Novell ZENworks Synergy

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INSTALLATION GUIDE



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About This Guide

This guide is designed to help you install and implement the Novell $^{\circledR}$ ZENworks $^{\circledR}$ Synergy software. The first section introduces ZENworks Synergy. The second section provides instructions for installing the software. The third section explains the major tasks you need to complete to implement your ZENworks Synergy solution.

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In Novell documentation, a greater than symbol (>) is used to separate actions within a step and items in a cross-reference path.

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Documentation Updates

For the most recent version of the ZENworks Synergy *Installation* guide, visit the Novell Documentation Web site (http://www.novell.com/documentation).

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Introduction

Novell® ZENworks® Synergy provides directory-based provisioning of traditional Windows* desktop applications, thin-client applications, and Web applications through a single Web browser view. With ZENworks Synergy, employees in your organization become more productive because they can use critical applications regardless of whether they are in the corporate office on a LAN connection, in a satellite office on a DSL connection, or at home on a dial-up modem connection.

In addition, ZENworks Synergy enables your IT department to be more productive. Through delegated authority, you can enable individual departments to control the provisioning of applications for their employees, thus removing the overhead of deploying applications from your IT professionals and letting them focus on other needs. You can also track application usage and bill individual departments for the usage.

The following sections provide information about the software that makes up the ZENworks Synergy solution, the benefits provided by the ZENworks Synergy solution, and the hardware and software configurations you can use to create your ZENworks Synergy environment.

- "The ZENworks Synergy Solution" on page 9
- "The ZENworks Synergy Environment" on page 12

The ZENworks Synergy Solution

ZENworks Synergy consists of three software products: ZENworks for Desktops 3.2, ZENworks OnDemand Services 2, and Novell Portal Services 1.5.

ZENworks for Desktops (ZfD) 3.2: Enables provisioning of traditional Windows desktops applications. Applications are configured in Novell

eDirectory[™] through Application objects which are associated with users so the applications can be made available on workstations through a desktop application called Novell Application Launcher[™] or through the ZENworks OnDemand Services Web browser view.

For more information about ZENworks for Desktops 3.2, see the Novell ZENworks site (http://www.novell.com/products/zenworks) and the Novell Documentation site (http://www.novell.com/documentation).

ZENworks OnDemand Services 2: ZENworks OnDemand Services enables provisioning of Web-based applications, charging for provisioned applications, tracking of application usage, and delegating of the provisioning approval process.

Novell DeFrame™ 2.01, included with ZENworks OnDemand Services, enables provisioning of thin-client terminal server applications. As with Windows desktop applications, thin-client applications are configured through Application objects in eDirectory and become available to users through the ZENworks OnDemand Services Web browser view or Novell Application Launcher.

For more information about ZENworks OnDemand Services 2, see the Novell ZENworks site (http://www.novell.com/products/zenworks) and the Novell Documentation site (http://www.novell.com/documentation).

Novell Portal Services (NPS) 1.5: Provides a software framework for creating and deploying enterprise portals. With NPS, you can deploy secure, personalized portals to every member of your organization. This gives everyone access to the most current information, applications, and net services.

The ZENworks OnDemand Services Web browser view, which allows users to launch applications and administrators to manage users and applications, is implemented as gadgets in NPS.

For more information about Novell Portal Services 1.5, see the Novell Portal Services site (http://www.novell.com/products/portal) and the Novell Documentation site (http://www.novell.com/documentation).

IMPORTANT: ZENworks Synergy is designed to work with the specific software versions listed above. You should only upgrade ZENworks Synergy software components when a new release of ZENworks Synergy becomes available. Do not attempt to upgrade these software components individually as new versions are released. Doing so may break the system.

Benefits of the Integrated ZENworks Synergy Solution

With these three software products installed, you realize not only the benefits of the individual products but also the benefits of the integrated ZENworks Synergy solution:

- Provisioning of desktop, thin-client, and Web applications through the OnDemand Services gadgets in NPS and through Novell Application Launcher.
- Charging for provisioned applications (based on purchase costs and/or usage) and billing of individual departments for applications provisioned to their users.
- Delegating control of application provisioning to individual department budget managers so that they can approve or deny application requests from users in a department, thus controlling any application charges that will be accrued to the department's budget.
- Tracking usage for all three application types (desktop, thin-client, and Web).
- Creating customized portals that provides users access to applications and other information based on their roles and rights.

Additional Novell Products You Can Add to Enhance the Benefits of the ZENworks Synergy Solution

The following products are not included with ZENworks Synergy. However, they can be purchased separately and integrated into your ZENworks Synergy solution to meet security and file storage needs.

Novell iChain 2.x: Provides secure access to your corporate portal from outside the firewall. Novell iChain[®] 2.x integrates with OnDemand Services to let you to automatically restrict access to Web applications to those users who've been assigned the application or purchased the application.

Novell iChain is available in Novell Secure Access, an integrated suite of access and security products that simplify, secure, accelerate, and extend identity management to applications, platforms, databases, and network resources. For more information about iChain, including how to purchase it, see the Novell Secure Access Web site (http://www.novell.com/products/secureaccess).

Novell iFolder 1.x: Provides a network file storage location that is available to users regardless of their locations. Novell iFolderTM 1.x integrates with Novell DeFrame to enable users to save files created in thin-client applications to locations other than the terminal server.

For more information about iFolder, including how to purchase it, see the Novell iFolder site (http://www.novell.com/products/ifolder).

The ZENworks Synergy Environment

Review the following sections to ensure that you meet the system requirements for the ZENworks Synergy software components, and to understand the various configurations you can use.

- "System Requirements" on page 12
- "Sample Configurations" on page 14

System Requirements

Your environment needs to meet the following general software requirements. For more detailed requirements for a product, see the product's documentation at the Novell Documentation site (http://www.novell.com/documentation).

Workstation or Server	Minimum Software Requirements	
The Windows workstation/server from	• Windows 98/NT/2000/XP	
which you will install or administer the products	Novell Client TM 4.8.1	
	◆ JVM* 1.3.1	
	ConsoleOne® 1.3.2	
	Microsoft IE 5.5 with SP2	
The server where ZENworks for Desktops will be installed	 NetWare[®] 5.1/6 or Windows 2000 server 	
	• JVM 1.2.2	
	 Novell eDirectory 8.5 with LDAP access 	

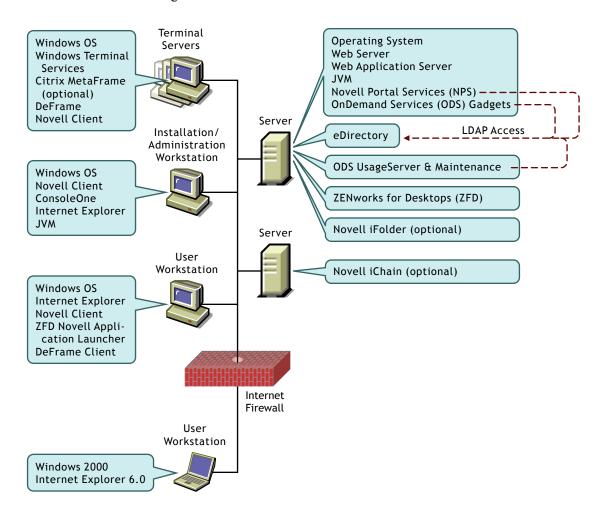
Workstation or Server	Minimum Software Requirements		
The server where Novell Portal Services will be installed along with the	NetWare 6 or Windows 2000 server		
OnDemand Services gadgets	 Web server: Apache 1.3.20 or Microsoft IIS 5 		
	 Web Application server: Tomcat 3.3a 		
	• JVM 1.3.1		
	 Novell eDirectory 8.5 with LDAP access 		
The server where the OnDemand Services UsageServer and	 NetWare 5.1/6 or Windows 2000 server 		
Maintenance processes will be installed	• JVM 1.2.2		
The terminal servers where DeFrame	Windows 2000 server		
will be installed	 Windows Terminal Services 		
	 (Optional) Citrix* MetaFrame* 1.8 or MetaFrame XP FP1 		
	 Novell Client 4.81 if using ZfD Dynamic Local User (DLU) policies; Novell Client 4.83 if using DeFrame Dynamic User (DDU) functionality 		
User workstations	 Windows 98/NT/2000/XP 		
	Microsoft IE 5.5 with SP2		
	Novell Application Launcher ¹		
	Novell Client 4.81 ¹		
	DeFrame 2.01 Client ²		

¹ Novell Application Launcher and the Novell Client are required only if you want users to launch desktop applications from Novell Application Launcher instead of (or in addition to) their Web browsers.

² The DeFrame client is required only if you want users to launch thin-client applications from Novell Application Launcher instead of (or in addition to) their Web browsers. The DeFrame client requires Novell Application Launcher and the Novell Client to be installed.

Sample Configurations

The ZENworks Synergy environment consists of many software components, as explained in System Requirements above and illustrated in the following diagram.

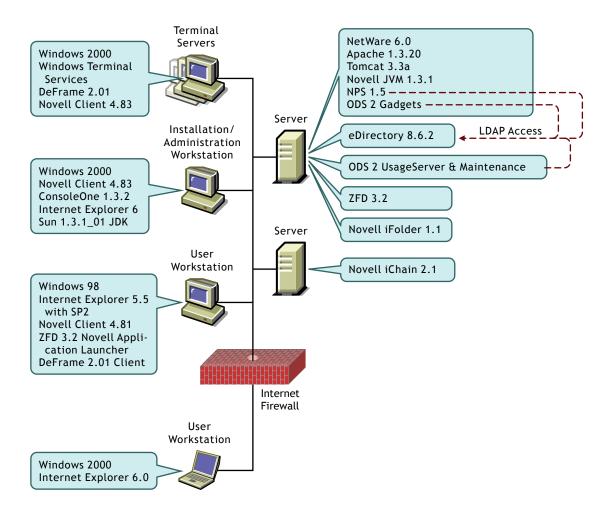


All software components included in an individual shaded box must be installed on the same machine, but software components in different boxes can be installed on different machines. The following sections illustrate some of the configurations you could use:

- "Sample Configuration 1: Single-Server Environment" on page 15
- "Sample Configuration 2: Two-Server Environment" on page 17
- "Sample Configuration 3: Three-Server Environment" on page 19

Sample Configuration 1: Single-Server Environment

In the single-server configuration shown below, all server software components are installed on a single NetWare 6 server. This configuration saves on hardware but may sacrifice performance. Users will be accessing NPS and the OnDemand Services (ODS) gadgets through the Web server; at the same time, ZfD and the ODS UsageServer and Maintenance processes will be running on the server.



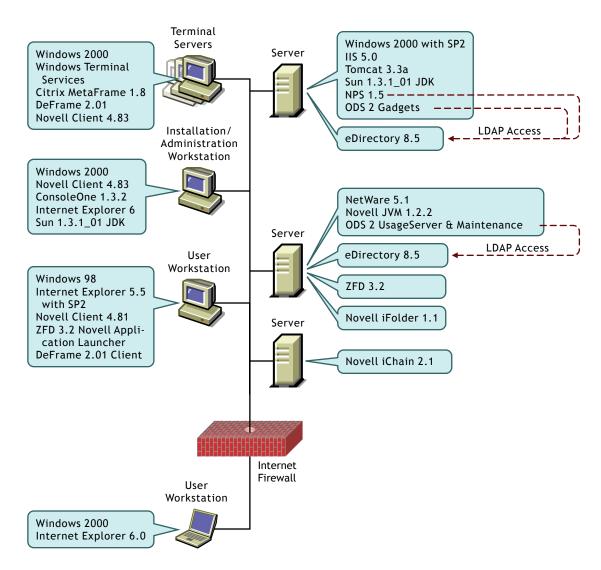
The terminal servers are running Windows Terminal Services only (no Citrix MetaFrame), and users' workstations have Microsoft Internet Explorer, the Novell Client, Novell Application Launcher, and the DeFrame Client installed. Internet Explorer enables users to launch all applications (desktop, thin-client, and Web) from a Web browser. The Novell Client, Novell Application Launcher, and the DeFrame Client enable users to launch desktop and thin-client applications from Novell Application Launcher.

Novell iFolder, an optional add-on component, is installed on the NetWare 6 server. Novell iFolder enables users to store files on a network location and retrieve them from any location. When users are running a thin-client application, it provides them with the ability to save thin-client applications to a location other than the application's terminal server.

Novell iChain, another optional add-on component, is installed on another server. Novell iChain manages access to Web server content (including Web applications) from both inside and outside the firewall.

Sample Configuration 2: Two-Server Environment

This configuration uses two servers: one for the portal server and one for the ZfD server. This server configuration has an advantage over a single server configuration in that the workload generated by the portal and ZfD is shared between two servers.



The portal server is running NPS and the ODS gadgets while the ZfD server is running ZfD and the ODS UsageServer and Maintenance processes. Both

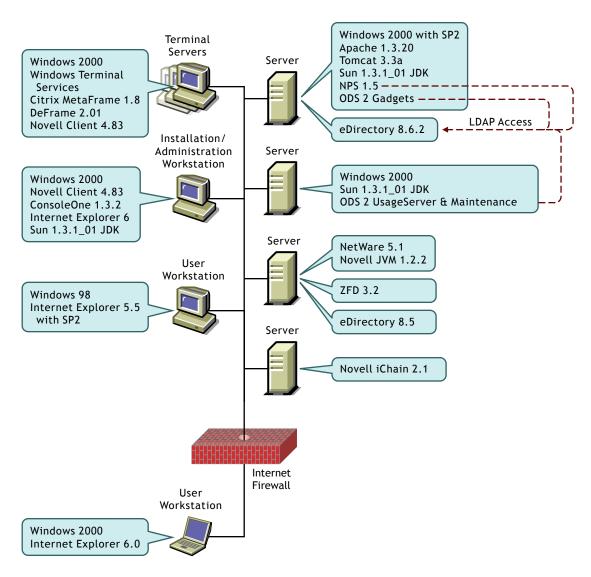
servers have the same version of Novell eDirectory installed, and all NPS, ZfD, and OnDemand Services information is configured and stored in the same eDirectory tree.

The terminal servers are running Windows Terminal Services and Citrix MetaFrame so that both the Remote Desktop Protocol (RDP) and the Independent Computer Architecture (ICA) protocol are available.

As in Sample Configuration 1, both Novell iChain and Novell iFolder have been added to enhance security and file storage capabilities.

Sample Configuration 3: Three-Server Environment

This configuration uses three servers: a portal server, a ZfD server, and an ODS server. This server configuration further distributes the workload generated by the portal, ZfD, and the ODS UsageServer and Maintenance processes.



The portal server is running NPS and the OnDemand Services gadgets. The ZfD server is running ZfD. The ODS server is running the ODS UsageServer

and Maintenance processes. Novell eDirectory is installed only on the ZfD server, but NPS and the ODS UsageServer and Maintenance processes have LDAP access to eDirectory on that server.

As in Sample Configuration 2, the terminal servers are running Windows Terminal Services and Citrix MetaFrame so that both the RDP protocol and the ICA protocol are available. In addition, both Novell iChain and Novell iFolder have been added to enhance security and file storage capabilities.

2 Installation

The Novell® ZENworks® Synergy software can be installed by following the installation instructions included with the individual products. However, you should review the following list to see the preferred installation order for the software components and to be aware of any issues associated with installing the ZENworks Synergy software components together.

1. **eDirectory 8.5 (or higher):** Make sure the tree and servers where you will install ZENworks Synergy software components use Novell eDirectory™ 8.5 or higher.

For information about installing eDirectory, see the documentation included with the product or see the eDirectory documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

2. ConsoleOne 1.3.2 (or higher) and Novell Client 4.83 (or higher): You should install ConsoleOne[®] 1.3.2 or higher and Novell Client[™] 4.81 or higher to the Windows* workstation or server from which you will install and administer ZENworks Synergy.

The most recent versions of ConsoleOne and the Novell Client are available for download from the Novell Download site (http://download.novell.com).

3. **ZENworks for Desktops (ZfD) 3.2:** You should install ZfD 3.2 before installing ZENworks OnDemand Services[™] or Novell DeFrame[™]. This enables ZENworks OnDemand Services to install its usage tracking components to the ZfD server. It also extends the eDirectory tree with several ZfD schema objects and attributes that are also used by DeFrame.

If you choose to install ZfD after ZENworks OnDemand Services, you will need to run the ZENworks OnDemand Services Installation program again and use the Custom Install option to install the ZENworks OnDemand Services components for ZfD.

For information about installing ZfD 3.2, see the documentation included with the product or see the ZENworks for Desktops 3.2 documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

4. **Web Server, Web Application Server, and JVM:** These software components must be installed before Novell Portal Services and ZENworks OnDemand Services. For supported Web server environments, see "System Requirements" on page 12 and "Sample Configurations" on page 14.

For information about installing your Web server, Web Application server, and JVM* software, see the documentation that accompanied that software.

5. Novell Portal Services (NPS) 1.5: You must install NPS 1.5 before you install ZENworks OnDemand Services. This allows the ZENworks OnDemand Services Installation program to copy the ZENworks OnDemand Services gadgets to your NPS 1.5 portal and then configure the gadgets.

For information about installing NPS 1.5, see the documentation included with the product or see the Novell Portal Services 1.5 documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

6. **ZENworks OnDemand Services 2:** You must install ZENworks OnDemand Services after NPS 1.5. Because ZENworks OnDemand Services requires NPS 1.5 but can be purchased separately, it includes a run-time version of NPS 1.5. You need to make sure that you do not install the NPS 1.5 runtime version over your NPS 1.5 full version. Instructions for avoiding this are included in the ZENworks OnDemand Services 2 *Installation and Administration* guide.

For information about installing ZENworks OnDemand Services, see the documentation included with the product or see the ZENworks OnDemand Services 2 documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

- 7. **DeFrame 2.01:** You should install DeFrame after installing ZENworks OnDemand Services. When installing DeFrame, be aware of the following:
 - The DeFrame eDirectory Setup program, used to extend the eDirectory schema and install the DeFrame snap-ins for ConsoleOne, gives you the options of extending the schema for ZfD

- 3.2 and installing the ZfD 3.2 snap-ins. DeFrame uses the same Application object as ZfD 3.2, which requires these ZfD schema extensions and ConsoleOne snap-ins. However, do not select these options unless you aren't going to use ZfD 3.2 (or haven't installed ZfD 3.2 yet). If you've already installed ZfD 3.2, the schema extensions and ConsoleOne snap-ins are installed with ZfD 3.2.
- The DeFrame Terminal Server Setup program, used to install DeFrame files to terminal servers and add the terminal servers to eDirectory as DeFrame Server objects, will prompt you as to whether or not you want to activate DeFrame Dynamic User (DDU) functionality on the terminal server. When activated, DeFrame dynamically creates and removes local user accounts as users launch and exit applications on the terminal server. You should activate DDU unless you 1) plan to create permanent local user accounts for each user on each terminal server or 2) plan to use ZENworks for Desktops 3.2 Dynamic Local User (DLU) policies to manage dynamic user accounts on the terminal server. For information about the differences between DDU and DLU, see Creating Terminal Server User Accounts Dynamically in the DeFrame 2.01 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20).

For information about installing DeFrame, see the documentation included with the product or see the ZENworks OnDemand Services 2 documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

3

Implementation

Now that you've installed the Novell[®] ZENworks[®] Synergy products, you are ready to implement the ZENworks Synergy solution. The Novell ZENworks OnDemand ServicesTM 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20) contains the majority of the information and instructions you will want to follow to implement ZENworks Synergy in your environment.

The following sections briefly explain some of the major tasks you may want to perform and reference you to the appropriate sections of the product documentation:

- "Setting Up Users with ZENworks OnDemand Services and Novell Application Launcher" on page 26
- "Delivering Applications" on page 27
- "Tracking Application Usage" on page 29
- "Accruing Application Charges to Individual Organizations" on page 30
- "Delegating Application Provisioning Authority to Individual Organizations" on page 30
- "Expanding Your Portal to Include More than Applications" on page 30
- "Using Additional ZENworks for Desktops 3.2 Functionality" on page 31

You can view or download the ZENworks OnDemand Services 2, Novell DeFrame™ 2.01, ZENworks for Desktops 3.2, and Novell Portal Services 1.5 documentation at the Novell Documentation Web site (http://www.novell.com/documentation).

Setting Up Users with ZENworks OnDemand Services and Novell Application Launcher

ZENworks Synergy enables users to access applications from two locations: the ZENworks OnDemand Services gadgets or the ZENworks for Desktops Novell Application LauncherTM. You can enable access through both locations or you can choose one or the other. Currently, the OnDemand Services gadgets provide more functionality than Novell Application Launcher, as shown in the following table.

Functionality	Supported in OnDemand Services Gadgets	Supported in Novell Application Launcher
Administrator-initiated delivery of applications	Yes	Yes
User-initiated requesting of applications	Yes	No
Launching desktop applications	Yes	Yes
Launching thin-client applications	Yes	Yes
Launching Web applications	Yes	No
Automated approval workflow process for user-requested applications	Yes	No
Management of a cost center's budget holders and users, including the ability to change budget holders and add or remove users from the cost center	Yes	No
Usage tracking of desktop applications	Yes	Yes
Usage tracking of thin-client applications	Yes	No
Usage tracking of Web applications	Yes	No

Setting Up the ZENworks OnDemand Services Gadgets

To provide access through the ZENworks OnDemand Services gadgets:

- **1** Give users access to the portal pages that contain the ZENworks OnDemand Services Launch Item, Package Request, Edit Account, Workflow Tracking, and Reporting gadgets.
- **2** Give budget holders access to the Approval, Current Budget Holder, and User Administration gadgets.

For an example of a simple portal design you can use to expose these gadgets, see Configuring Your Portal in Installing OnDemand Services in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20).

Setting Up Novell Application Launcher

To provide access through Novell Application Launcher:

- 1 Set up Novell Application Launcher on each user's workstation. Novell Application Launcher requires that the Novell Client™ also be installed. For instructions, see Setting Up Application Launcher/Explorer in Application Management in the Novell ZENworks for Desktops 3.2 *Administration* guide (http://www.novell.com/documentation/lg/zdfs).
- **2** If you want users to be able to launch thin-client applications from Novell Application Launcher, install the DeFrame 2.01 client to each user's workstation. For instructions, see Setting Up Workstations in Installing DeFrame in the Novell DeFrame 2.01 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20)

Delivering Applications

You can deliver applications by including them in ZENworks OnDemand Services packages or by assigning them to users through ZENworks for Desktops user associations.

An OnDemand Services package can contain a single application or a suite of applications. A user can request a package or be assigned a package. Both of these tasks can be done through the ZENworks OnDemand Services gadgets. When a user requests a package (or is assigned access to the package), he or she receives access to all of the package's applications. A package can contain desktop, thin-client, and Web applications. It can also have purchase and usage charges associated with it, and usage of the package's applications can be tracked.

A user-associated application is assigned directly to users through Novell eDirectoryTM. It is delivered free of charge and no usage tracking is available. Desktop and thin-client applications can be user-associated; Web applications can not.

The following table summarizes the similarities and differences when delivering applications as OnDemand Services packages or as user-associated applications.

Functionality	Available through OnDemand Services Packages	Available through ZfD User Associations
Deliver desktop applications	Yes	Yes
Deliver thin-client applications	Yes	Yes
Deliver Web applications	Yes	No
Deliver multiple applications through single delivery	Yes	No
Assign applications directly to users	Yes, through the User Administration gadget	Yes, through ConsoleOne [®] and eDirectory
Deliver applications free of charge	Yes	Yes
Charge for applications	Yes	No
Track application usage	Yes	No

OnDemand Services Packages

For information about delivering desktop, thin-client, and Web applications by including them in OnDemand Services packages, see Creating Application Packages in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20).

ZENworks for Desktops User Associations

For information about delivering desktop and thin-client applications by associating them with users, see Distributing Free Applications in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods2).

Tracking Application Usage

You can track the usage of applications included in OnDemand Services packages. Usage tracking is required if you want to implement OnDemand Services package pricing schemes that are based on the number of times the package is used or the number of minutes it is used. If you don't want to implement usage-based pricing schemes for your packages, usage information can still help you decide if you need to increase or decrease the resources (hardware, Help Desk personnel, etc.) supporting applications.

All applications (desktop, thin-client, and Web) launched from the ZENworks OnDemand Services gadgets can be tracked. However, the following restrictions apply to usage-based applications launched from Novell Application Launcher:

- Desktop applications launched from Novell Application Launcher can be tracked, provided they have first been launched from the Web portal.
- Thin-client applications launched from Novell Application Launcher cannot be tracked.
- Web applications of any type (usage-based or not) cannot be launched from Novell Application Launcher.

For detailed information about setting up application usage tracking, see Tracking Application Usage in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20).

Accruing Application Charges to Individual Organizations

You can create financial units, called cost centers, for individual organizations, and assign users to the appropriate cost centers. After a user is assigned to a cost center, all purchase and usage costs accrued by the user will be recorded to his or her cost center. This applies only to applications included in OnDemand Services packages.

For detailed information about setting up cost centers, see Creating Cost Centers in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20).

Delegating Application Provisioning Authority to Individual Organizations

You can delegate provisioning authority for a cost center to specific individuals, referred to as budget holders. Budget holders can control the applications available to users by accepting or denying users' requests for applications or by directly assigning applications to users.

By delegating provisioning authority to budget holders from individual cost centers, you can give each cost center the ability to manage the application charges accrued by its users to the cost center.

For detailed information about assigning budget holders, see Creating Cost Centers in the Novell ZENworks OnDemand Services 2 *Installation and Administration* guide (http://www.novell.com/documentation/lg/nzods20). For information about billing cost centers for their accrued application charges, see Billing for Purchases in the same guide.

Expanding Your Portal to Include More than Applications

You can expand your portal to provide users with access to more than just applications. For example, if you have Novell GroupWise[®] or Novell Instant Message SystemTM (NIMSTM), you can use the gadgets that ship with Novell Portal Services 1.5 to provide e-mail information in your portal.

For information about expanding your portal, see the Novel Portal Services 1.5 *Configuration* guide (http://www.novell.com/documentation/lg/portal)

Using Additional ZENworks for Desktops 3.2 Functionality

ZENworks for Desktops 3.2 provides a comprehensive suite of functionality to help you manage all aspects of your workstation. In addition to the Application Management functionality used in the ZENworks Synergy solution, ZfD 3.2 includes the following:

- Workstation Management: Use eDirectory-configured policies to control Windows* workstations.
- Workstation Imaging: Create images that you can lay down on new Windows workstations to quickly get them up and running. Images can include operating systems, applications, and more.
- Workstation Inventory: Keep track of individual workstation hardware and software information in a centralized database.
- Remote Management: Manage Windows workstations from a remote workstation.

For more information about ZfD 3.2 functionality, see the ZENworks for Desktops 3.2 documentation (http://www.novell.com/documentation/lg/zdfs).

Glossary

application provisioning

The process of supplying users with software applications. This process includes providing access to the application, assigning rights required to use the application, and managing ongoing access to the application.

desktop application

A traditional Windows application that is distributed through Novell[®] ZENworks[®] for Desktops. The application may be installed to a user's workstation or run from a network server. In Novell[®] eDirectoryTM, a desktop application is represented by an Application object.

Desktop applications may also be referred to as "fat" applications.

gadget

The main building block of a portal page. A gadget provides a window or link to specific content.

package

One or more applications provided to users as a single unit. The package may be provided free of charge or have a purchase price associated with it. It may be provided for an unlimited or limited amount of time. In eDirectory, a package is represented by an OnDemand Services Package object.

portal

A collection of Web pages that host the gadgets and other content available to users. A portal is customizable on a per-user basis, meaning that a user sees only the pages, gadgets, and content associated with the roles and rights he or she is assigned.

thin-client application

A Windows application that is hosted on a terminal server. With ZENworks Synergy, thin-client applications are made available to users through Novell DeFrame. In eDirectory, a thin-client application is represented by an Application object.

Thin-client applications may also be referred to as "server-based" applications, "thin" applications, or "terminal server" applications.

Web application

An application that is hosted on and run from a Web server. In eDirectory, a Web application is represented by an OnDemand Services Item object.