

Connection

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ARTICLES

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It's Hot

New Novell Conferencing Provides Easy, Inexpensive and Effective Web Meetings

by Ken Baker

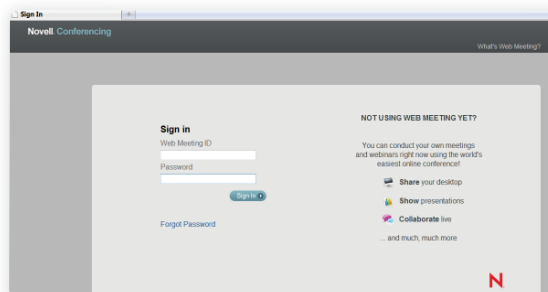
You have people in multiple locations across the country, and maybe even around the world, but tight travel budgets make it impossible to bring them together often enough for face-to-face meetings. You may have looked at or tried different Web conferencing options, but likely found that they were too expensive, overly complex or too difficult to use. To make matters worse, these Web conferencing offerings typically aren't able to integrate with your other collaboration tools, such as e-mail and team workspaces. Novell has the answer with its inexpensive, easy-to-host and join Web conferencing product—[Novell Conferencing](#).

Before we go any further, you need to understand that this is a completely different offering than what was available in Novell Teaming + Conferencing. In fact, that SKU has now been removed from the Novell price list. Novell now has two separate SKUs: Novell Teaming and the newly released Novell Conferencing. If you're a customer of the old conferencing product, this article will cover how Novell will make it easy for you to take advantage of the new Novell Conferencing product. First, however, let's discuss why Novell made the move to this offering. The answer is opportunity—the opportunity to offer a Web conferencing tool that:

- is easier to use
- costs less
- provides both video and audio conferencing
- works on Windows, Linux and Mac clients
- integrates with Novell GroupWise Instant Messenger, as well as Novell GroupWise and Novell Teaming

> Easy Web Events

Novell Conferencing makes it easy to host and join Web events. Unlike other solutions, Novell Conferencing doesn't require participants to install any software to simply attend a meeting. If you can view a Web page, you can attend a video or audio-based Novell Conferencing Web event and see all the content (PDFs, Web pages, whiteboard content and other documents) involved. Hosting a Web event is just as easy. The only exception is if you want to share your desktop during a Web conference. To do this, you just take a minute or two to install a simple plug-in.



Novell Conferencing sign in page

Figure 1: When you visit your unique conferencing URL, Novell Conferencing automatically signs you into your account where you can choose to launch or schedule a Web event.

[Novell Conferencing](#) works by assigning account owners their own unique conferencing URLs (i.e., conferencing.novell.com/conferencingID). This conferencing URL acts as a virtual meeting place for Web events. When you visit your URL, Novell Conferencing automatically signs you into your account and lets you choose to launch an instant event, launch a previously scheduled event or schedule a new event for a future date and time. (See [Figure 1.](#))

To schedule a meeting, just click the Schedule Meeting button and then enter the details for your meeting, including meeting date and time, meeting name, agenda items, attendees and a meeting key if you want to make the meeting private. (See [Figure 2.](#)) You can also configure your preferences for the meeting, such as whether or not you want the audio/video to be set to Camera and Microphone, Camera Only, Microphone Only or None. (See [Figure 3.](#)) You can also decide if you want the following meeting preferences turned off or on: public chat, private chat, computer screen sharing, Web page sharing, document sharing, whiteboard sharing, participant list display and meeting recording.

Novell Conferencing makes it easy to host and join Web events.

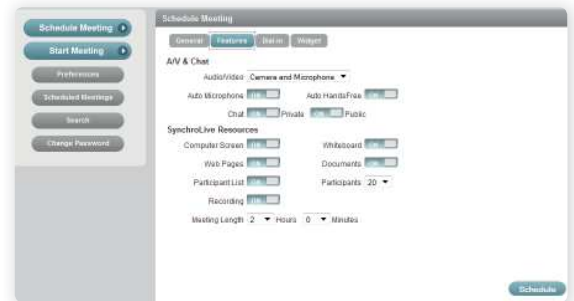
Once you finish configuring your meeting, click Schedule to return to your Scheduled Meetings page, which displays your upcoming meetings. It will also display a meeting widget that Novell Conferencing automatically created for you when you configured your meeting. (See [Figure 4.](#)) The meeting widget can be used to easily promote your meeting via a variety of social networking mediums, including Facebook, Twitter, Myspace, Blogger, LiveJournal, WordPress, Yahoo! Widgets, iGoogle, Technorati and many more. You can even customize meeting widget characteristics when you set up your meeting, such as having the widget display a countdown timer for the meeting, meeting registration information, or embedded links to the recording or transcript after the meeting is over.

Novell Conferencing also allows you to customize your virtual meeting room with a look and feel that aligns with your corporate brand. To do so, click the Personalization tab under Preferences. From this page you can upload a company logo or other image that will display in the bottom



General settings for scheduling a meeting

Figure 2: Novell Conferencing makes it easy to schedule and configure the details of your Web events.



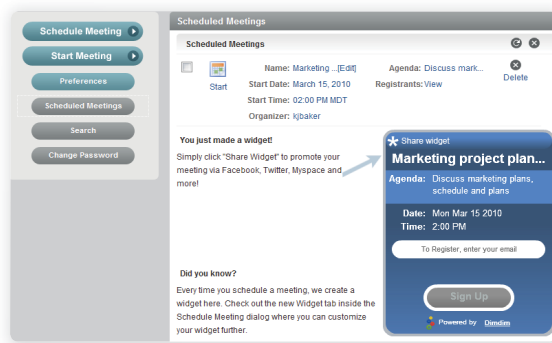
Additional feature setting for scheduling a meeting

Figure 3: Novell Conferencing gives you granular control over what features will be available during your meeting, including settings for AV, chat, recording, and document sharing.

left of the meeting console. You can also personalize your meetings' collaboration URL, which is the Web address that attendees see when they join your meeting. (See [Figure 5](#).)

To join a scheduled meeting or event, invited participants simply browse to the meeting place URL. If they arrive before the event begins, they'll be directed to a virtual waiting room where they can register for future events or wait for you to start the event. Once the event begins, they'll immediately be joined to the event, as will other participants that browse to the unique conferencing URL while the event is in progress.

For people that can't attend your Web event at your scheduled time, Novell Conferencing lets you record your meetings. After the meeting ends, Novell Conferencing will send you a playback URL that you can easily distribute. It also gives you a video-embed code that will let you post the recording to your blog or any other Web site, such as YouTube. As implied earlier, this code can also be automatically embedded in the meeting widget Novell Conferencing creates for you to promote your event.



Scheduled Meetings page

Figure 4: When you schedule a Web event, Novell Conferencing automatically creates a meeting widget that makes it easy to promote your event.

> Inexpensive Web Events

As a 100 percent browser-based offering, you can host or join a [Novell Conferencing](#) event from a Mac, Windows or Linux computer. However, if you're hosting the event and want to share your desktop, you need to be aware that the initial release of Novell Conferencing only supports screen sharing from Windows and Mac clients. The screen sharing plug-in for Linux desktops will be available in a future release.

Once you install the screen sharing plug-in, you'll be able to start a meeting or share your desktop without even launching a browser. The plug-in lets you pause and play your screen, as well as quickly switch out of sharing your desktop to the other collaboration features provided by Novell Conferencing.

Another benefit of being a 100 percent browser-based offering is that Novell Conferencing doesn't require any additional infrastructure investments or maintenance. It simply takes advantage of your computer's microphone and Webcam to integrate voice and video into your Web event. Priced at a fraction of the cost of competing conferencing solutions, Novell Conferencing begins at US\$120 per user/year for a 20-participant room, with pricing also available for 50- and 1,000-participant rooms.

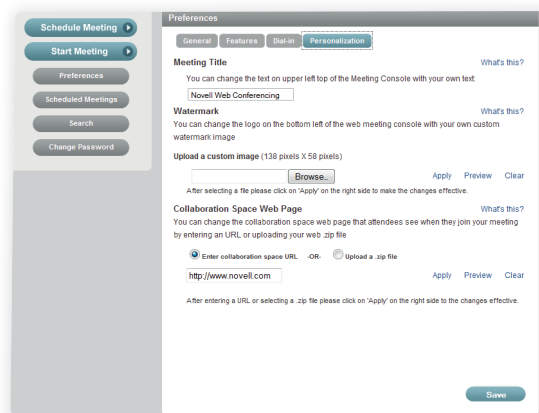
Even though this release of Novell Conferencing doesn't include telephony/PBX integration, that functionality will be provided in a future release. When this integration becomes available, it will use a soft bridge for voice processing. This will represent another significant savings since you won't have to invest in an expensive voice processing hardware card.

As a 100 percent browser-based offering, you can host or join a Novell Conferencing event from a Mac, Windows or Linux computer.

> Instant Message—Instant Conference

The previous conferencing product from Novell used the Pidgin client, leaving some to wonder about Novell GroupWise Instant Messenger. Novell Conferencing clears up any confusion about what instant messaging platform Novell is moving forward with by providing powerful integration with Novell GroupWise Instant Messenger. This integration enables you to elevate an instant message into a full-blown instant Web conference. In other words, it makes launching real-time Web meetings as easy as initiating an instant message.

Novell Conferencing will leverage this integration with Novell GroupWise Instant Messenger to create integration points with Novell Teaming in the coming months. For example, Novell GroupWise Instant Messenger will become the presence engine for Novell Teaming. In a month or two you'll also see integrations between Novell GroupWise and Novell Conferencing, including the ability to easily schedule a Web conference using a Novell GroupWise appointment and then allowing attendees to join a Web conference by simply clicking a link within the appointment.



Preferences and Personalization page

Figure 5: Novell Conferencing lets you customize your virtual meeting room with your corporate brand.

> Hosted Conferencing

Novell Conferencing will initially be released as a hosted service, letting you take advantage of all the benefits of Software-as-a-Service (SaaS), which include the following:

- Quick and easy to deploy
- No infrastructure investment except for a reliable Internet connection
- No client or server software to install or maintain

- Instant scalability with no need to buy additional hardware or servers
- Lower initial costs as a result of its yearly subscription model
- Access to the service from any Internet connected computer
- Always up-to-date with the latest features at no additional charge
- No need to maintain a labor-intensive patch and upgrade process
- Reduced effort from and reliance on IT staff for support

Later this year, Novell plans to deliver an on-premise version of Novell Conferencing as well. Any Novell customer that purchased Novell Teaming + Conferencing and remains current on their maintenance contract will be able to take advantage of the on-premise version of Novell Conferencing without any additional cost.

To learn more about how Novell Conferencing can provide you inexpensive, effective, easy-to-host and easy-to-join Web events, visit www.novell.com/conferencing.

Learn More about Novell Conferencing

- [Novell Conferencing](#)
 - [Introducing Novell Conferencing](#)
 - [Installing and Configuring Novell Conferencing](#)
 - [Novell Conferencing Flyer](#)
 - [Novell Conferencing Data Sheet](#)
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A Decade of SUSE Linux Enterprise Server on the IBM Mainframe

By Bill Tobey

May 17, 2010 marks the tenth anniversary of commercially distributed, fully supported Linux on the IBM mainframe. On that day in 2000, SuSE (later SUSE LINUX AG, acquired by Novell in early 2004) announced the first availability of SUSE Linux Enterprise Server for S/390. An eventful decade later, it's difficult to recall just how improbable this development seemed at the time, but it's worth pausing to reconsider how Linux reconnected the diverging worlds of mainframe and distributed computing, and the impact of that development on the past and future evolution of enterprise IT.

> The Last Closed Platform

By the late 1990s IBM was engaging the open source software community on multiple fronts. Linux was running on its Power and x86 systems, the company had joined the Apache Project, and researchers across the organization were contributing time and code—sometimes officially, sometimes independently—to assorted community efforts. But open source remained an open issue in some areas, and the company's crown jewel, the System 390, was still proudly and pristinely proprietary. Of course the idea of any non-native OS running on an IBM mainframe was so controversial that an internal project to port Linux for the S/390, based in Böblingen, Germany, was carefully kept secret from the rest of the organization.

That began to change in December 1998 with a top-to-bottom review of IBM's open source strategy. The verdict: open source innovation would ultimately drive growth for IBM. As successful Linux applications evolved into mission-critical business services, those workloads would inevitably migrate onto mission-critical platforms, including the mainframe. In December 1999, the Böblingen team released its work to the community: a collection of extensions and patches providing a functional SMP kernel, console, Glibc, gcc, binutils and gdb patches. IBM wouldn't release a distribution of its own, but the invitation to existing distributors couldn't be clearer. The ultimate closed environment was open to open source.

> First to the Mainframe Party: SUSE Linux Enterprise Server

SuSE was the first established distributor to respond. A SuSE team approached IBM, offering a proof of concept distribution in exchange for an architectural orientation to the mainframe environment and a reference system for development. With the system created at Marist College from IBM patches running on a borrowed Multiprise 3000, they used the SuSE AutoBuild system to create packages. "After the first weekend we had 400 packages," recalls Marcus Kraft, product manager for SUSE Linux Enterprise Server for System z. The team also adapted YaST and edited the package selection for a mainframe distribution.

But the technical obstacles, while large, did not compare to the business challenge of adapting SuSE's packaged software business model for the low-volume, service-intensive mainframe market. "Enterprise customers and ISVs needed a stable code base to build solutions on," Kraft says, "but Linux was evolving very quickly. So we decided to basically freeze the code base, main-

tain it to ensure hardware and software compatibility, then offer subscription-based services on top of that—and customers resonated with this approach.”

SUSE Linux Enterprise Server for S/390 was born.

> **The First True Cross-platform Linux**

The release of SUSE Linux Enterprise Server for S/390 completed the first true cross-platform Linux offering and introduced Linux to the platform farthest from its x86 roots. The IBM System 390 was the architectural opposite of contemporary PC-based servers. Its massive processing resources were perfectly balanced with memory and I/O subsystems to consistently optimize CPU use. Distributed processing capacity, primarily in the form of dedicated I/O channel processors, limited subsystem overhead on CPUs. Thorough attention to hardware component and system design and painstaking elimination of single points of failure in hardware and microcode provided reliable, available and serviceable functioning at unmatched levels. Virtualization technologies with 30 years of operational refinement allowed efficient logical partitioning of physical resources and complete isolation of multiple operating environments. Perhaps most uniquely, System 390 preserved an unbroken 40-year history of backward binary compatibility, thus preserving customer investments and commitment to the platform.

> **A Platform on the Move**

But the mainframe was also evolving rapidly under a changing business environment characterized by new workloads, increasing cost pressure and the disruptive proliferation of distributed computing systems. Soon after SuSE released its Linux for S/390, IBM introduced the eServer zSeries 900, the first mainframe purpose-built for e-business. The new release included z/OS, a new 64-bit operating system, and z/VM, a new hypervisor capable of running hundreds or even thousands of virtual machines on a single physical system.

The current state of mainframe arts is the IBM System z10 Enterprise Class, with up to 64 configurable 4.4 GHz processor cores, 1.5 TB of memory, a new InfiniBand host bus with a link data rate of 6 GB/s each (maximal number per system is 48, in total up to 288GB/s of aggregate I/O throughput), and a broad range of available specialty engines including the Integrated Facility for Linux (IFL). A variety of capacity on demand (CoD) options give the System z10 temporary or permanent capacity scaling on the fly. This is a platform specifically designed for efficient, large-scale consolidation of distributed workloads, and Linux support is intrinsic to its mission.

> **A Decade of Co-evolution**

Synchronizing SUSE Linux Enterprise Server development with mainframe platform innovation has forged an enduring partnership between Novell and IBM. When IBM introduced 64-bit adaptations for Linux for System z, SuSE developers proposed the File Hierarchy Standard changes necessary to support the larger address space and co-existence of 32-bit and 64-bit applications within the same Linux instance, preserving ease of migration onto the new system for existing ISV applications. As the mainframe microarchitecture has evolved, SUSE Linux Enterprise Server has consistently been the first distribution to support new instructions. Novell has invested heavily in support capabilities to serve IBM's global customer base, and in ISV outreach programs to certify more than 1,000 third-party applications for [SUSE Linux Enterprise Server for System z](#).

Novell has also consistently driven innovation to simplify life for customers who choose to run Linux workloads on their IBM mainframes. One example is the SUSE Linux Enterprise Server

Starter System for System z, a complete pre-built installation server that can be deployed in a mainframe environment to streamline and simplify subsequent installation of virtual Linux servers.

For Novell, the return on this investment has been a dominant position in the mainframe Linux market space with more than 80 percent share of Linux on mainframe deployments and fully 75 percent of the SAP on Linux installations. For customers, the return is a proven OS platform for Linux workload migration to the mainframe that is fully supported by IBM worldwide.

> SUSE Linux Enterprise Server for System z 11 on System z10: the State of the Art

That value proposition is emphatically fulfilled in the current state of the art—the recent [SUSE Linux Enterprise Server for System z](#) version on System z10—which delivers a broad portfolio of new and exclusive features, including:

- Cross-architecture debugging: System z core dumps can now be analyzed on x86 systems, eliminating the need for duplicate mainframe hardware.
- Dynamic reallocation of CPU and memory: The resources of a Linux guest under z/VM can now be modified on the fly. A pool of CPUs are dynamically given to a Linux guest and used as needed.
- Higher performance analysis in the disk subsystem: Performance analysts now enjoy the same view into SCSI over Fibre Channel Protocol that they have with Direct Access Storage Devices (DASD).
- Vertical CPU management: Helps get the most out of System z10 servers through awareness of their NUMA characteristics.
- Linux CPU node affinity: Improves performance by scheduling processes on the node with optimal CPU association, exploiting the new System z10 CPU node topology.
- Large page support: Exploits new system z10 large memory pages (1 Mb) for better performance with large memory footprints as in Java or database workloads.
- Enhanced HiperSocket support: Provides additional layer 2 support for IPv4 and support for IPv6.
- The Subscription Management Tool for SUSE Linux Enterprise: A local package proxy, tightly integrated with Novell Customer Center, that simplifies and secures patch service subscription and management through local staging, distribution, and entitlement tracking.
- SUSE Linux Enterprise High Availability Extension: An integrated suite of innovative open source clustering technologies (OCFS2, cLVM, Pacemaker, drbd, multipath) that lets you implement highly available Linux clusters.
- Mono support for .NET workloads: SUSE Linux Enterprise Server for System z supports the Mono open source implementation of the Microsoft .NET framework, allowing .NET workloads to run on the mainframe on Linux guests for the first time.

> Cleared for Consolidation, and for the Cloud

The combination of [SUSE Linux Enterprise Server for System z](#) and the IBM System z10 is the superior platform for economically and efficiently consolidating distributed workloads, with benefits that include:

- Reduction in the number of servers by factors of 100-200 to 1
- Increased CPU use from an average of less than 10 percent in x86-64 platforms to up to 95-98 percent on a System z, through consolidation of equivalent workloads
- Dramatically reduced CPU-based software licensing costs

- Reduced data center support staff requirements
- Power and cooling cost reductions that can exceed 80 percent
- Data center floor space reductions of up to 25:1
- Faster server provisioning
- More reliable, available and serviceable features
- Overall TCO reductions ranging from 30-50 percent

Linux on the mainframe is also a natural platform for delivering the next generation of utility computing services, whether in private or public service scenarios. The core requirements for these applications—massive resources coupled with intelligent workload management (IWM) features capable of supporting extremely dynamic workloads—map perfectly to the features of SUSE Linux Enterprise Server on System z10.

There are no crystal balls in the data center, but however enterprise computer environments evolve over the next decade, there is every reason to expect [SUSE Linux Enterprise Server for System z](#) and the IBM mainframe to continue to play the central role they have played, together, in the decade past.

Online Resources // Novell Connection Magazine

Learn More about SUSE Linux Enterprise Server

- [SUSE Linux Enterprise Server for System z](#)
 - [System z Promotions](#)
 - [System z Blog @ Cool Solutions](#)
 - [Download SUSE Linux Enterprise Server for System z](#)
 - [Workloads for SUSE Linux Enterprise Server for System z](#)
 - [Server Consolidation with SUSE Linux Enterprise Server for System z](#)
 - [SUSE Linux Enterprise Consolidation Suite for System z FAQ](#)
 - [SUSE Linux Enterprise Server for System z Data Sheet](#)
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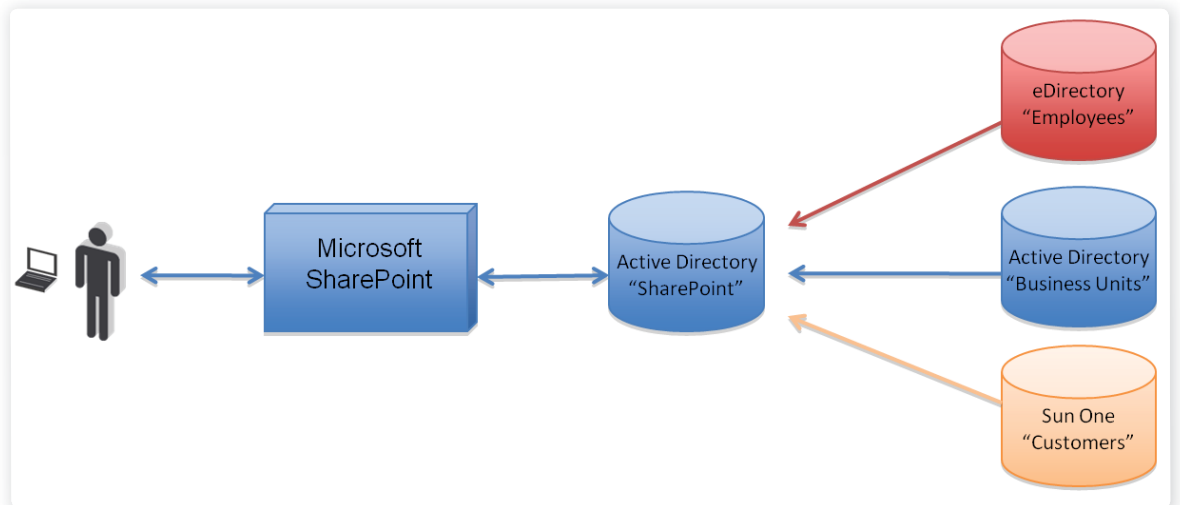
Relationships of Trust

Novell Access Manager: Simplifying Multi-Community Access to SharePoint

by Ken Baker

In 2006 Novell and Microsoft announced a set of broad business and technical collaboration initiatives to build, market and support a series of offerings that would make Novell and Microsoft products work better together (Visit www.moreinterop.com). While many of these efforts have focused on interoperability and manageability between Windows and Linux, a recent joint project has simplified administration and security of customers' SharePoint implementations by using [Novell Access Manager](#) to provide multi-community access to SharePoint services.

If you use SharePoint for collaboration and data sharing, you might have encountered difficulties managing access from your various identity stores. While SharePoint supports standard LDAP identity stores, using anything other than Active Directory (AD) for access to SharePoint can create administrative complexity. (See [Figure 1](#).) Even if you're just using AD, management can be difficult when you have multiple AD identity stores. The identity and access management becomes even more complex if you want to give your partners and customers access to your SharePoint resources, as these communities are often managed in separate identity stores.



SharePoint and multiple identity stores

Figure 1: Managing user access to SharePoint environments can be extremely difficult, especially if you have to support access from multiple identity stores.

To deal with the need to provide SharePoint access to different user communities—inside and outside of your organization—organizations typically have to either supplement their existing identity infrastructures with additional provisioning products to synchronize their different identity stores, or they have to employ manual registration and management processes. In either case,

the result is increased complexity and management overhead. But all the complexity and administrative overhead caused by the need for multi-community access to SharePoint can virtually disappear by introducing Novell Access Manager into the mix.

Novell Access Manager can be used as an authentication server for Microsoft SharePoint to help administrators overcome the challenges of managing multi-community access to SharePoint.

> Trusted Connections

Many customers use Novell Access Manager for its access management capabilities in providing secure access to their Web servers. (See Out-of-the-Box Access Management.) It also has the inherent ability to facilitate the management of user authentication and authorization within organizations that have multiple identity stores of different types. Additionally, a Novell Access Manager identity server can provide authentication for provider and consumer services for various identity federation standards. As a result, Novell Access Manager can be used as an authentication server for Microsoft SharePoint to help administrators overcome the challenges of managing multi-community access to SharePoint.

Pro Tip // Novell Connection Magazine

Out-of-the-Box Access Management

Novell Access Manager enables simple and safe online asset sharing without requiring modifications to your Web servers. It provides out-of-the-box access management for network content, applications, and services across a broad range of platforms and directory services. Its capabilities include authentication, authorization, Web single sign-on and personalization. It also provides SSL VPN functionality including multi-platform support, client integrity checking and secure “shredded after use” desktop folders. The Novell Access Manager architecture provides cross-platform support for any standard HTTP Web server, including Microsoft IIS and Apache. It also seamlessly integrates with Microsoft SharePoint, IBM WebSphere, BEA WebLogic, JBoss, SAP Portal and many other applications.

To simplify the management of multi-community access to SharePoint, Novell Access Manager uses identity federation to represent users from multiple identity stores. (See Federation Simplified.) Even though the term federation sometimes conjures up images of increased complexity in some people’s minds, it shouldn’t be the case here. Identity federation is simply a process to securely exchange identity information between or across organizational boundaries. And for SharePoint, Novell Access Manager hides any underlying complexity, simplifying the implementation and management of this identity exchange or federation process.

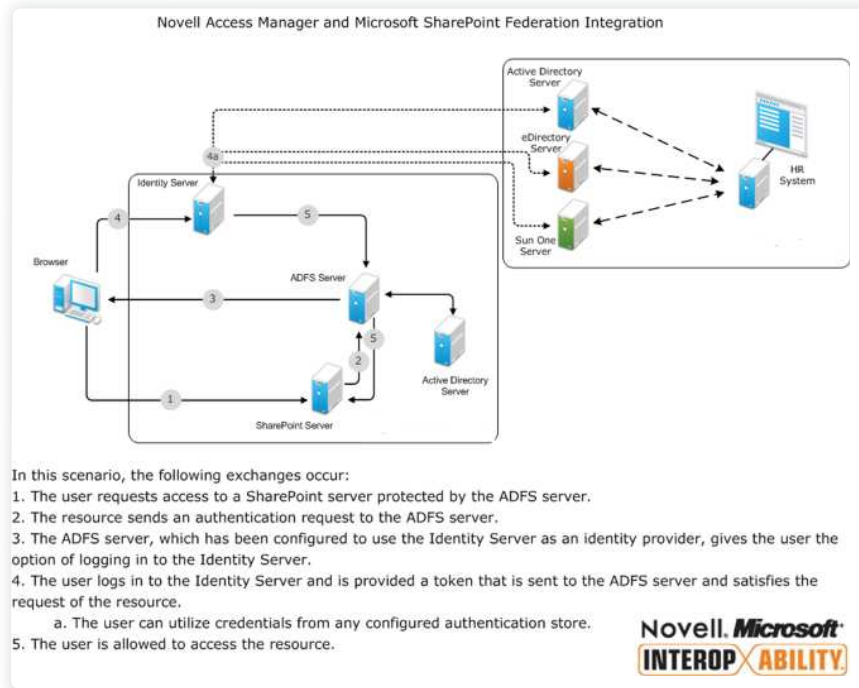
Novell Access Manager supports a variety of identity federation standards, including Security Assertion Markup Language (SAML), Liberty Alliance and Web Services Federation (WS-Federation). Likewise, Microsoft SharePoint supports Active Directory Federation Services (ADFS), which is based on the WS-Federation standard. Using the common ground provided by the WS-Federa-

tion standard, Novell and Microsoft worked together to allow you to use the out-of-the-box capabilities of Novell Access Manager to act as the authentication point for all user access requests to SharePoint. (See Interop Collaboration.)

Key to making it all work is that Novell Access Manager acts as an identity provider with the ability to configure various authentication contracts. These contracts basically specify how you want your users to be authenticated, such as user name/password or some biometric method, as well as specify to which identity stores users should be validated against.

Another key component is the trusted connection between [Novell Access Manager](#) and SharePoint. This trusted connection relies on a communication interface established between an identity server on the Novell Access Manager side and an ADFS server on the SharePoint side. Through this trusted interface, the two systems exchange metadata that contains information about each service, including URL endpoints and certificate information.

The third and final aspect of the Novell Access Manager and Microsoft SharePoint relationship consists of the mapping of ADFS-based authentication claims. Your SharePoint administrator will define how the identity information within the authentication claims sent from Novell Access Manager will map to specific SharePoint groups, which in turn ultimately govern access control.



SharePoint and Novell Access Manager interaction

Figure 2: Leveraging the WS-Federation standard, Novell Access Manager can act as the authentication point for all user access requests to SharePoint.

The different technologies work together to simplify access management to SharePoint in a way that eliminates the need to manage individual identities in a single Active Directory identity store. (See [Figure 2](#).) The basic process flows as follows in a near instantaneous manner:

1. When users request access to SharePoint, the requests get passed to an ADFS server.
2. The ADFS server redirects the request to the Novell Access Manager identity server acting as the identity provider.
3. The identity server validates those users and their credentials against their identity information contained in the appropriate identity store.
4. Once validated, the identity server transforms the user identity into a set of ADFS claims (A collection of specially formatted user authentication information, such as name, identity, key, group, privilege, etc.).
5. The identity server sends the ADFS claim back to the ADFS server, which will interpret those claims based on a preconfigured mapping between ADFS claims and SharePoint groups.
6. Based on the interpretation of those claims, users will be granted the appropriate access to SharePoint.

Pro Tip // Novell Connection Magazine

Federation Simplified

In basic terms, identity federation provides single sign-on to services that extend beyond the users' organizational boundaries. User accounts can be permanently linked or a temporary identity can be established for the life of a session using pre-defined identity information. But identity federation can do much more than provide single sign-on. Industry standards have been defined that allow the creation of trusted federations or relationships across disparate systems, regardless of their associated identity infrastructure. These trusted relationships enable the cross-domain exchange of security tokens and identity information in a manner that can unify and streamline the management of user access.

> Trusted Provider

To create the trusted Novell Access Manager and Microsoft SharePoint relationship, you first need to set up Novell Access Manager as an authentication service for SharePoint by doing the following:

1. Install a Novell Access Manager identity server.
2. Edit the Identity Server configuration from the Novell Access Managers administration console.
3. In the Enabled Protocols section under the General tab, select the STS and WS Federation protocols.
4. On the Identity Servers page, create and enable an attribute set for WS Federation.
5. To establish a trusted relationship with the ADFS server, create a new service provider on the Identity Server page, specifying the name of the service provider (i.e., TreyResearch, which is the default name for the ADFS resource server), the provider ID of the ADFS server, the sign-on URL, the logout URL and the path to the signing certificate for the ADFS server.

Once you have a Novell Access Manager identity server set up as an authentication service for

WS-Federation/ADFS, your SharePoint administrator will then need to configure SharePoint's ADFS server to accept that identity server as a trusted identity provider. The final step is to have your SharePoint administrator define the appropriate mappings for the authentication claims.

Pro Tip // Novell Connection Magazine

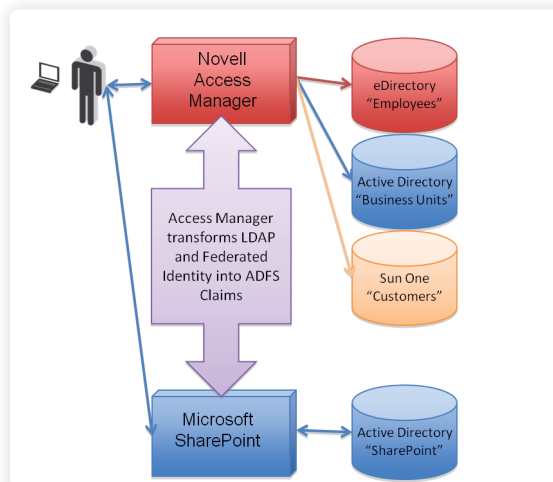
Interop Collaboration

Using the WS-Federation specification and the access management capabilities inherent to Novell Access Manager, Microsoft and Novell have partnered to enable identity federation between applications using Active Directory, Novell eDirectory and other LDAP identity stores. The results of this collaboration enable users to seamlessly access enterprise applications and Web-based services with one set of passwords and policies, whether their user accounts reside in eDirectory or Active Directory identity stores. Furthermore, it enables Microsoft SharePoint to take advantage of Novell Access Manager to simplify access management in environments with multiple identity stores.

> Simple, Secured Trust

A key advantage of having [Novell Access Manager](#) authenticate users for SharePoint is that Novell Access Manager supports multiple identity stores out of the box, including Novell eDirectory, Microsoft Active Directory and Sun ONE Directory Server. (See [Figure 3.](#)) It can also be customized to support additional LDAP identity stores. As a result, Novell Access Manager lets you preserve the identity stores that already exist within your organization. You don't have to move them to AD or consolidate them into a single identity store just to facilitate management of your SharePoint environment. It also lets you give your customers and partners access to SharePoint without having to replicate their identity stores.

As mentioned earlier, Novell Access Manager also supports other federation specifications, making it easy to manage all of your user access and trusted identity relationships from a single source. Since the support for all these different identity stores and federation standards are native to Novell Access Manager, you don't need additional components as you look to simplify and increase your user authentication and authorization capabilities.



Novell Access Manager and multiple identity stores

Figure 3: Novell Access Manager facilitates management of your SharePoint environment by letting you preserve your existing identity stores.

A key advantage of having Novell Access Manager authenticate users for SharePoint is that Novell Access Manager supports multiple identity stores out of the box, including Novell eDirectory, Microsoft Active Directory and Sun ONE Directory Server.

To learn more how Novell Access Manager can simplify management of your SharePoint environment watch a [Novell webinar on SharePoint administration simplified](#) or visit the [Novell Access Manager](#) page.

Online Resources // Novell Connection Magazine

Learn More about Novell Access Manager

- [Novell Access Manager](#)
 - [Simplifying SharePoint Security](#)
-

Party Time

Fast, Intelligent Streaming and other Virtual Application Enhancements in Novell ZENworks Application Virtualization 8

by Jason Blackett

Whether you want to eliminate application conflicts, deliver applications faster, reduce helpdesk calls, make your desktops more secure and manageable, control application deployment costs, or ensure user productivity, there are a lot of compelling reasons to take advantage of Novell ZENworks Application Virtualization. But if that wasn't enough, this month's release of [ZENworks Application Virtualization 8](#) adds powerful new features to the equation.

Novell ZENworks Application Virtualization lets you quickly and easily convert Windows-compatible applications into self-contained virtual applications that can run in their own isolated environments (sandboxes) to eliminate software conflicts, OS dependencies and manual installation processes. Version 8 of the product builds on these capabilities with a new streaming feature and greater 64-bit support, so you can better leverage your infrastructure investments, more efficiently deliver virtualized applications to users and take advantage of the latest hardware improvements on the desktop.

> Power Apps

When Microsoft delivered 64-bit Windows for the desktop, it opened the door for the creation of higher-performing applications that can better meet the needs of power-hungry users. Now that more and more vendors have had the time to rewrite their applications to take advantage of 64-bit capabilities, the market is seeing a steady increase in the number of 64-bit applications available. With Novell ZENworks Application Virtualization 8, you can virtualize 64-bit applications, just as you could their 32-bit counterparts.

While previous versions of ZENworks Application Virtualization let you package 32-bit applications for execution on 64-bit devices, they didn't allow you to package 64-bit applications. Additionally, they didn't let you create snapshot packages on 64-bit machines. ZENworks Application Virtualization 8 lets you virtualize 64-bit applications by taking a snapshot of their installation on a 64-bit Windows operating system and then building the application for virtual deployment. Once built, you can use your favorite software deployment tool to deliver it to any 64-bit Windows platform, where it will have full access to the operating system's 64-bit capabilities.

With Novell ZENworks Application Virtualization 8, you can virtualize 64-bit applications, just as you could their 32-bit counterparts.

In addition to support for 64-bit applications, ZENworks Application Virtualization 8 gives you greater control and flexibility in targeting the CPU type where you want your 32-bit virtual applications to run. This means you can build a virtual 32-bit application so it can only run on 32-bit

machines, 64-bit machines or both CPU types. (See [Figure 1.](#)) This enables you to build virtualized applications that can take greater advantage of the native characteristics of the machines to which they will be deployed.

> Predictive Streaming

One of the most exciting new enhancements delivered in [Novell ZENworks Application Virtualization 8](#) is application streaming, which lets you rapidly and efficiently deliver your virtual applications through a Web browser or your existing software delivery service. With this function, you can place your virtual applications on network shares or Web sites, where they can be accessed for execution by your users. When the virtual application executes, the streaming capability enables the application to launch five to 20 times faster than it would otherwise.

Streaming in ZENworks Application Virtualization 8 uses a predictive algorithm to intelligently determine what pieces of the application the user will need for application launch—and then brings down only those pieces. The product then streams the other pieces of the application based upon the anticipated needs of the user. It can also dynamically adjust what is streamed based upon application use. Leveraging a tree model, this predictive streaming process in ZENworks Application Virtualization 8 prevents the significant latency that you find in other application virtualization solutions that use a page-call system for streaming.

Additionally, Novell has designed the streaming function in ZENworks Application Virtualization 8 so that it doesn't require any additional infrastructure investments. You can use an existing Web server to stream your virtual applications, or place them on a Windows file share, NFS share or other client-accessible file share.

Streaming in Novell ZENworks Application Virtualization 8 also has a Register Local mode that allows the streamed application to persist on a user's client device even after it's been shut down. This allows the user to continue to access the application even when there is no longer an Internet connection, such as on an airplane.

> Build It, Stream It

Building a virtual application that you want to stream requires the following four steps:

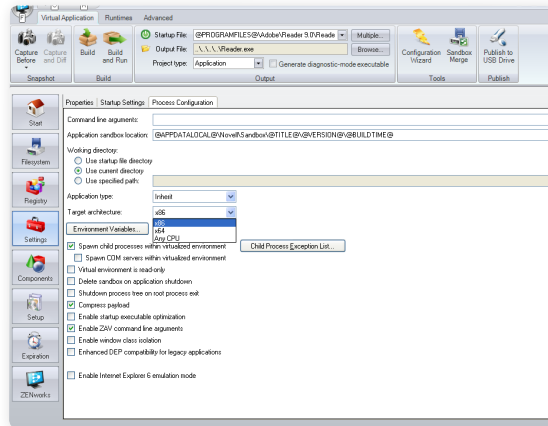
1. Build the application
2. Profile the application
3. Build an application model to stream
4. Publish the application

> Step 1: Build the Application

You use the packager application in ZENworks Application Virtualization 8 to build your virtual applications. This tool works similar to other applications that package software. It first takes a snapshot of what the machine looks like prior to executing the installer for the application to be packaged. After you install the application, the packager executes a process that compares the new state of the machine with the original state of the machine, and saves those changes. Finally, it allows you to modify the configuration of the application to meet your specific needs.

While you're configuring the application, you need to make sure to have the Compress payload option unchecked to allow the profiling process to properly determine what files are being used by the user. (See [Figure 1.](#)) After you complete the application configuration, you can build the virtual executable. This creates a single .exe file that can be deployed to any device.

The packager application also provides the means to quickly inject common components such as the .NET Framework into your package. A variety of other commonly used applications are also available as pre-canned templates that can be built very quickly. All of these applications



Process Configuration settings

Figure 1: Novell ZENworks Application Virtualization 8 lets you build 32- and 64-bit virtual applications, as well as target whether your 32-bit applications will run on 32-bit machines, 64-bit machines or either CPU type.

can be profiled and streamed.

> Step 2: Profile the Application

In order to leverage application streaming, you next need to profile the application. It's best to involve a typical end user of the application during this process. The purpose of profiling is to "teach" the packager what files are going to be needed when the application is executed, as well as anticipate needs based upon changing user behavior.

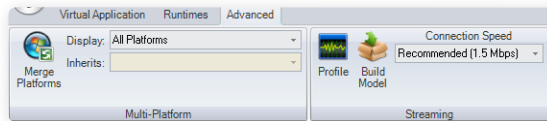
To profile the virtual application, select the Advanced tab in the packager application and click the Profile button. After you specify a folder to hold the transcripts, the virtual application will execute. At this point, the application needs to be used just like it would normally be used by a typical end user. To facilitate this, you might find it helpful to deploy the packager application to an end user's device. This allows you to start the profiling process on the end-user device and have the user use the application in a normal fashion. When the user is finished and has exited the application, a profile transcript will be created. This profile transcript will contain information about what portions of the virtual .exe file were used, as well as the order in which they were used while the application was running.

To optimize the streaming of your application, you should profile the application several times with the end user performing common tasks. The general rule is that the more times you profile the application, the better your application streaming experience will be. This is because the application stream model is built using the "learned" information contained in the profile transcripts generated by the profiling process.

> Step 3: Build an Application Model to Stream

After you have created one or more profile scripts, you can take those profile scripts from the end user's machine and remove the packager. The packager is actually a virtual application itself, so, its removal requires nothing more than deleting the packager virtual application files and shortcuts. To build the application, transfer the profile transcripts to your packaging machine, open the application configuration in the packager, and then from within the Advanced tab select the network

speed for which you want the stream to be optimized. (See [Figure 2](#).) After selecting the network speed, click the Build Model button. You will then be prompted to enter the path to the profiling transcripts, as well as the path where you want to output the streaming model. The packager will then use the transcript information to build a folder structure that contains the files to stream.



Streaming connection speed

Figure 2: You can optimize the streaming of your virtual application for different network connection speeds.

> Step 4: Publish the Application

The newly built streaming model will provide you with a set of files you can place on a file share or a Web server for streaming your virtual application. If you want to execute the application via a Web browser, ZENworks Application Virtualization 8 provides sample JavaScript you can use to integrate the application into any Web portal you may have in your environment. This integration makes it easy to stream the application to an end user so all they have to do is browse to your Web server and click a link. However, the end user's machine will need the Spoon plug-in, which can also be an embedded download on the Web page.

ZENworks Application Virtualization 8 also includes a command line application called ModelPlay that lets you launch streamed applications using traditional desktop management tools. For example, you can use ZENworks 10 Configuration Management or ZENworks 7 Desktop Management to create bundles or application objects that execute the ModelPlay application to launch a stream from either a UNC path or a URL where you stored the application model to be streamed. When the user double clicks on the application icon in the ZENworks Explorer or Application Launcher, it will stream the application to their machine, just as the Spoon plug-in can stream an application from a Web site.

One of the most exciting new enhancements delivered in Novell ZENworks Application Virtualization 8 is the ability to use streaming as a means to rapidly and efficiently deliver your virtual applications through a Web browser or your existing software delivery service.

> Streamed Upgrades

Using the streaming capabilities in Novell ZENworks Application Virtualization 8 can also simplify your application upgrade processes. It lets you centrally deploy your virtual application on the file share or a Web server from where it will be streamed, and then easily replace it with updated versions as needed.

You can also update or patch your virtual application model using the XLAYER capability in ZENworks Application Virtualization, which lets you use a virtual set of self-contained components to easily add new layers (including patches and updates) to your application. (See Treasure Island. www.novell.com/connectionmagazine/2009/10/zenworks_application_virtualization_reduces_software_conflicts.html) Whether you completely replace the virtual application or add updated layers to it, streaming lets you make the change once and then automatically apply those changes to all your users the next time they launch the application.

> Virtual Test Drive

To test drive virtual application streaming and get a feel for the actual end-user experience, visit the Novell ZENworks Application Virtualization Streaming page (www.novell.com/streaming). Using the Spoon plug-in, you can launch a variety of sample streamed applications. You can also visit the ZENworks Application Virtualization page (www.novell.com/products/zenworks/application-virtualization/) to learn more about how ZENworks Application Virtualization 8 lets you create and stream both 32- and 64-bit virtual applications in a way that simplifies administration, increases user productivity and better leverages your existing infrastructure investments.

Online Resources // Novell Connection Magazine

Learn More about Novell ZENworks Application Virtualization

- [Novell ZENworks Application Virtualization](#)
- [Application Streaming](#)
- [Identity Manager 4 and ZENworks](#)

Record Breaker

Sony Italia

Aiming to shrink its physical infrastructure and reduce costs, Sony Italia used PlateSpin Migrate from Novell to help virtualize 12 physical servers running Windows and Linux. As virtual machines, they now run on a two-node SUSE Linux Enterprise Server cluster, using built-in Xen virtualization technology.

> Overview

Sony Corporation is one of the world's leading electronics companies, producing a vast array of advanced Consumer and Professional technologies across computing, audio-visual devices, semiconductors and electronic components. The corporation operates on a global basis, employing approximately 147,000 people in total. Sony Italia, headquartered in Milan, employs approximately 250 people.

> Challenge

Several years ago, Sony Europe consolidated most of its IT infrastructure to two data centers in the UK. Most of the shared applications for the European operations, including a major SAP ERP solution, are managed from this central point of control.

To ensure high performance and ease of maintenance for its country-specific systems, Sony Italia opted to keep its own local server infrastructure. As time passed, growth in data volumes and user numbers put significant pressure on these servers, resulting in reduced performance and reliability. With limited budgets, replacing all 30 physical servers was out of the question, and Sony Italia also had concerns around rising heat output and electricity consumption in the data center.

Server virtualization was the ideal solution, enabling Sony Italia to preserve its system architecture, while using a more compact and efficient physical infrastructure. Following an initial phase of virtualization for around half its infrastructure, the organization was keen to extend the benefits—but needed to find a more cost-effective option.

> Solution

Aiming to complete the virtualization of its infrastructure, but finding the cost of additional licences too high, Sony Italia worked with Jan Kalcic, a Novell specialist, to create a solution based on SUSE Linux Enterprise Server with built-in Xen virtualization. The addition of [SUSE Linux Enterprise High Availability Extension](#) ensured a resilient clustered solution.

“We were already using Linux alongside some commercial UNIX systems, and it was very compelling to be able to deploy a Linux distribution with built-in virtualization at no extra cost,” said Paolo Barna, Manager, Operations & Security Systems, Sony Italia. “SUSE Linux Enterprise High Availability Extension gave us powerful clustering tools to make sure that the new virtualized environment would be extremely reliable.”

Sony Italia installed two new servers running [SUSE Linux Enterprise Server](#) in a high-availability cluster. These host more than 12 virtual Linux and Windows servers. In normal conditions, the workload is balanced across the two physical servers to ensure optimal performance. In the event of a hardware problem or network issue on one of the physical servers, the other can automatically and seamlessly take over the entire virtual workload while the fault is fixed.

Sony Italia used [PlateSpin Migrate](#), a Novell technology, to simplify the migration from the old physical infrastructure to the new virtual machines. PlateSpin Migrate enabled live virtualization of active systems, minimizing business disruption and accelerating the process.

“PlateSpin Migrate simplified the creation of the new virtualized server environment, and reduced the potential risk of disruption,” said Barna. “The Novell solution provides an easy-to-use interface, so the whole process was really fast and painless.”

Sony Italia plans to extend its use of Xen virtualization on SUSE Linux Enterprise Server, replacing the current technology on up to 10 physical servers.

> Results

By replacing 12 older physical servers with just two new ones hosting Xen virtual machines on SUSE Linux Enterprise Server, Sony Italia has reduced its costs and freed up valuable space in the data center. The company avoided having to buy, maintain, power and cool ten new machines—and with 64-bit virtual servers running on the highly tuned [SUSE Linux Enterprise Server](#) platform, the new two-server cluster offers all the performance Sony Italia needs.

“Using Xen virtualization with SUSE Linux Enterprise Server meant that we could buy two large physical servers instead of 12 smaller ones—saving at least 60 percent on initial acquisition costs alone,” said Barna. “We will also achieve significant savings in electricity for powering and cooling the new infrastructure.”

Server virtualization also enables Sony Italia to create new IT resources faster and more flexibly. Rather than purchasing new hardware to meet emerging business requirements, then painstakingly installing the correct operating system, security patches and application software, Sony Italia can simply create a new virtual machine using an existing environment as a template.

“One of the great benefits of Xen and SUSE Linux Enterprise Server is that we can create a completely new virtual server for the business within just five hours,” said Barna. “This is a great way to provide new test and development environments.”

Learn More about the Offerings Featured in This Success Story

- [PlateSpin Migrate](#)
- [SUSE Linux Enterprise High Availability Extension](#)
- [SUSE Linux Enterprise Server](#)

Meet Your New Novell Connection

What's New in Novell Connection?

by Mariangel Babbel

Dear Novell Connection Readers, Our little magazine has certainly come a long way since its creation as a traditional, print-only user group publication back in the late '80s, and many factors have influenced the magazine's growth and development over the years. The dramatic transformation of the publishing industry has played a significant role as we've moved to a more interactive e-zine format. The exploding breadth and depth of Novell product offerings have also had an obvious impact (anyone remember when Novell Connection magazine was called NetWare Connection?). But without question, loyal readers like you have been the biggest, most influential and most consistent driving force behind the magazine's ongoing evolution.

In that long tradition of positive, reader-driven change, the Novell Connection editorial staff is pleased to announce some important improvements and changes to the 2010 version of the magazine. Of course, the core mission and purpose of Novell Connection remain the same. We're still completely committed to providing you with the best possible technical and business information about Novell technologies and solutions. However, as we've listened to and internalized your suggestions, we've developed new ways to organize that content more efficiently, deliver it more effectively and make it more relevant to our readers.

Change is in the Air // Novell Connection Magazine

What's New In Novell Connection

What's new and different about the new Novell Connection? Here's a quick overview of some of the biggest changes:

- Improved navigation that provides easier access to archived articles
 - New "Special Edition" collections of similar content from different issues
 - Single column layout for easier on-screen reading
 - Easier navigation between pages and articles
 - New interactive and multimedia resources, including downloadable .mp3 recordings of most articles, Facebook page and Twitter feeds to keep you connected to Novell, and a .pdf version of the entire magazine
 - More content from industry experts—including the new and exclusive Laura Chappell's corner
 - More links to technical tools and resources
 - Even more hard-hitting, in-depth technical content
-

What does all this mean for you? If we've done our jobs, it means a richer, more interactive and more rewarding experience every time you visit Novell Connection. Here are a few of the highlights:

> **Web Friendly**

If you're a regular reader, you've probably already noticed a number of improvements to the site's design, layout and navigation. For example, a new animated, interactive banner highlights each month's featured articles. Improved navigation menus and tools, including a convenient list of the most popular current articles, make it easier to find the content you're looking for more quickly. And a single column layout makes articles much easier to read on a computer screen.

> More Content You Can Use

Content has always been king at Novell Connection. But now, we're taking that commitment to the next level. This starts with even more in-depth, hard-hitting technical articles, tips and tricks and other content designed specifically to help you do your job. It also includes more perspectives and insights from industry experts. For example, you'll find regular articles, blog posts and tweets from security guru Laura Chappell in our exclusive "Laura Chappell's Corner." Finally, the new Novell Connection includes more links to useful resources—like .mp3 audio recordings of featured articles, Facebook page and Twitter feed links to keep you connected to Novell, .pdf versions of the complete magazine and more links to additional content. We've even started combining similarly themed articles from different issues into "Special Editions." At Novell Connection, it's all about serving up the best possible content, putting it in context and presenting it in the formats that work best for you.

> It's Your Magazine

What would you like to see most in Novell Connection? More tips, tricks and tutorials for Novell products? More industry news and software reviews? More coverage of specific Novell offerings? The occasional article on how to overclock your new PC or trick out your Linux desktop? Well, we're listening, and we need your input. Today, more than ever, your feedback directly guides the editorial direction of the magazine. So please take the time to click the Feedback link, send us your suggestions and help us make Novell Connection an even more responsive, reader-guided publication.

Take Action // Novell Connection Magazine

Tell Us What You Think

Novell Connection depends on your feedback. We read every comment you submit, consider every suggestion carefully and do everything we can to follow and implement your suggestions. So start using the feedback link to make Novell Connection your magazine.

All of the changes and improvements we've made to Novell Connection are designed to make the magazine more useful as you work to make the most of your Novell technology. So take a close look at the changes we've made. Take advantage of all the new tools and resources we've added. And let us know how we can continue to make Novell Connection an even more valuable and versatile tool.

Sincerely,

Mariangel Babbel
Editor // Novell Connection Magazine