

# Novell® ZENworks®: Next-generation Inventory

# Enhanced Asset Inventory Technology

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With the introduction of Novell® ZENworks® 10 Configuration Management, Novell is delivering broader hardware and software inventory capabilities to our customers. It's an effort that began in 2005 when we acquired Tally Systems and its core Asset Inventory technology. We first introduced this exciting technology in the debut release of Novell ZENworks Asset Management. Now, after two years of innovation and integration, we are incorporating more powerful, industry-leading Asset Inventory technology into the next generation of ZENworks products.

In a recent analysis of inventory tools, Gartner Analyst Patrica Adams said: "Tools with auto-discovery/inventory functionality that are part of a larger suite have been slow to innovate, and this will likely continue." Through acquisition, investment and integration, Novell is happy to be an exception to this assessment. We feel strongly that comprehensive, accurate inventory is part of a foundation for all systems management disciplines as well as for best-practice process frameworks, such as the IT Infrastructure Library (ITIL).

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## Why Inventory Is Important

Almost every IT project, process or task requires some information about the state of the IT infrastructure. But too often, instead of normalized and accurate information, IT professionals and managers attempt to "triangulate" the truth from multiple sources of raw data collected from numerous tools and technologies.

The success of your key IT projects is too important to trust to raw data and a haphazard process. And if your IT staff is trying to turn raw data into actionable information, they have less time to focus on problem solving, projects and end user support.

Clean and accurate inventory information is part of the IT management baseline and supports a variety of IT activities, including:

- *Operating system (OS) and application migrations*
- *Service desk support*
- *Planning and budgeting*
- *Mergers and acquisitions*
- *Security controls and compliance*
- *Change management and process improvement*
- *IT standards definition and enforcement*
- *Vendor negotiations*

## Overview of Asset Inventory Capabilities in Novell ZENworks

The capabilities of Asset Inventory can be separated into two categories:

- 1. Functionality:** Functionality includes all of the elements involved in setting up and configuring the inventory process.
- 2. Information:** Information includes all of the techniques and methods used to discover, collect, normalize and report information about the IT infrastructure.

### Functionality

**Network discovery.** Asset Inventory includes network discovery tools that poll network segments for IP devices and categorize them according to type (e.g., router). It then builds a list of potentially managed devices that can be used as the basis

for initial deployment of the ZENworks Adaptive Agent.

**Hardware and software inventory.** Once the ZENworks Adaptive Agent is deployed to a device, hardware and software details are collected as part of the standard inventory scan.

**Scheduling.** The inventory scan can be scheduled in a variety of ways through settings in ZENworks.

**History.** Not only does the inventory scan pull “current state” details, but it also tracks changes over time.

**Demographics.** In addition to the data that is automatically collected from devices, Asset Inventory includes numerous demographic fields (e.g., site). You or your staff can update these fields via the Web-based console (ZENworks Control Center) or through a data-collection form available on the device itself.

**Extensible attributes.** Admin-defined fields can be defined to extend and customize the data collected about devices.

**Extensible Knowledgebase.** ZENworks administrators can extend the ZENworks Knowledgebase of IT products (*see description below*) 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.

### **Information**

The Asset Inventory functionality in Novell ZENworks includes dozens of methods that enable it to discover, normalize, assimilate and present information effectively. Our basic approach to collecting and using inventory

information starts with a simple question: *What information do IT managers need and how will they use it?*

There are plenty of industry standards (e.g., Common Information Model [CIM]) and implementations (e.g., Windows Management Instrumentation [WMI]) that make collecting hardware and software data relatively simple. However, the track record when using raw data from these sources shows that this information is rarely useful without corroboration, validation and normalization. Also, because standards such as Simple Network Management Protocol (SNMP) and WMI are not adopted and implemented universally and completely, they leave gaps in raw data when not combined with other methods.

### **The Novell Approach: Knowledgebase**

This is why Novell uses a patented “Knowledgebase” approach to inventory. The Novell ZENworks Knowledgebase, embedded in ZENworks products, contains references, tests, attributes and metadata about tens of thousands of IT hardware and software products. Combined with multiple data collection methods, the Knowledgebase delivers the information IT managers need to make informed decisions—decisions that influence the way IT staff carry out tasks, complete projects and keep management informed.

### **Dedicated Expertise—The Novell Technology Analyst Team**

The key to the Novell ZENworks Knowledgebase is the many experienced technology analysts that build and maintain it. These analysts examine hundreds of technology products every month and then add or update entries to the Knowledgebase. They not only install and analyze software applications to properly identify them, but they also research related licensing information to create the

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License View. (For more information, see the call-out box.)

This team is guided by industry trends and feedback from our customers (who may request additions to the Knowledgebase at any time). They stay abreast of industry issues by monitoring IT blogs, online forums, press releases and dozens of other Web sites. The result is a Knowledgebase, updated and posted monthly to our Web site, that reflects the most current trends and issues for both software and hardware.

To help you better understand the value of our Knowledgebase approach, we have provided several real-life examples:

1. When leading antivirus vendors and other organizations introduced anti-spyware products, Novell Technology Analysts researched where and how these vendors stored and updated the spyware definitions and engines. Over the past few years, our customers have come to rely on ZENworks as a secondary check to ensure that antivirus definitions and engines are up to date. Our Technology Analyst Team wanted to provide this same level of detail for anti-spyware tools. As a result of this research, entries have been added to the Knowledgebase that include logic and tests that collect this information for leading anti-spyware products.

2. Recently, a Novell ZENworks customer reported that the product and model name information for certain Thinkpad models was not consistent. For some models, the model number was embedded with the product name field. After some research, our analyst team determined that IBM/ Lenovo was not consistent in how they populated this information. After discovering the anomaly, the team was able to add some logic to the Novell scanning process to parse the product name and model number out for clean and consistent reporting. Although this may seem trivial, its importance becomes apparent when CIOs sort reports and continually complain about “missing” information.

3. As described in the call-out box, the Novell ZENworks Knowledgebase includes not only information to support inventory functions, but also metadata and extensions specifically for ZENworks Asset Management. Based on customer requests, our technology analysts recently added new tests to selected products that allow ZENworks to distinguish between an evaluation copy and a full copy of software. This information is added as an additional attribute, License Type, to some leading products that offer evaluation software. As a result, customers can easily isolate the evaluation software and exclude it during software audits.

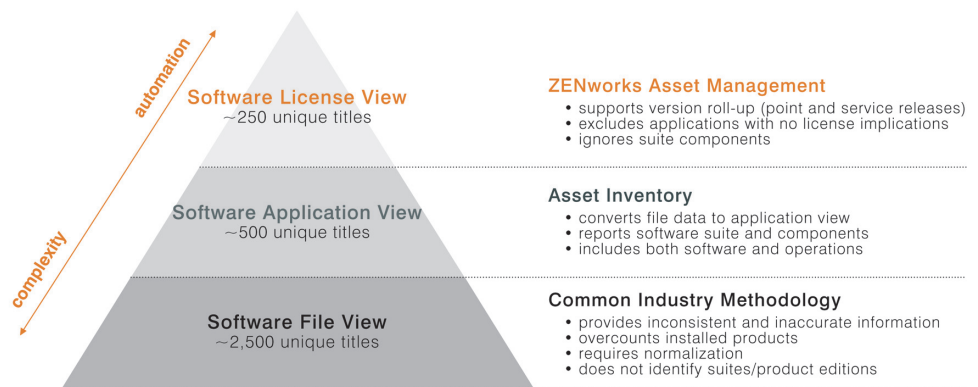


Figure 1. Novell ZENworks Asset Management

## Key Elements of the Knowledgebase

The contents of the Novell ZENworks Knowledgebase<sup>1</sup> serve two important areas within the inventory function.

### Software Identification and Classification

Because software is so easy to copy, download, transport and install, it is significantly harder to track than hardware. Add to that an almost infinite number of configuration options—and the related restrictions and rights associated with license agreements—and you have a complex set of issues to manage. This is why our technology analysts spend most of their time working with software.

The fundamental objective for software is proper identification and reporting. Most systems management tools collect information from executable file headers. This approach results in a file view of software (*see figure*) that is all but meaningless except for a few instances where this level of detail is necessary. Our Knowledgebase approach to software recognition uses file header information, but it also uses several other tests to make sense of all these files and produce an application view of your software (*see figure*). The application view provides ample detail for IT projects, including migrations, helpdesk support and most configuration management tasks.

The Novell ZENworks Knowledgebase provides the following types of software information in support of Asset Inventory<sup>2</sup>:

- Normalized manufacturer names
- Normalized product names
- Software suites and related suite components
- Standalone suite components
- Distinct product editions

- Distinct product versions
- Distinct run-time versions
- Service releases and service packs
- Category and subcategory (e.g., graphics and drawing)
- Microsoft\* OS hotfixes
- Serial numbers
- Guest virtual machine images (from scan of host)
  - VMware\* ESX and GSX Server and Workstation
  - Microsoft Virtual Server and Virtual PC
- Guest virtual machine (VM)-installed software (from scan of guest)
- Language editions
  - Chinese (simplified)
  - Chinese (traditional)
  - English
  - French
  - German
  - Italian
  - Japanese
  - Portuguese
  - Spanish
- Virus and spyware definitions and engines (V= Antivirus, S= Spyware)
  - Symantec (V,S)
  - McAfee (V,S)
  - CA (V,S)
  - Command
  - Sophos (V,S)
  - Trend Micro (V,S)
  - F-Secure (V,S)
  - Panda Software
  - Microsoft (S)
  - Tenebril (S)
  - PC Tools (S)
  - Webroot Software (S)
  - Omniquad (S)
  - Safer Networking
  - Sunbelt Software (S)
  - Infoworks Technology (S)
  - Earthlink (S)
  - ParetoLogic (S)

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- 1 The Novell ZENworks Knowledgebase is currently focused on Windows software.
  - 2 Data collected and coded varies by manufacturer and product; it is focused on leading manufacturers and limited by data availability.

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- *Malware identification*
  - Hacker tools
  - Spyware
  - Other suspicious software
- *Other software that may represent productivity or security risks*
  - Games
  - High-bandwidth applications
  - P2P applications

### **Hardware Identification and Classification**

With more mature standards (e.g., DMI and SMBIOS) in place, all of your hardware—including servers, PCs and network devices—tends to do a better job of self-reporting than software does. However, locating details such as the system serial number and discrete model numbers is not consistently possible without additional knowledge and related tests.

In addition to dozens of hardware details available through industry-standard methods, the

Novell ZENworks Knowledgebase provides value by allowing you to collect and report the following types of hardware information<sup>3</sup>:

- Normalized manufacturer names
- Normalized product names
- Serial numbers
- Models
- Memory slot details

### **Novell ZENworks Knowledgebase—Your Advantage**

The accuracy and reliability of the data provided by the Novell ZENworks Knowledgebase gives your organization a fundamental advantage as you work to improve and automate IT processes and tasks. Novell demonstrates its unmatched commitment to the integrity of software and hardware recognition by backing ZENworks with teams of dedicated professionals. These talented analysts work tirelessly to get you the IT asset information you need—in the way that you need it—helping you quickly lower costs, manage complexity and mitigate risk.

#### **License View**

In addition to leveraging the Novell ZENworks Knowledgebase for inventory, our technology analysts add metadata specifically for ZENworks Asset Management that provides tailored views of software. This license view acts as both a filter and an extension of the application view shown in Figure 1 on page 4. It also facilitates processes and reporting needs specific to the asset management discipline.

The license view of software applications includes these filters and extensions<sup>4</sup>:

- *Exclusion of applications with no licensing implications*
- *Roll-up of service packs and point releases to the next major version number*
- *Itemization of suites and stand-alone components (when no suite is found)*
- *Addition of distribution tag (e.g., commercial and freeware) to applications*
- *Addition of license type (e.g., full and evaluation) to applications*
- *Addition of current manufacturer tag to show vendor ownership based on mergers, acquisitions and name changes*

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