

# Connection

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## ARTICLES

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**Novell.**

# 8 Ball Corner Pocket

Managing Tasks with GroupWise 8

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

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With the release of GroupWise 8 last month, many customers are buzzing about the Home View, the robust contact management and the cross-boundary calendaring. But another significant enhancement, one equally able to boost productivity for your end users, is in the area of task management.

In fact, as we met with GroupWise customers early in the development cycle to find out what they wanted in the next release, we found almost everyone cares a lot about managing tasks. This makes sense, because in combination with just about any smart phone (and GroupWise Mobile Server or BlackBerry Enterprise Server), GroupWise can be a powerful productivity management system—one that helps users optimize their time and take care of their tasks at work and even in their personal lives.

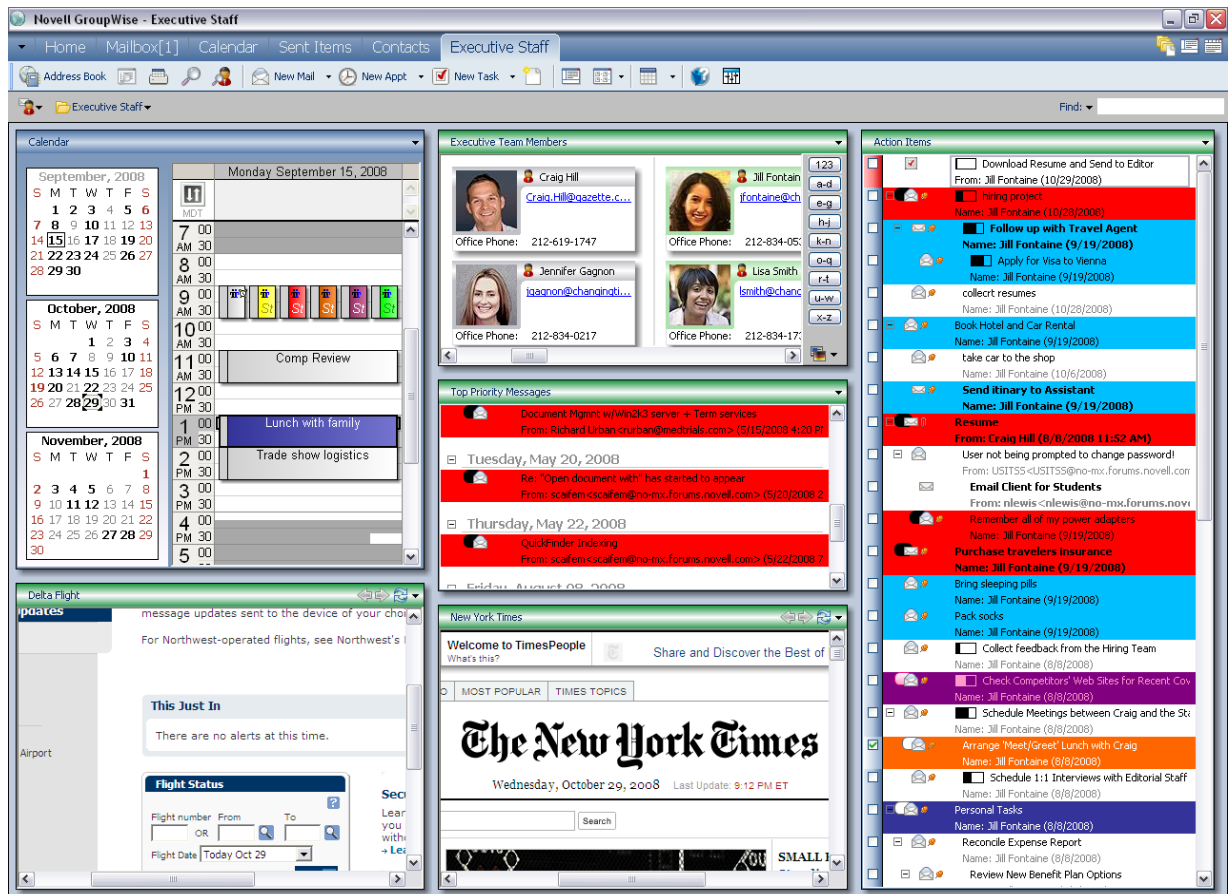
Those meetings with customers made it clear that there was a need for a robust personal productivity

dashboard that integrates not only e-mail, calendars, contacts, team workspaces and the other elements that represent *where* and *how* work gets done, but the tasks that represent the work itself.

A staggering amount of information, assignments, appointments and requests comes at each of us every day through electronic means. David Allen, a productivity guru, talks about achieving “stress-free productivity” and offers a sensible system for managing the e-deluge with the following five steps:

1. Collect all the “stuff” that comes at you every day. For most of our users, that stuff comes to their mailbox in GroupWise.
2. Process the stuff, narrowing it down to things you want to deal with.
3. Organize the items left into categories: next actions, appointments, someday, delegate or discard.

**Figure 1:** *The GroupWise 8 Home View employs multiple panels to help users better organize tasks, appointments, reminders, messages and contacts.*



4. Review all the things you have to do.
5. Pick the next and most important thing to do, and get it done.

The new GroupWise 8 client can help your users perform all of these steps more effectively, as well as come up with their own methods to handle all of the work that comes their way.

**> Bringing it All Together with the Home View**

By giving users a dashboard view of all the things they are supposed to do, the Home View helps them select the next action to take. Gregg Hinchman, a GroupWise consultant, says that since he adopted the Home View, he has increased his efficiency and been able to juggle a tremendously busy schedule while running his own consulting business.

Another trend contributes to the need for a Home View: desktop and even laptop screens keep getting bigger, and cinematic formats are more popular than ever. To take advantage of this new screen real estate, GroupWise 8 supports multiple columns, each of which can be divided into multiple panels.

Having a set of panels together on the same screen helps users see their next actions, appointments, reminders, incoming messages, and contacts in one place; they can trust that this system is keeping track of all their commitments, so they don't have to. This frees them to focus on bringing all their expertise and experience on handling the next task. (See Figure 1.)

There's a powerful new social element in the Home View as well: with GroupWise 8, users can share their favorite Home View customizations. Lead users can create customizations from which many more users can benefit. IT groups can roll out GroupWise 8 and let users take over the innovation.

**> Turning Stuff into Action**

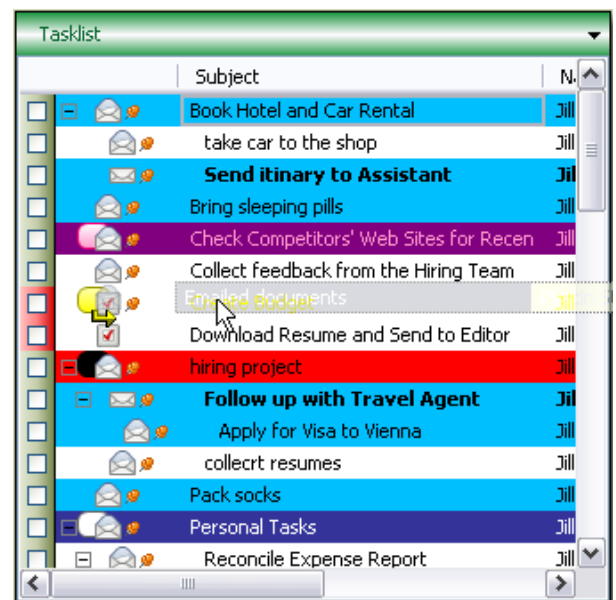
The best strategy for managing your mailbox is to use it only for the activities to which it's best suited: handling a queue of incoming stuff, and transforming it into new ideas and action items based on what you need to do—not what everyone else wants you to do. When you're processing incoming messages, focus on doing triage, and not getting sidetracked by lengthy tasks. Here's a simple process for increasing e-mail effectiveness:

- If you don't care about the contents of the message, throw it in the trash. GroupWise 8 message preview lines allows you to do this without even opening the message. Right from the list you can see the first few sentences of a message and decide how you want to handle it. For example, if a message simply says "thanks" in the preview line, you can just file the message away or discard it without having to open it.
- If something you see takes two minutes or less to handle, just do it right then: read it, write your

response, make a quick phone call, fire off an IM session—whatever the task requires—and then either delete it or save it in a reference folder if you think you might need it again sometime.

- If there's a task that will take more than two minutes to complete—a document needs to be reviewed, a little research needs to be done, phone calls need to be made—drag that item to your tasklist folder and save it for later. If someone else needs to do the work, pass it on and move the message to a checklist folder of delegated things you want to monitor.
- The GroupWise design team knows that the job of processing incoming messages is one of transformation—turning stuff into actions or knowledge—so they made it easy to drag e-mails into the tasklist and the calendar. With this feature, you can quickly turn an itinerary into a calendar appointment, or a request for help into a task to be added to the list. (See Figure 2.)

**Figure 2:** With GroupWise 8, users can make e-mails more actionable by dragging and dropping them into the calendar or tasklist.



Whether your users stick to such a disciplined process or not, the GroupWise 8 client has even more new capabilities to help them manage their mailboxes more effectively. Key features include group labels, the navigation bar, categories with colors and discussion threads.

Group labels make it easier to organize lists of items in GroupWise 8 folders based on identical values in the sort field. For example, if messages are sorted by date, the group label shows all messages that came in on the same day. Change the sort to the sender, and the group label shows all messages from that person. Items in a

grouping can be hidden or enumerated, making it easy to zero in on items in a particular group.

The navigation bar provides a quick way of switching views, each of which can have a custom arrangement of panels. A user's calendar tab might show the calendar, but might also have a separate panel in the view to show tasks.

GroupWise 8 also makes it easy to handle threads in the mailbox and from inside a message.

Categories with colors give users one more way to process their messages and other items within folders to make them stand out. GroupWise includes four default categories:

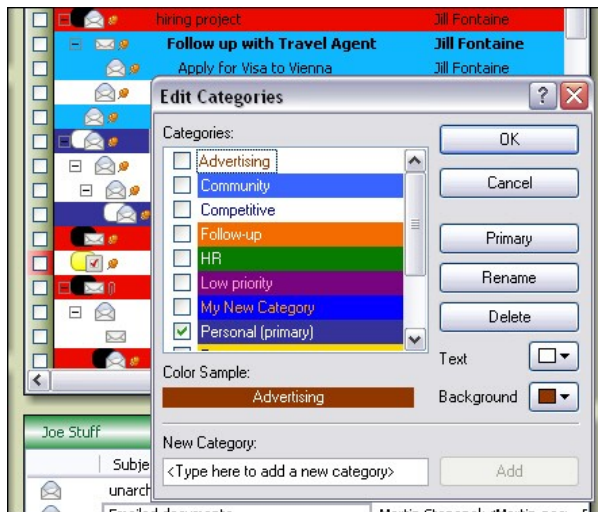
- follow-up
- low priority
- personal
- urgent

But users can add whatever categories they want. In fact, you should encourage your users to come up with a set of categories that fit their work patterns and lifestyle. Other useful categories might be:

- phone calls
- at home
- on the road
- in office

Users can also collect items of the same category in a panel on their Home View. (See Figure 3.)

**Figure 3:** *Color-coded, custom categories in GroupWise 8 help users process messages and tasks in the way best suited to their work patterns and lifestyle.*



### > Planning Work to Get More Done

Since GroupWise 8 helps users spend less time beating

back the message monster, they can spend more time working on their tasks. David Allen says that 50 to 150 tasks in a list are common for most people, with tasks varying in length from a few minutes to a few hours.

To support this simple and powerful model of task management, and based on suggestions from our customers, we made the following changes to GroupWise 8:

- We added a tasklist folder to the folder list pane. If an e-mail looks like it's going to take some time to deal with, users can just drag it from their mailbox to the tasklist folder.
- The tasklist folder shows all items dragged to the folder, as well as any tasks placed in the calendar.
- Tasks have a percent complete attribute, so you can show how much progress has been made. Customers made it clear that this was important to them.
- Tasks can be broken down into a set of component tasks, and each of these can be marked complete or a certain percent complete. The percent complete indicator for each sub task rolls up to an overall percentage for the parent task.
- It's easy to change the order of tasks by dragging and dropping them.
- Tasks can be personalized and annotated to make more sense.
- Tasks can be marked with categories to make them even more useful. For example, you might categorize tasks that are phone calls, or tasks that have to be done today, and even display them in their own panel.
- Due dates are optional. You can use them if you need them.
- Mailbox cleanup does not remove tasks, so users don't have to worry about important tasks disappearing from the system when other items are purged.

With a built-in tasklist folder that combines the old "hard" calendar tasks and the softer tasks tied to e-mail, it's easy for everyone to use GroupWise 8 to get more done. (See Figure 4.) But there's more. It's also possible to create any folder as a task folder, providing flexibility to use this new capability for light projects.

### > Conclusion

GroupWise 8 creates a productivity dashboard to help users get more done, and feel better about the work they

do as well. Along with the right task management habits, your users can go beyond effectiveness and efficiency –

## 8 Ball Corner Pocket **TECH TALK 1** by Phil Karren *continued*

they can revolutionize their ability to support your organizational goals. By helping users keep better track of what they have to do and helping them manage tasks in the way that suits them best, GroupWise 8 can support your users in developing more creative ideas, serving more clients, completing more projects, and fueling even more business success. **N**

**Figure 4:** *The GroupWise 8 tasklist has been enhanced with subtasks, percent complete attributes, drag and drop functionality, annotation capabilities and much more.*

Tasklist				
	Subject	Name	Date	% Com...
<input type="checkbox"/>	<b>Book Hotel and Car Rental</b>	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	take car to the shop	Jill Fontaine	10/6/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Send itinary to Assistant</b>	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	Bring sleeping pills	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	Check Competitors' Web Sites for Recen	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Collect feedback from the Hiring Team	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Create Budget</b>	Jill Fontaine	11/25/2008	<input type="checkbox"/>
<input type="checkbox"/>	Download Resume and Send to Editor	Jill Fontaine	11/25/2008	<input type="checkbox"/>
<input type="checkbox"/>	hiring project	Jill Fontaine	10/28/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Follow up with Travel Agent</b>	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	Apply for Visa to Vienna	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	collect resumes	Jill Fontaine	10/28/2008	<input type="checkbox"/>
<input type="checkbox"/>	Pack socks	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	Personal Tasks	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Reconcile Expense Report	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Review New Benefit Plan Options	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Schedule HR Team Meeting	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Purchase travelers insurance</b>	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Renew Passport</b>	Jill Fontaine	11/25/2008	<input type="checkbox"/>
<input type="checkbox"/>	<b>Resume</b>	Craig Hill	8/8/2008 11:5	<input type="checkbox"/>
<input type="checkbox"/>	User not being prompted to change pa	USIT55<USIT55@no-	7/2/2008 8:26 A	<input type="checkbox"/>
<input type="checkbox"/>	<b>Email Client for Students</b>	nlewis <nlewis@no	6/30/2008 8:3	<input type="checkbox"/>
<input type="checkbox"/>	Remember all of my power adapters	Jill Fontaine	9/19/2008	<input type="checkbox"/>
<input type="checkbox"/>	Schedule Meetings between Craig and t	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Arrange 'Meet/Greet' Lunch with Craig	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Schedule 1:1 Interviews with Editorial :	Jill Fontaine	8/8/2008	<input type="checkbox"/>
<input type="checkbox"/>	Asset & Maintenance Tracking	rhumman <rhumman@i	11/7/2007 10:31	<input type="checkbox"/>
<input type="checkbox"/>	Budget Agenda	Ted Young	10/3/2008 9:48 ,	<input type="checkbox"/>
<input type="checkbox"/>	Create Multiple User Accounts	Jo <jsweet@mercede:	12/13/2007 4:35	<input type="checkbox"/>
<input type="checkbox"/>	Errors closing Word multiple documents	eb2333 <eb2333@no-	6/19/2008 1:36 I	<input type="checkbox"/>
<input type="checkbox"/>	UK education sites using OES Linux	jamesgosling <jamesg	6/19/2008 7:46 ,	<input type="checkbox"/>
<input type="checkbox"/>	How to restore previous document versi	Marc Charbonneau <n	5/7/2008 8:38 PI	<input type="checkbox"/>
<input type="checkbox"/>	Marketing Report	Ted Young	10/3/2008 9:46 ,	<input type="checkbox"/>
<input type="checkbox"/>	Novell Technology Transfer Partners (TT	smflood <smflood@no	5/2/2008 11:56 ,	<input type="checkbox"/>
<input type="checkbox"/>	QuickFinder Indexing	scaifem <scaifem@no-	5/22/2008 7:26 ,	<input type="checkbox"/>
<input type="checkbox"/>	Emailed documents	Martin Stepanek <Mar	5/21/2008 3:13 I	<input type="checkbox"/>
<input type="checkbox"/>	Any Higher Ed. using SLED campus-wid	Patrick Masson <mass	7/14/2007 7:36 I	<input type="checkbox"/>
<input type="checkbox"/>	I don't like the old subject	PatM <pmuellerNOSP#	7/28/2008 3:35 I	<input type="checkbox"/>

# Easy Move

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

*Novell Open Enterprise Server 2 SP 1 makes it easier than ever to move up to Linux*

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Colored lights decorate trees and rooftops. Favorite carols sound as shoppers search for the perfect gift. Children get giddy with excitement as they anticipate their favorite holiday season. 'Tis the festive season of good cheer and giving. In that same spirit, Novell rolls out the first service pack for Novell Open Enterprise Server 2, which is all about gifting you with greater simplicity and interoperability.

GUI built upon a plug-in architecture.

The GUI has five main window panes to facilitate the upgrade process (See Figure 1.):

- Project
- Migration
- Services to Migrate
- Status
- Whiteboard

## In line with enabling greater simplicity, service pack 1 facilitates your migration efforts from NetWare to Linux.

From within the **Project** pane, you create new migration projects, save projects and open existing

The two main ingredients to the migration simplicity provided in this release are a new unified graphical user interface (GUI) for migration tasks and the new server identity transfer feature.

## Service Pack 1 takes that simplicity a significant step further by delivering a common GUI framework that gives you a holistic view of the migration progress as you upgrade your individual services from a NetWare server to a Linux server.

### > Common GUI Framework

Last year, *Novell Connection* magazine explored how the GUI wizards and command line interface delivered greater control, flexibility and simplicity in transitioning from NetWare to Linux. (See *The Wait is Over*.)

Service Pack 1 takes that simplicity a significant step further by delivering a common GUI framework that gives you a holistic view of the migration progress as you upgrade your individual services from a NetWare server to a Linux server.

**Figure 1:** *The common GUI framework in SP1 gives you a holistic view of the migration of your different services from NetWare to Linux.*

Whether you're migrating user data, file systems, eDirectory, AFP, CIFS, Archive and Versioning Services, DHCP, DNS, NTP, FTP, iFolder or iPrint, all these services integrate with the same GUI framework. You still have the flexibility to migrate on a service-by-service basis, but now each service migration can be launched and managed from within the same interface. Additionally, the solution still relies on the migration utilities' command line interface, but they have been wrapped up into a unified

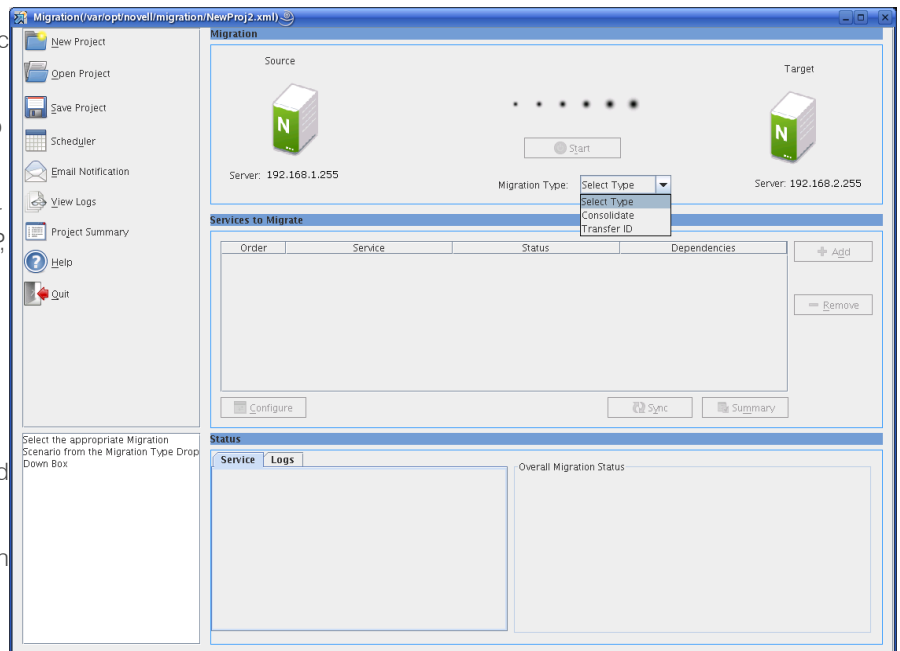
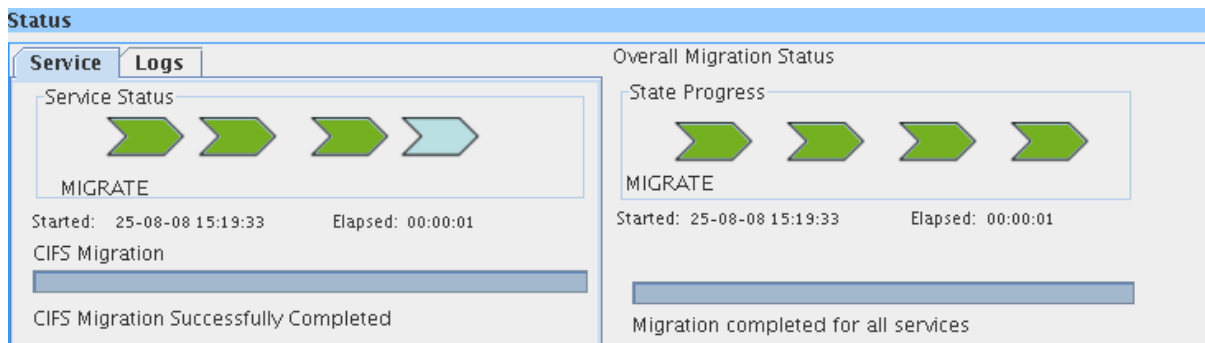


Figure 2: The Status pane provides status and progress of an individual service migration as well as that of the overall migration.



projects. It also lets you take advantage of the following common features for any service migrations from your NetWare servers to Linux:

- **Scheduler:** You can schedule the date, time and duration of individual service migrations. You no longer have to manually start and stop a migration. Once you configure the migration, you simply schedule it and forget about it.
- **E-mail Notifications:** From within the Project pane you can configure automatic e-mail notifications regarding the status of particular migration projects.
- **View Logs:** Provides a common log for your upgrade process, eliminating the need to search through multiple logs to find out what happened during different service migrations. A log directory exists in the same folder as the migration project to record the progress of the overall migration. For example, the log file for a migration project called NewProj1 would be found at `/var/opt/novell/migration/NewProj1/log/migration.log`. Selecting View Logs in the Project pane will display a project's log.
- **Project Summary:** Provides a tree view of all the options configured for the services to be migrated.

The **Migration pane** displays information about the source server and the target server. From within this pane you also provide the necessary authentication information for the servers. In addition, this pane lets you indicate the type of migration scenario you want to use for the project, which can be either a consolidation or an ID transfer. This pane also lets you either start the migration of a configured service or to stop a running migration.

The **Services to Migrate pane** allows you to select the services you want to migrate and the sequence in which you want those service migrations to occur. From within this pane you also configure your migration options for the individual service migrations.

From within the Services to Migrate pane you can also

synchronize a service migration. This is a new migration feature that lets you take a more phased approach to migration. For example, you might migrate your printers early on in the migration process. However, by the time you're ready to turn your target server on, new printers may have been added, or existing ones may have been altered. The sync feature lets you, at any time and at multiple times, sync the target server with the latest information on the source server.

As another example, you might take a full week to migrate user data from your source server to your target server. But during that week, your source server is still active and data on it will likely change. The sync feature lets you bring the target server up to date with those data changes on the source server. Sync can be used with file system, iFolder and iPrint migrations.

The **Status pane** provides status and progress of an individual service migration as well as that of the overall migration. (See Figure 2.) It can display the start date, start time, elapsed time and percent completion of a migration. It also displays the state of the migration, including whether a service is ready to migrate or in the process of migrating, if its prerequisite and migration options have been configured properly, or if the source and target server have been synchronized.

The **Whiteboard pane** simply displays instructions and tips for performing a successful migration.

### > Server Identity Transfer

The server identity transfer feature enables you to migrate the identity of your NetWare source server to your Linux target server by doing the following:

- Migrating the active services from the source server to the target server
- Moving the source volumes and their data to the target server
- Moving the eDirectory database of the source server to the target server, thus preserving the identity of the server in the eDirectory tree
- Changing the target server's IP address and host name to reflect the source server's IP and host name

**At the end of a migration facilitated with an ID transfer, the target server will have the same identity as the source server, enabling you to effectively replace the source server in the tree with a Linux server.**

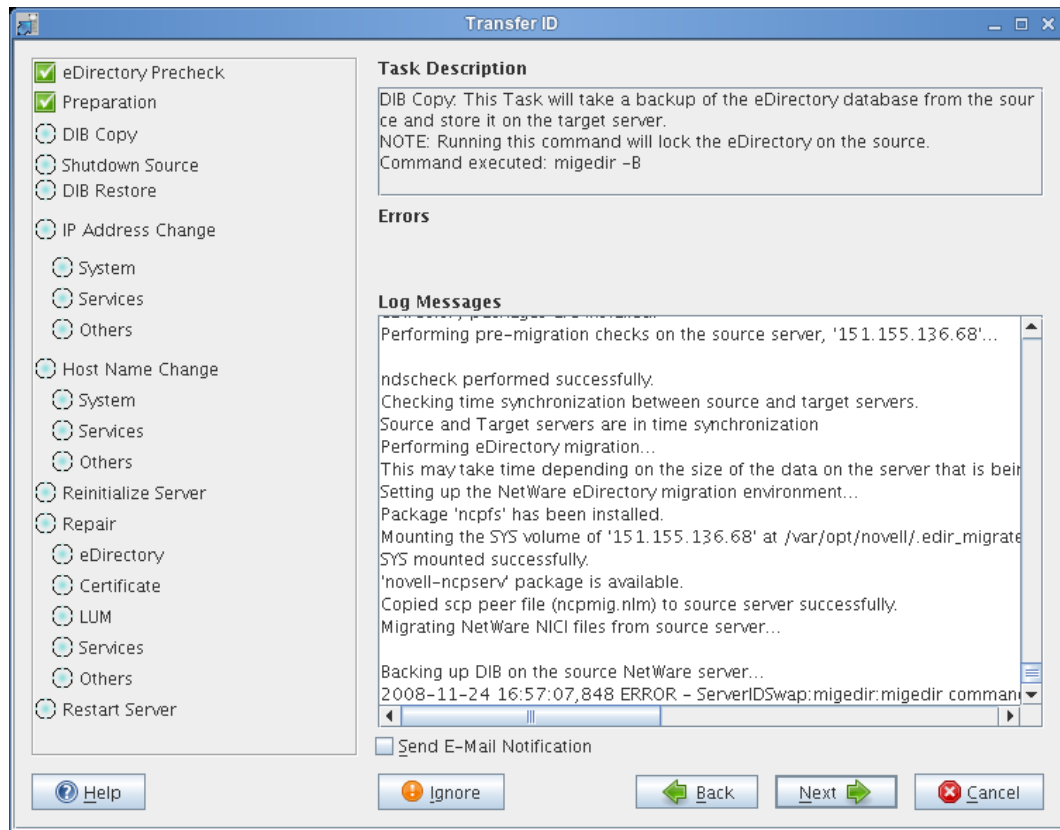
Novell provides documentation that details the steps you need to take to prepare for and carry out a successful server ID transfer, and the GUI guides you through the following major steps after you've met all the prerequisites: (See Figure 3.)

1. **eDirectory Precheck:** The GUI checks to make sure the eDirectory replicas are synchronized and that time is synchronized across the various servers in the replica.
2. **Preparation:** Removes the eDirectory instance from the target server and backs up the required

files from the source server.

3. **eDirectory DIB (Directory Information Base) Copy:** This task takes a backup of the source eDirectory database and keeps a copy on the target server. This copy is restored in subsequent steps to enable the eDirectory information from the source to be transferred to the target. Note: At the end of this step, the DIB on the source server is locked, and further eDirectory-related operations on the source server cannot be performed.
4. **Shutting Down the Source Server:** In this step the source server needs to be removed from the network so that its IP and host name can be assigned to the target server in the subsequent steps of the migration. This is a manual step.
5. **Restoring the eDirectory DIB:** This step restores the eDirectory DIB (backed up earlier) on the target server.
6. **Changing the IP Address:** In stored configuration files for various services, as well as the YAST configuration files, the GUI changes the IP address on the target server to the IP address of the source server.

**Figure 3:** *The GUI guides you through the steps to carry out a successful identity transfer of your NetWare servers to Linux servers.*



7. **Changing the Host Name:** In stored configuration files for various services, as well as the YAST configuration files, the GUI changes the host name on the target server to the host name of the source server.
8. **Reinitializing the Target Server:** The target server will be reinitialized with the source server's IP address and host name. eDirectory is also restarted in this step.
9. **Repair:** The GUI repairs eDirectory, eDirectory tree certificates, LUM configurations and objects, services migrated from the source server and other platform services.
10. **Rebooting the Target Server:** To complete the ID transfer from the source to the target, the target server simply needs to be rebooted at this point.

If for any reason the migration fails or anomalies are discovered on the target server, the source server can be recovered since the migration of data and configuration information is performed in a non-destructive manner.

**> Top of Your Wish List**

The new unified migration GUI—as well as the ability to transfer server IDs from NetWare to Linux—provided in Novell Open Enterprise Server 2 Service Pack 1 make it easier than ever to upgrade your network services. With simplified upgrade tools at the top of your wish list, now more than ever, Service Pack 1 truly makes this the season to upgrade to Linux. **N**

# Less Is More

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

## Data Center Automation: Discovering Your True Computing Potential

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In the November issue of *Novell Connection*, we discussed the goal of data center automation and outlined our three-pronged strategy for achieving it: Discover, Create and Manage/Orchestrate. This month, we'll examine the Discovery phase in more detail.

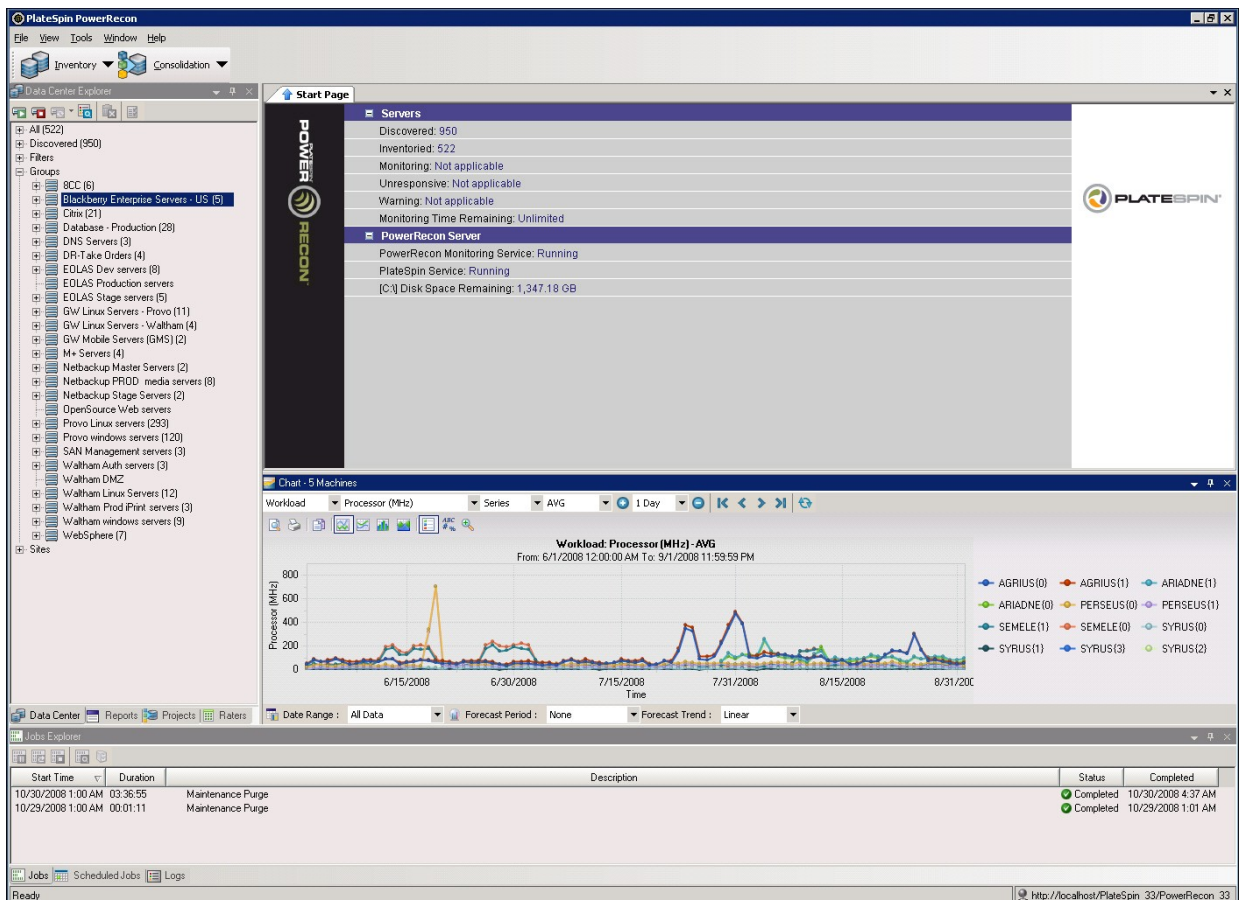
### > Knowing What You Have and How It Behaves

Before you can virtualize effectively, you need to know what you have. That includes the operating systems, applications and services that may be candidates for virtualization, as well as the hardware that may host virtualized environments. Most enterprise IT shops already have discovery technologies they use for inventorying assets and managing licenses. However, identifying good candidates for virtualization requires much more fine-grained detail about assets and how they *behave*—as well as the ability to compare those behaviors.

In other words, you need to know not just what CPUs, memory, storage and resources you have available, but also how specific workloads are utilizing these resources over time, as well as when and why utilization spikes occur. You also need the ability to compare these utilization trends between different applications and platforms to determine the best opportunities for virtualizing systems and the best physical machines to run the virtualized systems.

This detailed, comparative trend analysis can help you assign virtual machines to physical machines based on their average and spike resource needs—choosing virtual processes that will “play together well” in a given physical environment. It can also help you decide which processes require maximum resource availability and are best left to run in their own dedicated physical environment.

**Figure 1:** *PowerRecon lets you discover, compare and report workloads in a variety of ways, such as looking at utilization across all our Blackberry Enterprise Servers.*



**> The Right Tool for the Job**

At Novell, we use PlateSpin PowerRecon to provide complete and precise details on our available assets and how they are being utilized—and to graph utilization across workloads and machines for intelligent analysis. (See Figure 1.)

PowerRecon automatically discovers hardware, software and services inventory for all workloads, across Windows, Linux and UNIX platforms. And it collects workload utilization statistics to provide a detailed profile of how each server's CPU, memory, storage and I/O resources are impacted over days, weeks or months. PowerRecon can even report on power and cooling usage—resources that are often overlooked although they contribute substantially to overall IT spend.

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**Workload Management and PowerRecon**

The philosophy behind PowerRecon is that server workloads represent the base unit of business value in the data center. A workload is defined as all the data, applications and operating systems that reside on a host—whether the host is physical or virtual. The ability to monitor, assess, manage and move server workloads at will between physical and virtual hosts is the key to data center automation.

Workload profiles can be compared and analyzed in PowerRecon, using scenario modeling, forecasting and planning tools that allow you to create “what-if” scenarios to test the effects of various combinations of hardware and virtual hosts. You can customize the graphical presentation of workload profiles, comparative scenarios and growth forecasts to make analysis practically intuitive. For example, you can:

- Sort workloads by CPU, memory, disk, network, inventory and/or performance to compare power, cooling, space, cost and utilization.

- Identify mismatches between workloads and computing resources at any moment or over time.

- Create customized management reports and automatically deliver them to IT optimization specialists and service providers on a set schedule.

- Calculate workload costs by business unit, based on actual resource usage for both physical and virtual machines, for accurate internal chargeback.

And that's just a sampling of the ways you can use PowerRecon for a more power-, resource- and cost-efficient automated data center. At Novell, we're always thinking about new ways to put PowerRecon to work in our own data centers. Here are just a few of the techniques we've used and the results we've achieved so far.

**> Agentless Installation, Discovery and Monitoring**

For years, we've been accustomed to installing agents on servers to gather information and perform management

tasks. For example, a typical server might have an antivirus agent, a backup agent, an HP System Insight Manager agent, and a ZENworks Configuration Manager agent. Sound familiar? Agents are often necessary to get a job done. But when you can avoid installing yet another agent, you avoid both the installation work and the extra load that the agent puts on system resources.

The discovery method used by PowerRecon is agentless. At Novell, we simply pointed the PowerRecon discovery tool at our subnets, provided the necessary credentials and then sat back and watched as PowerRecon began discovering and monitoring our servers. The process was amazingly simple; it worked perfectly the first time; and in almost no time we were getting detailed, longitudinal, comparative information we could use to make better operational decisions.

**> Server Consolidation and Cost Savings**

Once we had it up and running, we immediately began to see PowerRecon provide value in our analysis of our Citrix server farm. This was an older part of our server infrastructure, and we had never before had a clear grasp of resource utilization there. Citrix had been running on 24 physical servers at an annual cost of approximately \$8,700 for power and cooling.

Through our analysis of the utilization data and trends provided by PowerRecon, we concluded that we could consolidate the Citrix workloads on just five servers with no significant performance penalty. By removing 19 unneeded servers, we conservatively calculated the savings in power and cooling to be \$6,700 per year.

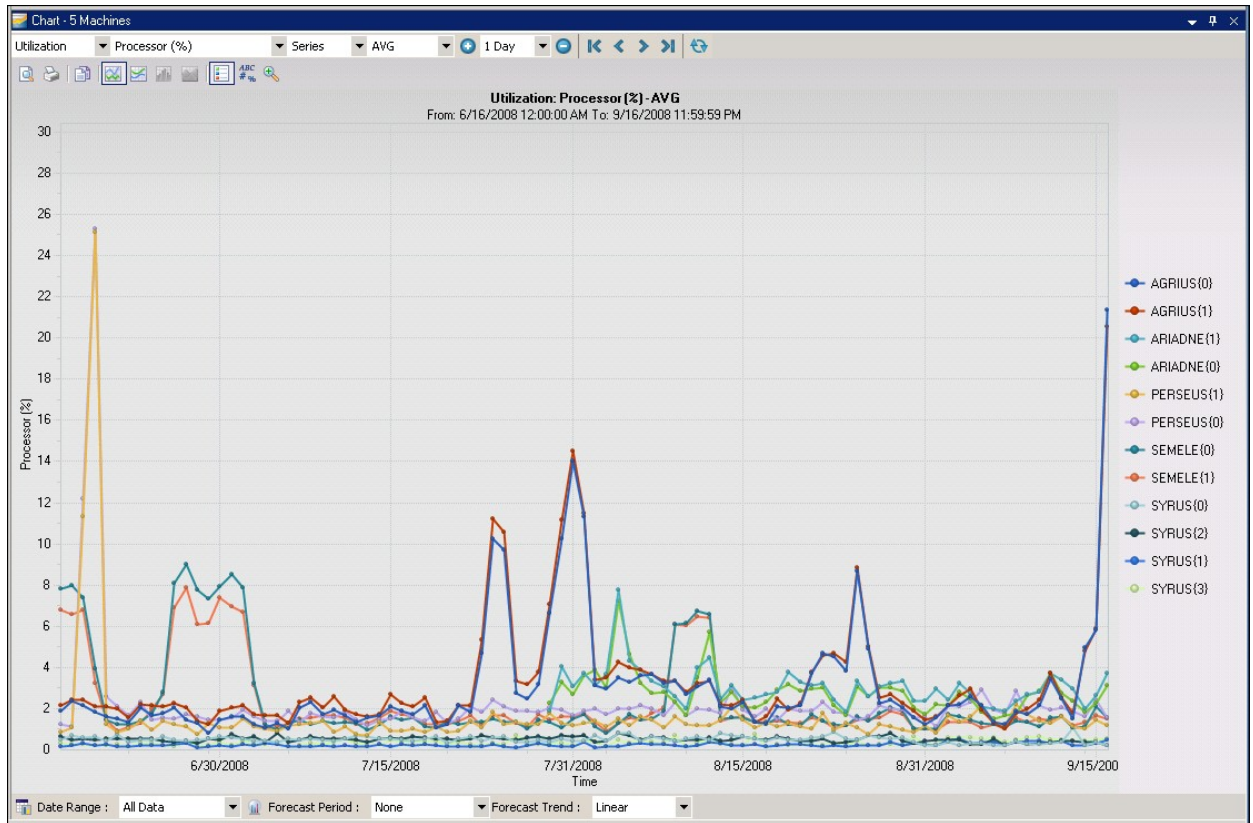
**> A More Efficient Development Environment**

In developing and staging new software releases, we have traditionally relied on physical servers configured to mirror our production environment. But through analysis of PowerRecon statistics, we learned that these development and staging servers are vastly underutilized compared to our production servers. Since we can replicate the configuration and behavior of physical servers in virtual machines, these development and staging servers became perfect candidates for virtualization—saving on operating expenses and future hardware purchases while freeing up resources for other tasks.

**> Doing More with Less**

We've had such great success with PowerRecon that we're now evaluating almost every service we run in our data centers, gathering detailed information about how effectively we're using our computing resources to host a wide range of ever-evolving workloads. We're using PowerRecon to discover the timing and cause of utilization spikes, as well as to evaluate utilization trends over time. For most services, we're finding CPU utilization consistently under 20 percent. We're also learning how memory, storage, I/O bandwidth and even power and

**Figure 2:** This view shows CPU utilization for 12 Blackberry servers over a three-month period. Some servers show obvious spikes, which we can trace to business requirements during the period. But the biggest spike is only about 25 percent, and many servers consistently show very low utilization—making those workloads perfect candidates for virtualization.



cooling resources are being utilized by the wide range of server applications we run in our data centers.

### Power and Cooling Costs in Today's Data Center

From 1999 to 2007, according to *Electronics Cooling*, server performance increased 7,500 percent for the same hardware cost. During the same period, performance per watt increased 1,600 percent. That's good news overall, but it means that power and cooling costs are actually beginning to outstrip hardware costs, especially as enterprises rely on more demanding business applications supported by fault-tolerant infrastructure.

Assuming a relatively efficient cooling infrastructure, the three-year power and cooling costs for a typical 1U server in the U.S. essentially equals the hardware cost of the server itself. By 2014, infrastructure and energy will represent 75 percent of costs compared to only 25 percent for IT. In other words, "a paradigm shift has occurred in the data center. The cost of IT equipment is no longer the bulk of the cost, but rather the cost of the power and cooling infrastructure has crept in to be the primary cost driver."

(Source: Christian Belady, Hewlett-Packard, "In the data

center, power and cooling costs more than the IT equipment it supports," *Electronics Cooling*, February 2007.)

We expected to find underutilization. But what's really eye-opening is how utilization patterns vary according to the workload and the user base. From Blackberry Enterprise Servers, to mail servers, to database servers and other types, we're finding that each has its own unique utilization profiles and operating behaviors. (See Figure 2.) As a result of this knowledge, we're planning ways to cluster servers and consolidate workloads in ways we never would have considered—or even dared—to do before. By truly understanding the technical opportunities, we can do more with less to create new business opportunities.

PlateSpin PowerRecon has become an essential tool for us as we move forward with sizing new projects, refreshing old hardware and virtualizing computing environments to provide new efficiencies and cost-savings. Next month, we'll discuss how we create virtual machines based on what we've learned from PowerRecon. See you next month in the (virtual) pages of *Novell Connection*. **N**

# Training Day Novell Training:

*A Smart Investment*

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

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**D**uring these uncertain economic times, careful budget decisions are crucial. Cutting expenses is critical, and every remaining budgetary line item must be necessary. But for your company to rebound and grow, you must still make good investments. And in IT, one of the best investments is good training.

Effective training provides quick return on investments as your IT team becomes proficient with products you already own. Training helps new technology justify its expense as staff members quickly learn how to use the technology and realize its potential for improving productivity. Furthermore, with a trained staff, you'll reduce downtime and outside support costs.

Whether you're looking for more flexibility, lower costs or anything in between, Novell training will prove to be a smart investment.

***“Just a well-presented course, great instructor, one of the best courses I have attended in a long time. Also very useful in the real world which is a real bonus.”***

**—David Morgan  
EZIS Integration Solution**

## > Product Training: What Customers Need and What—with Novell—They Get

We surveyed many of our customers and more than half indicated that training options impact their decisions to purchase our products. (See Figure 1.) So we've designed training offerings that are as available and flexible as possible. For example, when you purchase products or renew maintenance, you can also buy training at the Novell Customer Center ([novell.com/center](http://novell.com/center)). Simply click the “My Training” option on the left menu in the Customer Center to display your training activities with Novell, including certifications earned, technical skills assessments taken, Advanced Technical Training (ATT) courses completed, and on-demand training available. Click the “On-demand Training” tab to display a complete list of on-demand courses already available to you through your maintenance agreements or subscription model.

Training for Linux Server and Systems Management is the top training priority customers anticipate in 2009. Half of the customers surveyed identified these areas as priorities, and about three quarters plan to complete or renew Novell certifications in these areas. Therefore, Novell has several courses and certifications ready for these areas.

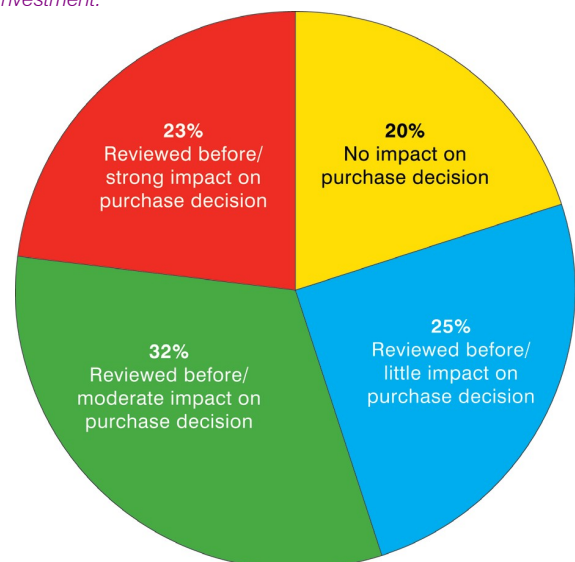
If you're working in the Linux Server area, Novell provides excellent classes ranging from SUSE Linux Enterprise Server 10 Fundamentals to SUSE Linux Enterprise Server 10 Advanced Administration. We also offer Linux courses that cover networking, security, virtualization and more.

For Systems Management, and if you're a Novell ZENworks admin, you can take courses that will help you know how to decrease your administrative burdens and increase enterprise-wide efficiency. Other courses help improve your administration of the entire Novell ZENworks line of products, which can help build your skills to tap into the rapidly growing Systems Management market.

Novell training will also help in the following areas customers have indicated are important to them (See Figure 2):

- **Reducing downtime:** Properly trained staff results in less downtime, and less downtime

**Figure 1:** *The availability and quality of training options makes a difference in the purchase decisions of most Novell customers because they realize that good, flexible training helps them make the most of their products and is a good return on their investment.*



equals lower costs.

- **Maximizing product value:** Effective training allows you to use products to their fullest, applying advanced features and getting the most from your IT investments.
- **Quickly deploying new products:** Good training reduces the headaches of using new products, and helps you get them up and running and working for you.

> **New Certifications: Getting the Most from Your Human Investment**

Today's rapidly changing technology shouldn't obscure the fact that one of your greatest investments is your people. Well-trained staff unlocks the potential of IT products, and Novell Training keeps skill gaps from developing in your department through 10 certifications and dozens of courses.

Our industry-leading certifications and courses are globally recognized, but they even impact IT professionals personally. More and more employers expect tangible proof that you have the knowledge it takes to perform your job. Novell certifications provide that proof and the extra edge you need in this competitive industry.

With open source as the future of networking, users trained and certified in SUSE Linux Enterprise are in high demand. Becoming certified proves you're skilled in using the products and helps you jumpstart or advance your career. Following are the latest Linux certifications from Novell designed to help the 60 percent of those surveyed who plan to train for Linux in 2009:

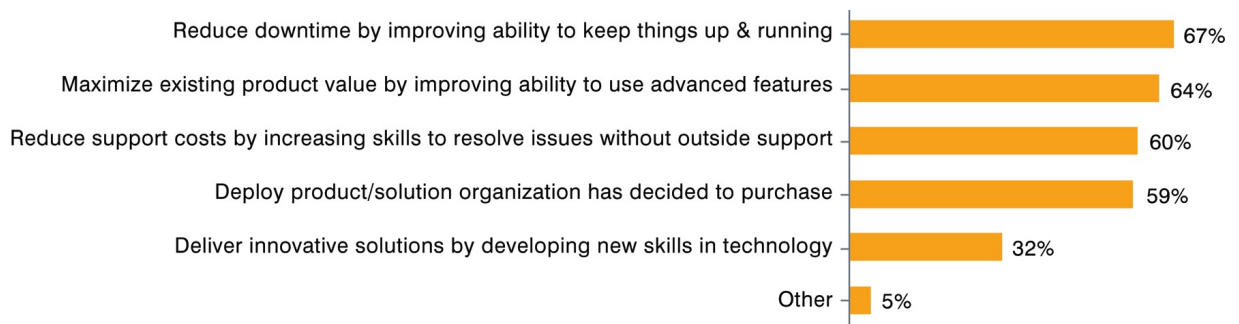
- **Certified Linux Desktop Administrator (CLDA):** This enables you to manage the day-to-day administration of a SUSE Linux Enterprise Desktop successfully and efficiently.
- **Certified Linux Administrator (CLA):** This entry-level certification delivers the basic SUSE Linux Enterprise Server skills a system administrator needs. It also builds a solid foundation for the

next step in enhancing your professional skill set —becoming a Certified Linux Professional.

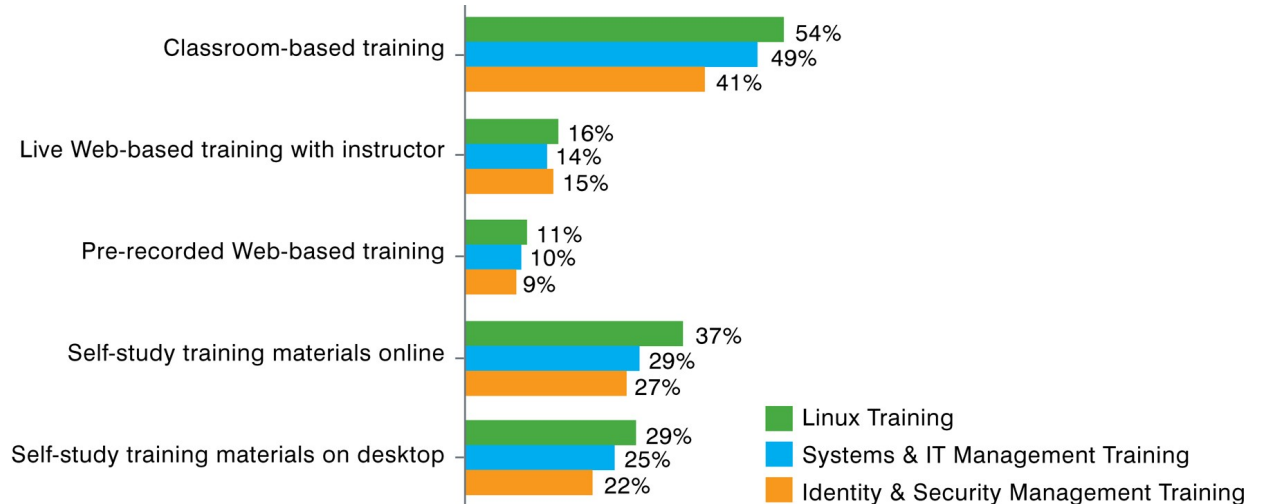
- **Certified Linux Professional (CLP):** This certification proves you have mastered the skills of an experienced administrator in a SUSE Linux Enterprise Server environment, and helps you advance as a system administrator.
- **Certified Linux Engineer (CLE):** This advanced-level certification delivers engineer-level skills for managers and architects of enterprise networks based on SUSE Linux Enterprise Server. It helps you plan, design and manage a secure SUSE Linux Enterprise Server environment.
- **Novell Certified Administrator Enterprise Services (NCA ES):** This certification is for network administrators and other network management professionals with little or no experience using Novell products and services. Providing a high-level view of those products and services, it focuses on SUSE Linux Enterprise 10 and Novell Open Enterprise Server for Linux. It offers greater value as a certification because it demonstrates to an employer that you have a useful working knowledge of common administrative tasks using Novell Open Enterprise Server 2 as well as an understanding of the value proposition of all Novell products.
- **Novell Certified Engineer Enterprise Services (NCE ES):** This certification shows that you have and can effectively use your engineer-level skills in your area of Novell product expertise. These skills include installing, configuring, maintaining, supporting and troubleshooting the Novell services that keep your enterprise running efficiently and productively.

The industry recognizes Novell exams as excellent tools for measuring practical knowledge. Employers worldwide know that a Novell certification proves you have mastered the practical skills that are taught—not just be able to recall memorized information.

**Figure 2:** *Customers said they need training that reduces downtime, maximizes product value and allows them to quickly deploy the products through better use of new technology and new skills.*



**Figure 3:** *The flexible nature of Novell training gives you more options. By filling skills gaps in Linux, systems, and identity & security training, Novell's programs provide convenient training that fits your unique needs.*



**“The trainer was very skilled, had in-depth knowledge of the product and was able to incorporate cases in the session to demonstrate features which we can use in our installation immediately. The subject of the course was handled thoroughly, and the ATT gave us the hints and nuts and bolts we needed to pinpoint all the issues we haven’t been able to solve ourselves. We now have a toolkit of features and functionality that we can provide to our customers. This enhances our relationship with our customers.”**

**—Ilanguak Olsen  
KMD A/S (DK)**

### > Flexible Training

At Novell, we know many potential obstacles can prevent your IT department from getting the training it needs. Constrained budgets or concerns that training during work hours isn't productive (especially if it requires additional travel time and expense) might lead management to defer or cut training altogether. But if training is flexible and cost-efficient, it will be attractive to customers. Therefore, Novell has a number of training options, offering a variety of schedules, formats and topics.

Not only do you need more training options, you also need training that fills skill gaps in your organization, especially identity, security and compliance; Linux; and systems management. By filling these skill gaps, Novell provides convenient training that fits your unique needs. (See Figure 3.) Some of our most exciting and flexible training options are on-demand, online, First Look, self-study, partner-led and instructor-led.

- **On-demand courses:** Available online, this training is literally at your fingertips, wherever you go, 24-7, 365 days a year. With an Internet connection and prerecorded instruction, study on your own time at your own pace. Available for purchase per person/per year in January 2009, on-demand training will be available for all areas and courses.
- **Online training:** These real-time courses are like university distance learning. Led by an instructor, online training lets you ask questions and participate as if physically present in an on-site class.
- **First Look training:** Provided through the Novell Customer Center, this training option is less

intensive than online training but features basic installation and configuration of purchased technology and products rather than courses or certifications. Available with the purchase of your products, you can take this flexible training when and where you want. ***Because this product is free, there is no additional cost to get started using your new product, which means your training budget is available for more advanced training.***

- **Self-study kits:** With physical course materials such as manuals, workbooks, demos, exercises and more, these kits not only cover the same information as the First Look courses, but they also feature more advanced topics that help you become an administrator or instructor on your own.
- **Partner-led training:** Working with training partners who have their own training facilities as well as Certified Novell Instructors (CNIs), Novell has developed industry-recognized training materials and exams for its certification classes. Our partners provide convenient training centers across the globe, and Novell guarantees exceptional training that is consistent around the world.
- **Instructor-led training:** Available in physical classes, on-demand and online, this training is taught by a CNI, an instructor who has fulfilled the requirements of the world's most renowned technical instructor certification.

> **Making Training a Priority in 2009**

By surveying our customers to learn what they need and expect from Novell, we have improved our training so it can be more beneficial and relevant to you than ever before. You want flexibility, quality, availability, benefits and returns on your investments. Novell provides the best training and certification available. By partnering with OEMs and using Novell engineers and instructional designers who are experts in their fields, we ensure that

you will receive training that is relevant and among the best IT training in the industry.

Our flexible and convenient training options ensure that your people can get the expertise they need while guaranteeing a return on your investment by increasing productivity and reducing your downtime and support costs. With certified skills, you and your staff will do your jobs better, allowing your organization to innovate with less risk.

Now that you're aware of all the benefits Novell training can bring, make sure training is part of your budget. Get started at <http://www.novell.com/training>, or contact one of our 500 training partners near you at:

<http://www.novell.com/partnerlocator/region.do>.

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Your Linux is more than ready, but are you? Become a Novell Certified Linux Administrator (CLA), and you will be. This is a new certification and provides the day-to-day administration of installed SUSE Linux Enterprise Server networks. To view learning paths, study options, test objectives and more, visit [www.novell.com/training/certinfo/cla/](http://www.novell.com/training/certinfo/cla/).

**Hands-on, advanced training direct from Novell**

Novell Advanced Technical Training (ATT) comprehensively addresses a wide range of advanced topics including support issues, in-depth architectural overviews and enterprise-wide solutions. Delivered at a highly technical level, ATT classes give real-world expertise you can put to immediate use. With hands-on training, engineer-to-engineer instruction, and a troubleshooting emphasis, you can't go wrong with Advanced Technical Training.

Get started with Novell training ([www.novell.com/training](http://www.novell.com/training)), where you can locate training, view course catalogs, find out how to get certified and much more.

# This New House

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

*Colorado home builder eliminates Web server downtime with SUSE Linux Enterprise Server and gets national attention from a TV home makeover show.*

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**K**eller Homes needed to dramatically improve the reliability and uptime of its mission-critical Web servers, particularly as it prepared to participate in the TV show *Extreme Makeover: Home Edition*. With SUSE Linux Enterprise Server, the company eliminated downtime and was able to capture the full benefit of a tremendous national marketing opportunity.

## > Overview

As an independent, private company, Keller Homes prides itself on being more nimble, more innovative, and more service-driven than other larger, corporately owned builders. In a recent survey, Keller ranked among the top ten builders nationwide in customer satisfaction. Keller Homes was founded in Colorado Springs in 1983. The company has over 55 professionals on staff and builds 100-200 homes each year.

## > Challenge

Keller Homes has a variety of mission-critical Web sites, including its public Web site and an extranet used by nearly 200 vendors to track the materials, schedules and payments associated with customized home projects. Periodic downtime was frustrating for users and created business delays. The company was running its Web servers on both Microsoft IIS and Red Hat and wanted to consolidate to a single, more reliable operating system.

When Keller Homes was chosen as a builder for the television show, *Extreme Makeover: Home Edition*, they learned that the increase in Web site hits following the show had crashed the Web servers of previous home builders. The company had two months to ensure that their Web servers could withstand an enormous increase in volume in order to capitalize on such a huge marketing opportunity.

## > Solution

Keller Homes evaluated operating systems from Microsoft, Red Hat and Novell before selecting SUSE Linux Enterprise Server, recommended by Common Knowledge Technology, a Novell Gold partner.

"The Microsoft option was cost-prohibitive and we always had difficulty getting adequate support from Red Hat," said Luke Wignall, managing partner at Common Knowledge Technology. "SUSE Linux Enterprise Server is a more stable platform and provides a better return on investment. It also comes with Novell's enterprise Linux support."

Working with Common Knowledge Technology, Keller Homes moved its Web servers to SUSE Linux Enterprise Server running on existing Dell hardware. The IT team got

**"Our Web site is our number-one marketing tool and it's critical that potential customers get a good first impression. SUSE Linux Enterprise Server has eliminated any downtime that could cost us opportunities we would never get again."**

**Lance Hill**

**IT Manager**

**Keller Homes**

the new Linux solution up and running in just a few days. The company consolidated its Web servers to just two physical Linux servers and plans to use Xen virtualization for further consolidation.

"The best part about SUSE Linux Enterprise Server is that it's maintenance free," said Lance Hill, IT manager at Keller Homes. "We have to remind ourselves to check the servers periodically because we never experience any downtime."

After Keller Homes participated on the *Extreme Makeover: Home Edition* show, its Web servers received an exponential increase in activity, averaging 3,000 hits per hour at times with a peak of more than 6,000 hits in a single hour.

"In the days following the *Extreme Makeover: Home Edition* show, our Web site performed flawlessly," said Hill. "The reliability of SUSE Linux Enterprise Server kept our site from going down and allowed us to take advantage of tremendous marketing exposure. Our national name recognition shot through the roof."

"When the show aired, we stood by with Novell's phone number, but we never had to call," said Wignall. "In fact, SUSE Linux Enterprise Server is so reliable that we have yet to call Novell for support. SUSE Linux Enterprise Server is a solid, proven platform."

SUSE Linux Enterprise Server ensures that Keller Homes can offer optimum Web performance for its customers, employees and partners. Users are no longer frustrated by periodic downtime and have regained trust in the online tools and technologies to do their jobs.

"We have always been on the cutting edge of using technology to build homes and Common Knowledge

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**“In the days following the *Extreme Makeover: Home Edition* show, our Web site performed flawlessly. The reliability of SUSE Linux Enterprise Server kept our site from going down and allowed us to take advantage of tremendous marketing exposure.”**

**Lance Hill**

**IT Manager**

**Keller Homes**

Technology has created an IT strategy that supports our business plans,” said Hill. “We liked their approach because they are direct about the realities of what can be done. They are a critical partner for us in ensuring that our network stays up and running.”

**> Results**

With SUSE Linux Enterprise Server, Keller Homes upgraded its Web servers for a third the cost of an alternative solution. The company consolidated its servers

by nearly 80 percent and was able to re-use its existing hardware, achieving a 60 percent reduction in total cost of ownership. Money saved can now be reinvested in making its Web sites more efficient.

SUSE Linux Enterprise Server has reduced administration time by 95 percent and eliminated downtime. Marketing exposure from *Extreme Makeover: Home Edition* brought national name recognition for potential clients moving to the Colorado area. The company estimates that its Linux solution paid for itself in just four months.

“If our Web servers fail, our business shuts down,” said Hill. “Our Web site is our number-one marketing tool and it’s critical that potential customers get a good first impression. SUSE Linux Enterprise Server has eliminated any downtime that could cost us opportunities we would never get again.”

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**Article Summary**

**Products and Services:**

SUSE Linux Enterprise Server with built-in Xen virtualization

**Results:**

- Eliminated Web server downtime
- Consolidated servers by nearly 80 percent
- Reduced administration time by 95 percent
- Reduced total cost of ownership by 60 percent

# Share Your View

*Passing on Your GroupWise 8 Display Settings*

This article first appeared in the December 2008 issue of *Novell Connection* magazine.

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**F**aster. Better. More productive. Novell GroupWise 8 promises to be the best version of GroupWise yet. It works the way you do. It makes collaborating with the world not only possible, but easier than ever before. Hot new features are there, but you might not know how to use them.

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**We invite you to join us on our journey in GroupWise 8. We promise you'll learn something to make your life in GroupWise a little easier.**

That's where BrainStorm, Inc. comes in. As the Novell Authorized End-User Training Partner, BrainStorm has been training GroupWise users from the beginning. Along the way, we've picked up some pretty powerful ways to manipulate the GroupWise interface.

In the coming months, we're going to delve into the deep side of GroupWise. We'll seek out new tips and new tricks. We'll boldly go where no one has gone before—in the new GroupWise Client.

We invite you to join us on our journey in GroupWise 8. We promise you'll learn something to make your life in GroupWise a little easier. And even better, the lives of all your end users, so yours can be calmer.

## > The Mission

Your organization has just begun to deploy GroupWise 8. As a power user, you've had it on your desktop for the last few weeks and have had a chance to play with your Home View settings. One of your co-workers drops by your desk and sees your nifty customized Home View. "How did you do that?" he asks. "I want my GroupWise to look like yours."

You sigh as you realize that without your powerful GroupWise skills, your coworker could waste your entire afternoon as you show him step-by-step how to re-create your customized view.

But, before you bark out an I'm-too-busy-to-show-you reply, you suddenly remember a tip you saw in *Novell Connection* that could save your time and energy.

## > Sharing Your Home View

No need to groan and sigh anymore when one of your co-workers wants their GroupWise interface to look just like yours. Sharing your Home View, or any other view, is as easy as sending an e-mail. Here's how to share:

1. Customize your Home View and save your display settings (**View | Display Settings | Save Current**).
2. Display the view you want to share. (**View | Display Settings | Select**).
3. From the Main Menu, select **View | Display Settings | Send Current**.
4. Address the pre-populated message and add a subject.
5. Click **Send**.

## > Importing a Saved Home View

Don't worry. Once you send the e-mail with your saved Home View settings, you won't need to follow up to make sure your co-worker can import the settings. The pre-populated message includes instructions for how to import the view. But, just in case you want to know, here's how to import:

1. Open the message that includes the display settings attachment.
2. Right click the attachment.
3. Select **Import Display Settings**.
4. Navigate to your Home View.
5. Right click the Home tab in the Nav bar, or right click the Home folder in your folder list.
6. Select **Properties**.
7. Click the **Display** tab.
8. Select the imported display setting from the Setting name drop down box.
9. Click **OK**.

## > Get GroupWise Power

As you can see from this tip, becoming a GroupWise power user can start with a pretty simple step. Although sharing your Home View takes just a few quick mouse clicks, your colleagues will see you as a pure GroupWise genius. And even better, you'll share your expertise from your own desktop across the organization, making your end users' work lives a lot more productive, and yours—a whole lot calmer.