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# Novell Connection Magazine

July 2008

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**Novell.**

# SaaS to PaaS: Part 1—SaaS

*What's the next evolutionary step to buying and selling software?*

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The ability to provide services to knowledge workers consistently, securely and reliably are the keys to application stickiness and the job security of information technologists. Until late, knowledge workers' applications were separated by firewalls and other organizational boundaries. However, with the advent and maturity of the Internet and its ability to be a services platform, the position of the applications that knowledge workers use has changed.

The application doesn't solely have to live behind an organization's firewall. In modern computing, they have migrated to the cloud, are incredibly robust in capability and provide a fully functional user experience, regardless of location. In an attempt to keep pace with these demands, service oriented architecture (SOA) and software-as-a-service (SaaS) technologies were developed and have now migrated to the center of business processes.

SOA was one of the first attempts to unite the strengths of best-of-breed applications. In short, it "allows different applications to exchange data with one another as they participate in business processes." The key technical enabler in this scenario is interoperability, while the key nontechnical enabler for this technical philosophy is business process, or, more specifically, a particular solution's alignment with it.

In other words, the brilliance of SOA is its ability to loosely couple disparate applications together for the purpose of streamlining a business activity. Using these precanned applications reduces time to market and the associated expenses of development. In addition, SOA has helped in reengineering the application lifecycle, a point we'll touch on later.

Marshalling behind SOA is SaaS. The fun really begins here. SaaS can be best thought of as the next evolutionary step of the service-oriented architecture model. In recent months, the pathway has been clear. 'Clear' to Platform-as-a-Service, however that was a set up. True nonetheless, but still a set up. Now let's see what SaaS really is.

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**On the heels of these benefits, IDC predicts the SaaS market will grow to be a US\$10.7 billion industry by 2009.**

When SaaS was first introduced, it attempted to mitigate a number of issues that plagued businesses through the alignment of IT with business processes.

Simply, business processes lead the conversation because technology for the sake of technologists doesn't work. Moreover, it doesn't possess a broad marketable appeal.

Technology development for the sake of solving a business need is quite different. At a high level, the business needs and the associated challenges technology solves are often quite horizontal. Likewise, the reliance and types of solutions deployed to satisfy these business pains are similar if not identical. For instance, the methods and tools a Marketing, HR, or Finance department uses are fairly consistent across the industry even if the method of use is unique.

In summary, the business benefits of SaaS include:

- Ease of administration
- Fewer bugs
- Controlled versioning
- Faster deployment
- Broad accessibility

On the heels of these benefits, IDC predicts the SaaS market will grow to be a US\$10.7 billion industry by 2009. That said, the many CIOs and decision makers who welcome the software delivery mechanism do so with a grain of salt. For the most part, SaaS is often thought of as playing within one of two camps. It is either in a hosted-application management model, which is best thought of as hosting commercially available software or the other camp of software on-demand, which is where customers have access to a single copy of an application.

The best situations for SaaS, regardless of model, are for fairly vanilla, noncomplex business processes. These processes allow the organization to focus its resources on more complex and personal processes that have a lower market appeal. Per Modruson of Accenture, a core benefit here is the ability to deliver highly customized code through a standard but highly configurable code base. This further reduces costs and speeds and increases ROI as knowledge workers spend less time needing to come up to speed while lowering associated training costs per function.

At its core, SaaS has an incredibly high value proposition as outlined earlier by the abridged business benefits list. This begets the following questions:

- Where doesn't SaaS fit in?
- How has SaaS altered the development model of software?
- What is the next generation of SaaS?

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**The next generation of SaaS is PaaS, or, Platform-as-a-Service. This component will be discussed in next month's Connection.**

**> Where doesn't it fit in?**

Applications that require a high degree of customization are typically not a good fit for SaaS computing. These applications include business intelligence, manufacturing systems and ERP solutions, to name a few. In general, applications that are at the core of a company's differentiation are typically too complex, too expensive and have too low of a degree of change to be good candidates for a SaaS platform.

A second issue relates to integration. We are in the age of interoperability combined with the need for information to be shared amongst multiple systems. This can be a challenge. The challenge might not be seen in the first generation of the offering, but because there are disparate systems within the mix, separate upgrade and patching paths for each can render the solution useless or at the very least a management nightmare. By no means has this problem been a deal breaker; nevertheless, it has become a point of concern lately. For example, successful vendors have turned

their attention to the data transport layer of the equation because of this issue.

**> How has SaaS altered the development model of software?**

So how does all this computing in the cloud change the software development model? It changes the model by altering the 'how.' We'll touch on how SaaS alters the 'where' in a later article.

**> Prototype → Develop → Deploy → Host → Maintain**

Within this lifecycle of development, the *where* and the *how* are not clearly visible. At this point, you simply need to understand that the major shift in design centers around developing where you'll host and deliver, opposed to developing in one environment then migrating and testing within another.

**> What is the next generation of SaaS?**

The next generation of SaaS is PaaS, or, Platform-as-a-Service. This component will be discussed in next month's Connection. Next month, we'll walk through not only the market relevance of PaaS, but also who the players are in this space and what it will mean to decision makers and CIOs.

Last, and most important, we'll put them together to produce a complete picture of Web 2.0, SOA, SaaS, PaaS and where together they all lead. **N**

# College to Corporate

*Georgetown McDonough School of Business*

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As a nationally ranked business school, Georgetown University's McDonough School of Business requires a state-of-the-art IT infrastructure. With Novell Open Enterprise Server running SUSE Linux Enterprise, the business school consolidated servers by 90 percent and cut implementation time for new applications by 50 percent.

## > Overview

Georgetown University's McDonough School of Business is a premier business school located in the nation's capital. Founded in 1957 to educate undergraduate business students through the integration of liberal arts and professional education, the McDonough School has approximately 1,300 undergraduate and 1,000 graduate students and 250 faculty and staff.

## > Challenge

Preparing students for corporate careers is the number-one priority for Georgetown University's McDonough School of Business. The business school models its own IT infrastructure after progressive corporate environments, such as leading investment firms, to provide students with access to the latest technology.

The business school wanted to move to Linux to provide better performance for its Web applications and services, as well as to leverage virtualization. The school also wanted to find the best collaboration tool to help its students work in groups, regardless of location.

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**“Novell has bullet-proof solutions which can’t be said about many other vendors. We get all the tools that our students will need in the real world. We also like Novell’s forward-thinking attitude about Linux.”**

**John Carpenter**

**CTO**

**McDonough School of Business  
at Georgetown University**

## > Solution

The McDonough School evaluated enterprise solutions from Microsoft and Red Hat before selecting Novell Open Enterprise Server running SUSE Linux Enterprise.

“Novell has bullet-proof solutions which can’t be said about many other vendors,” said John Carpenter, CTO of the McDonough School of Business at Georgetown University. “We get all the tools that our students will need in the real world. We also like Novell’s forward-thinking attitude about Linux.”

The McDonough School worked with Novell Consulting to update its infrastructure to Novell Open Enterprise Server running SUSE Linux Enterprise. Using VMware, the IT staff created virtual servers and is using just a tenth of its data center space. The school can easily build and test servers before implementation, and can set up new virtual servers without the need for additional hardware.

“We started out with 2–3 racks of servers, but now run virtual servers on just a few blade servers,” said Carpenter. “The number of virtual servers we have now outnumbers the amount of physical servers we previously had, and they are far easier to manage. Our entire environment is also faster than our previous infrastructure.”

All of the business school’s mission-critical applications now run on SUSE Linux Enterprise, including Apache, Novell GroupWise, Novell Teaming + Conferencing, Web services, and the school’s Intranet and corporate Web site.

“Our Web site serves as a critical recruiting tool so if it goes down we could lose potential students,” said Carpenter. “SUSE Linux Enterprise gives us great performance and unmatched security. We can run everything on Linux.”

Novell iPrint, a component of Novell Open Enterprise Server, helps the business school manage printing services for all its students. Students select a printer from a graphical map to automatically download a printer driver and print from campus or their dorm room to any network printer. The IT staff no longer has to install printer drivers for individual students and also has sophisticated metering services to track all printing.

“We have a high turnover of students and the self-service capabilities of Novell iPrint have eliminated the time we used to spend installing printer drivers,” said Carpenter.

Students at the business school often work in teams and study groups, though not necessarily in the same location or time zone. The McDonough School evaluated collaboration solutions including Xerox DocuShare and Microsoft Office SharePoint Server before working with ALI, a Novell Platinum partner, to implement Novell Teaming + Conferencing.

With Novell Teaming + Conferencing, students and staff can create their own virtual workspaces to share files, edit documents, create blogs and wikis, and set up Web conferences. They no longer need IT support to set up mapped drives or shared folders.

**“The best part about Novell Teaming + Conferencing is that students and staff can manage their own workspaces and adapt them to their specific needs. Novell Teaming + Conferencing has created a whole new standard for file sharing and document management.”**

**John Carpenter**

**CTO**

**McDonough School of Business  
at Georgetown University**

The McDonough School runs Novell GroupWise on Linux for its 3,000 users and uses GroupWise Messenger for secure instant messaging. With the BlackBerry Enterprise Server, the IT staff can support the school's mobile users.

**> Results**

With Novell Open Enterprise Server running on SUSE Linux Enterprise, the McDonough School of Business has created an infrastructure that mirrors a progressive corporate environment. Using virtualization, the IT staff has consolidated servers by 90 percent and has reduced implementation time for new applications by 50 percent.

With Novell Teaming + Conferencing, the business school dramatically improved collaboration among students, faculty and staff with a solution that was 70 percent less than the cost of a competitive alternative.

“The great thing about working with Novell is that they come up with great new products that make our jobs easier,” said Carpenter. “When our IT infrastructure is running smoothly, we spend less time reacting to problems and more time thinking about what we want to do in the future.” **N**

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**Article Summary**

**Challenge:**

- Establish an IT infrastructure that models progressive corporate environments
- Improve performance of Web applications and services
- Enable next-generation collaboration among students, faculty and staff

**Products and Services:**

- Novell Open Enterprise Server
- SUSE Linux Enterprise Server
- Novell GroupWise
- Novell Teaming + Conferencing
- Novell Consulting
- Novell Training

**Results:**

- Consolidated servers by 90 percent
- Reduced implementation time for new applications by 50 percent
- Implemented a collaboration solution for 70 percent less than the cost of a competitive alternative

# Workflow in Teaming

Creating Formal Structures for Your Collaboration Processes

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Many processes that exist within an organization are manual by nature, typically making them prone to human error, inherently inefficient, and extremely difficult to manage, track and execute. Not only can things get lost in the shuffle within these manual workflows, but they often lead to significant delays in getting things done.

## Novell Teaming workflow allows you to create a more formal structure for certain collaboration processes, giving you precise control over how information flows through your organization.

For example, in a traditional approval process, a person might submit a purchase request to an executive admin, who then forwards the request to the executive's Inbox for approval. This request can sit in the Inbox for days waiting to be approved. Once approved, it moves to the accounting department where it might sit another day or two waiting to be processed and entered into the system. Additional delays can lengthen the process if anyone along the chain happens to be out sick, on vacation, or puts off executing their portion of the approval process. The bottom line is simply, too many inefficient manual aspects associated with these traditional processes remain.

While Novell Teaming is all about empowering your people to collaborate and work together more effectively, part of that empowerment comes from built-in workflow capabilities in Novell Teaming that enable you to automate processes to save time, eliminate errors and improve overall efficiency. You already know that Novell Teaming provides a virtual workspace armed with collaboration tools that make it easier for your workgroups to share and act on the content they need to do their jobs. While its document management, calendars, discussion forums, wikis and blogs are central to enabling that workgroup collaboration, the workflow capabilities in Novell Teaming can enhance your workgroup interactions even more.

Novell Teaming workflow allows you to create a more formal structure for certain collaboration processes, giving you precise control over how information flows through your organization.

It gives you the ability to enhance and streamline processes key to the success of your business operations.

### > How Workflow Works

Unlike other teaming solutions that offer workflow, you don't have to be a programmer or developer to put in play the workflow capabilities provided by Novell Teaming. It employs a simple-to-understand structure that consists of six main elements, namely: States, Transitions, Entries (also known as Forms), Folders, Access Control, and Notifications and On-entry/On-exit settings.

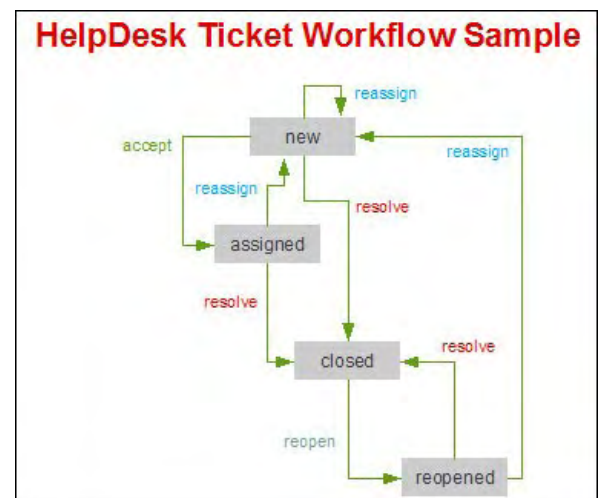
**States** represent points in time when someone or something needs to take an action or make a decision. For example, a basic help desk ticket workflow might consist of the following four states:

- **New** – When a user opens a new help desk ticket
- **Assigned** – When the ticket is assigned to a help desk technician
- **Closed** – When the ticket is considered resolved and closed
- **Reopened** – When the ticket is reopened for whatever reason

**Transitions** represent movement from one state to another. For example, in the help desk ticket workflow, the transition from the "New" state to the "Assigned" state might consist of a help desk technician accepting the ticket. Moving from an "Assigned" or "New" state to a "Closed" state would likely require the transition of the trouble ticket being resolved. (See Figure 1.)

**Entries** (also known as forms) provide users the actual interface needed to interact with or participate in a workflow. In a help desk workflow, an entry or form would consist of the electronic trouble ticket that a user would fill

**Figure 1:** In Novell Teaming workflows, states represent points in time when an action needs to be taken or a decision needs to be made, while transitions represent movement from one state to another as shown in this sample help desk workflow.



out to report a problem. This form would likely have a place for the user to describe the problem and any other pertinent information. When technicians review trouble tickets, the workflow will typically present a version of the trouble ticket forms that are different than what the end user sees. The technician version of the form would be customized with different options or actions that fit the needs of the technician, such as the ability to accept or assign the ticket, make notes on the ticket, or close the ticket. In short, entries are used to collect the information needed to transition from one state to another as defined by a workflow.

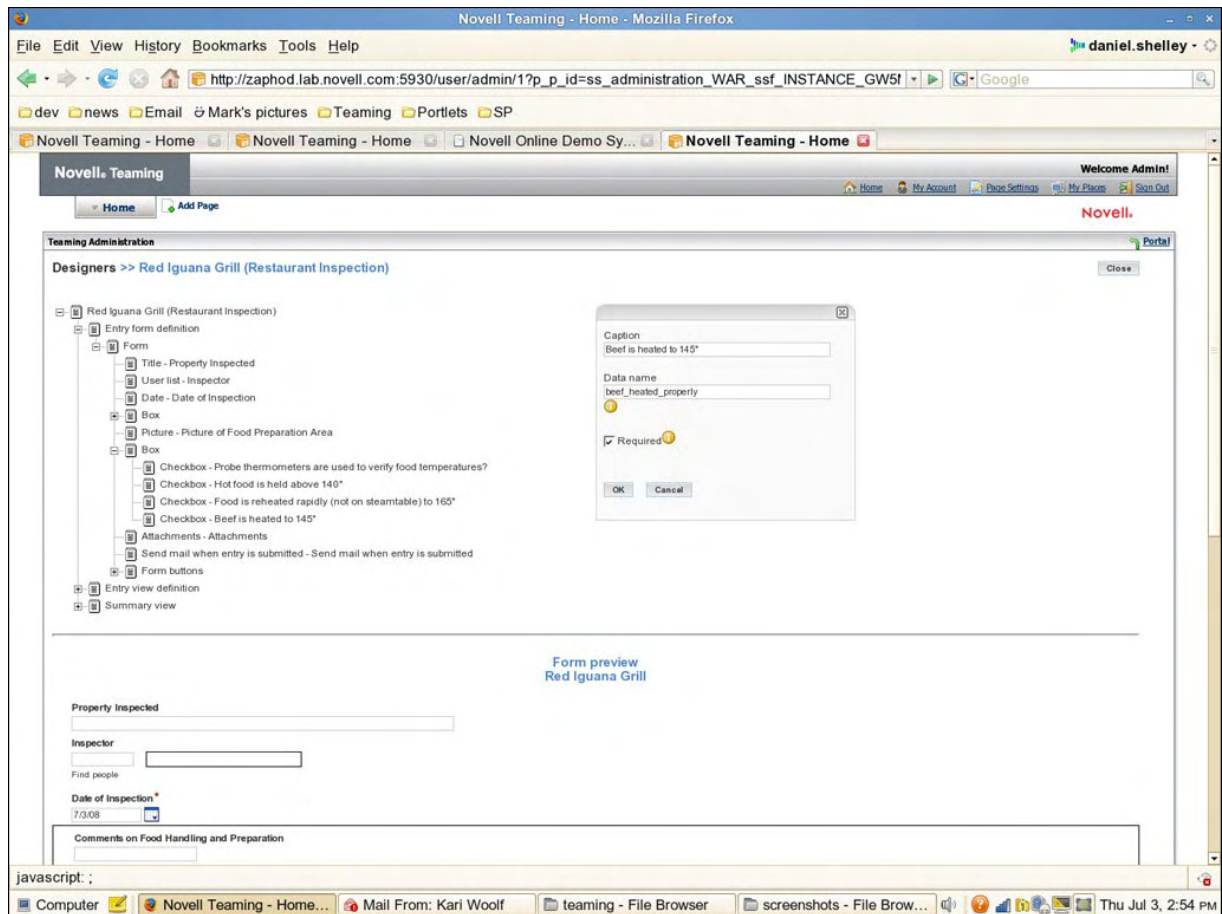
Novell Teaming workflow lets you take advantage of both default entries and custom entries. Default entries consist of the user interface screens you normally see in Novell Teaming for blogs, discussions, wikis, photos and folders. Custom entries allow you to modify any of these default forms to fit your specific needs for a particular workflow state or to enable a certain workflow transition. (See Figure 2.) The discussion entry is one of the most basic forms in Novell Teaming and as such is probably the most common form used to create custom entries.

**Folders** are simply the location where different aspects of a workflow are stored within Novell Teaming. For example, you might assign blank forms for user trouble tickets to be stored in your global workspace under a folder called "Trouble Tickets." Once a form is filled out and submitted you might have it stored in your help desk team's workspace in a folder called "New Tickets." When a ticket is closed you might archive it in a folder called "Closed Tickets," and so on.

**Notifications and the On-entry/On-exit settings** provide the automation in Novell Teaming standard workflows. As the name implies, notifications use e-mail to notify an administrator or any user that a certain action has occurred within a workflow process. Typically, these notifications alert participants that a workflow has reached a state that requires their attention, provide information to managers who are tracking the process of a workflow, or provide a participant the opportunity to view or work on an entry when it reaches a particular state in the workflow.

In a trouble ticket workflow, you would likely have notifications sent to help desk team members when a new trouble ticket is opened. When a trouble ticket

**Figure 2:** Custom forms can be easily created or revised to capture the specific information needed to move a process forward.



remains in a “New” state for a certain amount of hours or days without being transitioned to an assigned state, you might want a reminder notification sent to team members. You might also want a notification sent to help desk supervisors, alerting them to the fact that no action has been taken on the trouble ticket within the predefined acceptable time.

Likewise, when technicians close trouble tickets, notifications can be sent to the originating users, allowing them to indicate whether they agree or disagree that their problems have been resolved. If they agree, the trouble ticket can transition to a “Closed” state. If they disagree, the trouble ticket can transition back to a “New,” “Assigned,” or some other appropriate state that you predefine.

On-entry and On-exit settings prescribe what happens upon entry or exit of a particular state. These settings often work in concert with notifications, such as in our example where notifications are sent to help desk team members when a new trouble ticket is opened. This is an on-entry setting since it represents an action that needs to take place when a trouble tickets enters a “New” state. The notification example for closing a trouble ticket is an on-exit action since it dictates what must happen as a trouble ticket exits from the “Assigned” state in an attempt to transition to a “Closed” state.

However, on-entry/on-exit settings are not limited to notifications. Moves are another common on-entry/on-exit action. It’s the on-exit setting you would use to move a workflow form from one folder to another. As mentioned before, your blank trouble ticket forms might be stored in a public workspace named “Trouble Tickets,” but when a user submits a trouble ticket, you want it moved to the “New Trouble Tickets” folder located in your help desk team’s workspace. To do this you simply set the on-entry setting of your New state to move trouble ticket forms to that folder once they enter the New state. Likewise, when trouble tickets enter the Closed state, on-entry can move those trouble ticket entries into your “Closed Tickets” folder.

**Access Control** in Novell Teaming workflow lets you create and assign access control lists (ACLs) to each state, specifying who can and cannot perform actions during the state of that workflow. It lets you establish who can create, see, modify, delete or respond to entries within a specific state. It also lets you determine who can transition an entry/form into or out of a state.

In a purchase request workflow scenario, these access controls would allow you to give all your users the ability to submit a purchase request, while limiting the ability to approve or deny those requests to specific managers or executives. And, when a purchase request gets approved, it might move to a processing state where only certain individuals in accounting can view it or access it. These access controls enable you or your workflow designer to set the needed levels of security and access for each task within your workflows.

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**While Novell Teaming provides out-of-the-box all of the workflow capabilities just described, you can considerably enhance and optimize your workflow processes by taking advantage of the Advanced Workflow add-on module.**

**> Advanced Workflow**

Advanced Workflow enables you to introduce significantly greater levels of automation into your workflows.

While standard workflow in Novell Teaming automates certain in-state actions, such as sending notifications when certain conditions exist within a state or moving entries from one folder to another upon entry or exit from a state, transitions between states are manual with standard workflow. In other words, to move a trouble ticket from a New state to an Assigned state, someone has to manually assign or accept the trouble ticket. It might be as simple as clicking an Accept button on a trouble ticket form, but it still requires that physical or manual action to transition that trouble ticket from one state to another. Advanced workflow allows you to automate those transitions.

For example, when a user opens a new trouble ticket, Advanced Workflow can automatically assign that ticket to a help desk technician based on specific criteria that you pre-establish. If a trouble ticket remains unresolved for a certain amount of time it can be automatically escalated or transitioned to an escalation state. This ability to automate transitions gives you the power to leverage complex sets of conditions that reduce human interactions and increase efficiencies, as well as allow you to establish workflow policies that automatically govern the execution and the paths that your workflows follow.

The following bullets outline the main automated transitions you can take advantage of with Advanced Workflow in Novell Teaming (See Figure 3):

- **Transition after an elapsed time:** Transitions a workflow to another state after a set amount of time, such as escalating a trouble ticket if it hasn’t been resolved within a certain amount of time.
- **Transition on variable:** Transitions a workflow to another state based on a certain criteria, such as a counter reaching a certain number.
- **Transition on comment:** Transitions a workflow to another state when a user inputs a statement, which can be useful if such comments indicate that a request requires further review before it can move forward in the process.

- **Transition on entry data values:** Transitions a workflow to another state based on entry of certain defined values, such as requiring executive approval for purchase requests over \$20,000.
- **Transition on modify:** Transitions a workflow to another state based on any modification in the current state.
- **Transition on response:** Transitions a workflow to another state based on the answer to a workflow question.

Another automated transition within Advanced Workflow is the Wait for Parallel Thread(s) to End transition, which enables a workflow to only transition once parallel workflows are completed. This transition deals with the ability of Advanced Workflow to allow your workflow processes to simultaneously travel down multiple paths. Processes in standard Novell Teaming workflows are serial in nature; as a process move from state to state, it requires interactions from one person to another person to another. Advanced Workflow in Novell Teaming allows for parallel processes.

For example, you can have a request sent to three or more individuals for simultaneous approval. Your policy might specify that before it can transition to the approved state that all individuals have to approve it or a simple majority needs to approve it. Or, maybe the policy indicates that if the request received a minority approval that it transitions to a state that requires the requester or requesters to make revisions to the request.

Advanced Workflow's capacity to automate transitions and allow multiple processes to work in parallel are what

really give you the flexibility and power you need to significantly extend your ability to optimize and streamline your processes.

> **Workflow Dashboard**

To facilitate the monitoring and management of your workflows, Novell Teaming gives you the ability to create custom workflow dashboards for both standard workflow and Advanced Workflow processes. This custom dashboard feature derives from the inherent ability in Novell Teaming to create accessory panels.

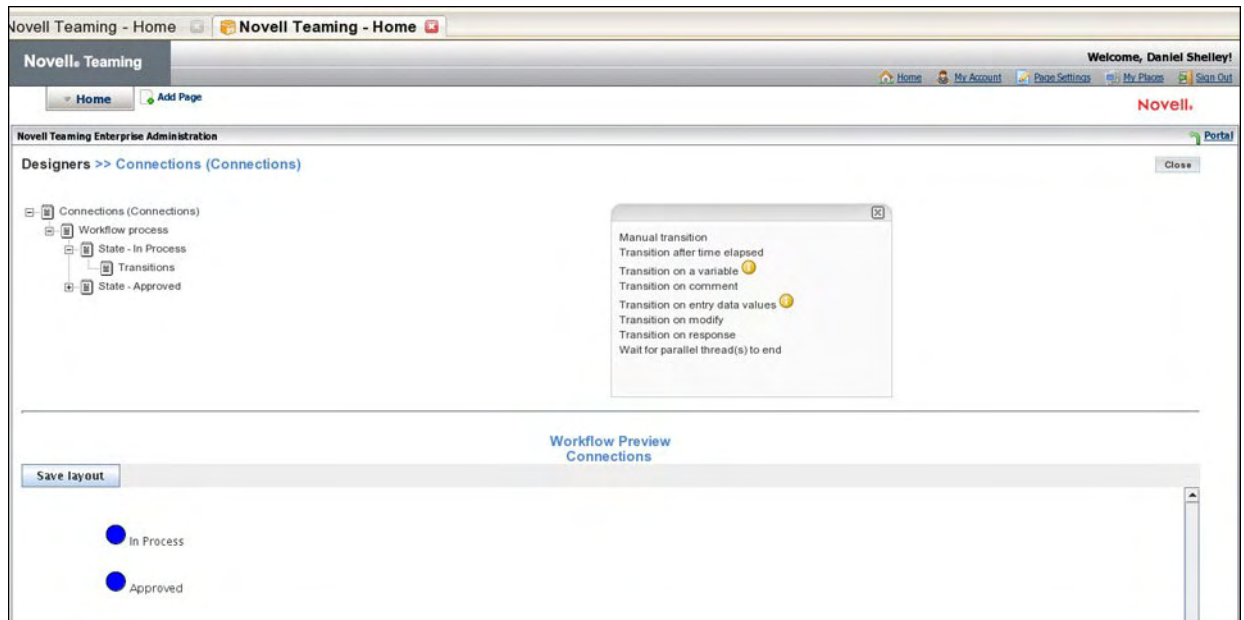
Novell Teaming has accessory panels that you can activate in your workspaces using about a dozen preconfigured accessories, including calendars, blog summaries, wikis, guest books, buddy lists and others. One of the available accessories is called a summary view. Depending on the access control rights you set, you can allow workflow participants or managers to use this summary view accessory to get a summary or dashboard view of the current state of all pertinent workflows.

These workflow dashboards can allow business managers to get instant glimpses of all the workflows they're responsible for. Dashboards can let help desk managers get a summary view of how many trouble tickets are in the queue, how long tickets have been waiting to be assigned, or how many have been resolved.

> **Workflow Best Practices**

The most challenging aspect of implementing a workflow is not the phase of setting it up and configuring the different states, transitions and policies. Rather, the most

*Figure 3: A variety of options are available in Advanced Workflow to help you automate the flow of a process based on a variety of input and criteria.*



difficult part is doing the business analysis that you need to do ahead of time to understand how your processes really work, what they do, who is involved in those processes all along the way, and policies or rules that need to be established to govern those processes.

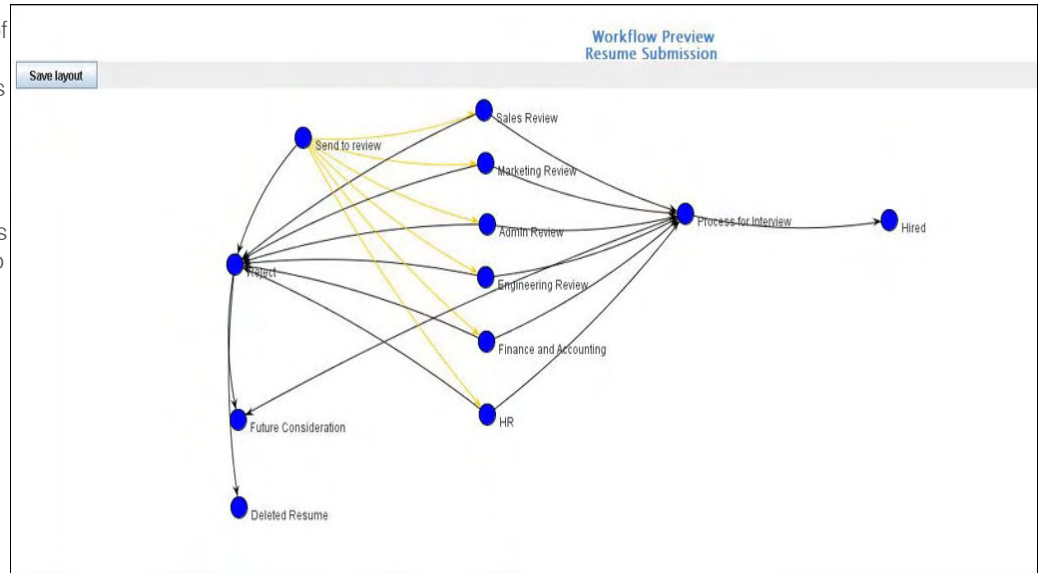
With this in mind, whether you leverage standard or Advanced Workflow in Novell Teaming, Novell recommends you follow five best practices when creating workflows:

- Know the process: Interview everyone in the process.
- Always design your workflow on paper first: Write down all your states, transitions, requirements for transition, and any variables or questions that may be needed.
- Create all your states.
- Next, create all your transitions.
- Fill in the rest.

Even though you might be responsible for designing a workflow, chances are you probably aren't as familiar with the process as you'd like to be. In fact, there might not be a single person in your entire organization that knows the whole process. So, you'll need to interview everyone along the process chain to understand what's involved in their portion of the process, where the process goes next, and under what circumstances does the process move to one state or another. You need to understand what makes the process succeed and what can make it fail. After you've conducted your interviews and you feel you understand how the process really works, it's time to put it on paper. You need to list or diagram the different states, describe the transitions between the states, including when and why transitions take place.

This exercise of putting the process down on paper provides you a number of benefits. First, it makes it easier

**Figure 4:** Documenting a workflow on paper can help you resolve problems and discover new ways of streamlining and improving your processes.



for you to visualize the overall process so you can discover and solve potential problems before you expend effort utilizing Novell Teaming workflow to digitize your processes. This visualization can also open your eyes to new ways to streamline and improve your processes. (See Figure 4.)

Additionally, putting your processes down on paper make it very easy to complete the next two best practice steps: creating your states and then creating your transitions. Whether you're using standard or Advanced Workflow, you should always create your states first. The main reason for this is that you really can't create your transitions unless you have states for them to go to.

Finally, once you have all your states and transitions completed, you fill in the rest of the workflow with your notifications, actions, policies and other such elements.

Even if you're quite thorough in your interview, design and implementation efforts, chances are you won't get everything exactly right the first time. But that's okay. You won't have to start from scratch. Novell Teaming makes it very easy to modify and adjust your workflows to bring them in line with how they really need to execute. And that's what workflow in Novell Teaming is really all about, bringing your team processes and collaboration activities in line, formalizing them and automating them to save your people time and effort, while enabling your team members to stay focused and keeping your projects on schedule. **N**

# Worth Your Weight in Gold

*Becoming the Asset Your Investors Crave with Novell ZENworks Asset Management*

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What is an asset? It depends on who you're asking. The dictionary defines an asset as "a useful or valuable quality, person or thing; an advantage or resource." If you ask a business manager, an asset could be the employees who do the work—especially the most productive ones.

If you're asking an investor, it could mean the stocks and bonds in a portfolio—especially the best performing ones. If you're asking an IT administrator, the answer is likely to be the hardware and software that is owned, licensed or leased by the enterprise—especially those products that provide the best return on investment.

What is asset management? Basically, it's ensuring that you're getting full value from your assets. That can mean finding ways to help employees work more productively, or fine-tuning your investment portfolio to minimize risk while maximizing return

But in the IT world, asset management too often means just making a list of what you have and e-mailing it to the person asking for it—whether it's the purchasing department, a software auditor or the poor soul who has to reconcile licenses against actual installations.

Making lists, however necessary it may be, doesn't help you get more value or usefulness from your IT assets. Even if you have an automated inventory system, the resulting lists don't necessarily give you the information you need to make smarter purchasing decisions, streamline lifecycle transitions, satisfy auditors and so on.

To add value, you need to add intelligence. And in most companies, that also means adding a lot of manual labor to extract meaningful information from the raw data.

Sure, not getting busted by the software cops could

be considered a value, but shouldn't asset management be easier—and more rewarding—than making and comparing lists?

## > Next-Generation Inventory: Novell ZENworks Configuration Management

With Novell ZENworks Configuration Management, and the fully integrated ZENworks Asset Management, you get a lot more value for your management efforts. For starters, you get next-generation discovery and inventory capabilities as a standard feature of ZENworks Configuration Management.

## What is asset management? Basically, it's ensuring that you're getting full value from your assets.

What that means is you have a single, fully automated system for identifying and categorizing all the IP devices on your network, distributing the ZENworks Adaptive Agent to all managed devices, and collecting details of all the hardware and software installed on managed devices.

That's a big change from the way you're probably used to doing asset inventory—collecting raw and incomplete data using a disjointed combination of tools, technologies and manual processes, and trying to "triangulate" to the truth of what you actually have in your environment.

**Figure 1:** *Understand not just what licenses you have, but also how many you need, how many are going unused and how much you're overpaying.*

 Software Applications	 Annual License Cost	 Quantity Purchased	 Quantity Installed	 In Active Use	 Purchase Gap	 Cost of Unused Licenses	 Cost of needed Licenses	 Compliance
MS Office Professional	\$357.00	5000	5000	4790	213	\$76,041		NO
MS Project	\$130.00	400	342	339	58	\$7,540		NO
Visio 2002 Standard	\$149.00	5000	5160	1157	160	\$23,840		YES
Lotus Notes	\$119.00	5000	5213	1407	213	\$25,347		YES
Visual Basic Standard	\$120.00	600	875	692	(276)		\$33,120	YES

For most IT departments, collecting the raw data, corroborating the results, reconciling discrepancies, discarding duplications and getting to the point where you have a reasonable approximation of the truth is a productivity-sapping burden.

ZENworks Configuration Management automates these processes, with dozens of integrated methods for discovering, normalizing, assimilating and presenting inventory information effectively. And instead of exhaustive lists of inventory data that few people can understand or use, it provides standard and custom reporting capabilities that let you give your internal customers exactly the information they need—whether its help desk support, compliance reporting, vendor negotiations or any other activity that requires accurate, detailed insight into your IT environment.

Next-generation inventory capabilities in ZENworks Configuration Management include:

- **Network discovery.** Poll network segments for IP devices, categorize them according to type (e.g., router), and identify potentially managed devices for deployment of the ZENworks Adaptive Agent.
- **Hardware and software inventory.** Scan managed devices to retrieve hardware and software details.
- **Scheduling.** Schedule inventory scans to meet your

- management needs and preserve bandwidth.
- **History.** Dynamically track inventory changes over time, rather than taking individual “snapshots.”
- **Demographics.** Include site, user and other demographic data in your inventory, either by entering the information in ZENworks Control Center or on a data-entry form you can display directly on managed devices.
- **Extensible attributes.** Define your own fields to extend and customize the inventory data you collect.
- **Extensible Knowledgebase.** Extend the ZENworks Knowledgebase of IT products to include in-house or specialty applications.
- **Reporting.** Extensive standard and custom reporting capabilities include drill-down, tabular and graphical display, multiple output options, scheduling and alerting, and much more.

**> Beyond the Next-Generation: ZENworks Asset Management**

When you add ZENworks Asset Management Services you’re adding deep intelligence to the data collected by ZENworks Configuration Management. You’re able to give every stakeholder exactly the information they need to do their jobs, while ensuring accuracy and consistency

**Figure 2:** Usage reports provide detailed information about how your assets are actually being used, so you can make better decisions.

Novell. ZENworks.		Run Date: 1/30/08							
Local Application Usage by Product		This data is collected only from Windows platforms.							
Report Time Period: All History in Database									
Manufacturer: Microsoft									
Used Applications (136)									
Product	Version	Current Installations	Total Used	# Not Last Used	Used Date	# of App Starts	Hours Used	Hours Active	Ave. Usage Days
Excel 2002	10.0	5	5	0	10/30/07	7,791	1,882	412	89
Excel 2002	10.0 SP-1	7	6	1	10/13/06	475	693	71	39
Excel 2002	10.0 SP-3	17	13	4	11/2/07	2,276	2,103	185	34
Excel 2002	10.0 SP-3 (PL)	2	1	1	5/7/07	1	0	0	1
Excel 2003	11.0	11	3	8	11/6/07	1,048	167	49	65
Excel 2003	11.0 (TH)	1	1	0	9/25/06	1	0	0	1
Excel 2003	11.0 SP1	4	1	3	7/26/06	124	79	60	21
Excel 97	8.0 SR-1	14	3	11	2/14/07	6	1	0	1
Excel 97	8.0 SR-2	5	2	3	2/10/05	250	347	67	49
FreeCell	-	107	7	100	11/6/07	591	278	55	26
FrontPage 2000	4.0 SR-1	5	1	4	5/14/03	1	0	0	1
FrontPage 2002	10.0 SP-2	1	1	0	10/31/07	38	217	8	29
FrontPage 2003	11.0 SP2	1	1	0	2/27/07	20	6	4	9
FrontPage 98	3.0	2	1	1	5/14/03	1	0	0	1
Hearts Network for Win32	-	65	3	62	4/9/07	15	4	1	2
Internet Explorer	5.5 SP2	10	8	2	8/16/05	696	5,043	66	34
Internet Explorer	6.0	86	57	29	12/6/07	14,296	19,262	3,980	17
Internet Explorer	6.0 SP1	40	36	4	11/20/06	7,957	67,678	4,592	20
Internet Explorer	7.0	122	17	105	11/6/07	1,165	880	354	11
Internet Explorer 5	5.0	15	5	10	1/25/07	497	4,020	1,367	59
Internet Explorer for Win32	4.01 SP1	5	1	4	1/28/05	1	0	0	1
Internet Information Server	5.0	12	6	6	11/21/06	4,006	44,173	0	238
Internet Information Server	6.0	14	13	1	11/7/07	4,551	24,638	0	81
Live Meeting 2005 Console	2005	8	6	2	6/18/07	37	36	3	1
Microsoft AntiSpyware	Beta 1	2	2	0	7/29/05	31	333	0	12
Microsoft Data Engine	1.0	6	5	1	8/15/05	984	9,308	0	74

across the enterprise. And most important, you're better able to manage devices throughout their lifecycle to control costs, track accountability, ensure compliance and derive full value from your IT investments.

ZENworks Asset Management offers unprecedented control and automation for:

- Tracking software usage
- Managing licenses
- Managing vendor contracts

Let's take a closer look at each of these capabilities and how ZENworks Asset Management can improve the way you do IT—and the way your company does business.

### > Software Usage Tracking and Analysis

It's one thing to know what software is in deployment. But knowing exactly what software assets are actually being used, on which devices, how frequently and by which users takes the power of asset management to a whole new level.

With ZENworks Asset Management, you know what assets you've been paying for but don't actually need. (See Figure 1.) For software that's provided under a floating license, you know exactly how many licenses you require. You have the fine-grained visibility you need to maintain license compliance without overspending on products and support. You have the information you need to enforce corporate standards against the use of nonstandard and rogue applications. And above all, you gain powerful leverage for negotiating with vendors—with detailed usage reports that document exactly what you do and don't need from them.

Software usage tracking and analysis features in ZENworks Asset Management include:

- Detailed usage reports for desktop, Web-based and

server-side applications over selectable time periods (See Figure 2.)

- Tracking for both foreground and background application runtimes—so you can tell whether open applications are actually being put to productive use
- Usage tracking even when devices are disconnected from the network
- Identification of seldom-used and unused software that could be reclaimed and reallocated
- User and device information associated with application usage—even for multiuser devices
- Aggregate views of usage levels across departments and sites

### > License Management

Managing software licenses can be like trying to find your way through a jungle with no map. Your software library probably includes a baffling mix of suites, components, freeware, shareware, evaluation software, free and commercial open source software, and more.

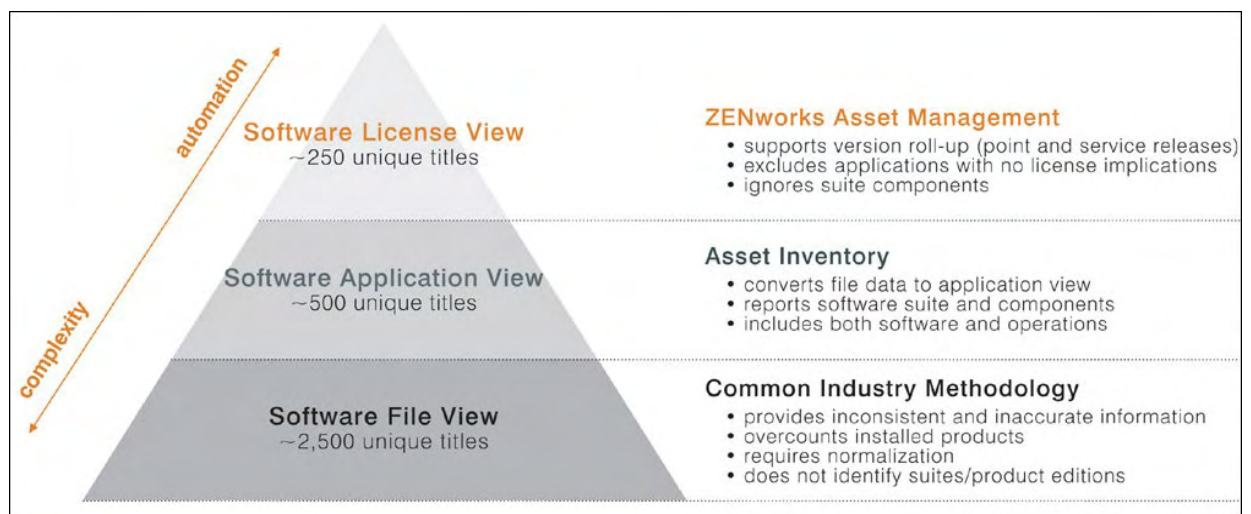
But most asset management solutions can collect only raw data scans on executable file headers, leaving it up to you to corroborate and collate the data gathered by various methods, and then make some kind of sense of it.

To ensure a full and accurate accounting, ZENworks Asset Management uses a wide variety of methods for discovering and normalizing licensing information, and presenting it in a unified and useful way.

One technique, for example is to match metadata characteristics of installed software with the license information in the ZENworks Knowledgebase—which always has the latest information thanks to Novell technology analysts who examine hundreds of products every month for key identifiers.

Other tests to ensure an accurate view of your asset licenses include analyzing metadata for:

**Figure 3:** True license view automates the process of correlating individual executables, named software packages and license entitlements.



- **Software identification and classification**, including normalized manufacturer and product names, software suites and components, distinct product editions and versions, service packs, serial numbers, virtual machine images and software installations, language editions, virus and spyware definitions, malware identification and many other software characteristics.
- **Hardware identification and classification**, including normalized manufacturer names, normalized product names, serial numbers, models and memory slot details.
- **License view**, including the ability to exclude applications with no licensing implications; roll up incremental releases to the next major version number; itemize suites and components; and add distribution tags, license types and current manufacturer tags to ensure current and consistent identification of licenses.

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**ZENworks Asset Management gives you the tools you need to manage licenses with confidence. It provides a single repository for all types of licenses on all your platforms—including the most complex licensing scenarios—and automatically reconciles licenses against the products that are discovered on your network.**

Easy-to-use dashboards and real-time reports let you evaluate agreements, costs, consumption and compliance for any part of your environment at a glance. You have all the information you need to document compliance and avoid legal fees and penalties—while also avoiding overpaying for licenses and maintenance that you don't need.

License management features of ZENworks Asset Management include:

- **True license view.** In addition to lists of executables (file view) and named versions of software (application view), you can see your installed software in a one-to-one relationship with the relevant software entitlements (license view). (See Figure 3.)
- **Complete view across license models.** In addition to viewing per-desktop installations, you can track license models based on inventory information (per

installation, OEM and machine models) as well as models based on external data sources (qualified desktops, CPU, user, named user, server, client access license (CAL), site, enterprise and user-defined models).

- **Purchase record importing.** Automatically import licensing data from top resellers such as CompuCom, SHI, Software Spectrum and Softchoice, as well as from a wide array of systems such as Oracle and PeopleSoft. Then, automatically build a product catalog reconciling all your purchased and discovered products.
- **Perpetual and term license tracking.** You have a complete picture of licenses and compliance, including the status of subscriptions that are subject to expiration.
- **Tracking of multiple entitlements per product.** Different departments might have different licensing arrangements for the same product. For example, you might need to account for entitlements on a per-server model in one department and a per-client model in another. ZENworks Asset Management makes it easy to track all the entitlements that may apply.
- **Tracking upgrade and downgrade rights.** No more need to manually factor in upgrade and downgrade rights on top of your base entitlements—ZENworks Asset Management tracks these rights for you automatically.
- **Flexible license tracking.** Record individual purchases, summary purchases that represent a block of licenses purchased over time, bulk purchases and special circumstances such as pilot installations that shouldn't consume a license.
- **Simplified audit preparation and protection.** Eliminate manual inventories and reconciliations. ZENworks Asset Management does it all for you, reliably and cost-effectively. You can even upload the documents associated with each license, so there's no need to sort through file cabinets to find the audit documentation you need.

**> Contract Management**

Beyond license management, you also need to manage your vendor contracts to support business planning, control costs and avoid penalties. ZENworks Asset Management goes beyond license management to track the details of all your IT contracts—including maintenance agreements, leases, warranties, service-level agreements and other types of contracts. (See Figure 4.)

Integration of contract management with inventory management makes it easy to plan for hardware refreshes as leases approach their expiration. The ability to associate contracts with software licenses, assets, users and organizational units makes it easy to manage contracts and assign internal costs. Early warning notifications let you know when contracts need to be

renewed. You can even upload copies of your contracts directly into the ZENworks Asset Management database for easy reference—so you never have to root around in filing cabinets to find the contract details you need.

**> Don't Just Manage Your Company's Assets—Be One!**

By effectively managing IT assets, you offer your company an eminently “useful or valuable quality, person

or thing; an advantage or resource.” Well, maybe not a “thing,” but ZENworks Asset Management can fill that role. Working together, you and ZENworks Asset Management can be among your company's most valued assets—providing the productivity that makes business managers smile, the performance that your company's investors crave, and the return on investment that makes you, the IT administrator, golden. **N**

**Figure 4:** Licenses represent just one type of contract you have to manage. With ZENworks Asset Management, you can also manage leasing, maintenance, SLA and other types of contracts.

Contracts							
New ▾ Move... Delete							
<input type="checkbox"/>	Contract ID	Name	Type	Status	Start Date	End Date	Parent Contract ID
<input type="checkbox"/>	<a href="#">109.977</a>	Novell Master License Agreement	Software Maintenance	Expired	10/30/04	10/30/07	
<input type="checkbox"/>	<a href="#">120.001</a>	GE Lease Schedule A	Lease Schedule	Active	11/7/06	11/6/09	<a href="#">190.971</a>
<input type="checkbox"/>	<a href="#">190.190</a>	Microsoft Select	Software Maintenance	Active	6/30/05	6/30/08	
<input type="checkbox"/>	<a href="#">190.971</a>	GE Master Equipment Lease	Master Lease	Active	12/31/04	Evergreen	
<input type="checkbox"/>	<a href="#">452.010</a>	Symantec Enterprise Options	Software Maintenance	Expired	12/14/04	12/14/06	
<input type="checkbox"/>	<a href="#">876.190</a>	Adobe Transation License Program	Software Maintenance	Expired	11/30/03	11/30/07	
<input type="checkbox"/>	<a href="#">901.190</a>	Dell Server Maintenance	Hardware Maintenance	Active	6/29/06	6/29/08	
<input type="checkbox"/>	<a href="#">901.891</a>	IBM Passport	Software Maintenance	Expired	12/31/05	12/31/06	

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# Piracy: From the Caribbean to the Cubicle

*It's illegal, immoral and it carries severe penalties. Need more reasons?*

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There's Jack Sparrow, and then there's the guy in the office next door. While Captain Jack may seem to be more of the swashbuckling type than your typical coworker, most modern pirates are more likely to be found in a cubicle than in the Caribbean.

Traditional piracy, not nearly the problem it used to be two or three centuries ago, has nevertheless given way to various other, more bloodless forms of piracy not requiring a sword or a talking parrot. In a May 2008 study, the Business Software Alliance (BSA) reported the software global piracy rate at 38 percent, resulting in nearly US\$48 billion in total packaged PC software losses in 2007.

Though the United States has the lowest piracy rate in the world (21 percent), the US is also the country hardest hit by software piracy, as American companies produce about 80 percent of the world's software. These huge numbers cost companies a lot. But that's not usually enough to make that coworker next door think twice.

Many software companies are worth millions or even billions, right? So what difference can it make? Well, as the quote goes, "People who claim they don't let little things bother them have never slept in a room with a single mosquito." It only takes one, and copying even one program can lead to a fine and/or prison. *Every* infringement matters.

## > Don't Compromise, Don't Rationalize, Don't Make Excuses

To help me explain, I'll be getting some help from today's most well-known pirates, those of Disney's blockbuster series, *Pirates of the Caribbean*. First, a commentary between the Governor's daughter, Elizabeth Swann, and Captain Jack Sparrow:

*Jack Sparrow:* "We are very much alike, you and I, I and you...us."

*Elizabeth Swann:* "Oh. Except for a sense of honor and decency and a moral center. And personal hygiene."

*Jack:* [sniffs his armpit and looks back] "Trifles."

Sorry Jack, they aren't trifles. Being honorable, decent and moral is a good thing. On the other hand, copyright infringement is just plain immoral and illegal. Music sharing is a popular evil in the media and recording industry, but software companies around the world, including Novell, are hard hit as well, losing billions of dollars because of people who illegally copy software.

Some offenders work in the dark, selling products on the black market hoping not to get caught. But many, if not most, software pirates don't think twice about what they are doing when infringing software copyrights. They often mistakenly believe that since they bought the software, it's theirs to do with what they will; but in reality,

what they really bought was simply the license to use the software—usually for only one machine at a time.

I might as well believe that everything in my office here at Novell, including the computer, phone, desk and other items I use, including the parts, patents and programs involved in them are all now mine (hey buddy, wanna buy a stapler?). Of course, they aren't; by being hired I simply have been given the authority to use them.

The bottom line is, if a copyright exists, it is valid *and binding* regardless of whether anyone has taken the time to read it or not. Everyone is responsible for knowing the copyright rules attached to any software used or, especially, shared.

For example, by quoting *Pirates*, I am using intellectual material for this article that I did not create. Before posting the article, I made sure to check the law on such cases, including the "fair use" copyright policy (See: <http://www.copyright.gov/fls/fl1102.html>). Always be aware of the laws surrounding the software or other intellectual material you buy and use, even contacting the company itself if necessary. In addition, companies should consider conducting software audits and including a statement on illegal sharing in company policy.

For more information on how to audit and keep track of all your company's assets, including software licenses, check out this month's article ([enter appropriate link](#)) on Novell ZENworks Asset Management.

## > This Rum Tastes Bad

My favorite line from *Pirates* is from Jack after he and Elizabeth had been deserted on an island. Jack deals with the desertion by enjoying a cache of rum he's found. Elizabeth, on the other hand, finds the alcohol abhorrent and burns it to make a smoke signal. Incredulous, Jack asks, "Why is the rum gone?!"

Just as sitting on a beach drinking rum with Keira Knightley may sound good to some, including Jack, copying software seems like an easy out to others. There might even be a few days in the sun. Yet piracy ultimately leads to negative consequences for everyone, from the company that distributes the software to the pirate and his customers.

For the pirate, the "rum" from infringing copyright can quickly turn into fines and jail time. Last March, [ABCNews reported](#) that two brothers were sentenced to prison after they were found selling pirated software at discounted prices online. One man was

sentenced to three years in prison and ordered to pay US\$855,917 restitution, while his co-conspirator was sentenced to 30 months in prison and ordered to pay US\$151,488 restitution after both pleaded guilty to felony copyright infringement. Numerous others are charged and convicted every year.

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## In addition, the “good deal” the consumer gets with the pirated software is, in fact, a raw deal.

The program might have glitches or work properly for only a short period of time, commonly known as time bomb versions. Warranties are nonexistent with pirated software and customer support and upgrades are forfeited. If the buyer is acting on behalf of a company or using company resources, the ensuing negative publicity portrayed to the media, shareholders and the general public from such employee activity would be extremely hard to handle. Like I said, it only takes one.

### > Pirating Goes By Many Names

Software pirates infringe copyrights in many ways; the [Software & Information Industry Association \(SIIA\)](#) has posted on their Web site a document called [What Is Software Piracy: The Piracy Problem](#), which describes ten commonly used methods of infringing copyrights. The following is a simple summary of the items in that list, so check out that document for the full descriptions.

- 1) **Softlifting**  
When someone buys a single license of a software application and loads it on several machines, they are softlifting. This happens when people "share" software with others who don't own licenses to use the software. It also happens when you install the software on your home or laptop computers when the license doesn't allow it to be installed on more than one computer. Softlifting is the type of copyright infringement most often found in businesses.
- 2) **Unrestricted Client Access**  
When someone owning a single-user license to a software application copies the application onto a network server and others on the network can access it, it's called Unrestricted Client Access. Single-user licenses usually only allow the application to be installed on a single computer at a time; hence, when more than one person installs the software on an additional computer, it's breaking the copyright laws and is illegal.
- 3) **Hard-disk Loading**  
When someone sells computers or hard disks that are preloaded with illegal copies of software, meaning they don't come with a valid

license or registration number to use the software, it's called hard-disk loading.

- 4) **OEM Piracy/Unbundling**  
Often, software is bundled with and only sold as part of a package with specific hardware, such as when you buy a new computer, it usually has an operating system preloaded. That software is called original equipment manufacturer, or OEM, software. It can be operating systems, applications and utilities of all kinds. When someone sells OEM software by itself without the specific hardware with which it should be bundled, it's illegal. In the same way, if an application is supposed to be sold only with another application, it's called a bundle. When the apps in that bundle are split up and sold separately, it's called unbundling and is also illegal. Both ways are a breach of the distribution contract between the vendor and the software publisher. If you come across software that is marked as "not for resale," steer clear if it didn't come in some type of bundle; it probably carries with it a fine if you're caught using it.
- 5) **Commercial Use of Noncommercial Software**  
Software publishers often sell educational or commercial-use-restricted versions of their software to various target markets, such as students, at a reduced price. It's illegal to acquire or use these types of licenses if you're not a valid member of the target market. For example, if you buy and use an educational version of an application and you're not a student or employee of an accredited educational institution, you're breaking the law.
- 6) **Counterfeiting**  
Counterfeiting is when someone duplicates and sells unauthorized copies of software in a way so the buyer thinks it's a legal copy authorized by the legal publisher.
- 7) **CD-R Piracy**  
When someone gets a copy of a software program and makes a copy using a CD recorder and either gives them away or sells them, it's piracy, and hence illegal.
- 8) **Internet Piracy**  
When someone uploads commercial software to the Internet that is not freeware or in the public domain, so anybody can copy and use the software, it's Internet Piracy and this wave is getting bigger all the time. With the growing wave is coming heftier fines, too; so beware.
- 9) **Manufacturing Plant Sale of Overruns and 'Scraps'**  
Software publishers produce a master copy of their software program and contract with a CD manufacturing plants to produce the vast amounts of copies of the software onto CDs.

The copies are then distributed to the vendors in the marketplace to sell to the public. When a CD duplicating plant makes more CDs than it was contracted to make and then sells the extras, or when the contract states that extras will be destroyed, but the plant instead resells those CDs, it's illegal. Stay away.

10) **Renting**

You can't rent software in the US for temporary use, as you can movies because of the Software Rental Amendments Act of 1990, which makes the practice illegal.

Will Turner, the daring blacksmith hoping to rescue Elizabeth from a shipload of pirates who have kidnapped her, teams with Jack in the hopes of finding the pirates' hideout. In joining with a pirate, however, Will quickly realizes his morals are going to be compromised. When Jack recommends using the fastest ship in the British Royal Navy, Will responds, "We're going to steal a ship? That ship?" Jack, in an attempt to rationalize, quickly quips, "Commandeer. We're going to *commandeer* that ship. Nautical term." Software infringement goes by many names, only ten of which are mentioned above. Don't be fooled; no matter what it's called, it's still stealing!

> **Choose the Right**

Help report piracy in the workplace and encourage others you see doing it at home. Don't try to push away your conscience. Elizabeth, hoping to moralize Jack, tells him, "There will come a time when you have a chance to do the right thing." Jack stubbornly replies, "I love those moments. I like to wave at them as they pass by." Aid others in making the right decision and protect those that do by reporting cases of piracy.

As Donne said, "No man is an island." Seldom do those who buy, sell or burn counterfeits do so without anybody knowing; indeed, you usually either have to get the program from someone to make copies of it, or you need buyers that will buy the counterfeit software from you.

Novell is a member of the Software Information Industry Association's (SIIA) Anti-Piracy Program, along with a number of other companies united in helping to prevent software copyright infringement. The SIIA teams with software companies around the world to crack down on pirating. If you have a case you want the SIIA to check out, fill out [this online form](#).

> **Conclusion**

In the words of Jack toward the end of the first film, "I think we've all arrived at a very special place. Spiritually, ecumenically, grammatically." For those who are wondering, we'll make *ecumenically* the Novell

Connection Magazine Vocab Word of the Month. It is defined as an adjective meaning "worldwide or general in extent, influence or application."

Bet you didn't learn that one in sixth grade. But yes, copyright laws are usually quite ecumenical. Software pirates live everywhere from the US to Ukraine, Brazil to Belgium, Canada to China and South Africa to South Korea. Various organizations are working to protect people, companies, and the marketplace by organizing campaigns. For instance, If you currently live or work in Latin America, you can participate in a program offered by Novell, Campana de Antipiratería para Partners en America Latina, or, Anti-piracy Partners Campaign in Latin America (See [A Strong Anti-piracy Campaign](#)). Others outside of Latin America can report any other infringement of Novell copyright to [reportpiracy@novell.com](mailto:reportpiracy@novell.com).

Help the software industry progress around the world by refraining from and cracking down on software copyright infringement. It only takes one to do a lot of damage; but it also only takes one to help. You can assist yourself and others in avoiding litigation in addition to giving yourself one of the best gifts of all—a clear conscience. **N**

**Spanish:**

**Una Fuerte Campaña de Antipiratería**

Novell está comprometida en una fuerte campaña de Antipiratería tendiente a lograr la supresión de la piratería en América Latina, lamentablemente muy difundida en la región en estos días y en el resto del mundo. Los esfuerzos de esta campaña están específicamente dirigidos a nuestros partners para ayudarlos a multiplicar sus esfuerzos para eliminar la piratería y procurar el uso legal, regular y correcto de productos Novell en toda América Latina. Si usted tiene información respecto de empresas que estarían haciendo uso indebido de productos Novell en América Latina, por favor contáctenos por email a [mochoa@novell.com](mailto:mochoa@novell.com).

**English:**

**A Strong Anti-piracy Campaign**

Novell is committed to a strong Anti-Piracy campaign with a resolve to stop piracy in Latin America, sadly a very common problem there and throughout the rest of the world. The efforts of this campaign are specifically targeted toward our partners to help them multiply their efforts to eliminate piracy and procure the legal and regular use of Novell products throughout Latin America. If you have any information regarding piracy in Latin America, please e-mail Novell at [mochoa@novell.com](mailto:mochoa@novell.com).

# Server Sprawl? Not in Your Backyard!

*Convert your major metropolitan data center into a manageable suburban zone.*

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Administering a data center is a lot like urban planning. It's all about centralized management of real estate and community assets—without upsetting people. You want your environment to be functional, not dysfunctional. Organized, not disorganized. Compact, not sprawling. Singapore, not L.A.

So what are some of the questions you're probably asking now?

- How can I make my applications, workloads and servers agile, available and readily accessible?
- How do I organize all of my physical and virtual resources to get the most out of CPU cycles and storage as well as application and network performance?
- How do I convert my data center to a cost-effective, strategic sector of the business?

*The answers are simple.* Start with server consolidation. It can reduce the number of physical servers in your enterprise, and virtual ones too.

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**“PlateSpin complements existing Novell strengths. Novell already has very strong systems management tools in its ZENworks suite. Now PlateSpin extends these capabilities to server virtualization and the dynamic data center... Kudos to Novell CEO Ron Hovsepian and Co. on this deal.”**

**—Novell's PlateSpin Play, CNET NewsBlog, posted February 27, 2008 by Jon Oltsik, senior analyst at the Enterprise Strategy Group**

But it's not enough to take a one-off consolidation approach. The business needs of the enterprise change all the time, and so must the data center to accommodate them. That means being able to switch from physical to virtual servers, or vice-versa, at a moment's notice. It means being able to scale up and scale out, knowing in advance the capacities and requirements of physical and virtual resources.

It also means knowing what physical and virtual servers exist, and what type of workload utilization profiles they contain, at any given time. And, for the sake of availability, scalability and agility, you need to be able to make changes on an ongoing basis to optimize your environment. It's all a matter of being in control; be the

king or queen of your castle; the master of your IT domain.

Novell can help you make it happen. Unlike any other infrastructure management company, Novell has all the pieces in place—complementary solutions when it comes to server consolidation, virtualization and data center optimization.

## **> Optimizing the Data Center: Putting All the (Physical and Virtual) Pieces in Place**

February 25th is an important day in history. In boxing, it's the day in 1964 that Cassius Clay beat Sonny Liston for the heavyweight championship. In IT, it's the day in 2008 when Novell announced its agreement to acquire PlateSpin.

A big deal? You bet it is. In fact, it's a technical knockout for anyone interested in server consolidation (not to mention disaster recovery, data center moves and hardware migration). That's because Novell's world-class platform and automation management, combined with PlateSpin's leading solutions for workload relocation, protection and provisioning, give customers the agility to cross physical and virtual boundaries effortlessly—fostering data center efficiency like never before.

Together, Novell and PlateSpin deliver solutions for complete workload lifecycle management in the physical and virtual data center. Novell and PlateSpin synergies, coupled with existing strategic relationships the companies have with Citrix, Microsoft, and VMware, form the basis for the most comprehensive workload-management solutions on the market today. They are solutions that allow IT managers to monitor and analyze what to virtualize, then seamlessly migrate workloads as they see fit.

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**“As IT managers look to maximize their enterprise resources and have increased flexibility, they need tools to help them interoperate between Windows and Linux. The combination of PlateSpin's capabilities in P2V, V2V and analytical tools, combined with Novell and Microsoft's interoperable virtualization will allow customers to cross the boundaries of the physical and virtual environments with confidence.”**

**—Larry Orecklin,  
General Manager of Marketing, Server & Tools Division,  
Microsoft**

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## Completing the Workload Management Lifecycle

Novell now offers a full solution stack with a powerful virtualization platform and best-in-class tools to manage both physical and virtual assets across a heterogeneous data center. In addition to SUSE Linux Enterprise with the Xen hypervisor and ZENworks Orchestrator—an outstanding management platform to manage physical and virtual resources in a heterogeneous environment—the portfolio now includes PlateSpin’s PowerRecon, PowerConvert and Forge products. Respectively, they provide capabilities to assess and monitor which workloads are candidates for virtualization, to stream virtual and physical workloads seamlessly, and to protect workloads from unplanned outages.

### > The PlateSpin Value Proposition

PlateSpin data center management software optimizes the use of server resources across the enterprise. PlateSpin PowerRecon is the industry-leading product that enables customers to analyze their IT environment as to what workloads should be on what physical platforms and virtual platforms. PowerRecon collects hardware, software and services inventories for all server workloads and remotely gathers workload utilization statistics for a clear and concise picture of how resources are being used.

PlateSpin PowerConvert offers the industry’s most robust set of capabilities for allowing IT managers to flexibly create images for those physical- and virtual-resident workloads, and to move between the various physical and virtual image types. Moreover, PowerConvert allows servers to be streamed over the enterprise network from any source to any destination, ensuring the best fit between server resource supply and application workload demands. It is the first and only solution that remotely decouples workloads from the underlying server hardware and streams them to and from any physical or virtual host with a simple drag and drop.

PlateSpin’s server consolidation solution, which combines PowerRecon and PowerConvert software, provides integrated assessment, planning, migration and testing to enable successful, risk-free server consolidations.

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**What’s more, only Novell offers the ability to virtualize Linux, Windows and NetWare on one common platform with world-class support for all three operating systems.**

### > The Novell Contribution

Like PlateSpin, Novell is blazing the trail in the field of physical and virtual workload management.

Consolidation is key. The Xen hypervisor integrated into SUSE Linux Enterprise Server can reduce your total number of servers dramatically by enabling migration of multiple workloads on different physical machines to individual virtual machines hosted on a single server.

You can deploy up to 12 virtual machines on each physical server for a 12:1 consolidation ratio. CPU utilization can increase by up to 30 percent while your space and cooling requirements drop off the charts. It’s no wonder that more than two million virtualization-ready SUSE Linux 10 servers are already on the job worldwide.

Novell ZENworks Orchestrator provides another key piece of the puzzle. It automates the management and provisioning of workloads to meet your enterprise’s constantly changing needs. When a problem arises in the data center, ZENworks Orchestrator takes action, repurposing virtual machines and migrating workloads on the fly. It also includes an integrated management model for both physical and virtual machines.

What’s more, only Novell offers the ability to virtualize Linux, Windows and NetWare on one common platform with world-class support for all three operating systems.

As a result, you gain the flexibility to reconfigure your applications and systems to increase server utilization without impacting performance.

Forget the server sprawl-perpetuating, one-application-stack-per-server data center model. Virtualization from Novell is the efficient answer.

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**“Helping customers efficiently deal with server sprawl to achieve a real-time infrastructure using technologies like open source and virtualization is key to our business. Unisys services and solutions expertise combined with Novell’s technology is a fundamental underpinning to creating a real-time infrastructure.”**

**—Rich Marcello,  
President, Systems & Technology at Unisys**

### > Server Consolidation and Beyond

All by itself, in a vacuum, server consolidation is an unassailable concept. After all, there isn’t a downside to eliminating the entrenched inefficiency and unnecessary expense inherent in server sprawl. But server consolidation must be accomplished within the context of incredibly complex, mixed-IT environments. Virtual infrastructures must coexist with new and legacy physical infrastructures. Security must be impenetrable. Individuals, workgroups, departments, partners and

customers must all have real-time access to the data and applications they seek—no excuses.

And while not so long ago this may have sounded like an oppressive set of management challenges, that's no longer the case—because Novell is on the case. And, thanks to PlateSpin's coming on board, virtually (and physically!) anything is possible in the modern, mixed-IT data center. Today, Novell stands ready to help you create the next-generation infrastructure needed to power tomorrow's data center. Server consolidation is a great place to start. **N**

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### Novell and PlateSpin: Hand-in-Glove Product Lines

- SUSE Linux 10 outfitted with Xen hypervisor makes it possible to run Linux, Windows and NetWare-based virtual machines on a single physical server.
- PlateSpin's PowerRecon enables IT managers to monitor and analyze their IT environment as

to what workloads should be on what physical platforms and virtual platforms.

- PowerConvert lets IT managers create images for physical- and virtual-resident workloads, and to move fluidly between the various physical and virtual image types.
- ZENworks Orchestrator adjusts automatically to changes in your business environment. When demand is high, it launches new virtual machines to satisfy need. When demand drops again, it can deprovision those machines and use the resources elsewhere. In addition, it automates PowerRecon's workload profiling and analysis and PowerConvert's workload portability capability.

Bring it all together and you get a finely tuned, fully interoperable and heterogeneous data center management capability that allows you to use the technologies you have and like—the hardware, operating platform, hypervisor, applications—to their greatest advantage.