongoing change and configuration management of their open source server applications.

## Red Hat Network

Red Hat Network (RHN) is a systems management platform that makes it easy to deploy and manage Linux systems. Its scalability and intuitive Web-based interface enable administrators to manage far more systems than they previously could. As eweek.com senior editor Steven Vaughan-Nichols notes, “For businesses that are still getting their feet wet with Linux, RHN can make the difference between swimming to commercial success and drowning in technology confusion.”

Red Hat Network is the source for new content from Red Hat. Patches, updated packages and new versions of the operating system are all delivered through Red Hat Network in a secure manner where content is digitally signed by Red Hat. Dependency checking makes sure that customers receive all the packages needed to maintain the integrity of systems after an update.

The functionality of Red Hat Network is available as a series of modules, allowing customers to choose additional levels of service that fit their needs. The Management Module allows systems to be grouped together for management actions so administrators can patch hundreds of systems as easily as a single system. With the Provisioning Module, system profiles are used to remotely provision systems with the OS, packages, applications and configurations needed. With Provisioning, it is also a simple matter to quickly redeploy or clone systems as business needs change. A Monitoring Module is also available to track the performance of Linux systems and applications.

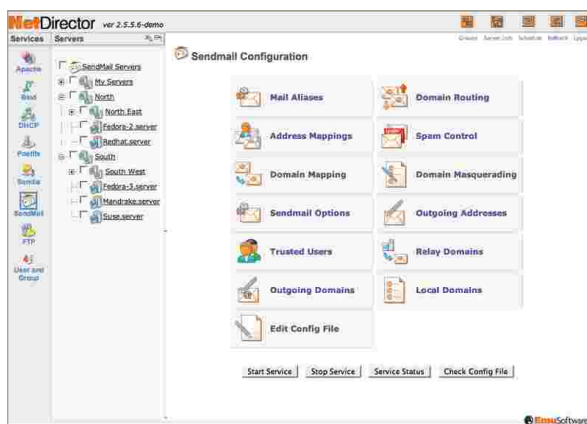
## NetDirector Open Source Configuration Management

Emu Software's NetDirector is an intuitive and open configuration management framework for open source server applications including HTTP, DNS, DHCP, FTP, File and Print (Samba, NFS), Email and Users and Groups. NetDirector provides the following benefits:

- Multi-server configuration change capability speeds management of large distributed networks
- Change scheduling capability
- Rollback to any previous state speeds recovery and reduces application downtime
- Role-based permissions provide security and regulatory compliance
- Server configuration cloning aids disaster recovery, migration and adding new servers

Both RHN and NetDirector offer Systems Administrators such productivity-enhancing features as action rollback (with RHN this means uninstall/unprovision, while with NetDirector it means to restore a particular service back to a previous configuration state), multi-server actions and a Graphical User Interface. Where Red Hat Network manages the patching and provisioning of RHEL systems, NetDirector from Emu is designed to provide secure and efficient day-to-day configuration management of distributed Linux servers. Take this scenario for example: An Administrator uses Red Hat Network's Provisioning Module to populate an array of RHEL servers with a desired software stack consisting of RHEL AS, ISC BIND 9.2.6 and DHCP 3.0.3. Once the desired stack is deployed, the Administrator can then use NetDirector to quickly and easily make configuration changes to this array of servers such as creating a new master BIND Zone across all the servers in just a few clicks, or reducing the default DHCP lease timeouts across all the servers at once and scheduling this change to occur at 2:00 AM on Sunday.

### NetDirector's Familiar Left-to-Right, Three-Pane Web GUI Delivers Straight-Forward Linux Administration



NetDirector provides IT staff with the management simplicity of a Windows-like GUI, while ensuring that IT executives have an unparalleled level of visibility and control over their Linux assets. With NetDirector, changes can be made across multiple servers simultaneously, changes can be scheduled to occur during a pre-determined maintenance window, and any change can be easily rolled back at any time to a desired previous configuration. According to David Allen, lead author of the popular book *Windows to Linux Migration Toolkit*, "NetDirector is one of the best tools I've seen to help a Windows Server Administrator manage dozens of Linux servers without being a Linux expert."





## Network Services

Domain Name Services (DNS) and Dynamic Host Configuration Protocol (DHCP) servers perform several vital functions that enable end users to communicate with one another and with end users connected to other networks. Both DNS and DHCP come as part of the Windows Server System, the required five of which will total, with CALs, \$37,565.

The open source DNS application, called Berkeley Internet Name Domain, or BIND for short, accounts for over 65 percent of all DNS servers on the Net, and it comes with Red Hat Enterprise Linux ES, as does the Internet Software Consortium's DHCP Distribution.

Again, RHN and Emu's NetDirector deliver complete, GUI-based management capabilities for both DNS and DHCP, helping to speed the patching and provisioning, and minimize the misconfiguration, of these vital services. Our Linux grand total here is \$6,945, rewarding us with another 80 percent plus savings versus Microsoft.

Table 4:  
Network Server  
Cost  
Comparison

	Base Server Licenses	CALs	Management	Total
<b>Microsoft</b>	\$4,995	\$31,960	\$610	<b>\$37,565</b>
<b>Linux</b>	\$4,990	NA	\$1,955	<b>\$6,945</b>
			<b>Savings</b>	<b>\$30,619</b>
File and Print Server Cost Comparison				\$30,351
Email Server Cost Comparison				\$91,279
Web Server Cost Comparison				-\$4,340
			<b>Grand Total Savings</b>	<b>\$147,910</b>

## Conclusion

Our hypothetical medium-sized business with 800 employees can save nearly \$150,000 in first-year software acquisition costs by moving from Microsoft to Red Hat Enterprise Linux managed by Red Hat Network and NetDirector. But any total cost of ownership analysis must address other critical pieces beyond software acquisition, such as staffing costs, systems manageability and support. RHN and NetDirector deliver the powerful and user-friendly GUI-based Linux systems management capabilities that keep ongoing staffing costs down.

With RHN and NetDirector, even administrators new to Linux can easily manage complex services across medium, large and distributed environments. Red Hat is the leader in delivering enterprise Linux solutions that are certified for use with thousands of ISV applications, and both RHN and NetDirector offer support, maintenance and upgrades.

“With the right tools, any company can confidently embrace Linux.”

The fundamental conclusion from the analysis in this paper is that, with the right systems management tools, any company regardless of size and previous experience with Linux can select a subscription version of Linux, such as Red Hat Enterprise Linux, add the cost for Red Hat Network and Emu's NetDirector for powerful and intuitive management, and the software acquisition costs for this complete Linux solution is still dramatically less (over 80 percent) than a comparable Microsoft server network. Furthermore, the powerful capabilities of Red Hat Network and NetDirector ensure that the ongoing costs of operating and maintaining the Linux network are no higher with Linux than they are with Microsoft.

To see for yourself how straight-forward Red Hat Network and NetDirector make it to deploy and manage a new Linux environment, please visit:

[www.redhat.com/promo/easy](http://www.redhat.com/promo/easy) and <http://demo.emusoftware.net>

Download NetDirector from SourceForge:

[www.netdirector.org](http://www.netdirector.org)

#### References:

Maria Winslow, *The Practical Manager's Guide to Open Source*, 2004, Open Source Migrations.

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Steven J. Vaughan-Nichols, “MS Software Assurance Versus Red Hat Network,” eWeek.com, June 21, 2004. <http://www.eweek.com/article2/0,1759,1615585,00.asp>

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