

# Connection

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## ARTICLES

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**Novell.**

# Movers Toolbox

*Windows 7 Migrations and the ZENworks Trifecta*

Windows 7 promises to be one of the biggest product launches for Microsoft. Unlike the Vista launch where enterprise adoptions were muted, analysts forecast that Windows 7 will show significant adoption over the next few years. One example of this is a recent IDC White Paper that forecasts more than 170 million units of Windows 7 will ship by the end of 2010.<sup>(1)</sup> It has become obvious that Windows 7 is on the minds of many of our customers as well. We keep hearing our customers ask these questions: What do I do to prepare for Windows 7? What should I migrate? How do I do it? How do I ensure my users continue to be productive? The answers lie with [Novell Endpoint Management](#) solutions, featuring our ZENworks technology.

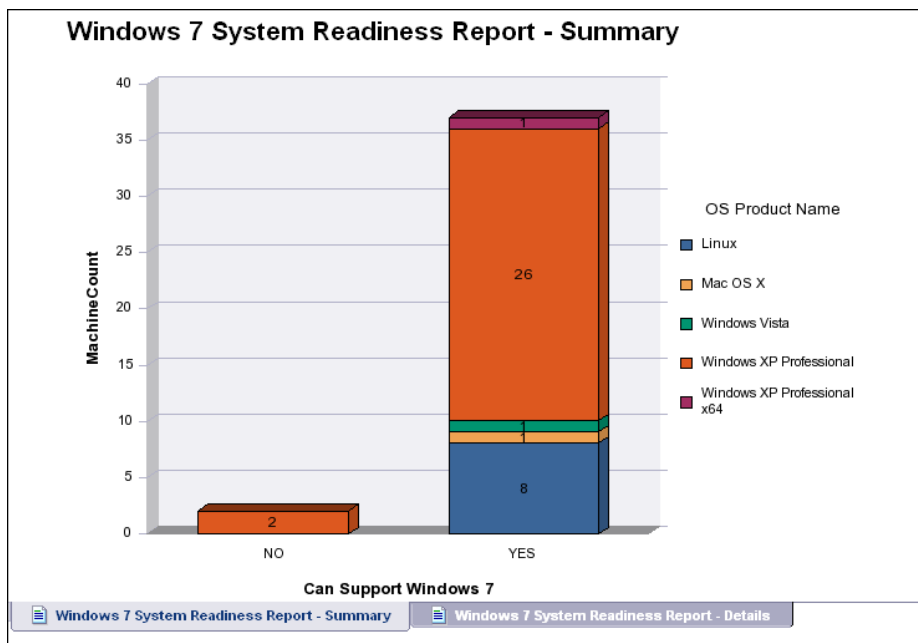
It's common knowledge that major operating system upgrades can be disruptive. They take time and require planning. If not handled properly, upgrades can sap IT resources and drain employee productivity. But all of that can be avoided if you have the right set of tools. For a successful Windows 7 migration, the right set of tools consists of a Novell ZENworks trifecta—the combination of ZENworks Asset Management, ZENworks Application Virtualization and ZENworks Configuration Management.

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### >The Answers You Need

As already mentioned, one of the first questions you might ask when considering migrating to Windows 7 is, what exactly do I migrate? Before you can answer that question, there is a series of questions you first need to answer in regard to your IT and business environment. Where are my Vista and XP devices actually located? Do these devices have the right hardware configuration to support Windows 7? If I move those devices to Windows 7, will their applications still work?

Figure 1: Novell ZENworks Asset Management leverages industry-leading discovery and software inventory capabilities to give you a clear picture of whether your environment is ready for a migration to Windows 7.



To answer these and many other questions, [Novell ZENworks Asset Management](#) leverages industry-leading discovery and software inventory capabilities to give you a clear picture of the hardware and software assets that exist in your environment. This arms you with the information you need to make the right choices before a migration even starts. For example, Novell ZENworks Asset Management lets you create readiness reports that show if the hardware in your environment will be compatible with Windows 7. (See Figure 1.)

These readiness reports also show you what software you have and identify any with known Windows 7 compatibility issues. It's crucial to your ongoing business operations to understand if a move to Windows 7 will break any of your key applications. This is especially true since according to Gartner, "ISVs often take 12 months or more before they officially support a new version of Windows, even for incremental releases such as Windows 7." If you find that some of your applications will not work with Windows 7, ZENworks Asset Management can also help you determine how critical those applications actually are to your operations by reporting on how much your users use those applications.

Additionally, ZENworks Asset Management lets you easily manage the contracts and leases for all your IT assets. It gives you a complete understanding of the devices that might be due for a hardware refresh, further helping you to better manage your IT assets and prepare for a Windows 7 migration. (See Figure 2.) All of these inventory and reporting capabilities inherent to ZENworks Asset Management combine to give you the

information and insights you need to understand how a Windows 7 migration will affect your environment and what you'll need to consider if you move forward.

**> Keeping Your Users Productive**

Migrations quite often create serious dilemmas for IT organizations. One of the biggest problems is the significant time spent on regression testing for packaged and custom applications. With all the different combinations of application configurations, versions and use cases, the burden placed on testing every single application on Windows 7 can be significant and put a serious damper on the migration project altogether. One of the key ways to solve this problem is with application virtualization.

With [Novell ZENworks Application Virtualization](#), you can virtualize your applications and then easily run them on your operating system of choice, including Windows 7. Since virtual applications are fully isolated images that are not installed and don't commit changes to the Windows OS, registry or DLLs, they dramatically reduce the time of application packaging and testing, while eliminating any compatibility issues that may arise as applications are added to Windows 7. By leveraging the power of application virtualization, you can help your users quickly migrate to Windows 7, while continuing to reap the advantages ZENworks Application Virtualization brings to your Windows 7 environment.

For instance, you can eliminate failures caused by DLL conflicts and overwritten registry entries when rolling out new software in the future. You can

Figure 2: Novell ZENworks Asset Management lets you see what devices are due for a refresh, helping you better manage your IT assets and prepare for a Windows 7 migration.

Machine Name	DNS Name	Is Machine Virtual?	Is 64 Bit?	CPU Speed (MHz)	Operating System	RAM (MB)	Hard Disk Space (MB)	Free Disk Space (MB)	Maximum Vertical Resolution	Can Support Windows 7	Windows XP Mode Supported
ambers-ematic	ambers-ematic	NO	NO	1,250	Mac OS X	1,024	74,530	60,420		YES	YES
BMCDOWELLN26092	BMCDOWELLN26092	NO	NO	2,000	Windows XP Professional	2,048	60,012	25,817	1,024	YES	NO
BPM-T42P-XPSP2	BPM-T42P-XPSP2	NO	NO	2,000	Windows XP Professional	2,048	240,062	104,745	1,024	YES	YES
CENSUSBUILD	CENSUSBUILD	NO	NO	2,800	Windows XP Professional	1,024	73,402	24,252	1,200	YES	NO
ChuckNLD	ChuckNLD	NO	NO	3,200	Linux	2,048	149,000	150,537	0	YES	YES
CLHNLD9	CLHNLD9	NO	NO	2,800	Linux	1,024	75,000	78,231	0	YES	YES
CTTHINKPAD	CTTHINKPAD	NO	NO	2,000	Windows XP Professional	2,048	60,012	17,015	1,024	YES	NO
DASKREN25796	DASKREN25796	NO	YES	3,400	Windows XP Professional	2,048	159,998	114,586	768	YES	YES
DASKREN27290	DASKREN27290	NO	NO	3,200	Windows XP Professional	1,024	159,998	129,681	1,024	YES	YES
DDJOHNSON25795	DDJOHNSON25795	NO	NO	3,400	Windows XP Professional	2,048	0	72,377		YES	YES
DMP27247VBIZX86	DMP27247VBIZX86	NO	NO	3,200	Windows Vista	1,024	159,998	134,317	0	YES	YES
DMP28645XPX64	DMP28645XPX64	NO	YES	3,400	Windows XP Professional x64	2,048	159,998	154,586	1,200	YES	YES
DRM-TEST	DRM-TEST	NO	NO	3,200	Windows XP	1,024	159,998	41,797	1,200	YES	YES

strengthen desktop security by executing applications without granting administrator rights to end-users, and also improve mobile productivity by instantly running your virtual applications from a wide range of media like USB thumb drives. And you can gain these benefits without any change to the end-user experience. At the end of the day, ZENworks Application Virtualization plays a key role in the Windows 7 story by making sure all your applications can make the move quickly, with minimal business impact, and by keeping your workers highly productive and secure on Windows 7.

## Novell ZENworks Asset Management lets you create readiness reports that show if the hardware in your environment will be compatible with Windows 7.

### > Making the Move

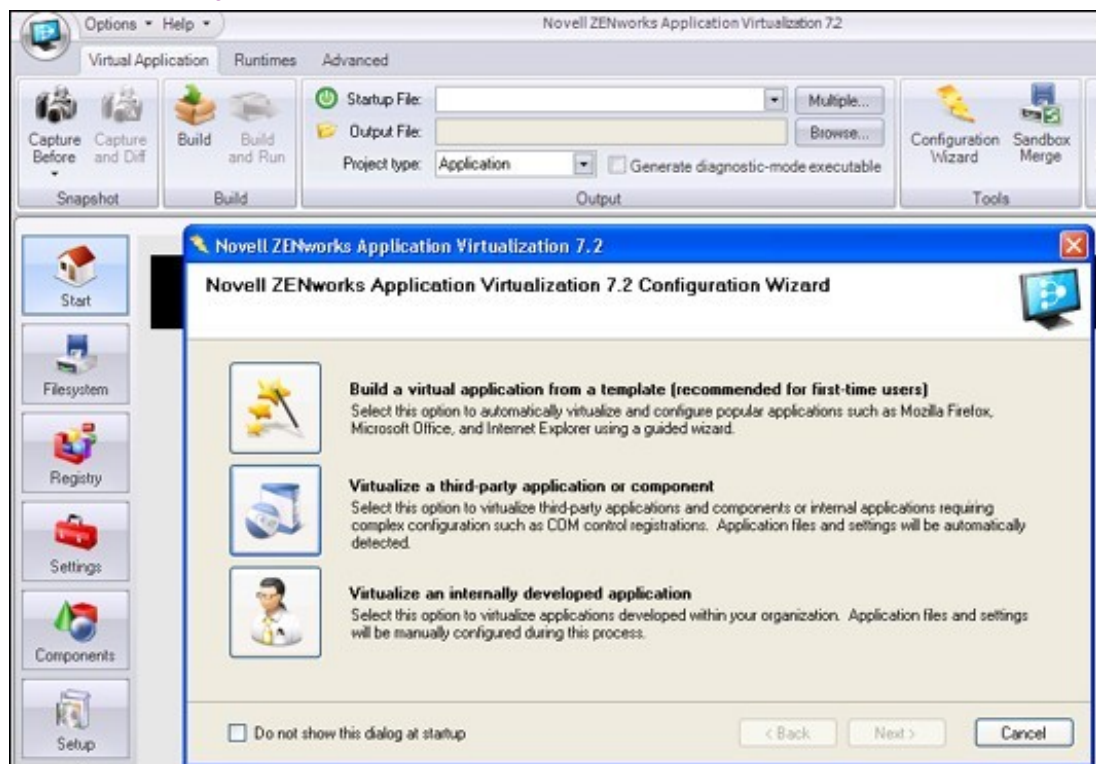
Once you've used ZENworks Asset Management and ZENworks Application Virtualization to help you get ready for the move, [Novell ZENworks Configuration Management](#) can help you make the move quickly,

efficiently and with as little disruption to your business as possible. ZENworks Configuration Management lets you create Windows 7 desktop images and then automatically deploy them to all your devices. As it deploys these images, Novell ZENworks Configuration Management will dynamically install all the correct hardware drivers and applications specific to the individual target devices. It also offers blackout schedules to let you schedule this automated process during times that won't disrupt the business. Leveraging wake-on-LAN technology, it can wake up devices, back-up data and migrate them to Windows 7 overnight.

Novell ZENworks Configuration Management cuts the time and pain of Windows 7 migrations by doing everything for you. Novell customers who've used ZENworks Configuration Management for OS migrations can attest to its effectiveness. [The Greater Latrobe School District in Pennsylvania](#) cut desktop imaging time by 50 percent and [Richardson International in Canada](#) reduced desktop imaging by 66 percent using ZENworks Configuration Management.

You can also use ZENworks Configuration Management to automatically and seamlessly roll-out any virtual applications you created with ZENworks Application Virtualization to your Windows 7 machines. Even after you've completed your migration to Windows 7, you can continue using ZENworks Configuration

Figure 3: *Novell ZENworks Application Virtualization provides you a quick and easy option for addressing application compatibility problems with a Windows 7 migration.*



Management to benefit your enterprise. You can use it to automatically deliver personal settings and software applications, deploy updates and patches, and even perform remote management. The bottom-line is ZENworks Configuration Management reduces IT headaches, time and cost by automating the manual tasks of your migration while putting control back in your hands.

Perhaps one of the biggest benefits provided by ZENworks Configuration Management is that you gain freedom and flexibility that competing products don't provide. ZENworks Configuration Management runs on your choice of operating system (Windows or Linux), your choice of directory services (Active Directory or eDirectory) and your choice of database (Oracle, Microsoft SQL Server or Sybase). It's the industry's only endpoint device lifecycle management solution to offer this level of flexibility. Novell is all about interoperability. We won't lock you into a single vendor. The choice is always yours.

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**Novell ZENworks Configuration Management cuts the time and pain of Windows 7 migrations by doing everything for you.**

**> Put Success on Your Side**

At Novell, we believe Windows 7 will be a key driver in the industry. Still, for any organization to migrate successfully, it needs to have the right things in place. Essentially it comes down to understanding three key things:

- What can I migrate to Windows 7?
- How do I do it?
- When I do it and how do I ensure my users stay productive?

You can choose to turn to homegrown tools, do things manually, or make the move with a clear plan and the right tools. With such a critical move, don't take a chance and risk failure. As Louis Pasteur once said, "chance favors the prepared mind." So, put the chances of success squarely on your side with the Novell ZENworks trifecta—ZENworks Asset Management, ZENworks Application Virtualization and ZENworks Configuration Management.

(1) IDC White Paper Sponsored by Microsoft, The Economic Impact of Microsoft's Windows 7, Worldwide, Doc # W7WW709, July 2009

# Change Your Game

*Taking Advantage of Netbooks and the SUSE Edition of Moblin*

As one of the fastest—if not the fastest—growing segments in the computing industry, netbooks have gained significant popularity over the past year. Their small and lightweight form makes them great for commutes, quick trips or anytime you really don't want to haul that heavier and more cumbersome laptop. Their ability to deliver more computing power and display more real estate than smart phones fuels their attractiveness as a convenient, smart Internet device that lets you stay connected wherever you are.

Even though it was originally thought that netbooks would have the largest impact in education and emerging markets, they've had the biggest reach in the mass-market consumer space. This creates significant new opportunities for original equipment manufacturers (OEMs) and original device manufacturers (ODMs). (See A Profitable Opportunity.) It also means the growth

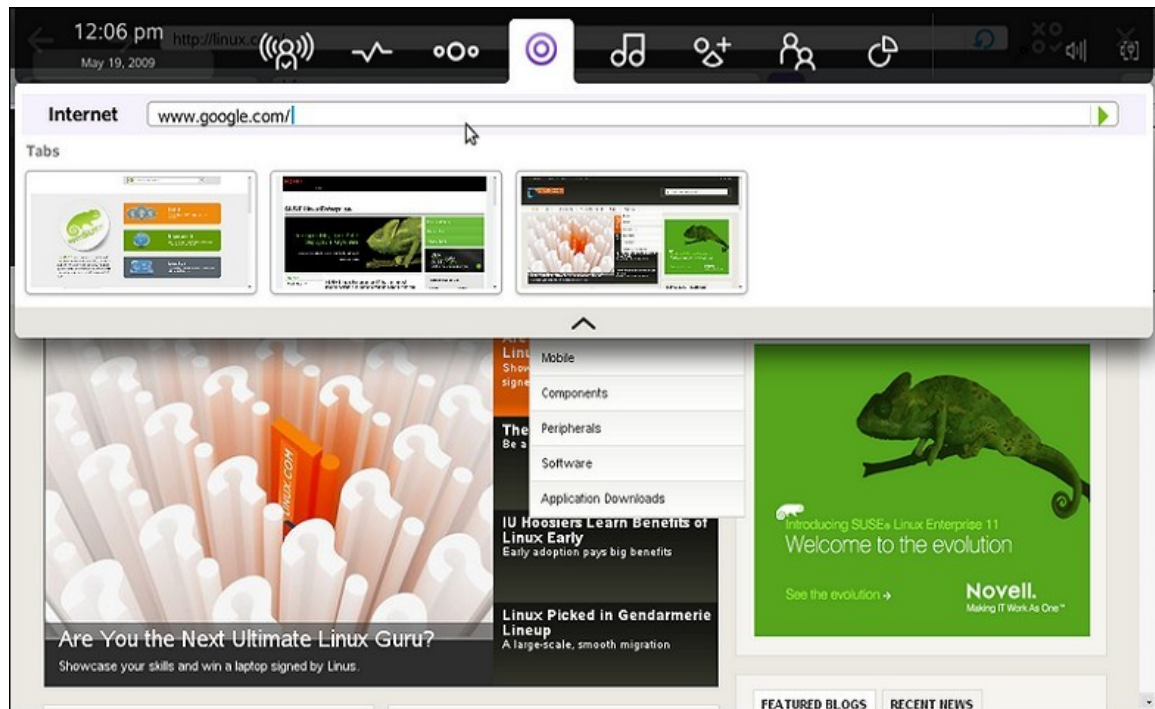
**Probably the most important aspect Moblin delivers is a rich, intuitive user interface, optimized for small screens and the way people use netbooks.**

and evolution of the netbook market should be of keen interest to any IT organization. (See the Netbook Paradigm.) Why? Because as facilitators for accessing the cloud, netbooks are expected to become companion devices to workers' other computing devices. That's why whether you're an IT manager or OEM/ODM you need to find out more about the SUSE edition of Moblin to see how it can address your netbook concerns and interests.

Figure 1: The myzone screen in the Moblin interface provides you a snapshot view of recent activity on your netbook and within your social networks.



Figure 2: You can easily access your favorite, recently viewed and all other Web sites through the integrated Moblin Web browser.



> **Optimized for Netbooks**

Moblin is an open source project focused on building an optimized platform for the next generation of mobile devices. Intel initially started the Moblin project in 2007 with the desire to create a standard technology framework for delivering a visually rich Internet and media experience on Atom processor powered netbooks, nettops, mobile Internet devices and in-vehicle infotainment systems. Intel assigned the stewardship of the project to the Linux Foundation in April 2009 to enable the joint expertise of the Linux community to further improve the development of the platform. Before that time and since, Novell has worked closely with Intel and the Moblin open source project, making substantial contributions in e-mail, media management, network connectivity optimization, boot time performance and other significant areas.

Many of these advancements to the Moblin project were announced in a joint press release between Intel and Novell in May 2009. (See [Press Release](#).) As part of the press release, Novell also announced it was working on a Moblin-based product for netbook OEMs and ODMs. That product, the SUSE edition of Moblin, will shortly be available to netbook OEMs and ODMs.

> **Net Usage**

Probably the most important aspect Moblin delivers is a rich, intuitive user interface, optimized for small screens and the way people use netbooks, including surfing the Web, checking e-mail, listening to music, watching videos, updating social networks and other in-the-cloud activities.

The myzone page of the Moblin interface is the first thing you see when a netbook boots running the SUSE edition of Moblin. (See Figure 1.) Myzone in Moblin provides you a snapshot view of recent activity on your netbook and within your social networks. Myzone can be broken down into three parts. On the left side of the screen it displays your recent activities, which include your current calendar items and tasks. With a quick click you can enter new appointments or tasks. The bottom left of the screen also provides shortcuts to your favorite applications.

The middle of the myzone screen displays two columns of thumbnails that show you the recent photos or videos you've viewed, music you've listened to, files or presentations you've worked on and Web sites you've visited. You can click any of the thumbnails to immediately open or return to the associated file or Web site. The right side of myzone displays image panels that show your friends' recent social network activity, helping you easily keep track of your Internet social life and friends from sources such as Last.fm and Twitter.

To navigate to other elements in the Moblin interface, move the cursor to the top of the screen and then the Moblin toolbar will display across the top of the screen. The toolbar will automatically hide itself once you move the cursor away. The toolbar consists of three main sections: time and date on the left, system information on the right (i.e., power status, volume control and management of network connections), and task item panels in the middle.

The task item panels portion of the toolbar is what you will primarily use to navigate through the Moblin interface, and includes icons that will take you to the following panels in the Moblin environment:

- **Myzone** – A snapshot view of and quick access to your Internet social life, recent videos, music, photos or files accessed, and current appointments and tasks.
- **Status panel** – Allows you to quickly post and broadcast your status to your social network accounts.
- **People panel** – Provides a central location for all your contacts or buddies, letting you see who is online as well as enabling you to quickly launch an instant messaging (IM) session.
- **Internet panel** – Displays and provides access to your open, favorite or recently viewed Web sites through the integrated Moblin Web browser. (See Figure 2.) It can also open a new tab in another browser you might already be running, such as Firefox.
- **Media panel** – Displays quick access to and thumbnail views of your recently played and viewed media files. It also lets you scroll through and manage your playlists, as well as gives you a search bar to help you easily locate desired media content.
- **Pasteboard panel** – Provides a convenient area to store and manage items you copy and paste while using your netbook, including a history of your copy and paste activity.
- **Applications panel** – Gives easy access to launch, manage, organize or switch any of the applications on your netbook, including those applications that come standard with the SUSE edition of Moblin described in the next section. (See Figure 3.) In addition to favorites, the application panel has six main categories, which include accessories, games, Internet, media, office and settings. Any application you pin as a favorite will also automatically cause its shortcut to show up in your myzone screen.

Figure 3: The SUSE edition of Moblin comes standard with a wide variety of open source applications that enhance your netbook user experience.

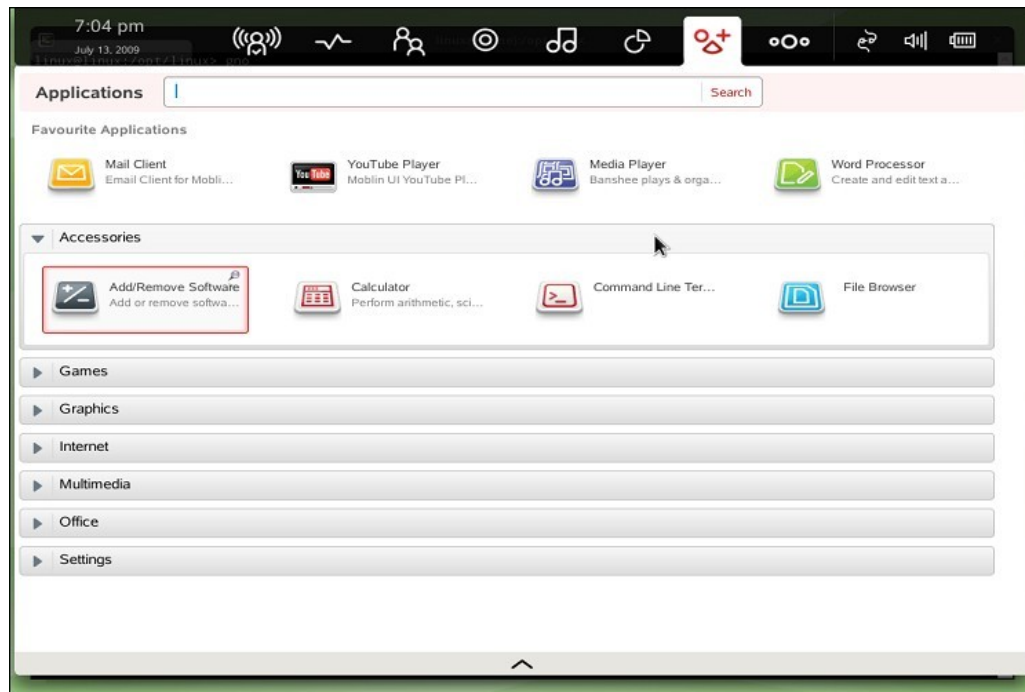
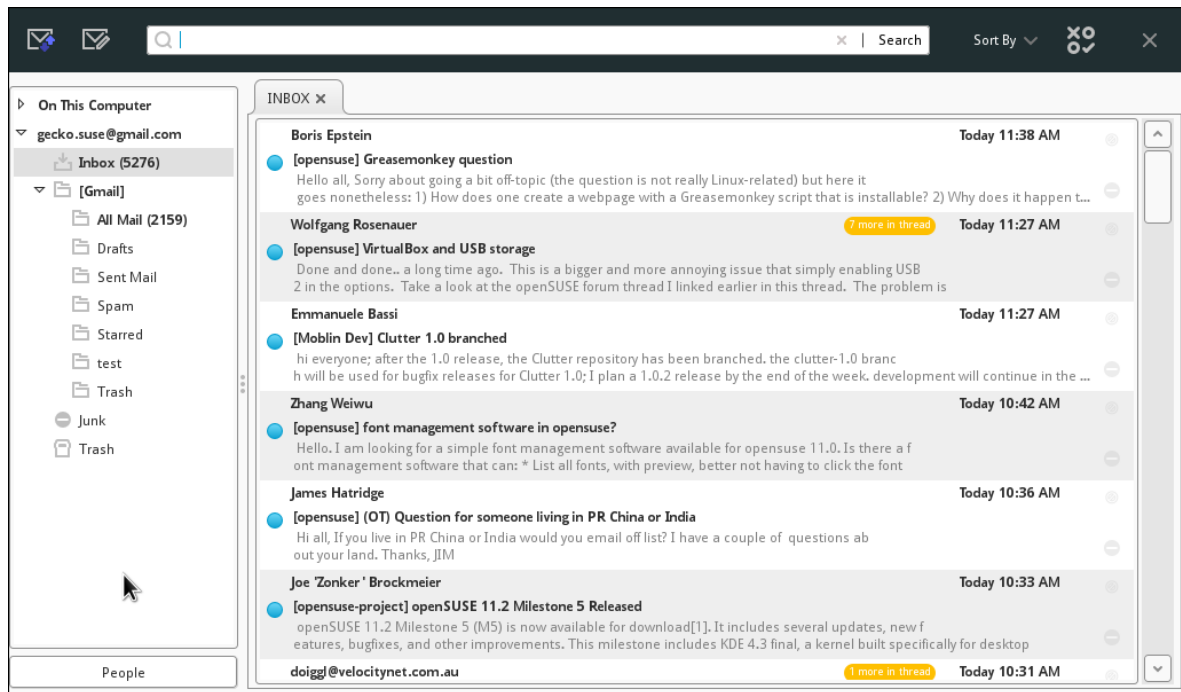


Figure 4: The Anjal e-mail client included with the SUSE edition of Moblin has been designed specifically for netbooks, providing a rich and efficient netbook messaging platform.



### > **Enhanced Experience**

The SUSE edition of Moblin comes standard with a wide variety of applications that further improve your netbook user experience. As open source solutions, the additional applications included with the SUSE edition of Moblin significantly enhance the user experience without increasing the cost of the netbook.

As an alternative to the integrated Moblin Web browser, the SUSE edition of Moblin includes Firefox, which delivers a rich user experience through standard plug-ins such as Java, Adobe Acrobat Reader and Adobe Flash Player. It also comes with plug-ins and extensions developed by Novell, such as Moonlight/Moonshine and Meerkat. Moonlight is part of the open source Mono Project sponsored by Novell that allows Linux users to view, access and use Silverlight and Windows Media content on Linux. It tightly integrates with Firefox and provides worldwide legal audio and video decoding.

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**Myzone in Moblin provides you a snapshot view of recent activity on your netbook and within your social networks.**

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Also in the area of rich media, the SUSE edition of Moblin includes the open source offerings of Banshee and Cubano. The Banshee video and music player syncs with iPods, G1 phones and other portable media players. It can subscribe to a variety of sources, including streamed music and podcasts. It also comes with Novell developed AAC encoders and decoders, and the Fluendo MP3 decoder. To provide users yet another multi-media option, the Cubano media player incorporates a simple, streamlined and straightforward interface for Banshee designed specifically with netbooks in mind.

For watching YouTube videos on your netbook, the SUSE edition of Moblin also includes a YouTube Player. Not only does this facilitate the playing of YouTube videos, but it illustrates how Moblin-friendly applications can be easily created to access rich online content by leveraging an application's Web services APIs.

The SUSE edition of Moblin provides online collaboration tailored for netbooks with the inclusion of the Anjal e-mail client. Based on the Evolution project, Anjal blends seamlessly into the Moblin interface, providing a rich and efficient netbook messaging platform. (See Figure 4.)

Even as an in-the-cloud computing device, netbooks will occasionally be used to view, create or work on an assortment of different productivity type documents. That's why the SUSE edition of Moblin includes the powerful office productivity suite OpenOffice.org Novell Edition. As an open-source and

full-featured alternative to Microsoft Office suite, OpenOffice.org Novell Edition supports open document format standards (ODF and OOXML), a wide range of Microsoft Office file formats and more.

**> A Game-Changing Opportunity**

Of course there's a lot more to the SUSE edition of Moblin that simply cannot be discussed in such a short article. You can get more details on the SUSE edition of Moblin or request a sales call by visiting [www.novell.com/moblin](http://www.novell.com/moblin). If you want to dig deeper, you can even get a technology [preview of the Moblin v2.0 Beta on openSUSE](#). In talking about the SUSE edition of Moblin, Novell CEO, Ronald W. Hovsepian indicates that Novell really views this new offering as a game-changing opportunity. So, whatever you do, take the opportunity now to see how the SUSE edition of Moblin can change your game.

**A Profitable Opportunity**

Cost should be a strong motivator for OEMs and ODMs to take a look at the SUSE edition of Moblin. A Linux and open source platform for netbooks promises a much better profit margin than what can be expected from a Microsoft solution. Additionally, the SUSE edition of Moblin gives OEMs and ODMs greater ability to customize their offerings to differentiate their brand from their competition.

While there are other Linux-based netbook platform options, OEMs and ODMs of the SUSE edition of Moblin will be able to take advantage of the expertise that Novell has gained through its close working relationship with Intel on the Moblin project. Novell is also open to receiving direct input from its OEM and ODM partners on the development roadmap for the SUSE edition of Moblin. Furthermore, OEMs and ODMs can have the confidence that the global Novell support infrastructure and ecosystem will be able to scale to serve their needs in a timely and responsive manner.

Another key benefit OEMs and ODMs of the SUSE edition of Moblin will be able to enjoy is that Novell will be able to address the full range of their Linux client needs. Novell can be their one-stop-shop as the only Linux provider that covers the entire client spectrum of products, which includes the SUSE edition of Moblin, SUSE Linux Enterprise Desktop, SUSE Linux Enterprise Thin Client and SUSE Linux Enterprise POS.

While other Linux distributors hope to deliver, in a year from now, the depth and breadth of performance and functionality found in the SUSE edition of Moblin today, why would you wait? As the leader in Linux innovation and as a strategic OS development partner with Intel, Novell can address the needs of netbook OEMs and ODMs today.

**As open source solutions, the additional applications included with the SUSE edition of Moblin significantly enhance the user experience without increasing the cost of the netbook.**

**The Netbook Paradigm**

As a Linux-based and open source solution, the SUSE edition of Moblin promises to be much more cost effective than Windows- and Microsoft Office-based netbook solutions. While pricing hasn't been finalized, with a netbook based on SUSE edition of Moblin, users can likely save up to 90 percent over a Windows- and Office-based netbook.

In spite of cost, some might still lean more towards a Windows-based solution because they view netbooks as mini-notebooks and think they need a Windows environment. However, that description doesn't really mesh with real-world usage. Even though netbooks can be used to run office productivity apps and perform most day-to-day computing operations—except for those that require extensive graphic operations, such as computer games—their primary use is for everything Web-related or in-the-cloud. As the name implies, netbooks really should be viewed as smart, easy-to-use “net” devices.

Will having a Windows environment on a netbook really matter when you're spending the majority of your time in a Web browser? Perhaps being able to read and work on Word attachments or other Microsoft Office-based files is a concern. If so, those concerns should be put to rest by the document portability inherent to OpenOffice.org Novell Edition, which comes free with the SUSE edition of Moblin.

Netbooks have similarities to the smartphone paradigm. There will always be users that choose Windows-based smartphones because they want the functionality provided by a Windows-like environment. However, many more users will pick up an iPhone or Blackberry because the user experience and functionality delivered by those solutions better match their usage needs. Novell designed the SUSE edition of Moblin specifically with the “net” usage needs of netbook users in mind.

# Environmental Sustainability

*Using PlateSpin Recon to Optimize Workloads and Automate Chargebacks*

**D**iscover, monitor and report: In the [October](#) and [November](#) issues of *Novell Connection*, we discussed how you can use PlateSpin solutions to discover what's in your environment, monitor performance and generate reports that help you plan and implement your virtualized data center. This month, we'll step you through some of the challenges in keeping your virtualized environment healthy and green, and the role of [PlateSpin Recon](#) in helping you meet those challenges with effective management decisions.

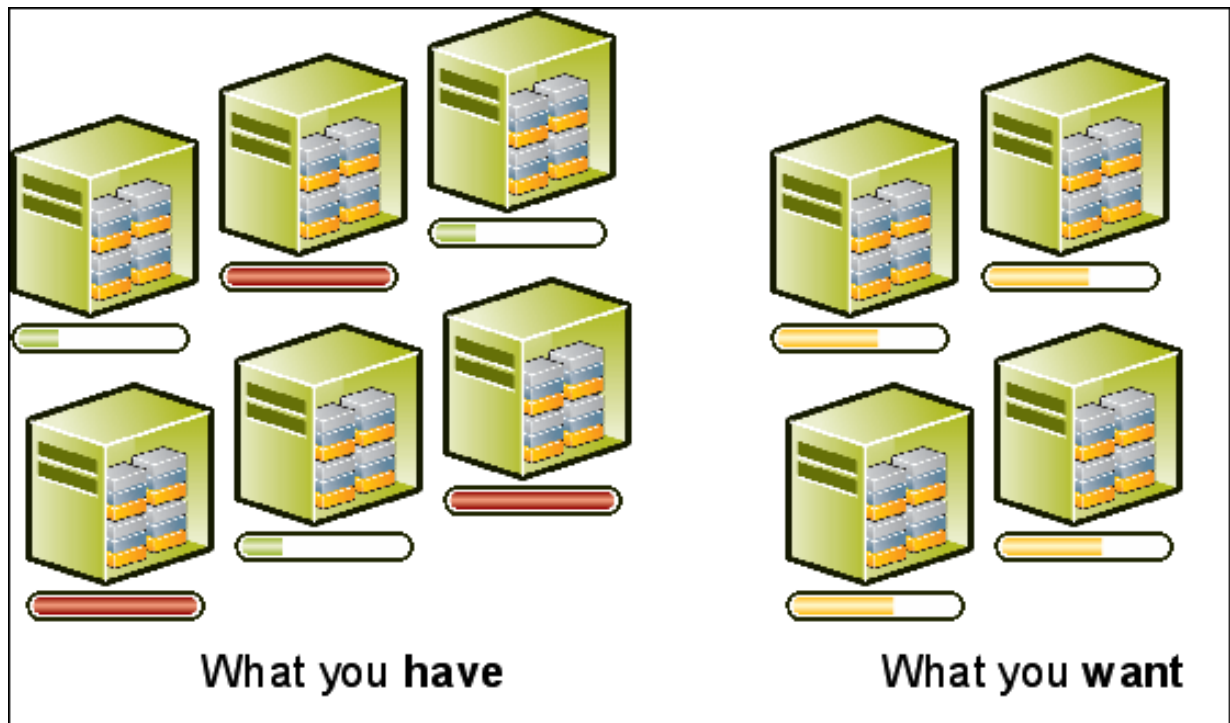
Once the virtual implementation is complete, you should get the same performance as before while making more efficient use of hardware, power, cooling and real estate. It's tempting to think your virtualization work is done at this point, and that you can just let processes run the way they always have.

But that's an approach rooted in the physical past. Virtualization offers the opportunity to reinvent the data center as an organic environment that can be reshaped on the fly as workload and business requirements evolve. In your virtualized world, *discover, monitor and report* aren't just implementation phases—they're the IT equivalent of regular watering and weeding to keep your virtual environment healthy and productive. PlateSpin products continue to play an important role.

## > Validating Your Server Consolidation Plan

The goal of server consolidation is to move workloads from individual physical servers to virtual machines that can run in tandem on the underlying hardware, providing a better balance of server loads while using fewer resources. (See Figure 1.)

Figure 1: The first goal of server consolidation is to virtualize and migrate workloads so you can optimize and balance performance using fewer physical resources.



Validating the success of your consolidation plan requires you to monitor resource use to ensure you have achieved the ideal balance. With PlateSpin Recon, you can easily graph usage, see trends and even compare usage between different systems—all in the same automated report. Validation also means ensuring virtualized processes are running at the same performance levels as before, and PlateSpin Recon allows you to compare performance levels in both the physical and virtual environments.

If you've been following this series of articles, you already know how to do all this. That's because the discovery and reporting process is the same, whether you're looking at physical or virtual systems. Because PlateSpin Recon does not require agents, you can discover and report on virtual machines as soon as they're created, following the same steps as we described in our November article, [Building Your Virtual Landscape Without Messy Disruptions](#). The only difference is that in *Step 4, Discover Your Servers*, you'll want to click on Virtual Center instead of IP Range to bring up the appropriate set of reports.

By running a report that graphs resource usage across multiple virtual machines, you can verify at a glance that your virtualization design is providing the usage levels you intended. (See Figure 2.)

### > Performing Health Checkups

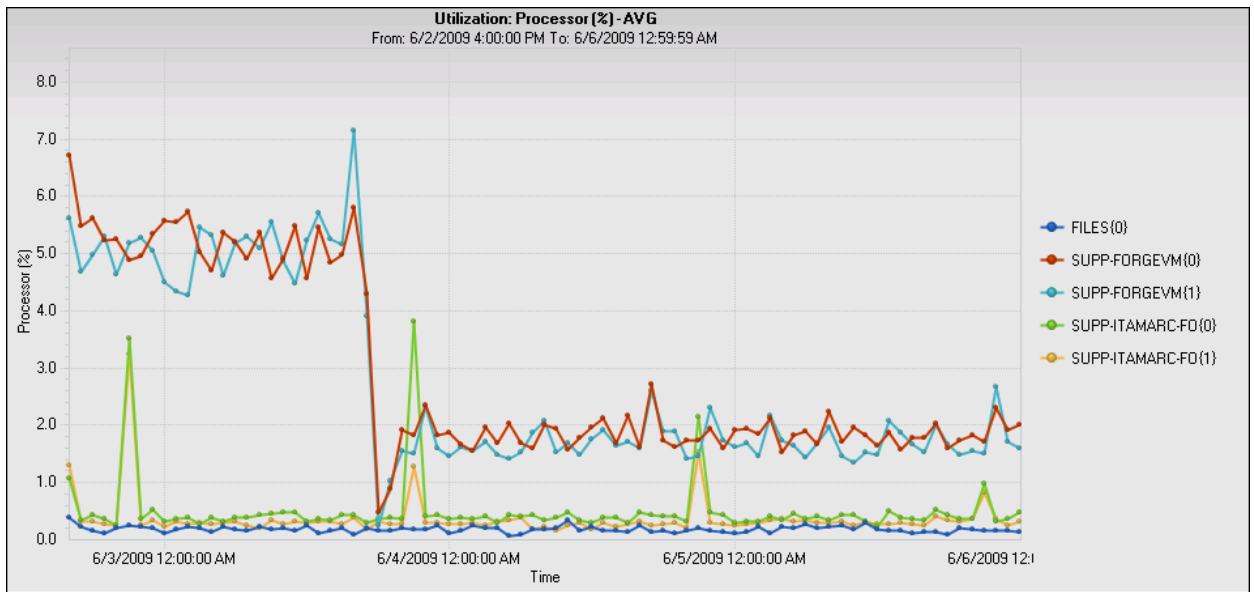
At this point in the process, you should see positive results. You have the reports in-hand to show critical business processes are running with the same availability and performance as before, while consuming fewer resources.

But things change. Workloads are added and deleted, and resource demands evolve with changing usage patterns. With PlateSpin Recon, you can perform regular checkups to make sure workloads are always optimized and balanced. You can also identify corrective actions whenever necessary.

This ability to monitor and adapt on the fly is one of the primary benefits of virtualization. PlateSpin Recon makes it easy to do the following:

- Identify underused virtual hosts
- Pinpoint capacity bottlenecks in virtual hosts
- Predict and avoid future capacity bottlenecks in virtual hosts
- Discover unused resources that can be reclaimed from virtual hosts and reassigned to other projects
- Find and fix areas of suboptimal configuration to maximize performance in both hosts and virtual machines

Figure 2: This PlateSpin Recon report graphs CPU use across multiple virtual machines over a defined time period.



To get started monitoring the health of your virtual environment:

1. Select *Inventory/Virtual Center...*
2. Enter your credentials when prompted

The inventory process goes beyond discovery to gather all known details about the virtual servers you select. With the inventory complete, the next step is to begin monitoring the virtual servers that interest you:

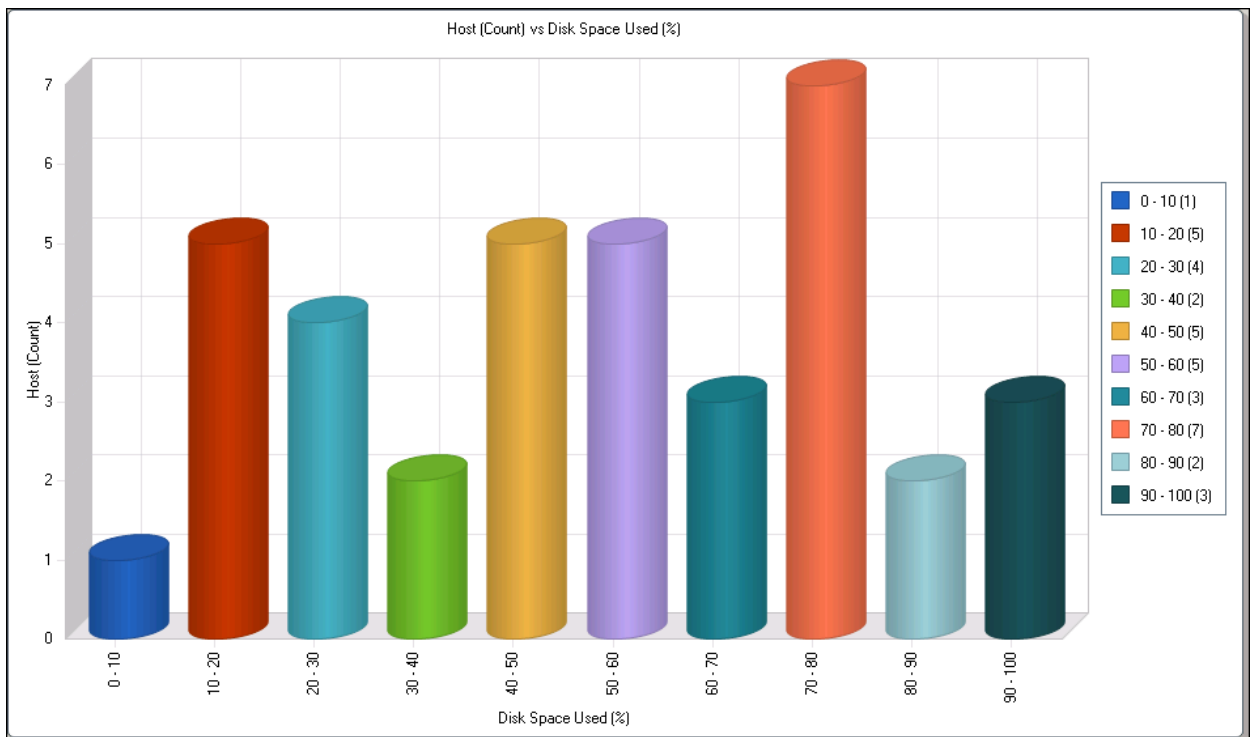
1. Choose a range of servers
2. Right-click, and select *Start Monitoring* from the pop-up menu

For an accurate picture of usage patterns, we recommend you monitor servers for at least 30 days. Preferably, a significant event in your company's business lifecycle should be included in this 30-day period. If you're looking at the virtual hosts for your financial applications, for example, you might include the end of the fiscal quarter or year.

Once [PlateSpin Recon](#) has had an opportunity to collect a representative data sample, you can choose from a variety of reports to highlight the information that interest you. Novell has even created a series of custom reports called PlateSpin Health Check. Delivered through our partners, along with detailed optimization recommendations, Health Check helps you manage virtualization capacity while avoiding unnecessary hardware purchases.

We've provided a sample Health Check report detailing average disk use across all monitored virtual hosts. (See Figure 3.) This example shows that two virtual hosts are using less than 30 percent of the available disk space, while another virtual host is using more than 70 percent. Reassigning underused disk space to create a better balance may prevent performance degradation.

Figure 3: *This report shows an opportunity to avoid a potential performance bottleneck by moving storage capacity from the virtual hosts on the left (under 30 percent disk use) to the virtual host on the right (over 70 percent disk use).*



Health Check also provides similar reports to visualize processor and memory use, as well as aggregate reports based on both average and peak usage. The peak values can be especially useful for identifying potential bottlenecks. (See Figure 4.)

On the flip side, Health Check includes resource reclamation reports identifying virtual machines using less than half of their assigned resources even during peak times. These reports uncover opportunities to run more virtual machines on the same physical hardware.

Another set of Health Check reports reveals suboptimal configurations that may hinder performance—for example, virtual machines with missing or outdated tools, hardware and network adapters that are not being used, outdated hypervisor versions, and more. Reports are also available for cataloging virtual operating systems, virtual infrastructure managers, cluster configurations, resource pools and other information that’s vital to the operation of a dynamic, fluid data center.

*Figure 4: This version of the detailed virtual host usage report highlights peak values, flagging potential performance problems that might otherwise go unnoticed.*

Virtual Host Utilization Details																	
Machine			Processor							Memory							
Host	Platform	Used (%)		Used (MHz)		Queue Length		Total Speed (MHz)	Used (%)		Used (MB)		Pages/sec		Total Memory (MB)		
		PEAK	Hour	PEAK	Hour	PEAK	Hour		PEAK	Hour	PEAK	Hour	PEAK	Hour	PEAK	Hour	
SOL-1	VMware ESX Server	1.61	8	427.43	8	--	--	26600	21.55	6	3529.2	6	--	--	16379.31	6	
SOL-2	VMware ESX Server	1.17	15	310.86	15	--	--	26600	23.64	20	3871.77	20	--	--	16379.31	6	
COMP15	VMware ESX Server	33.9	8	1296.75	8	1.62	17	3825.07	82.42	14	843.53	14	--	--	1023.46	6	
SOL-3	VMware ESX Server	4.02	8	1067.94	8	--	--	26590	43.9	16	7191.22	16	--	--	16379.31	6	
Comp164	VMware ESX Server	59.9	3	70229.22	3	--	--	117240	82.22	3	26519.31	3	--	--	32255.27	6	
W2008HV-01	Microsoft Hyper-V	5.55	0	886.16	0	0.27	14	15955	98.52	4	4035.3	4	491.65	13	4096	6	
DEV-MICHAELB	VMware Server	15.65	13	998.81	13	0.19	14	6384	37.28	18	763.43	18	414.90	13	2048	6	
<b>Summary Statistics</b>																	
Count	7																
Avg	17.3992833		10745.3101		0.69572391		31884.9		55.6457976		6679.10924		453.279424		12651.52		

Figure 5: In this example, flat raters are being used to chargeback departmental usage of memory and disk space over the preceding month.

Field	Value Selected		Calculation
Resource	Disk Space Used (GB)		2.75
Time Period	Month	x	1
Measurement	Average		
Charge	\$10.00	x	\$10.00
Report Date Filter	Last 1 Month	x	1
		=	\$27.50

Field	Value Selected		Calculation
Resource	Memory Used(MB)		71.87
Time Period	Day	x	15 (only 15 days of data exists for the selected Date Filter)
Measurement	Average		
Charge	\$0.10	x	\$0.10
Report Date Filter	Last 1 Month	x	1
		=	\$107.81

**> Departmental Chargebacks and Other Business Considerations**

When running a data center, business efficiency is just as important as performance and availability. One of the most difficult business challenges is to make departments aware of the IT resources they’re using and to budget appropriately.

In a traditional physical environment, budgets and chargebacks tend to focus mainly on capital equipment purchases, such as new servers bought to support a new departmental application. Beyond that initial purchase, it’s difficult to get an accurate picture of the resources that are actually being used, especially as the data center evolves over time.

When you move to a virtual infrastructure, the chargeback problem becomes even more complicated because it’s difficult to know what any particular workload is using at any given time—let alone its total resource usage over an extended period of time. But PlateSpin Recon keeps track of what resources are being used by each workload, providing the data needed for accurate chargebacks.

To make the best use of that raw data, you can define “raters” to establish chargeback values. These raters attach a fee structure to specific resources, including both physical inventory and monitored metrics. For example, you might define raters specifying that each processor used by the workload will cost \$100 per month, and each MB of memory will cost \$0.01, based on average daily usage.

You have the flexibility to define any combination of the following:

- Allocation raters that apply to an entire virtual machine
- Flat raters that assign a single fee to a resource, such as disk space or memory usage (See Figure 5.)
- Tiered raters that assign multiple fees to a resource

Raters can be used across multiple machines, each machine can have multiple raters and specific workloads can then be attached to any applicable combination of raters. PlateSpin Recon can then produce chargeback reports reflecting actual resource costs and usage patterns, based on its automated workload monitoring. (See Figure 6.)

Figure 6: Chargeback reports, such as this one, demonstrate the business value of IT and ensure appropriate reimbursement for the services you provide.

Cost Allocation																
By Rater type: Flat Rater																
Thursday, November 28, 2009																
Machine		Memory			VC - Memory		Processor			VC - Processor		Chargeback				
Host	Platform	Size (MB)	Used (%)	Used (MB)	Used (%)	Used (MB)	Model	Total Used (MHz)	Used (MHz)	Used (MHz)	Rater name	Calculated Cost	Resource	Currency	Description	
FILES	Virtual	384.00	37.91	145.58	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	15.34	--	memory used	1464.51	Memory Used(MB)	CAD		
FILES	Virtual	384.00	37.91	145.58	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	15.34	--	processor count	800.00	Total Processor (Count)	CAD		
FILES	Virtual	384.00	37.91	145.58	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	15.34	--	uptime	955.06	Uptime (Hours)	CAD		
SUPP-ITAMARC-FO	Virtual	1024.00	71.39	731.05	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10644.00	18.80	--	memory used	7354.38	Memory Used(MB)	CAD		
SUPP-ITAMARC-FO	Virtual	1024.00	71.39	731.05	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10644.00	18.80	--	processor count	800.00	Total Processor (Count)	CAD		
ITAMAR-VC	Virtual	1024.00	69.30	699.85	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	53.68	--	memory used	5115.16	Memory Used(MB)	CAD		
ITAMAR-VC	Virtual	1024.00	69.30	699.85	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	53.68	--	processor count	800.00	Total Processor (Count)	CAD		
ITAMAR-VC	Virtual	1024.00	69.30	699.85	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	53.68	--	uptime	749.00	Uptime (Hours)	CAD		
SUPP-FORGEVM	Virtual	3840.00	37.87	1454.13	--	--	Intel(R) Pentium(R) D processor	5322.00	191.54	--	memory used	14497.86	Memory Used(MB)	CAD		
SUPP-FORGEVM	Virtual	3840.00	37.87	1454.13	--	--	Intel(R) Pentium(R) D processor	5322.00	191.54	--	processor count	400.00	Total Processor (Count)	CAD		
SUPP-FORGEVM	Virtual	3840.00	37.87	1454.13	--	--	Intel(R) Pentium(R) D processor	5322.00	191.54	--	uptime	972.89	Uptime (Hours)	CAD		
PARIS	Virtual	512.00	64.87	332.12	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	161.79	--	memory used	2543.72	Memory Used(MB)	CAD		
PARIS	Virtual	512.00	64.87	332.12	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	161.79	--	processor count	800.00	Total Processor (Count)	CAD		
PARIS	Virtual	512.00	64.87	332.12	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10636.00	161.79	--	uptime	747.61	Uptime (Hours)	CAD		
CASERACKING	Virtual	512.00	63.02	322.85	--	--	Intel(R) Pentium(R) D processor	10640.00	103.84	--	memory used	2461.79	Memory Used(MB)	CAD		
CASERACKING	Virtual	512.00	63.02	322.85	--	--	Intel(R) Pentium(R) D processor	10640.00	103.84	--	processor count	800.00	Total Processor (Count)	CAD		
CASERACKING	Virtual	512.00	63.02	322.85	--	--	Intel(R) Pentium(R) D processor	10640.00	103.84	--	uptime	746.42	Uptime (Hours)	CAD		
ITAMAR-SQL305	Virtual	512.00	39.60	202.77	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	6.79	--	memory used	1433.18	Memory Used(MB)	CAD		
ITAMAR-SQL305	Virtual	512.00	39.60	202.77	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	6.79	--	processor count	800.00	Total Processor (Count)	CAD		
ITAMAR-SQL305	Virtual	512.00	39.60	202.77	--	--	Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66GHz	10640.00	6.79	--	uptime	676.39	Uptime (Hours)	CAD		
SUPP-ITAMARC2	Hardware	2048.00	32.74	667.90	--	--	Intel(R) Pentium(R) D CPU 3.00GHz	5884.00	170.20	--	processor count	400.00	Total Processor (Count)	CAD		

**> Ready to Get Your Hands Dirty?**

Over the course of these three PlateSpin articles, we've only tilted the surface of virtualization management techniques. The fact is, virtualization is a big topic that requires you to dig deeper into the possibilities, given your technical environment and business goals. The good news is that we're here to help.

To learn more about PlateSpin Recon, we suggest you begin with the wealth of information available at [www.novell.com/products/recon](http://www.novell.com/products/recon). Then, to get answers to your specific questions and schedule an in-person demo, call your Novell representative. We're eager to help you break new virtual ground and reap the rewards of a greener, more sustainable and efficient data center.

# The Update Answer

*The Subscription Management Tool for SUSE Linux Enterprise*

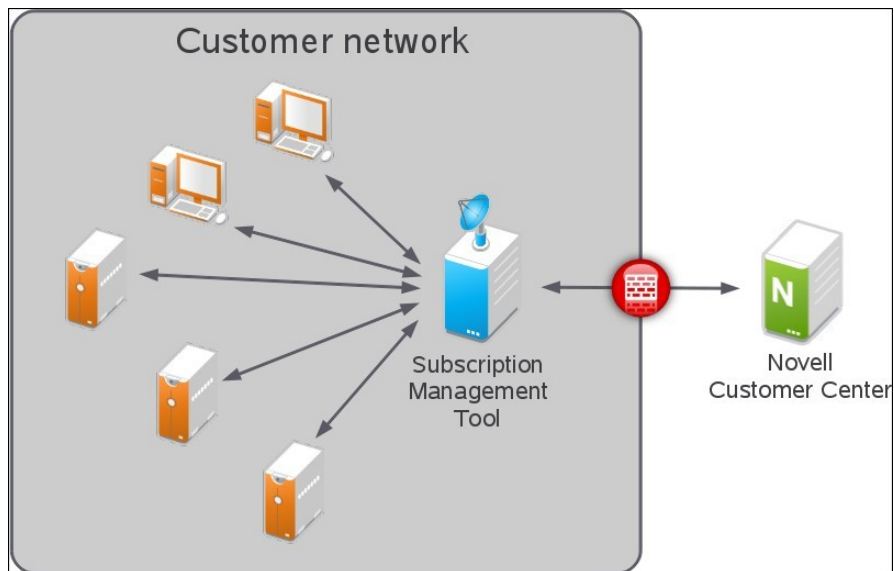
*How would you like a single tool that updates your SUSE Linux Enterprise and Novell Open Enterprise Servers, as well as your Red Hat Enterprise Linux servers? Would you like to be more on top of your company's license compliance? Would you prefer to not have to connect all your machines to the Novell Customer Center? Do you have SUSE Linux Enterprise hosts that are restricted and difficult to update without having to invent your own update management solutions? Does being able to integrate additional software update repositories (either external or internal) into your update solution sound appealing to you? Can you benefit from an out-of-the box staging solution for testing updates before releasing them to the masses? Do you want to be able to get a quick overview of the patch status of your SUSE Linux Enterprise 11 servers and desktops? If you answered "yes" to any of these questions, then the Subscription Management Tool for SUSE Linux Enterprise might be just what you need.*

The Subscription Management Tool for SUSE Linux Enterprise 11 allows you to optimize the management of your SUSE Linux Enterprise software updates and subscription entitlements. While Novell Customer Center and Novell Update have been the two primary vehicles through which you could manage your SUSE Linux Enterprise subscriptions, now there's the

**The Subscription Management Tool for SUSE Linux Enterprise 11 allows you to optimize the management of your SUSE Linux Enterprise software updates and subscription entitlements.**

Subscription Management Tool—a package proxy system that manages your SUSE Linux Enterprise updates while conforming with corporate firewall policy and regulatory compliance requirements. It's fully integrated with Novell Customer Center and provides a repository identical to Novell Update, as well as a registration target syncing with Novell Customer Center. Through this integration and repository mirroring, the Subscription Management Tool ensures that all the Linux devices in your organization can receive their appropriate updates.

*Figure 1: The Subscription Management Tool establishes a proxy system for Novell Customer Center that helps you centrally and securely manage software updates for your Linux systems.*



The Subscription Management Tool establishes a proxy system for Novell Customer Center with repository and registration targets that help you centrally manage software updates within the firewall on a per-system basis, while maintaining your corporate security policies and regulatory compliance. It lets you set more restrictive firewall policies, as well as avoid significant network usage stemming from repeated downloads of the same updates by each device. When provisioning updates for your devices, the Subscription Management Tool downloads updates once and then distributes those updates throughout the enterprise.

The Subscription Management Tool is fully supported by Novell and is available as a free download to customers with an active SUSE Linux Enterprise product subscription. It's packaged as an add-on product that can be installed on a SUSE Linux Enterprise Server 11 server on x86, x86\_64 and System z architectures. The Subscription Management Tool does not alter your current end-user experience and interactions, including experiences and interactions with Novell Customer Center or on the local system. Your interactions remain the same with Novell Customer Center, which allows you to manage subscriptions, monitor usage and process renewals. Additionally, if you have purchased a SUSE Linux Enterprise Server

Subscription with Expanded Support then you are also entitled to mirror updates for Red Hat 3.9, 4.7 and 5.2.

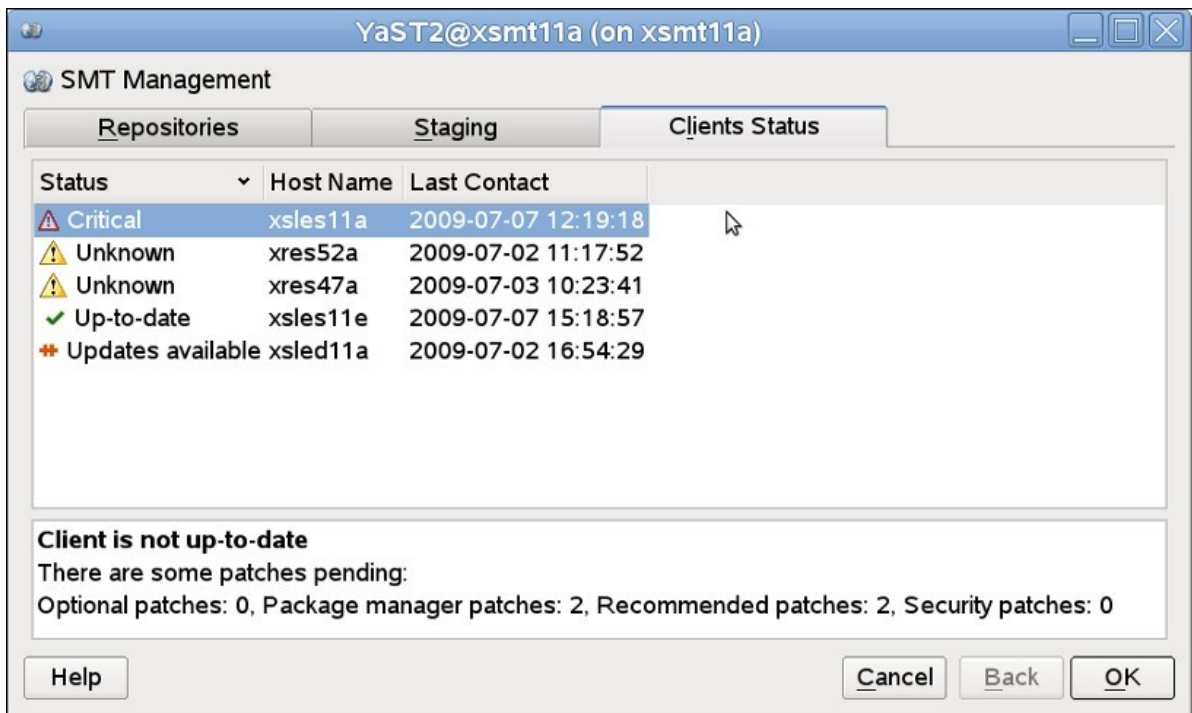
This article only touches a few of the key capabilities the Subscription Management Tool has to offer and how those capabilities can work for you. If you want detailed insights on how to deploy and use the Subscription Management Tool, take a look at the [Subscription Management Tool deployment guide](#) that Novell has made available.

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**In addition to patch reporting, the SMT JobQueue feature can also perform jobs to install software packages, install available updates, eject removable media, reboot the device and execute commands on the registered devices.**

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Figure 2: SMT automatically monitors the patch status of your registered Linux servers and clients.



> **Status Monitoring and More**

The most obvious capability the Subscription Management Tool provides is the ability to monitor the patch status of your Linux servers and clients. (See Figure 2.) To do this, the Tool creates a job queue for each device that is registered against the Subscription Management Tool server. When the SMT-client package is installed on these registered devices, the installation creates a cron job that will automatically cause the SMT-agent to ask the Subscription Management Tool server if it has any jobs in the queue belonging to these devices. If there are jobs in the queue for the devices, the agent will then execute them. (Note: The SMT-agent only runs on systems with SUSE Linux Enterprise 11.)

All registered devices will automatically have a persistent patchstatus job created within their job queue. Whenever the device runs a patchstatus job, it compares its currently installed updates with what is available in the repositories on the Subscription Management Tool server. The job then reports back the number of missing patches that need to be installed in the categories of Security, Package Manager, Recommended and Optional. (See Figure 1.) The interface also provides a status summary of all registered devices from within the Clients tab of the Subscription Management Tool Server Management YaST module.

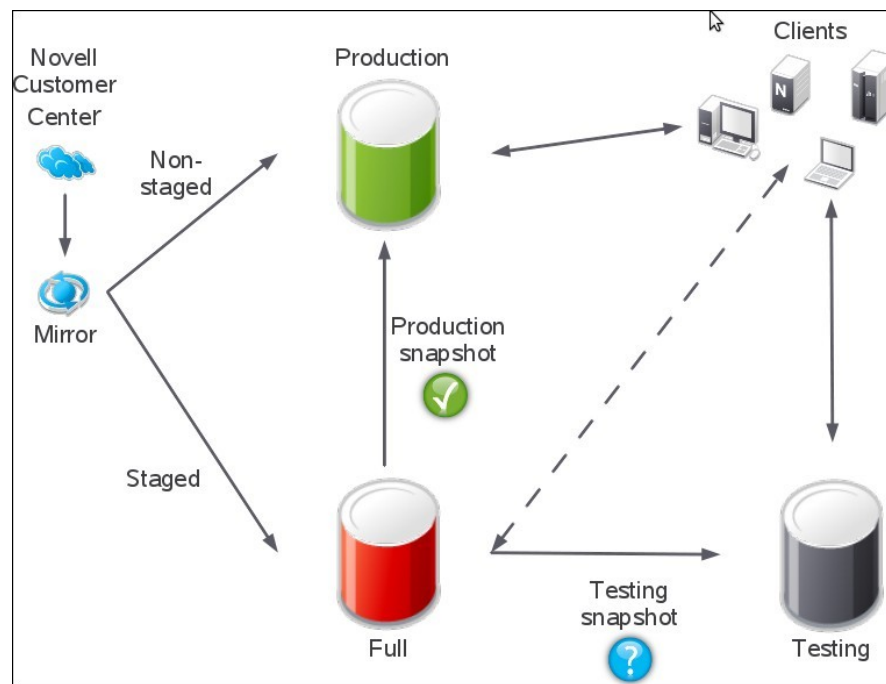
In addition to patch reporting, the SMT JobQueue feature can also perform jobs to install software packages, install available updates, eject removable media, reboot the device and execute commands on the registered devices. Every job can have a parent job, which means that the child job only runs after the parent job has successfully finished. It is also possible to configure advanced timing and recurrence/persistence of jobs. As a result, with some creativity, a wide variety of tasks can be carried out using the Subscription Management Tool jobs. Details on how to configure these jobs can be found in the [Subscription Management Tool deployment guide](#).

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**The Subscription Management Tool lets you stage patches to internal managed areas so you can carry out integration testing before you fully enable new patches in your production environment.**

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Figure 3: Using repository mirroring, the SMT lets you stage patches for testing before you push them out to your production environment.



> **Managed Staging**

The Subscription Management Tool lets you stage patches to internal managed areas so you can carry out integration testing before you fully enable new patches in your production environment. Staging allows you to create testing and production repositories based on a "fully" mirrored repository. This makes it possible to test new patches from Novell on a limited number of clients before releasing them to the public. (See Figure 3.) It is also possible to simply prevent individual patches from ever being "released" internally. Patch staging can be easily managed within the Staging tab of the Tool interface by doing the following: (See Figure 4.)

1. Mirror a repository.
2. Enable the repository for staging.
3. Mirror the repository again to create the staging structure.
4. Select the patches to be included in a testing snapshot by clicking *Change Status* and selecting *All listed* and clicking *Enable*.
5. When the filtering is completed, create a testing snapshot by clicking *Create Snapshot* and selecting *From full mirror to testing*.

6. Redirect selected clients towards the testing environment by changing the register command in

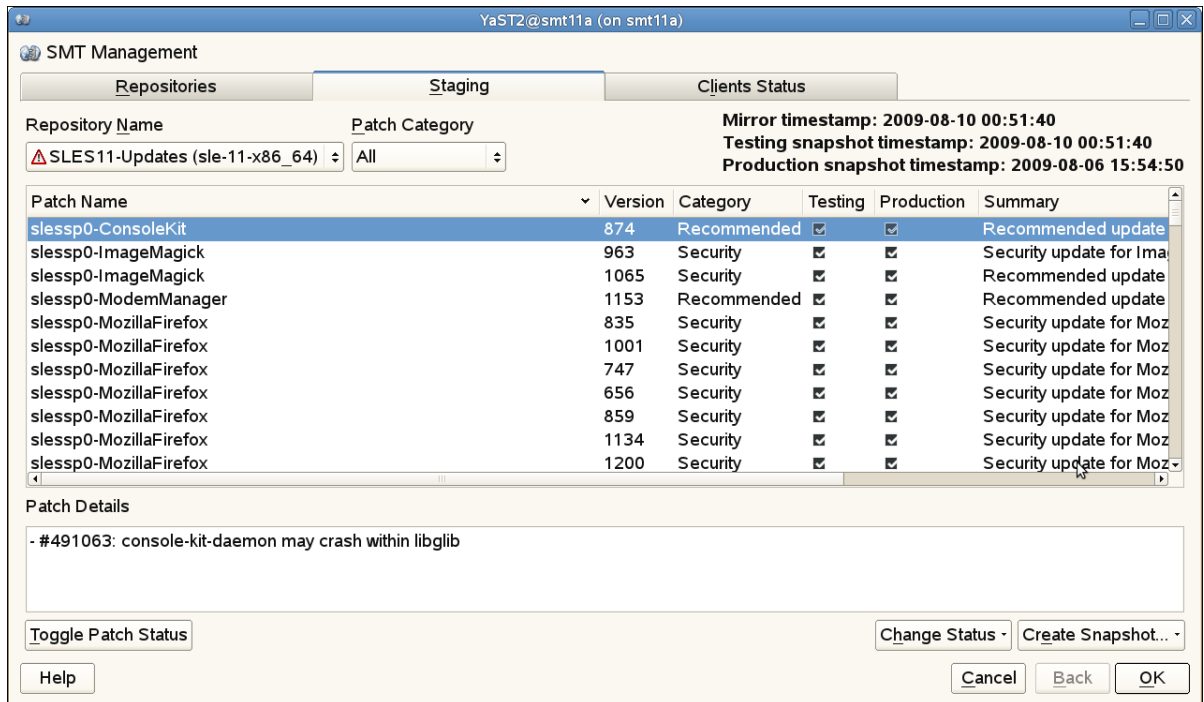
```
/etc/suseRegister.conf
to
register = command=register&namespace=testing
```

and then performing a registration against the SMT server. An example of how to easily accomplish this task using the JobQueue feature is available in the [Subscription Management Tool deployment guide](#).

7. Install the available updates on the clients and then test them.
8. Once the patches in the testing environment have been tested and approved, a production snapshot can be created by clicking *Create Snapshot* and selecting *From Testing to Production*.

If desired, staging can also be managed using command-line SMT commands.

Figure 4: Patch staging can be easily managed from the Staging tab within the SMT interface.



**Based on data from the Novell Customer Center and gathered by the Subscription Management Tool, the Tool generates a weekly report that facilitates the monitoring of your license compliance.**

**> Simplified Compliance Monitoring**

The Subscription Management Tool also enables you to locally track your SUSE Linux Enterprise devices, such as servers, desktops or point of service terminals. It lets you easily determine how many entitlements need to be renewed at the end of a billing cycle without requiring you to physically walk through the data center and manually update spreadsheets.

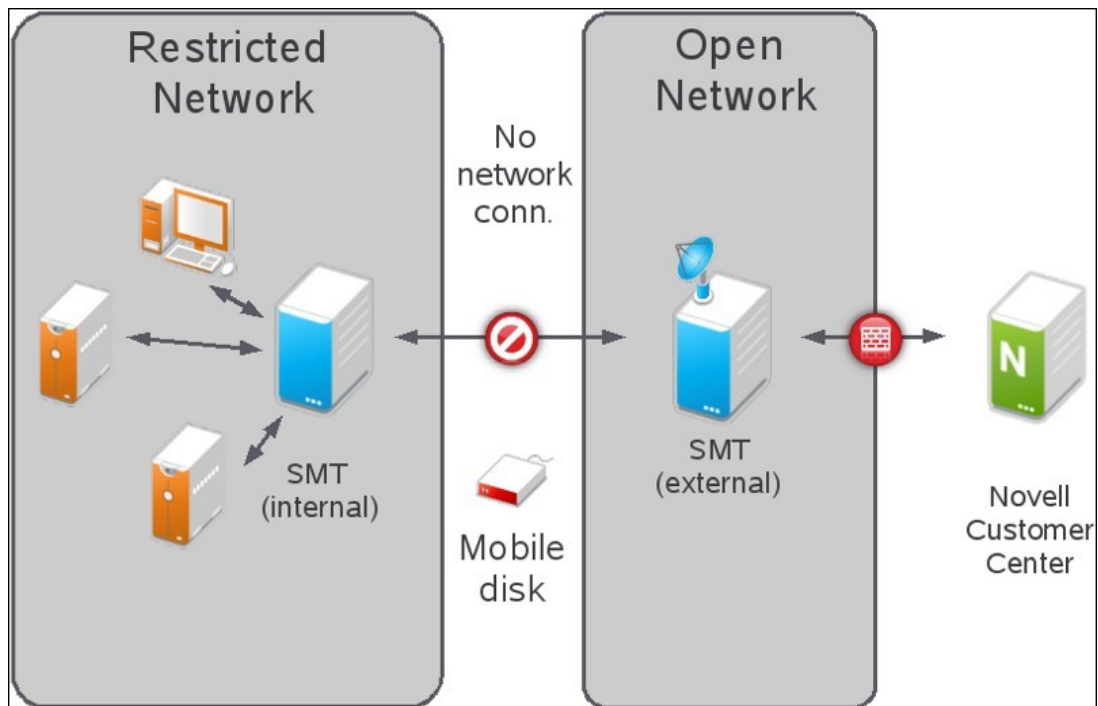
Based on data from the Novell Customer Center and gathered by the Subscription Management Tool, the Tool generates a weekly report that facilitates the

monitoring of your license compliance. Reports can also be generated on demand. The reports present statistics on the registered machines, products used and information on active, expiring or missing license subscriptions. The reports provide warnings if any subscriptions are about to expire or if it detects insufficient licenses. Reports can be created in CSV, XML or PDF formats. Additionally, the Subscription Management Tool makes that same entitlement information available through your Novell Customer Center account to streamline the process.

**> Connecting the Disconnected**

The Subscription Management Tool can also support networks that are completely disconnected from the public Internet, such as those in environments with high-security requirements. Even though the Subscription Management Tool servers cannot access the Internet from within these restricted environments, the Tool can leverage repository mirroring to provide the management support these disconnected servers need. (See Figure 5.)

Figure 5: *The Subscription Management Tool can support and manage disconnected networks.*



To enable this support you need to have a Subscription Management Tool server (internal to the isolated segment) mirror its repositories, and then by leveraging a mobile storage medium, the internal server can then mirror from the Subscription Management Tool servers external to the isolated network segment. This can be accomplished by having the external server run a daily SMT-mirror job that uses a data base replacement file that writes to the mobile disk. After this job run, the mirrored repositories can be synchronized from the mobile disk to the internal server. This technique is sometimes referred to as "sneaker-netting."

**> Innovative Management**

Whether you want the ability to stage patches, centrally push packages to your managed devices, improve your compliance monitoring or facilitate management of your disconnected configurations, the Subscription Management Tool for SUSE Linux Enterprise Server 11 delivers several exciting and innovative capabilities to better manage your Linux systems. To discover how the Tool can help you, take a look at the [Subscription Management Tool deployment guide](#) and [download the Tool](#) today.

# Bank On IT

HSBC India

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Seeking to reduce facilities and IT infrastructure management costs, HSBC India wanted to move more than 300 servers from an in-house data center to a well-managed hosting space. The company used [PlateSpin Migrate](#) from Novell to migrate whole workloads (including operating systems and installed applications) to new hardware across a wide area network—minimizing risk and business disruption.

## > Overview

HSBC India is based in Mumbai, the country's financial capital, with branches in all major cities. The company operates successful retail and commercial banking, insurance and investment businesses, and provides services to other members of the global HSBC group.

## > Challenge

For historical reasons, many of HSBC India's core banking applications were running in a data center near corporate headquarters in Mumbai, at the heart of the city's financial district. Office space in this prime location comes at a premium, and the company realized that maintaining this data center was a significant cost to the business.

"Moving to a robust, world-class facility was also an opportunity to consolidate physical servers through virtualization—reducing hardware costs and increasing flexibility," said Mr. Rishi Gupta, Vice-President of Data Center and Server Services at HSBC India.

The company selected a hosting provider operating from a data center in another city—387 miles from Mumbai. The challenge was to find a practical way to perform a migration across this distance without risking the loss of vital data or significantly disrupting business operations.

## > Solution

HSBC India initially considered physically moving the existing servers across the country. Next, the team looked at the possibility of rebuilding the environments from scratch on new hardware.

"After detailed analysis, neither option seemed viable," said Mr. Gupta. "Transporting the servers would have taken too long, and the risk of damaging something in transit was too high. On the other hand, rebuilding our heavily customized applications would have been too complex and expensive. We needed a third option."

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**"In the banking industry, the IT function must be able to support the business with total integrity and without interruption. The ability of PlateSpin Migrate to help us meet these objectives throughout the course of a large-scale, long-distance migration project is extremely impressive."**

**Mr. Rishi Gupta**  
Vice-President of Data Center and Server Services  
HSBC India

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HSBC India started looking for an IT solution to manage the migration, and found PlateSpin Migrate from Novell. Following a proof of concept delivered by Pentagon Systems and Services, a Novell Partner, the company decided to purchase the solution. Pentagon demonstrated several migrations and trained the in-house team, enabling them to complete the project without external assistance.

PlateSpin Migrate 'decouples' workloads from underlying server hardware and streams them to new physical servers or virtual hosts across a local or wide area network connection. This enables the low-impact migration of servers with no need to worry about the complexities of physical transportation or the nature of the target system.

"PlateSpin Migrate enabled us to take snapshots of our systems and move them across a 155 Mbps line to new hardware in the new facility," said Mr. Gupta. "We moved each server during weekends on a four-week cycle: preparing the target platform and then using PlateSpin Migrate to migrate the data. The whole migration was completed within six months, with no significant disruption to users."

HSBC India also took advantage of the versatility of PlateSpin Migrate by moving 40 systems away from physical server hardware and into a virtualized environment.

"Using PlateSpin Migrate to virtualize physical server workloads has enabled considerable hardware consolidation," said Mr. Gupta. "As a result we are saving money, increasing flexibility and reducing server management workload."

**“Without PlateSpin Migrate, it is hard to imagine how we could have performed this migration at all... The benefits that we will obtain from moving to a robust, world-class facility are significant—and Novell deserves considerable credit for making it possible.”**

**Mr. Rishi Gupta**  
Vice-President of Data Center and Server Services  
HSBC India

**> Results**

“Without [PlateSpin Migrate](#), it is hard to imagine how we could have performed this migration at all,” said Mr. Gupta. “The distance between the data centers would have been a massive obstacle for traditional migration methods, and we simply could not have moved the systems quickly and safely enough to meet the requirements of the business. The benefits that we will obtain from moving to a robust, world-class facility are significant—and PlateSpin deserves considerable credit for making it possible.”

The new data center will allow HSBC India to re-purpose its existing facility—making better use of prime office space.

“PlateSpin helped us take the first steps towards infrastructure virtualization, and has shown us that the benefits can be significant,” said Mr. Gupta. “Additional virtualization and server consolidation should deliver greater flexibility and cost efficiencies in the future.”

Above all, PlateSpin Migrate enabled HSBC India to keep its core applications running throughout the migration, and enabled the company to switch to the new data center with no loss of business data and no disruption to IT services during standard working hours.

“In the banking industry, the IT function must be able to support the business with total integrity and without interruption,” said Mr. Gupta. “The ability of PlateSpin Migrate to help us meet these objectives throughout the course of a large-scale, long-distance migration project is extremely impressive.”

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**Results**

- **Achieved inter-city migration of more than 100 servers across a distance of 387 miles**
- **Virtualized 40 servers, enabling hardware consolidation, increased flexibility and reduced costs**
- **Maintained complete system availability during working hours, minimizing user disruption**

# Changing the Governance, Risk and Compliance Game

*Novell and SAP team up to deliver a more holistic, unified approach to GRC solutions.*

You don't have to look very far to find intriguing connections between technology trends and national headlines. But in the case of governance, risk and compliance (GRC), those connections have grown particularly stark and compelling over the past couple of years. We're all painfully familiar with the impact and aftermath of the credit meltdown of 2007—and the subsequent chain reaction that led to the global economic crisis. In the aftermath of that crisis, political and business leaders have argued, placed blame and—above all—searched for ways to reverse the damage and prevent another similar collapse. Through all this frenzied discussion about business ethics, the proper role of government and the use of regulations to mitigate risk, GRC has emerged as a major topic. As businesses and governments analyze “what went wrong,” they are fundamentally rethinking their approaches to oversight, risk management and compliance.

**Novell Compliance Management Platform extension for SAP environments provides a real-time, holistic view of your enterprise, leverages existing SAP GRC investments, mitigates the risks posed by internal and external threats, and ultimately ensures that your organization's image, brand and reputation are safe.**

*Figure 1: The Novell Compliance Management Platform extension for SAP environments extends all the business policy and process capabilities of SAP BusinessObjects across your whole mixed IT environment—and adds essential access management, identity management, and security information and event management controls.*



**> Moving Beyond a Fragmented, Ad-Hoc Approach to GRC**

To a large extent, these efforts to reinvent GRC involve abandoning the fragmented, patchwork approach many enterprises have relied on in the past in favor of a more comprehensive, holistic and unified strategy. Isolated, one-off GRC processes may stave off regulatory fines and resolve short-term issues in specific areas, but they also increase complexity, duplicate effort, reduce transparency and generally create much bigger problems over the long term. Without a carefully conceived enterprise-wide GRC strategy—and a unified technology infrastructure capable of supporting it—it becomes difficult (or even impossible) to deal with the stricter, more demanding GRC requirements and regulations that are developing in the wake of the recent economic crisis.

**Keep Your Image, Brand and Reputation Safe**

The Novell Compliance Management Platform extension for SAP environments is the first tangible result of an expanded, GRC-focused relationship between SAP and Novell. Working together, these two industry-leading products form a complete, enterprise-wide GRC solution that allows you to do the following:

- > Combine SAP policies, roles and security controls with Novell security, identity and access management capabilities
- > Automate user provisioning, roles-based access control and password management
- > Improve security and access to corporate assets with single sign-on, identity federation, multi-factor authentication, data encryption and more
- > Detect and remediate threats in real-time using an enterprise-wide view of applications and user events
- > Monitor, analyze, cleanse and reconcile critical corporate data
- > Take advantage of best practices provisioning policies
- > Correlate all network events across SAP and non-SAP systems using a simple dashboard and flexible reports

**> Choosing the Best Path**

So given all this unavoidable pressure, what's the best, most logical path for moving toward a more consistent, effective approach to GRC that's capable of meeting the demands of this new regulatory environment? The first obvious (and difficult) step involves viewing GRC as a holistic, enterprise-wide exercise, rather than a patchwork of individual activities and technologies. This generally starts with a detailed analysis to determine whether you have all the key business processes in place that will allow you to avoid unnecessary risks, contain costs and take advantage of new business opportunities. After you answer these difficult questions and put the right business processes in place, it's equally important to create a technology framework that can provide a true enterprise-wide view of all your GRC activities—and help you automate, manage and align those activities across all your different systems and applications. Creating this single "GRC system of record" is really the only reliable, cost-effective way to combat complexity, avoid duplicate effort and collect the meaningful feedback you need to prove compliance, fight inefficiency and fraud, and continually improve your business.

**> Novell and SAP: Leading the Way Toward Holistic GRC**

For many organizations, implementing this kind of holistic, enterprise-wide GRC solution may seem like an overwhelming or even unattainable prospect. But as the business case for better GRC solutions becomes more compelling, technology vendors are coming forward with practical, effective new GRC solutions.

For example, in October SAP and Novell announced an important expansion of their existing global partnership that focuses exclusively on supporting and enabling integrated, enterprise-level GRC solutions. This agreement works to create deeper, tighter integration between SAP BusinessObjects GRC solutions and the Novell Compliance Management Platform, and it has already produced a new Novell Compliance Management Platform extension for SAP environments.

What does this new collaboration mean for businesses looking for unified, enterprise-level GRC solutions? SAP BusinessObjects already provides impressive GRC coverage for SAP applications, including comprehensive risk management, access control, process controls and more. The Novell Compliance Management Platform essentially extends these advanced GRC capabilities and adds essential IT controls. Working together, they turn SAP into the central hub of a comprehensive, enterprise-wide provisioning, access, and security information and event management solution that encompasses your

whole IT environment. (See Figure 1.) As a result, your business policies and processes always translate into automated IT practices across all your IT systems. In other words, combining SAP BusinessObjects GRC solutions with the Novell Compliance Management Platform finally bridges that all-important gap between business processes and enterprise-wide IT security and controls.

If you already use SAP BusinessObjects to manage governance, risk and compliance within an SAP environment, this groundbreaking agreement provides a practical, easy and affordable path for turning existing SAP capabilities into a comprehensive GRC solution for your whole enterprise. If not, you may want to weigh the advantages a cohesive, unified, enterprise-wide SAP and Novell GRC solution could offer your enterprise.

#### **SAP BusinessObjects GRC + Novell Compliance Management Platform =**

- > **Performance**—by automating and enforcing common controls, improving predictability and increasing transparency to business practices.
- > **Assurance**—by lowering overall risk and increasing external and internal compliance.
- > **Simplification**—by removing resource silos, eliminating inefficiencies and automating the discovery and remediation of high-risk business problems.

#### > **New Challenges, Expanding Opportunities**

The pressure to move beyond basic compliance and toward holistic, enterprise-wide GRC may be the result of a serious and rather painful economic and regulatory crisis. But this particular cloud has a larger-than-normal silver lining. Breaking down ad-hoc security and compliance silos in favor of a unified framework for centrally managing compliance, identities, applications and security will certainly improve your overall compliance and security posture. It will also lower your overall GRC costs, make your enterprise more agile and efficient and enable you to manage risks and take advantage of new business opportunities more quickly.

#### **Dig Deeper**

Explore the following resources to learn more about the expanded relationship between SAP and Novell, the Novell Compliance Management Platform extension for SAP environments, and other GRC solutions from SAP and Novell:

- > [SAP Global Alliance Web Site](#)
- > [Novell Compliance Management Platform extension for SAP environments Web site](#)
- > [SAP BusinessObjects GRC Solutions Web site](#)