

Connection

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ARTICLES

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Novell.

Untapped Power

GroupWise 8 Backend Enhancements

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

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GroupWise 8 will be here in a matter of weeks (See novell.com/beta), giving you the ability to deliver a highly connected collaborative workspace that leverages Web resources and next-generation technology. While past articles have told you what your users can expect in GroupWise 8, (See *Personal Overdrive*), this article is written specifically with administrators in mind, giving you insights into some of its key server-side improvements that you'll be able to take advantage of.

One of the most dramatic time management improvements to GroupWise is free/busy searching of people on a different e-mail system.

> Calendar Publishing

Calendar publishing is somewhat similar to the calendar sharing capability in GroupWise 7, but while sharing is aimed at internal users, calendar publishing is primarily targeted at external users. The calendar publishing agent or host in GroupWise 8 enables your users to collaborate more effectively with their contacts, regardless of where they are and what e-mail system they're using. Whether they're using the Windows or WebAccess client, the calendar publishing host can dynamically generate HTML versions of their personal calendars—including free/busy information—and then publish them as a Web service. (See Figure 1.)

In addition to allowing you and your users to publish any of your personal calendars, it allows groups or organizations to publish more general-use calendars such as conference room schedules, class schedules, company holiday schedules, team project calendars and more. Once a calendar is published, it's exposed as an iCal standard calendar, giving others the ability to access or subscribe to it from any iCal-supported system, including GroupWise, Exchange and Notes.

When calendar publishing is combined with the subscribe capabilities in GroupWise 8, it enables your users to enjoy one of the most dramatic time management improvements to GroupWise: free/busy searching of people on a different e-mail system.

The publishing host in GroupWise allows your users to easily publish their free/busy information in a calendar and then provide the URL for that calendar to their external contacts (e.g., partners, suppliers and clients), or even internal contacts that might be on a different system

as a result of a merger or acquisition. Users from different organizations or systems can then subscribe to each other's free/busy calendars and busy search them to schedule appointments with each other.

To allow your users to take advantage of the ability to publish their free/busy data, as well as publish their personal calendars, you can install the calendar publishing host to a Web server on either NetWare, Linux or Windows. Each publishing host is identified by a unique name. The name might include the location of the publishing host, as well as the users it serves.

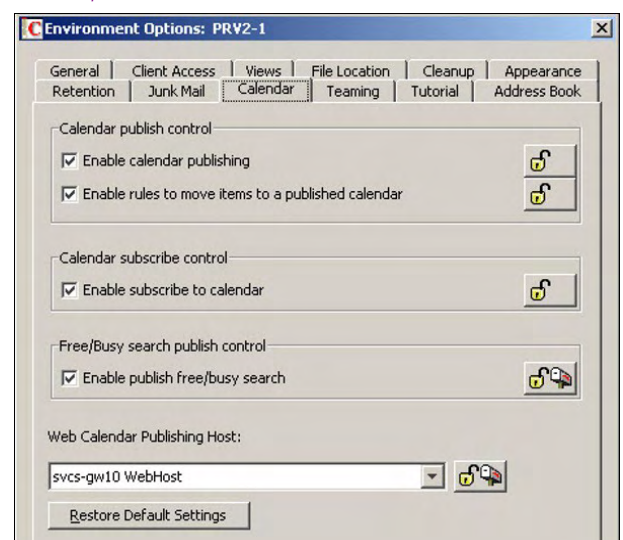
To allow external users to access published calendars, the host uses the DNS host name of the Web server as part of its URL. So, the base URL might be *abc_company.com/gwcal*, and this URL location would host a list of published calendars that users can browse to find the calendar they want to view.

In order to provide unique and easily identifiable URLs for each users' calendars, the host's base URL is simply extended. For example, expanded URLs might consist of the following:

- *abc_company.com/gwcal/cid=[calendar id string]*
- *abc_company.com/gwcal/freebusy/e-mail_address*

Once you have installed the calendar publishing host, you can configure it in ConsoleOne with the following settings (all of which are disabled by default):

Figure 1: *The calendar publishing host can dynamically generate HTML versions of users' personal calendars—including free/busy information—and then publish them as Web services.*

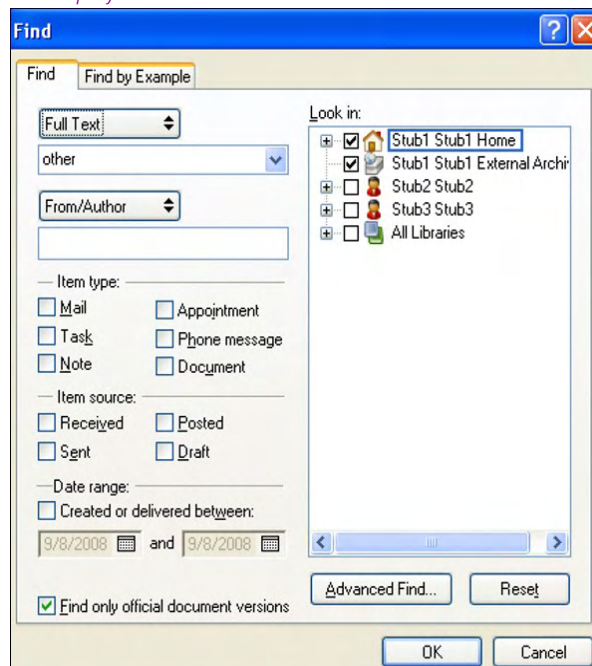


- **Enable Calendar Publishing** lets users publish their personal GroupWise calendars by simply right clicking a personal calendar, clicking Publish, and then selecting their desired options.
- **Enable Rules to Move Items to a Published Calendar** gives users the option to create rules to automatically post certain types of calendar items to specific published calendars.
- **Enable Publish Free/Busy Search** allows users to publish their appointment information so external users can perform free/busy searches on their GroupWise calendars.
- **Enable Subscribe to Calendar** allows users to subscribe to Internet calendars that are updated on a regular basis, such as calendars for sporting events.

When a user publishes a calendar, the GroupWise Post Office Agent (POA) creates calendar data in a standard ICS-formatted file and free/busy data in a standard-IFB formatted file, and then delivers them to the calendar publishing host. Depending on how a client requests a published calendar, the publishing host has the ability to render the files in HTML or deliver them in their original ICS or IFB formats.

The calendar and free/busy information published at the Publishing Host are kept up-to-date by any event changes in the user's calendar. As a GroupWise administrator, you can control whether users can publish

Figure 2: *With support of the new stub reference API, when users perform searches from within the GroupWise Windows client, GroupWise not only returns and aggregates matches from the GroupWise database, but from the third-party archival database as well.*



Novell has re-architected the GroupWise document indexer so it inherits the capabilities of the Stellent document viewer used in the Windows and WebAccess clients.

or subscribe to calendars, and whether they can publish their free/busy information. You also have the ability to deploy multiple calendar servers in different geographic locations to improve performance and scalability, especially for locations with limited Internet bandwidth.

> Attachment Indexing

Another backend enhancement found in GroupWise 8 deals with its document indexer. In the past, the document indexer didn't always recognize new file types and file formats released by application vendors. This meant that when users performed searches in their data store, attachments of those file types might not be included in the search results.

To address this problem, Novell has re-architected the GroupWise document indexer so it inherits the capabilities of the Stellent document viewer used in the Windows and WebAccess clients. This gives users a broader array of file types that GroupWise will index for attachment searching purposes, including OpenOffice files, the latest PDF versions and Office 2007 files. This new indexing feature basically means that any attachments your users can see, they can find.

While this redesign delivers immediate support for a broader base of current file types, its biggest impact is that it gives GroupWise a greater ability to keep up with new file types as they're released and then supported by the Stellent viewer.

> Aggregate Search of 3rd-party E-mail Archives

Novell always works hard to promote and facilitate innovative integration between GroupWise and third-party solutions. GroupWise 8 continues this focus with results that provide significant benefits to you and your organization. Through a joint effort between Novell and Messaging Architects, GroupWise 8 boasts a new API that provides integration with third-party e-mail retention services.

The new API leverages the stub references used by e-mail archival solutions to indicate the new location of an e-mail message that has been moved from the GroupWise database to the third-party archive database. With this API, when your users perform searches from within the GroupWise Windows client, GroupWise not only returns and aggregates matches from the GroupWise database, but also from the third-party archival database.

To make your life easier, give you greater control, and save your organization more time and money, GroupWise 8 has introduced a number of new administrative improvements.

By taking advantage of third-party solutions that leverage this API, you can better manage your message store by:

- improving the performance and scalability of GroupWise post office databases by reducing the size of their data stores
- lowering disk storage costs by enabling the transfer of older messages to low-cost storage
- archiving older messages while making them accessible to users in a transparent fashion
- simplifying management of all GroupWise-related data
- facilitating compliance with e-mail retention mandates.

Several third-party e-mail retention solution providers are actively developing solutions to support this API. As alluded to earlier, Messaging Architects has already done significant work in this area and has participated in the GroupWise 8 beta with a supporting solution. GWAVA and a number of other solution providers are also actively working on supported solutions to be delivered shortly after the GroupWise 8 release.

> Simplified Administration

To make your life easier, give you greater control, and save your organization more time and money, GroupWise 8 has introduced a number of new administrative improvements. The first of these is a more streamlined installation process. For NetWare and Windows installations, you now have a single install for Admin, Agents and the GroupWise Internet Agent. In addition, the number of system creation dialogs has been reduced from 22 to 5.

To save you time and reduce human intervention when you have multiple systems to install, you can now save your installation options for reuse. Also, the install tools have been upgraded to provide better support for newer technologies and improve the installation process even further. Additionally, the GroupWise install process now adheres to ISO standards to give you more standardized language support.

The GroupWise Internet Agent has also been improved to give you more administrative control and flexibility over how your mail flows to and from the Internet. You can designate Internet Domains as external, so messages can be routed via defined links and not

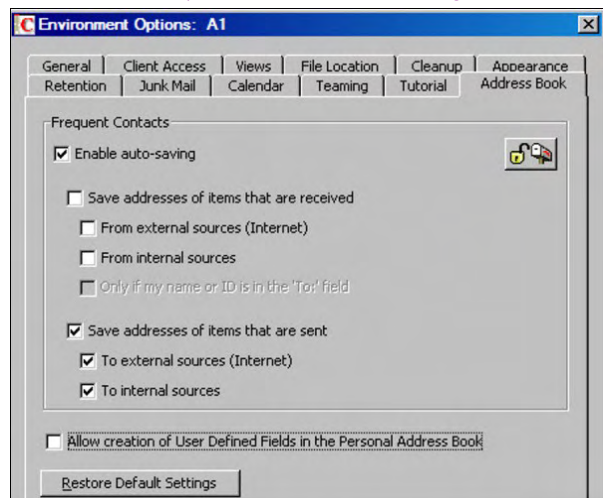
automatically sent via the GroupWise Internet Agent. You also have greater administrator control over rule-generated replies and forwards through the ability to define custom exception lists.

GroupWise 8 also gives you centralized management of your users' frequent contacts. In previous versions, the frequent contacts management settings were stored in the user's registry. Now, these settings are available in ConsoleOne, enabling you to uniformly manage and control these settings for all your users at the system, post office or domain level. While you can still allow your users to configure these settings themselves, you have the ability to override those settings as needed. By centralizing administration in this way, you can better control your users' outgoing contact information and reduce help desk costs related to frequent contacts troubleshooting. (See Figure 3.)

To help you reduce spam, GroupWise 8 publishes all possible combinations of valid e-mail addresses to the LDAP directory used by third-party spam filters. Previously, it only published default e-mail addresses. By publishing all combinations of valid e-mail addresses—such as aliases, nicknames, and various last and first name combinations—GroupWise 8 eliminates many of the loopholes that spammers employ in their attempts to get around filters. These valid address combinations are also available to third-party filtering solutions via the GroupWise SOAP interface.

Another improvement in GroupWise 8 is the ability to customize the interactive tutorial in the GroupWise help menu. In the past, this link would take your users to an external Web site hosted by the Novell authorized end-user training partner, *BrainStorm, Inc.*, where users could access free training tutorial samples. You can now modify this help menu link so it takes your users to a location of

Figure 3: *Centralized administration of frequent contacts management settings gives administrators better control of users' outgoing contact information and reduces help desk costs related to frequent contacts troubleshooting.*



your choice, such as a URL where you have installed previously purchased or internally developed training tutorials.

While there are a number of other administrative enhancements to GroupWise 8, the following are worth noting:

- **User-level audit data:** Several new pieces of user-level data about a system can be provided to facilitate audit and compliance efforts.
- **POA performance snapshots:** A new POA Performance Snapshot feature collects a wide array of statistical information to facilitate performance troubleshooting efforts.
- **Streamlined database purges:** Database purges are now streamlined to reduce and to avoid performance impact when users with auto-archiving enabled log in at the same time.

> **Raising the Bar on Personal Productivity**

GroupWise 8 not only boosts your users' productivity, enabling them to leverage the power of a fully connected collaborative workspace, but it also gives you, as an administrator, additional power and functionality. In fact, when it comes to personal productivity, we believe the administrator behind the scenes is every bit as important as the knowledge worker on the front lines. That's why GroupWise 8 delivers the security, reliability and platform flexibility you've come to expect from Novell—as well as a whole host of backend enhancements designed to help you get the job done more effectively than ever before. **N**

Platform Support

In addition to its superior security and reliability over competing collaboration solutions, one of the greatest strengths of GroupWise is its interoperability. GroupWise gives your users more freedom in where, how and with whom they collaborate. A key part of this interoperability is the freedom you, as an administrator, have in deploying it.

The following provides a summary of supported deployment options* for GroupWise 8:

- GroupWise Server Support
- SUSE Linux Enterprise Server 10
- Novell Open Enterprise Server 2.0
- NetWare 6.5
- Windows 2003 Server

GroupWise Client Support

- SUSE Linux Enterprise Desktop 10
- Windows XP Professional
- Windows Vista
- Windows 2003 Server
- Windows 2008 Server
- Mac OS 10.4—Power PC and Intel
- Mac OS 10.5 32-bit—Power PC and Intel

Browser Support

- Firefox 3.x and 2.x on Linux, Windows and Mac operating systems
- Internet Explorer 7 and Internet Explorer 6 on Windows
- Safari on Mac operating systems

Virtual Services Support

GroupWise agents can run on the following virtual services as long as those services are GroupWise-supported operating systems:

- VMWare ESX
- VMWare GSX
- Xen
- Microsoft Hyper-V

Clustering Support

- Novell Open Enterprise Server 2 on Linux
- Novell Business Continuity Clustering on Linux and NetWare
- Novell Cluster Services on NetWare

* Assumes the latest support packs have been installed.

Lucky No. 8

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

[Getting GroupWise WebAccess To Work Overtime for You](#)

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Eight Days a Week was a #1 hit for the Beatles. On August 8, 2008 (8/8/08) China held the Opening Ceremonies for the XXIX Olympiad; the number 8 is considered lucky in Chinese culture.

The number 8 also holds good fortune for those beyond the pale of pop music and world-class athletics. In fact, it's only fitting that in 2008, Novell releases its highly anticipated GroupWise 8, the newest and best GroupWise to date. This GroupWise—whether you use the Windows, Linux, Mac or WebAccess client—has been retooled to keep even the busiest users more organized and productive.

Perhaps you've already read about the wide variety of improvements included in the GroupWise 8 Windows, Linux and Mac clients, but this article is all about how the WebAccess client has utilized the capabilities of Web 2.0, bringing the simplicity and power of the Web to anyone within reach of an Internet connection.

Do you have a personal calendar you think everyone could benefit from? Now, in addition to sharing calendars, users can publish their personal calendars with the GroupWise 8 WebAccess client.

> Calendar like a pro

The most obvious improvements in the GroupWise 8 WebAccess client surround the calendar feature. The new WebAccess calendar is not only more aesthetically pleasing and convenient, but it also helps users keep even better organized. In GroupWise 8, WebAccess users can take advantage of the multiple (and graphical) calendars that revolutionized productivity for many users in the GroupWise 7 Windows client. These personal calendars make it much easier to draw clear boundaries between work, personal, community, family and other activities. You might have one calendar to hold appointments related to the upcoming technical conference you're hosting, another for company holidays, and yet another with the game schedule for the soccer team you coach. (See Figure 1.)

To create a personal calendar:

1. In a Calendar view, click the arrow next to *New* on the toolbar, then click *Calendar*.
2. Type a name for the new calendar.
3. (Optional) Type a description for the calendar.

4. (Optional) Select a color for the calendar by clicking a colored square.
5. Click *Save*, then click *Close*.

Thereafter, whenever you create a new calendar item, you'll get the option to place the appointment in a specific calendar.

Do you have a personal calendar you think everyone could benefit from? Now, in addition to sharing calendars, users can publish their personal calendars with the GroupWise 8 WebAccess client. When a user chooses to publish a personal calendar to the Internet, it is copied to the Calendar Publishing Host server. Published calendars can then be picked up by other users, helping them save time by simply importing events relevant to their work or interests.

To publish a calendar:

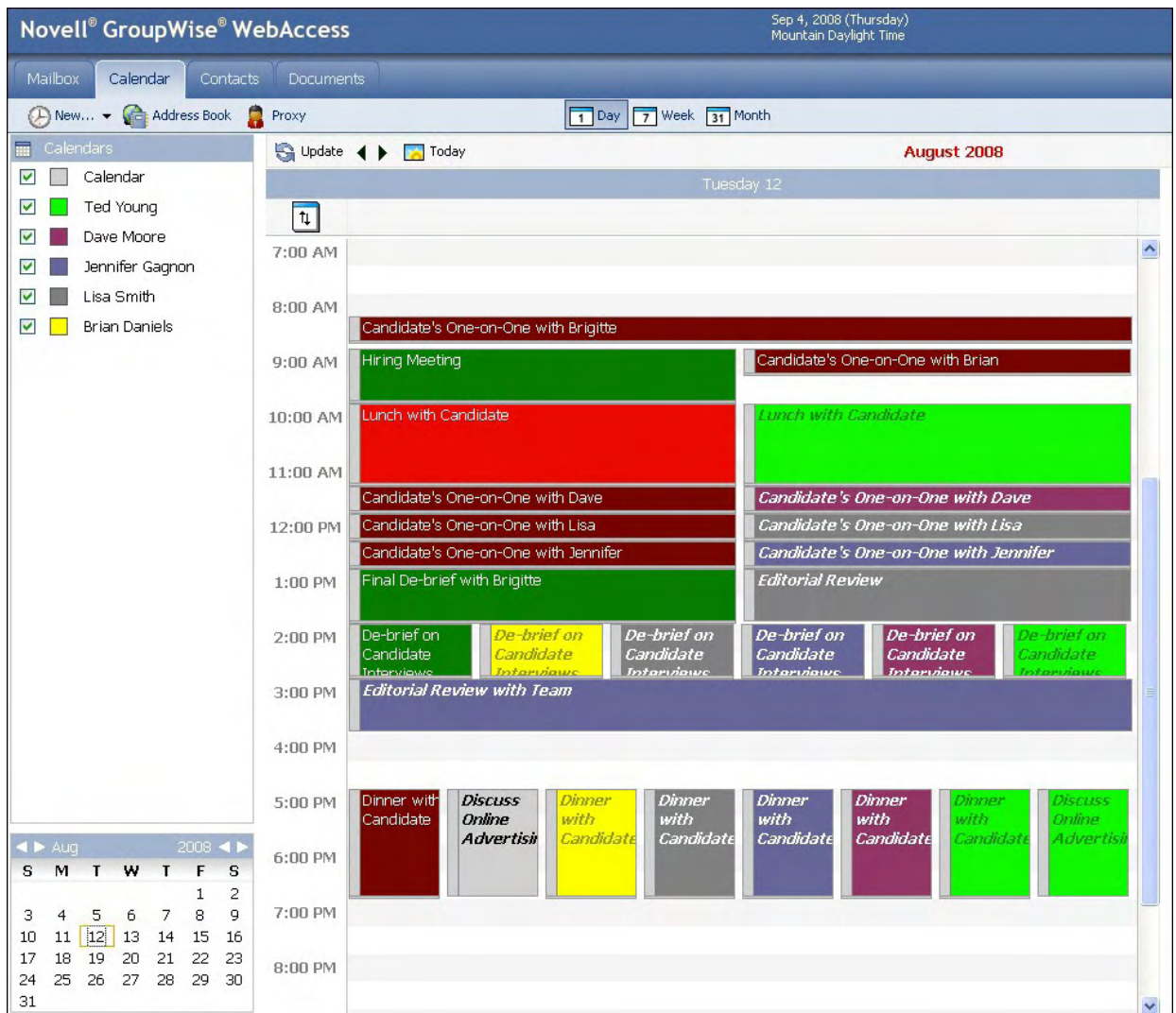
1. In the Calendar Folder List, right click the calendar you want to publish, and click *Publish*.
2. Select the box next to *Publish*.
3. Select the time period. Select *Entire Calendar* to send your entire calendar, or select *Previous* to send part of your calendar. If you select *Previous*, you must specify a range of days to send.
4. Select *Private Items* to include private items.
5. To send someone a link to your published calendar, click *Send Publish Link*. If you click *Send Publish Link*, a new e-mail message is opened with a link. Select who you want to send the message to, then click *Send*.
6. Click *Save*, then click *Close*.

After creating as many calendars as you need, you can manipulate the appointments much more easily. To begin with, drag and drop capabilities—previously only available in the WebAccess message list—have been added to the WebAccess calendar. If you want to make changes to any appointment you've scheduled or posted yourself, simply click and drag the appointment to another day. You can also change the time or duration of an appointment by simply dragging the start or end time as needed. Notes, tasks and other item types can also be dragged from one calendar and dropped into another, helping you better align your to do list with the task or project calendars you're using.

> Conquer your in-box

The calendar isn't the only improved feature in the GroupWise 8 WebAccess client. Your web-based e-mail inbox can now hold an unlimited number of messages all

Figure 1: *GroupWise 8 WebAccess takes calendaring to a whole new level with color-coding, multiple calendars and much more.*



on one page. Before, only a fixed number of e-mails would appear in the inbox at any one time, causing the user to move from page to page to view them. With GroupWise 8, there's no need to continuously press the "Next 20" button. All the e-mails in your inbox remain in one window, giving you a simple virtual message list that makes it easy to find any e-mail you're looking for.

This new message list leaves the world of item check boxes behind, letting you highlight multiple messages by Ctrl or Shift clicking and selecting all the items you want. When you drag multiple items, the "ghost" outline used in previous releases has been replaced by a small box showing the number of items being dragged. (See Figure 2.)

Not only will your inbox hold all you need, but GroupWise 8 WebAccess (like the other clients in this release) includes an auto-save option. As you're

composing e-mail, GroupWise 8 will ensure that no power outage or accidental click causes your message to be lost.

Name completion has been retooled to leverage all your address books (not just your frequent contacts). If you want more control, you can specify which address books to use, and whether you want name completion to work on a last name/first name or first name/last name basis. Finally, GroupWise 8 offers on-the-fly name completion. Because it no longer downloads the frequent contacts address book during login, it's much faster to launch GroupWise—using any client—and get to work.

Other e-mail enhancements in the WebAccess client include the ability to size the various columns in your inbox (e.g., subject, from, date), or move columns to a new location by dragging and dropping the column header, context-sensitive right-click menus, and a new lightweight spell checker that's faster and easier to use.

Several new contact fields help you better remember everyone, from old college roommates to the new client you picked up yesterday. There are fields for birthdays, anniversaries, spouse's name, children's names, hobbies and more.

GroupWise 8 WebAccess also includes new features designed to make it easier than ever to create compelling e-mails and flag your own in a way that helps you stay organized. You can now compose e-mails in HTML format and switch between plain text and HTML as needed when you view them. If connection speed is an issue, you can disable the viewing of graphics in HTML items. And to help you process e-mails more efficiently, GroupWise 8 lets you assign items in your mailbox to any of four default color-coded categories (followup, low priority, personal and urgent) or any custom category you create yourself.

> Turn contacts into valuable business relationships

Finally, there is a new "Contacts" tab in GroupWise 8 WebAccess. After clicking on the tab, contacts are listed

in a scrollable list similar to the virtual message list described above. You also have the option to import V-cards in order to add or edit contacts, and you can add notes to contact profiles. Once you've created a contact, you can view (or search) the correspondence history with that person at any time. The contact quickviewer also allows you to see an overview of a contact's information, as well as any photo that you have imported in the Windows client.

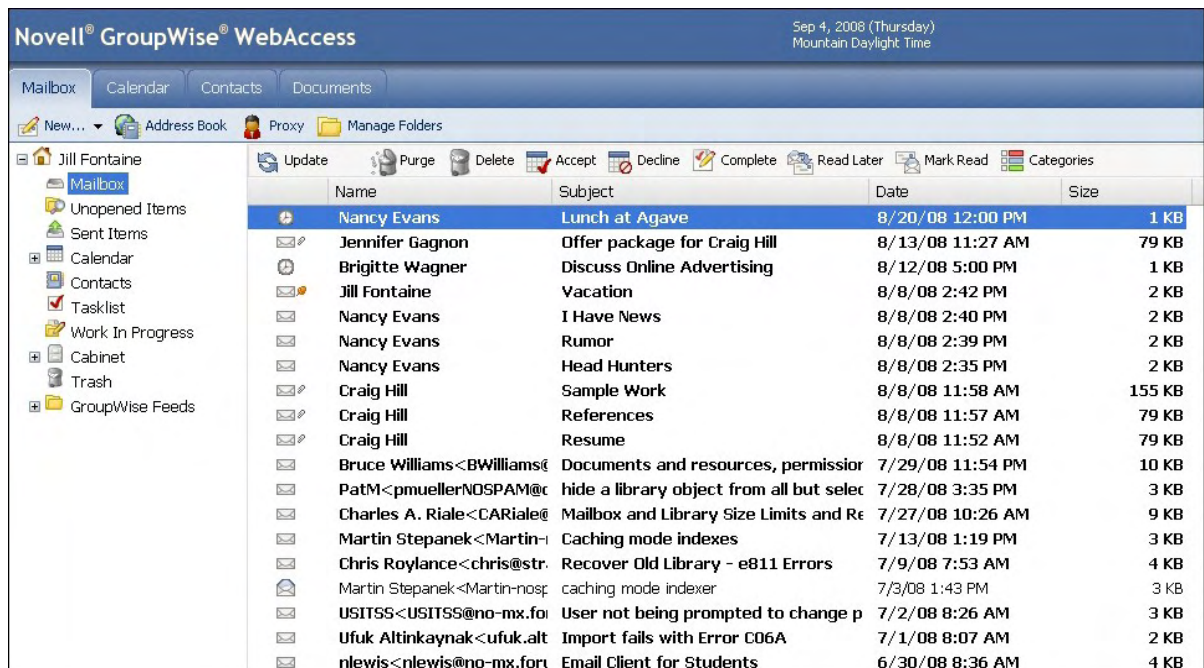
Several new contact fields help you better remember everyone, from old college roommates to the new client you picked up yesterday. There are fields for birthdays, anniversaries, spouse's name, children's names, hobbies and more. When you add a birthday or anniversary to a contact profile, that information appears in your main calendar. Fields for phone numbers, e-mail addresses, postal addresses and Internet addresses also keep you in touch. And if the contact isn't on the same GroupWise system (or is using another messaging system such as Microsoft Exchange or Lotus Notes), you can even enter a Free/Busy URL address into the contact profile so you can easily check their schedule and book appointments.

> Eliminate time zone trouble for road warriors

In the past, GroupWise has made scheduling cross-time zone meetings quick and painless. And in GroupWise 8 WebAccess, we build on this strength by giving you the ability to automatically adapt appointments to the time zone you're currently in.

The beauty of this feature is that if you're based in Boston, currently in London, and need to schedule a

Figure 2: A new, virtual message list holds an unlimited number of messages in the GroupWise 8 WebAccess client. Messages can be viewed and manipulated easily using drag-and drop and standard keyboard shortcuts.



series of meetings while you're there, you simply set the time zone for your workstation, select the option in WebAccess to "use my workstation's time zone," and all of your appointments will adapt accordingly.

By default, GroupWise WebAccess uses the time zone established for your GroupWise post office. But if you're using GroupWise WebAccess in a time zone other than your post office's time zone, you can change the time zone associated with your workstation and then set WebAccess to use it.

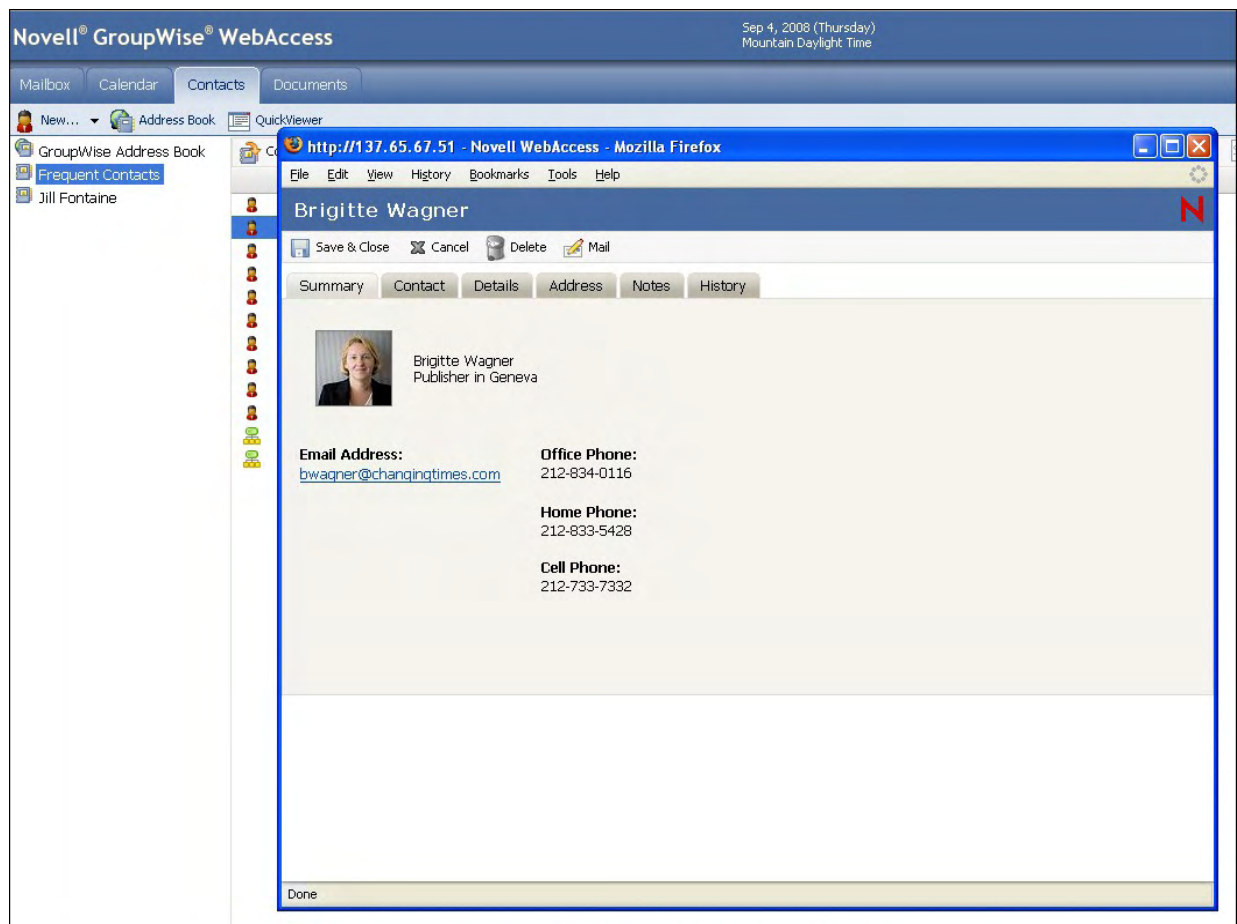
To do this:

1. In the Main Window, click *Options* in the upper right corner.
2. Click the *Time Zone* tab.
3. Select to use either your workstation's time zone or select the time zone you want to use from

4. the drop-down menu.
5. Click *Save*, then click *Close*.

Turn the number 8 sideways and it becomes the mathematical symbol for infinity. Users will find that the GroupWise 8 WebAccess client literally offers innumerable ways to streamline appointments, manage e-mails, organize contacts and otherwise keep them working smoothly and efficiently. And while we know that the most important numbers associated with the product will be the increased efficiency, revenue and competitive advantage you'll see by deploying it, let 2008 be the year you bring your organization a WebAccess option that keeps them fully connected and operating at peak productivity. **N**

Figure 3: *Contact management in GroupWise 8 WebAccess has been significantly enhanced with a new business card format, the ability to view photos, import vCards, add notes and search correspondence histories.*



Spin and Grin

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

PlateSpin workload mobility solutions reduce the cost, complexity and risk of data center moves

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> Your Data Center Has Got to Go.

It's time to pack. The decision has been made. You and your data center are hitting the road.

Perhaps you've outgrown your current facility. Maybe you've been on an acquisition binge and now it's time to consolidate. Possibly your firm is growing fastest in another geography with lower space and power costs. This move might take you across town, across country, or even across the globe, but whatever the reason, whatever the destination, it's your job to plan the move—and to execute it with an absolute minimum of risk and disruption.

We don't need to tell you that moving a data center is a complex process, littered with opportunities for expensive misadventure; success requires careful planning and surgical execution.

That's true if you plan to re-create your current environment by physically relocating all of your existing systems. It's even truer if, like many companies today, you see relocation as an opportunity to re-engineer your existing data center environment—to use virtualization and powerful new server platforms to consolidate servers, boost utilization, increase efficiency and reduce costs. Adding new technologies to an environment in motion can also add complexity and risk.

> Unified Workload Management Mobilizes the Data Center

Fortunately for anyone with a data center to move, breakthrough innovations in workload lifecycle management are opening the borders between physical and virtual systems, allowing effortless migration across physical servers on adjacent racks, or virtual ones in different hemispheres. The most powerful and comprehensive of these solutions are coming from PlateSpin, the newest strategic acquisition by Novell.

Workload Profiling and Portability technologies from PlateSpin liberate software from the underlying hardware, making it possible to stream complete server workloads—data, applications and operating systems—over the network, between any set of physical or virtual hosts, with a simple drag and drop operation. By providing greater

visibility into workloads and the way they use available resources, PlateSpin solutions bring greater flexibility and new efficiencies to the virtualized data center. Together, PlateSpin PowerRecon and PowerConvert provide a powerful, fully integrated solution for workload discovery, analysis, planning and portability that dramatically simplifies and accelerates data center moves, while reducing the associated labor requirements, costs and risk.

> Before You Make a Move: Discover, Analyze, Plan

Because you can't migrate what you can't locate, the first step in any data center move is a thorough inventory of all the servers running in your environment, and a detailed analysis of their resource utilization. PlateSpin PowerRecon remotely discovers server hardware and software assets across the entire data center—regardless of the diversity in virtual machines, operating systems and hardware platforms deployed. It surveys Windows, UNIX and Linux platforms, collecting detailed information on operating systems, applications and services, patch levels, CPU, memory, network and disk resources.

Because you can't understand resource consumption from a snapshot, PowerRecon tracks utilization over time to establish historical context, and then identify patterns and project trends. It imports system performance data directly from HP Operations Center and Microsoft Operation Manager (MOM), and it integrates with VMware VirtualCenter to illuminate and investigate the virtual environment.

When your current asset inventory and resource budget are complete, PowerRecon provides the industry's most advanced modeling, forecasting and planning capabilities for new data center planning.

Graphical reporting tools help you visualize execution requirements, accurately map them to required resources, then model alternate workload distributions to minimize contention while maximizing utilization. PowerRecon delivers all the tools and capabilities you'll need to ensure adequate floor space, power and cooling in your new facility.

> Move Your Facility Faster and More Efficiently

Once you've mapped the terrain and laid your course, it's time to make your move—as quickly, efficiently and economically as possible. That's where PlateSpin PowerConvert comes in. It's a powerful workload portability and protection solution designed to simplify and expedite workload migration across a local or wide area network, between any set of heterogeneous environments—virtual or physical. PowerConvert supports all leading virtualization solutions including Microsoft Virtual Server, Virtual Iron, VMware and Citrix XenServer, as well as multiple operating systems, hardware configurations and imaging technologies. It lets you move workloads at will between dissimilar hardware platforms and different virtual infrastructures.

The Live Transfer capability of PowerConvert lets you move workloads without taking the production environment down. It also enables live testing with no disruption to source systems, ensuring that workloads run as expected in the destination environment. Once testing is complete, PowerConvert's exclusive Server Sync provides a fast, efficient solution for long-distance migrations. By briefly shutting down the source to perform a final synchronization, it reduces the total volume of data that must be sent over the WAN. If no high-speed WAN exists, PowerConvert can capture the server images on a CD or USB drive that can easily be shipped to the new site and deployed.

PlateSpin's Two-part Recipe for Data Center Relocation

1. One part PlateSpin PowerRecon

- Remote server inventory collection
- System performance data import
- VMware VirtualCenter integration
- Rich data modeling
- Custom report creation and delivery
- Multiple data center support
- Enterprise-level scalability

2. One part PlateSpin PowerConvert

- Anywhere-to-anywhere workload migration
- Server Sync for effective testing and WAN migration
- Enterprise-class speed and reliability
- Live Transfer
- File and block-level replication
- Efficient image-based provisioning

> PlateSpin Helps Essent Merge Three Data Centers, Save EU€2 Million

Essent is a Dutch energy producer that supplies electricity, gas and heat to residential and business customers in the Netherlands, Germany and Belgium. In 2006, the firm undertook a major IT consolidation initiative to merge three geographically dispersed data centers

into a single central facility. The Business objectives included standardizing the IT infrastructure, reducing the physical footprint through virtualization, lowering TCO and reducing single points of failure.

Prominent among the systems to be relocated were 180 mission-critical servers supporting energy trading and production management applications for Essent's most profitable business unit. "We couldn't simply power down these servers and ship them to our primary data center by truck," explains Project Manager Marco Spoel. "The consolidation had to be completed with as little disruption as possible."

Other objectives included physical-to-physical (P2P) migration of 260 server workloads from HP to new IBM servers, and physical-to-virtual (P2V) migration of 50 workloads to a VMware virtual environment. In addition, the firm wanted virtual-to-physical migration capabilities for troubleshooting purposes, and for scaling the virtual environment should an application require it.

Following a proof of concept demonstration by PlateSpin Partner PQR, Essent purchased a combined PlateSpin PowerRecon and PowerConvert license package. PowerRecon was used to remotely monitor the three data center environments, compile server inventories and utilization metrics, and to identify virtualization candidates. The Essent team then used PowerConvert to perform all P2P and P2V migrations quickly, easily and with minimal business disruption.

"With PlateSpin we were able to migrate all our servers in one month with a team of less than eight people," says Spoel. "Without PlateSpin, it would have taken 25 people half a year. We saved EU€2 million on this data center consolidation alone, but the real savings are actually invisible. PlateSpin made it possible to complete our data center consolidation without any costly business disruption, and reduced the risk of such a large IT initiative to an acceptable level. Although it's difficult to put a price tag on business continuity, the value to our organization over time could easily be in the hundreds of millions of euros."

> Reduce Your Relocation Cost, Complexity and Risk

Together, PlateSpin PowerRecon and PowerConvert provide a comprehensive data center relocation and consolidation solution that includes integrated asset discovery, resource utilization analysis, planning, testing and migration management. It's the only solution that automates project assessment, planning and execution from start to finish. Organizations can use these innovative workload management solutions to dramatically increase the reliability, agility and responsiveness of their IT infrastructure while significantly reducing costs and risk. For more information on PlateSpin data center management and relocation solutions, visit www.platespin.com. **N**

We Are Here For You

AFP and CIFS Protocol Support in OES 2 Support Pack 1

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

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Later this year, Novell intends to release the first support pack for Novell Open Enterprise Server 2. As you talk to those involved with it, they'll tell you that the primary objectives of this support pack are to enable even greater interoperability and simplicity. The interoperability objective manifests itself in the addition of protocol support for Apple Filing Protocol (AFP) and Common Internet File System (CIFS). (See Figure 1.)

Even though greater interoperability is the main focus of the new protocol support for Novell Open Enterprise Server 2, it also delivers some other nice side benefits, with performance and scalability at the top.

AFP and CIFS are network protocols that provide native network file services for Mac OS and Windows clients, respectively. While NetWare has long provided AFP and CIFS support as part of its Native Access File Protocols, when Novell Open Enterprise Server was initially released, similar protocol support was already available from Samba and Netatalk open source solutions. Samba provides native file access services to Linux servers for Windows clients, and Netatalk provides native file access services for Mac OS clients. Based on feedback from customers, however, Novell Open Enterprise Server will inherently support both AFP and CIFS on Linux servers in the upcoming support pack. (See Figure 2.)

AFP and CIFS support on Linux also provides Mac and Windows clients with universal password support of up to 64 characters.

> Scaled Up Performance

Even though greater interoperability is the main focus of the new protocol support for Novell Open Enterprise Server 2, it also delivers some other nice side benefits, with performance and scalability at the top. While Samba and Netatalk do a good job of providing native file access, the solutions don't provide the level of scalability

that Novell customers are accustomed to. Customers found that Samba couldn't scale much beyond 800 concurrent Windows clients, and Netatalk performance topped out after about 15 concurrent Mac clients. The need to address performance and scalability for these clients became one of the driving forces for Novell to incorporate CIFS and AFP protocol support in this first update to Novell Open Enterprise Server 2. (See Figure 3.)

As part of its latest round of beta testing for Support Pack 1, Novell put the scalability and performance of its new protocol support under close scrutiny. In Superlab testing, Novell engineers found that with its new AFP protocol support, Linux servers could easily handle 500 concurrent Mac connections. Superlab testing of CIFS demonstrated the ability to support more than 1,500 concurrent Windows connections. In both cases, the new protocol support on Linux servers not only matches what customers have enjoyed on NetWare, but in many cases, exceeds it.

One of the reasons that the new protocol support will enable your native Windows and Mac users to enjoy even higher performance on Linux than they could on NetWare is the addition of both multicore and multiprocessor

Figure 1: *With new support for AFP on Linux in OES 2, you have greater flexibility in setting minimum and maximum threads, enabling you to optimize system performance based on the typical file access patterns of your users.*



support. AFP and CIFS on NetWare do not provide support for either, but Support Pack 1 provides it for Linux, thus delivering even higher performance levels for Windows and Mac users. But the added benefits don't stop at performance and scalability.

> More than Interoperability and Performance

AFP and CIFS support on Linux also provides Mac and Windows clients with universal password support of up to 64 characters. The AFP protocol supports the DHX authentication scheme used by Apple. CIFS uses Microsoft's NTLM v1 authentication scheme. Clear text passwords are disabled by default for both protocols. And passwords are case sensitive. In the future, Novell plans to provide Kerberos support for both protocols, as well as DHX2 and NTLM v2 authentication support for AFP and CIFS, respectively.

The AFP support in this support pack also gives you greater flexibility in setting minimum and maximum threads, so you can optimize system performance based on the typical file access patterns of your users. If your users do a lot of video sharing, you might want to increase the server threads. If they deal mainly with smaller files, you have the ability to decrease the threads. With this support pack, adding new AFP volumes is more administrator- and user-friendly as well. When you added

Figure 2: *The CIFS support in OES 2 support pack 1 enables users to access a Linux server from a Windows client with the same look and feel as if they were accessing a NetWare server.*



For organizations planning to move from NetWare to Linux on Novell Open Enterprise Server 2, the AFP and CIFS support in Support Pack 1 delivers an unexpected benefit that can significantly simplify migration efforts.

a new AFP volume on NetWare, your AFP users would lose their connections during the process, interrupting their work and forcing them to reauthenticate. But user connections will stay intact when you add a new AFP volume on Linux. Users will simply need to do a refresh in order to see the new volume.

If you set storage quota limits for your users, the AFP support on Linux is more conducive than what you have likely experienced on NetWare. Since AFP version 3.1 does not support user quota limits, when Mac users who had exceeded their storage quotas on a NetWare volume tried to save a new file, the file would not be saved and no explanatory message would be given. This could cause significant heartburn for users who thought they had saved a file, but couldn't find it when they later wanted to open it.

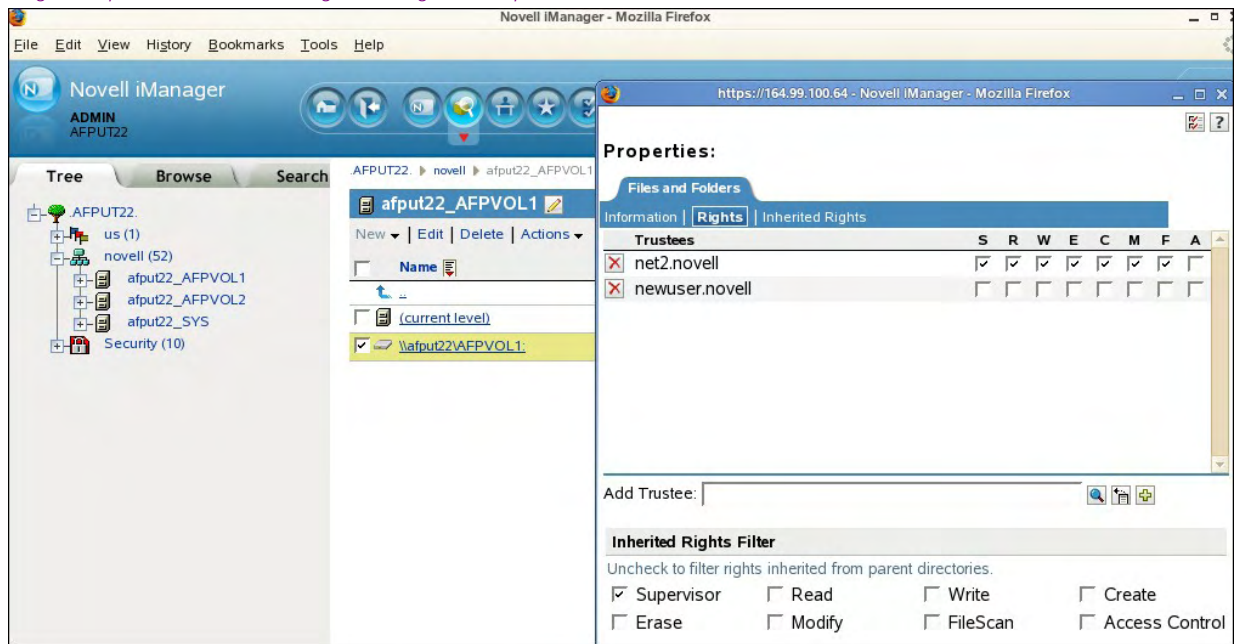
While the AFP protocol support in this support pack is based on AFP version 3.1, which still does not support user quota limits, Novell has added the ability to have an alert notify users when they are trying to save a file and have exceeded their quota limit. Additionally, Novell plans to support AFP version 3.2 in a future support pack. This will deliver support for user quota limits, as well as a number of other new capabilities that will be inherited by Mac users in Novell Open Enterprise Server 2 environments running Linux.

For organizations planning to move from NetWare to Linux on Novell Open Enterprise Server 2, the AFP and CIFS support in Support Pack 1 delivers an unexpected benefit that can significantly simplify migration efforts. Prior to this support pack, migrating to Linux meant you had to Linux-enable (also known as LUM-enable, since the procedure uses the Linux User Management service) every Samba user in order to transfer their rights from the NetWare environment to the Linux environment. When you have thousands of Samba users, this can be quite a daunting task. Novell Open Enterprise Server 2 Support Pack 1 eliminates the need to LUM enable users (though you can still do so if you choose), making migration from NetWare to Linux even easier.

> What You Need to Know

Aside from superior performance and the other enhancements we've discussed, the new protocol

Figure 3: *The protocol support for both CIFS and AFP provides tight integration with NSS for permissions, trustee rights, quotas, longnamespaces and other NSS rights management capabilities.*



support on Linux is similar to what AFP and CIFS users experienced on NetWare. Accessing a Linux server from a Windows client will have the same look and feel as if you were accessing a NetWare server. Novell eDirectory integration is basically the same for both clients. Both clients support Novell Cluster Services. And the NetWare command sets you've used for these protocols are basically the same on Linux.

Be aware that there are a few differences in this release. First, there is no support for cross-platform file locking between CIFS and AFP, or between CIFS and NetWare Core Protocol. Novell plans to add cross-platform file locking support in a future support pack, but for now you should avoid shared volumes that CIFS users, Mac users and NetWare Core Protocol users can access. Ignoring this recommendation increases the potential for file corruption. Even though cross-platform file locking is not supported between CIFS and AFP, file locking is supported between AFP and NetWare Core Protocol. So you can enable file sharing between native Mac users and Novell client users.

By default, both CIFS and AFP support Novell Storage Services. In fact, both protocols are tightly integrated with Novell Storage Services for permissions, trustee rights, quotas, long namespaces and other Novell Storage Services rights management capabilities. In future support packs, Novell plans to provide AFP and CIFS support for other Linux file systems, including ext3, XFS and JFS.

Specific to Mac users, AFP support for this release is limited to Mac OS versions 10.3, 10.4 and 10.5 with only limited support for Mac OS 10.5, because it leverages a

lot of the features of AFP v3.2. When Novell adds support for AFP v3.2 in a future support pack, it will automatically inherit the ability to support those features as well.

On the Windows side, CIFS users will only be able to print using iPrint. Also, if you're looking to take advantage of a CIFS volume on Linux as a Domain Emulator, you'll need to wait at least until the next support pack, which promises to provide that support. And one last important note: because CIFS and Samba share the same port, you have to choose between CIFS and Samba for native client access. You can't have them both running at the same time.

> **Enhanced Interoperability**

Novell Open Enterprise Server 2 provided an excellent transition point from NetWare to Linux, and the new support pack makes that transition even easier with its protocol support for both CIFS and AFP native client access. Not only does it match, and often exceed, performance and scalability for native Mac and Windows access, but it adds functionality those clients wouldn't otherwise have. In other words, not only does Open Enterprise Server 2 enable interoperability, it enhances it. **N**

Installing AFP and CIFS

You install both the AFP and the CIFS protocols from Novell Open Enterprise Server 2 Support Pack 1 as a YaST-based server installation.

To install AFP, select *Novell AFP Services* from the Open

Enterprise Server Services group, accept it, and then all of the protocol's dependent modules and packages will be installed. After it finishes installing, you'll be prompted to configure the protocol by supplying an AFP proxy user name, AFP proxy user password, the eDirectory context for the AFP server, and the credential storage location where user credentials for the AFP proxy server will be stored.

Installing CIFS is similarly straightforward, but you do need to know that CIFS has product interdependencies that you need to address. CIFS depends on Novell Modular Authentication Services for name resolution and authentication of CIFS users. Additionally, Novell Modular Authentication Services is dependent on Novell International Cryptographic Infrastructure for encryption and decryption services. These products need to be

installed and operating properly; otherwise, CIFS users will be denied access to your Novell Open Enterprise Server 2 Linux server.

To install CIFS from YaST, you select *Novell CIFS* from the *Open Enterprise Server Services* group, accept it, and then all of the protocol's dependent modules and packages will be installed. Once the server reboots, you'll be prompted to configure the CIFS protocol by supplying an eDirectory server address or host name, LDAP port for the CIFS Server (the default is 636), a CIFS proxy user name, CIFS proxy user password and the credential storage location.

For more details on the installation of the support pack, refer to the online documentation available at www.novell.com/beta when the open beta is released.

Help Is On the Way

Freudenberg IT

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

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Many companies perceive ERP hosting as a viable solution only for large enterprises. Freudenberg IT wanted to create a hosting solution that mid-market companies could afford, while maintaining the same service levels that large enterprises expect. With SAP hosted solutions on SUSE Linux Enterprise Server and HP hardware, Freudenberg IT is delivering SAP hosted solutions for mid-market companies that offer the same reliability and availability as UNIX-based, high-end hosted solutions.

> Overview

Freudenberg IT, a leading IT company in Germany, is a business division of the Freudenberg Group with more than 34,000 employees and US\$8.2 billion in annual revenue. As one of 10 global hosting partners of SAP, Freudenberg IT has subsidiaries in North America, Europe and Asia, and has more than 500 SAP systems in operation.

> Challenge

While most Fortune 500 companies have ERP systems, many mid-market companies view ERP applications as complex solutions only large companies can afford. As a global SAP hosting partner, Freudenberg IT wanted to reduce the costs and complexities for mid-market companies that implement ERP systems.

To provide SAP hosted solutions for mid-market companies, Freudenberg needed an operating platform that would not require expensive hardware, but that would provide the same levels of reliability and performance as UNIX-based hosted systems.

> Solution

Freudenberg IT evaluated extensively SUSE Linux Enterprise Server, as well as other Linux distributions and operating systems, before deciding on SUSE Linux Enterprise Server for its mid-market hosting solution.

"Because SAP systems are mission-critical, we have to provide high availability for our clients," said Richard Downham, vice president of Managed Services at Freudenberg IT. "SUSE Linux Enterprise Server is an enterprise-class system that can support customers with 24x7 operations, while reducing the overall cost of a hosted solution. SAP's endorsement of SUSE Linux Enterprise Server and collaboration with Novell gave us further confidence."

In addition to its FIT Professional UNIX-based offering for large enterprises, Freudenberg IT offers its FIT Compact solution for mid-market companies running SUSE Linux Enterprise Server. The company runs all SAP landscapes on the operating system, such as SAP ERP, CRM, SRM, and NetWeaver BI and EP, with underlying databases such as Oracle, MaxDB and DB2. All SAP

"By running SAP on the rock-solid combination of HP ProLiant hardware with SUSE Linux Enterprise Server, we've been able to dramatically reduce hosting price, expand into the mid-market sector, and increase our revenues and market share."

Richard Downham

Vice President of Managed Services

Freudenberg IT

systems delivered, regardless of database server platform, have application servers running on SUSE Linux Enterprise Server.

"With SUSE Linux Enterprise Server, we have reduced hardware server costs by nearly 70 percent in comparison to the UNIX-based systems," said Downham. "Typical SAP applications require at least three servers and that number is increasing with the addition of new SAP NetWeaver applications. We can consolidate the proliferation of nonproduction SAP environments using virtualization."

Using the built-in management tools in SUSE Linux Enterprise Server, such as YaST, Freudenberg IT can rapidly set up servers and deploy new systems. The hosting operations group creates automated and standardized solutions for rapid deployment.

"SUSE Linux Enterprise Server increases our speed to market by allowing us to get a hosted SAP solution running for new clients in hours instead of weeks," said Downham. "Our goal is to commoditize hosting without sacrificing quality, since our customers are looking for hosting vendors who can deliver quickly and turn on a dime."

The availability of SAP systems running SUSE Linux Enterprise Server is approaching 99.98 percent, matching that of UNIX-based enterprise solutions, as well as high availability (HA) clustering technology.

"SUSE Linux Enterprise Server is a true enterprise platform and we can maintain exceptional service levels, flexibility and expandability for our clients, regardless of how much their business grows," said Downham. "We

“Novell provides a proven mission-critical solution at an affordable price. There is no way we could have done this with high-cost UNIX-based systems. SUSE Linux Enterprise Server delivers maximum value to our rapidly growing business.”

Richard Downham
Vice President of Managed Services

Freudenberg IT

don't believe customers should pay twice as much for a hardware cluster they don't need, when they can get the same results with SUSE Linux Enterprise Server running on HP hardware. Combining this with Freudenberg's unique concept of splitting SAP landscapes across two active data centers so that disaster recovery is built into the hosting offering delivers what the mid-market companies expect and deserve—but at a mid-market price.”

> Results

By leveraging SUSE Linux Enterprise Server to create a cost-effective and highly available hosted ERP solution for

mid-market companies, Freudenberg IT has expanded its business into a profitable new market sector. Combining SUSE Linux Enterprise Server with HP hardware, the company has reduced hardware costs for its mid-market customers by nearly 70 percent and reduced server rack space by 50 percent compared to UNIX-based systems.

Freudenberg IT has lowered administration costs by using SUSE Linux Enterprise Server because one administrator can now manage three times as many SAP systems as before. Most importantly, the company can maintain 99.98 percent availability for its customers, rivaling significantly more expensive clustered environments.

“With Novell, we can deliver a solution that a whole new market of customers can afford,” said Downham. “We couldn't have done it without a stable, reliable platform like SUSE Linux Enterprise Server.” **N**

Article Summary

Products and Services:

[SUSE Linux Enterprise Server](#)

Results:

- [Created a cost-effective ERP hosting solution for mid-market companies](#)
- [Reduced hardware costs for mid-market clients by 70 percent, compared to UNIX-based systems](#)
- [Reduced rack space requirements by 50 percent](#)
- [Achieved system availability levels for customers of 99.98 percent](#)

Lost and Found

Being Able to Find and Share Your Documents

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

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Storage enables collaboration. Actually, storage enables the collaborative environment. Without robust storage, collaborative solutions that we depend on to solve specific business challenges wouldn't exist.

> Plain ol' Storage v. Robust Storage

What's the difference? Think of storage as a bucket without any organization or system for keeping the items you're most likely to access within easy reach. Robust storage takes it to the next level and adds organization to the contents of the bucket. So the cream, or the data you need, rises to the top for quick and easy access. Other factors also separate the two types of storage, but we'll discuss those later.

The concepts I'm really addressing are storage presentation and storage management. Covering these adequately within a collaborative solutions scenario is too much for one article, so I'll cover a bit here and leave the rest for a later date.

Storage enables collaboration. Without storage or robust storage the collaboration market would be a shell of what it is today.

Before touching on the collaborative part of the equation, you're probably wondering where this is all heading. The cream rises to the top. Storage enables collaboration. Without storage or robust storage the collaboration market would be a shell of what it is today.

Simply, almost everyone can talk about mass storage. The concepts of SAN, NAS and DAS are understood by many, but that's only part of the conversation. More appropriately, it's the presentation side of the conversation.

From simple to complex, Direct Attached Storage (DAS) is first. We usually find this type of storage in laptops, desktops and low-end servers. The drive technologies associated with these devices run the gamut from IDE to Fiber Channel (FC). As an aside, when talking storage, FC can also refer to a communication protocol; I'll explain this later. Regardless of the drive speed or the low documented seek time associated with DAS devices, the performance parameters are often not met simply because the processor is the bottleneck.

In a DAS environment the storage is physically attached or associated to a particular server and or

operating system. The server in question is responsible for not only presenting storage but also fulfilling responsibilities as a print server, application server or Web server. This is a perfect example of the concept of diminishing returns. The processor can only handle a finite number of requests and hence, can become the bottleneck.

But there are ways to reduce the impact the processor has: you can remove unnecessary services and responsibilities. But this is often not practical and disaggregating services across multiple devices promotes complexity instead of simplicity.

In addition to the overarching performance issue, another disadvantage of this environment is the maintenance, whether planned or unplanned. In order to install, remove and/or provision additional storage, the server has to come offline. Living in a 24x7 world makes this incredibly tough and impractical in some cases.

Moving up the evolutionary path takes us to Network Attached Storage or NAS. The notable difference between the two is the dissociation of processing power from the storage enclosure. The storage enclosure is physically separate from the server that is handling the data request. The responsibility of storage presentation is no longer handled by the server. This dissociation establishes a new paradigm of options as they relate to flexibility, performance and maintenance to name a few.

A core feature of a NAS device that differentiates it, is its ability to attach to the existing computer network via multiple host bus adapters (HBA). HBAs are the bridges over which data and data requests flow. The more bridges one has the more traffic one can support. If one bridge goes down the others can assume a percentage of the load. Additionally, a skilled administrator can also segregate traffic of a particular type to particular bridges. This traffic can be segregated by packet size, destination, protocol, file type and more.

SAN is a completely separate network dedicated to storage devices—and only storage devices.

The name of the game here is flexibility. Flexibility to provision, partition and massage the storage footprint into a shape or form that makes sense for a particular situation, organization or organization type.

The disadvantage of NAS is its relationship to the computer network. Simply, it's attached to it. The issue of

processing power has been solved, but the issue of all that traffic traversing the network can be scary. Enter, the Storage Area Network (SAN). Unlike DAS and NAS, this is not a device; rather, it is a completely separate network dedicated to storage devices—and only storage devices. Devices that fill the roles of backup and recovery, which include disk and tape drives, can live here. The storage repositories that knowledge and information workers depend on for the storage of their documents, spreadsheets and presentations are also located here. Lastly, applications also use this network and the devices behind it to store and present data.

Touching back to a technology mentioned earlier, FC, and most recently iFC, is the standard protocol when talking SAN. The beauty of the protocol is this: it allows storage devices, regardless of what they are, to appear to servers as local devices. This is a critical point of differentiation between NAS and SAN. If a device appears to be local, it frees it from cable distance limitations and the proximity of the data center. Likewise, devices can reside hundreds of miles away from the actual server that is handling the data request. Options abound when thinking about the positive ramifications this provides to business continuity and disaster recovery plans.

Understanding storage presentation is the first step in understanding its role in finding documents and being able to share them as you need to drive your business.

One of the most compelling attributes of a SAN is obviously its flexibility of storage presentation. A SAN provides an organization with the ability to cascade storage pools across multiple physical devices. This can be done on the fly and without human intervention. You can and should create policies to manage this process.

The downsides to the upsides of flexibility and performance are the high expense, complexity and the associated deep level of expertise an organization's technical staff needs to maintain such an environment. This is not normally an endeavor that's crafted overnight, over a quarter or several months. Storage environments, like people, evolve. They start out as noncomplex DAS environments that solve the following basic business needs: Where should I store my documents for all to see, use and collaborate on?

Once this environment is outgrown a NAS will appear. Potentially, its first role is not that of a data repository but of a backup target within a d2d2t environment. Once it begins to be used as a data repository the computer network could potentially be a bottleneck and would require an upgrade. Many organizations dovetail this upgrade with a SAN implementation to fully leverage the investment to which they've committed.

Understanding storage presentation is the first step in understanding its role in finding documents and being able to share them as you need to drive your business. The second part, which we'll cover later, is understanding how storage management methodologies relate to storage presentation concepts. At the conclusion of this conversation, you'll have a complete picture of storage presentation, storage management and be able to search enable your collaborative solution more efficiently. **N**