Zenoss

INSTALLATION

Zenoss, Inc.
www.zenoss.com

Zenoss Core Installation

Part Number: 04-102010-3.0-v05

Chapter 1. Installation Considerations

Read the following sections to learn more about:

- Choosing an installation type
- Hardware requirements
- Configuration settings for optimal performance

1.1. Which Zenoss Installation Should You Choose?

Zenoss provides these categories of artifacts for a fresh server deployment:

Artifact	Notes	Chapters
RPM (`*.rpm`)	Standard RPM installation. Requires a Redhat/CentOS-based Linux installation and MySQL.	"Installing for RHEL5 or CentOS5"
Appliance	RPM installation on top of a minimal CentOS 5.4 Linux installation.	"Installing the Virtual Appliance"
Stack (`*.bin`, `*.deb`, `*.app`)	All-in-one installer; supports most Linux distros and OS X. Includes MySQL.	"Installing from the Stack Installers," Installing from the Debian Stack Installer," Installing from Mac OS X"

Table 1.1. Zenoss Installation Types

If your choice of platform is not constrained, Zenoss recommends using the 64-bit RPM artifact.

Zenoss also provides the option to install and build from source.

1.2. Hardware Requirements

You should meet these minimum hardware requirements for a single-server installation of Zenoss.

1.2.1. Deployments Up to 2000 Devices

Deployment Size	Memory	CPU	Storage
1 to 250 devices	4GB	2 cores	1x300GB, 10K RPM drive
250 to 500 devices	8GB	4 cores	1x300GB, 10K RPM drive
500 to 1000 devices	16GB	8 cores	1x300GB, 15K RPM drive
1000 to 2000 devices	64GB	8 cores	1x300GB, 15K RPM drive

Table 1.2. Hardware Requirements: Up to 2000 Devices

1.2.2. Deployments Over 2000 Devices

Zenoss is successfully deployed at multiple sites with tens of thousands of devices. If you are planning to monitor more than 2000 devices, or will monitor a network with complex topology, there are additional requirements and configurations to consider. Contact Zenoss Professional Services for deployment planning assistance.

1.2.3. Other Considerations

Zenoss is a highly IO-intensive application; as a result, it usually performs best when using direct attached storage. However, an appropriately tuned SAN/NAS environment can also be used effectively with a Zenoss installation.

Note

Zenoss recommends that you use a hardware-based RAID 1 (mirroring) drive subsystem to protect against data loss.

1.3. Server Hardware Configuration

1.3.1. File System Configuration

Zenoss stores gathered performance data in individual RRD files. Performance updates are 8 bytes per data point, which translates to a 4KB file system block update. Under such a high volume/low throughput usage pattern, journaled file systems can be detrimental to IO performance.

If possible, create a separate, non-journaled partition for `$ZENHOME/perf` (for RPM, `/opt/zenoss/perf`).

For more information about file system performance tuning and increasing RRD performance, browse to:

http://oss.oetiker.ch/rrdtool-trac/wiki/TuningRRD

1.3.2. Deploying in a Virtualized Environment

Zenoss is deployed successfully at many sites in a virtualized environment. However, this type of environment requires additional configuration to ensure there is no resource contention for the Zenoss application (CPU, memory, IO). Zenoss Professional Services can provide expert assistance in this area.

1.4. Post-Installation Performance Tuning Tasks

After your installation is complete, there are several configuration settings you should adjust to obtain proper performance. Based upon the size of your planned deployment, changes to the MySQL configuration, as well as tuning of the Zope configuration file, are required. See the chapter titled "Post-Installation Performance Tuning" in this guide for more information.

Chapter 2. Installing for RHEL 5 or CentOS 5

2.1. Prerequisite Tasks and Requirements

Before installing, ensure that your system meets all requirements and that you perform pre-installation tasks.

2.2. Requirements

Run all commands as `root`, from the machine where you want to install Zenoss.

Zenoss requires that Sun JRE 1.5 or later version be installed on your system.

The `/opt/zenoss` directory cannot be a symbolic link to another location.

Ensure the umask is set to 022 (masks write permissions for group and others).

2.3. Tasks

Before you install:

1. Run the Yellowdog Updater, Modified (YUM), which you will use to install Zenoss. To run YUM, enter this command:

   ```
   # yum -y install mysql-server net-snmp net-snmp-utils gmp libgomp libgcj liberation-fonts
   ```
2. Download the Zenoss installation files.
3. If you have just installed MySQL, then use the following command to add MySQL into the startup sequence:

   ```
   # /sbin/chkconfig --add mysqld
   ```
4. Enter the following command to display current run levels:

   ```
   # /sbin/chkconfig --list mysqld
   ```
5. If the system responds with something similar to:

   ```
   mysqld 0:off 1:off 2:off 3:off 4:off 5:off 6:off
   ```

   then enter the following command to adjust run levels:

   ```
   # /sbin/chkconfig --level 2345 mysqld on
   ```
6. Restart MySQL and set the password.

   Note

   Do not add a space between the single quotes in the following commands.

   ```
   # /etc/init.d/mysqld restart
   # /usr/bin/mysqladmin -u root password ''
   # /usr/bin/mysqladmin -u root -h localhost password ''
   ```

   Note

   Initially, the MySQL password must be blank so that Zenoss can correctly create the database. After you have installed and started Zenoss, you can change this password.

2.4. Install the Software

Follow these steps to install Zenoss for Red Hat Enterprise Linux 5 or CentOS 5.

1. Enter one of the following commands to install the Zenoss RPM.

For 32-bit:

```
# rpm -ivh zenoss-Version.el5.i386.rpm
```

For 64-bit:

```
# rpm -ivh zenoss-Version.el5.x86_64.rpm
```

Where *Version* is the current Zenoss version.

2. If MySQL is running on a different server, or has a different root user password, edit the `/opt/zenoss/bin/zenoss_init_pre` file and adjust the MYSQLHOST, MYSQLROOTUSER, and MYSQLROOTPASSWD values.
3. Enter this command to start Zenoss.

```
# service zenoss start
```

Note

This step may take several minutes.

4. Install the Core ZenPacks. Enter one of these commands.

For 32-bit:

```
# rpm -ivh zenoss-core-zenpacks-Version.el5.i386.rpm
```

For 64-bit:

```
# rpm -ivh zenoss-core-zenpacks-Version.el5.x86_64.rpm
```

2.5. Disable or Configure the Firewall

To operate, Zenoss requires that several ports be open.

Open these ports in your firewall.

Port	Protocol	Direction to Zenoss Server	Description
8080	HTTP	Inbound	Zenoss Web interface
514	UDP	Inbound	syslog
162	UDP	Inbound	SNMP Traps

Table 2.1. Zenoss Ports

Alternatively, you can choose to disable the firewall. Use the following commands:

```
# service iptables stop
# chkconfig iptables off
```

2.6. What's Next?

After installing Zenoss, go to the section titled "Quick Start" in the guide titled Getting Started with Zenoss. There you will find instructions for initial setup tasks and basic information to help you begin using Zenoss.

Download the guide (in Portable Document Format) from the Documentation area of the Web site:

http://community.zenoss.org/community/documentation

Chapter 3. Installing the Virtual Appliance

3.1. System Requirements

The system requirements for running the Zenoss Virtual Appliance are largely the requirements for running the VMware Player. A typical host system used for a VMware installation should meet these specifications:

- Dual core system
- Minimum RAM - 4GB
- Available disk space - 20GB

3.2. Prerequisite Tasks

Install the VMware Player. For downloads and installation instructions, go to:

http://www.vmware.com/products/player/

Ensure the umask is set to 022 (masks write permissions for group and others).

3.3. Installing the Appliance

Follow these steps to download and install the Zenoss appliance.

1. Download one of the Zenoss Virtual Appliance files (`zenoss-`*Version*`-86.vmware.zip` or `zenoss-`*Version*`-x64.vmware.zip`) from http://www.zenoss.com/download.
2. Unzip the file into a working directory.
3. Start the VMware Player.
4. Use the VMware Player to navigate to the directory where you unzipped the Zenoss Virtual Appliance package, and then open the Zenoss Virtual Appliance.

   After loading the appliance, the virtual machine window displays a message similar to:

   ```
   Welcome to Zenoss

   To access the Zenoss Management Console, please browse to:

   http://xxx.xxx.xxx:8080
   ```

   Note

   If this message does not appear, then you may need to change the VMware player network connection option from Bridged to NAT.
5. Log in as user `root`. The default root password is `zenoss`.
6. Open a new Web browser, and then enter the URL that appears in the login screen.

   The Zenoss Setup Wizard appears.

3.4. What's Next?

After installing Zenoss, go to the section titled "Quick Start" in the guide titled Getting Started with Zenoss. There you will find instructions for initial setup tasks and basic information to help you begin using Zenoss.

Download the guide (in Portable Document Format) from the Documentation area of the Zenoss Web site:

http://community.zenoss.org/community/documentation

3.5. Converting the Virtual Appliance to ESX

Follow these steps to convert the virtual appliance to ESX:

1. Download the zipped appliance into the datastore volume on your ESX server (for example, `/vmfs/volumes/`*YourDatastore*).
2. Unzip the appliance and go to the uncompressed folder.
3. Run `vmkfstools` on the uncompressed `vmdk` file:

   ```
   vmkfstools -i zenoss-[Version]-[Architecture].vmware.vmdk zenoss-[Version]-[Architecture].esx.vmdk
   ```

   Note

   You can delete all other files in the uncompressed folder, leaving only the new `vmdk` file.
4. Start your vSphere standalone client; or, in the case of ESX 4.0, open ESX Web Access.
5. Go to Inventory and find the ESX server where the `.vmdk` file is located.
6. Create a virtual machine, following these steps:
   a. Right-click the ESX server, and then select New virtual machine.

      The Configuration panel appears.

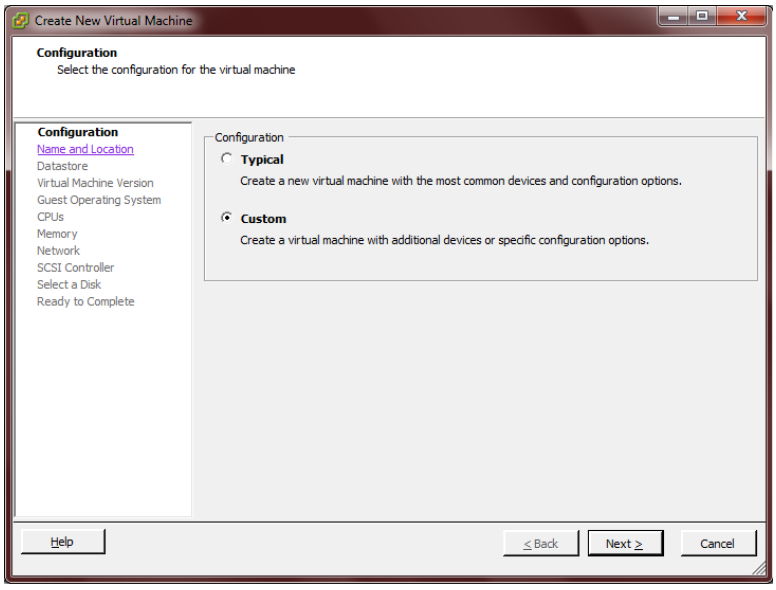

   Figure 3.1. Configuration

   b. On the Configuration panel, select the Custom option, and then click **Next**.

      The Name and Location panel appears.

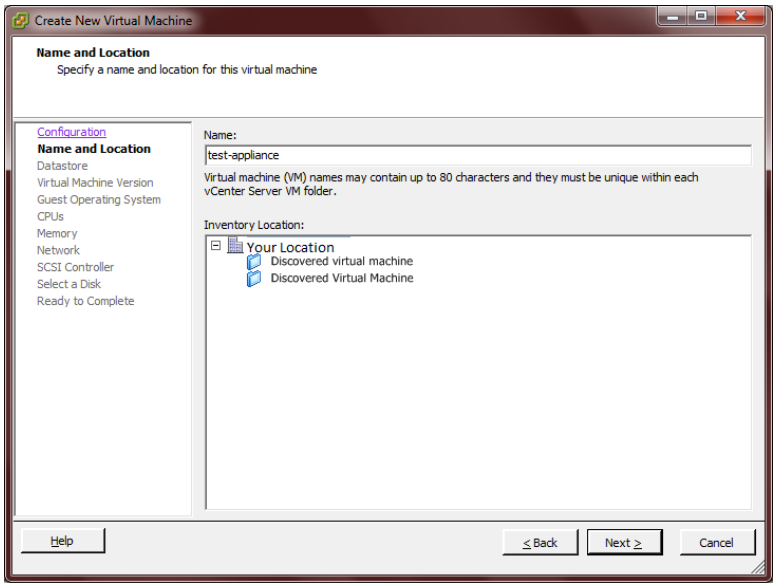

Figure 3.2. Name and Location

c. Enter a name for the new virtual machine, choose the location of the virtual machine in your inventory, and then click **Next**.

The Datastore panel appears.

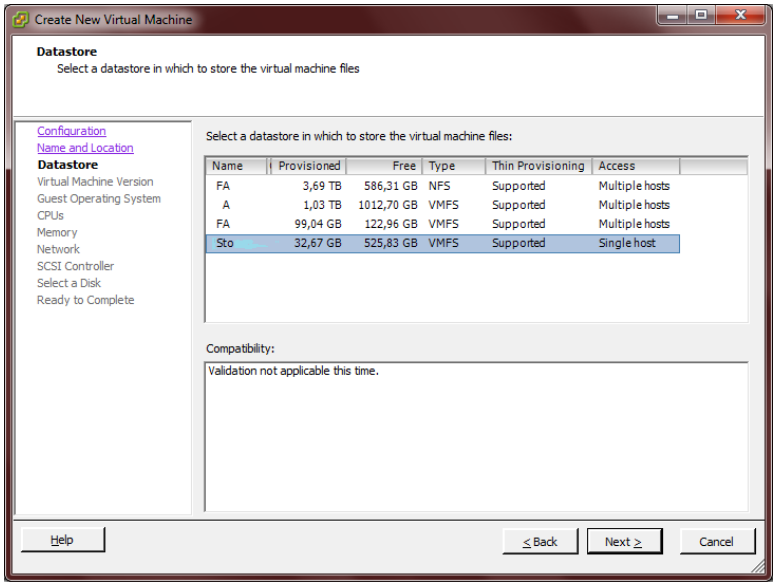

Figure 3.3. Datastore

d. Select the datastore where the appliance `.vmdk` file was converted with `vmkfstools`, and then click **Next**.

The Virtual Machine Version panel appears.

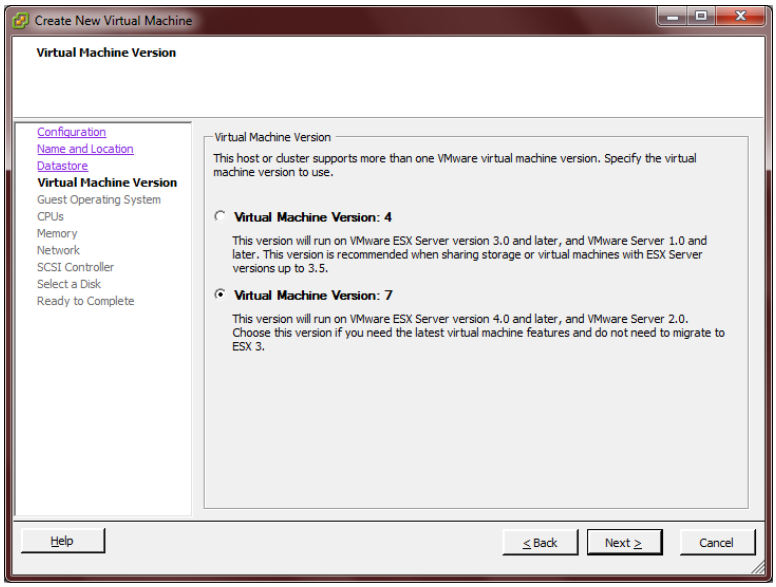

Figure 3.4. Virtual Machine Version

e. Select Virtual Machine Version 7, and then click **Next**.

The Guest Operating System panel appears.

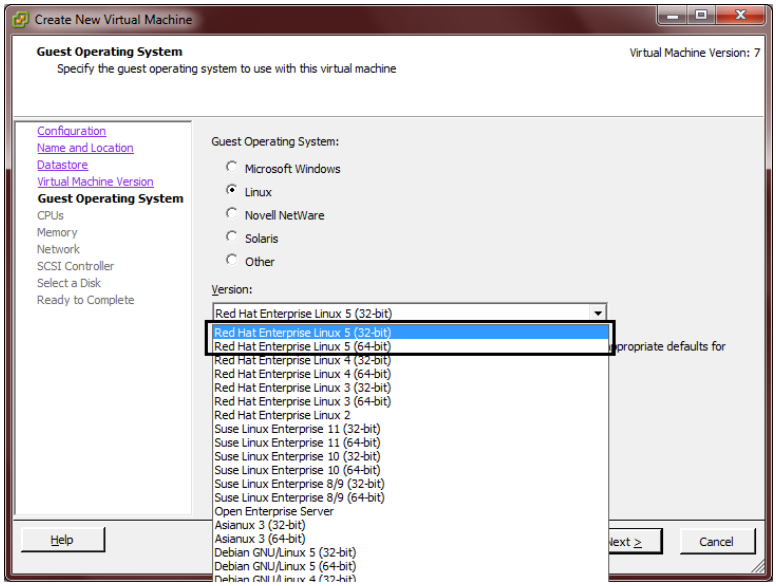

Figure 3.5. Guest Operating System

f. Select the guest operating system version appropriate for the architecture of the downloaded appliance (Red Hat Enterprise Linux 5 (32-bit) or Red Hat Enterprise Linux 5 (64-bit)), and then click **Next**.

The CPUs panel appears.

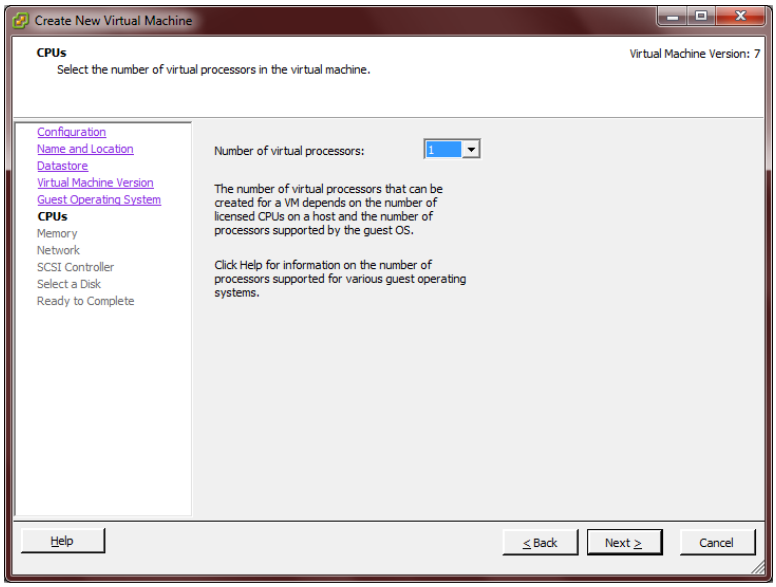

Figure 3.6. CPUs

g. Select the number of virtual processors (by default, 1), and then click **Next**.

The Memory panel appears.

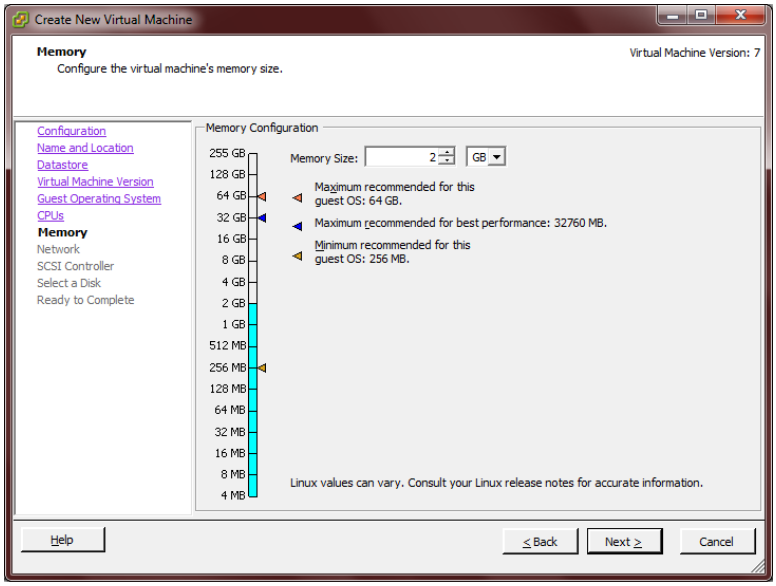

Figure 3.7. Memory

h. Select the amount of RAM for the virtual machine (by default, 2GB), and then click **Next**.

The Network panel appears.

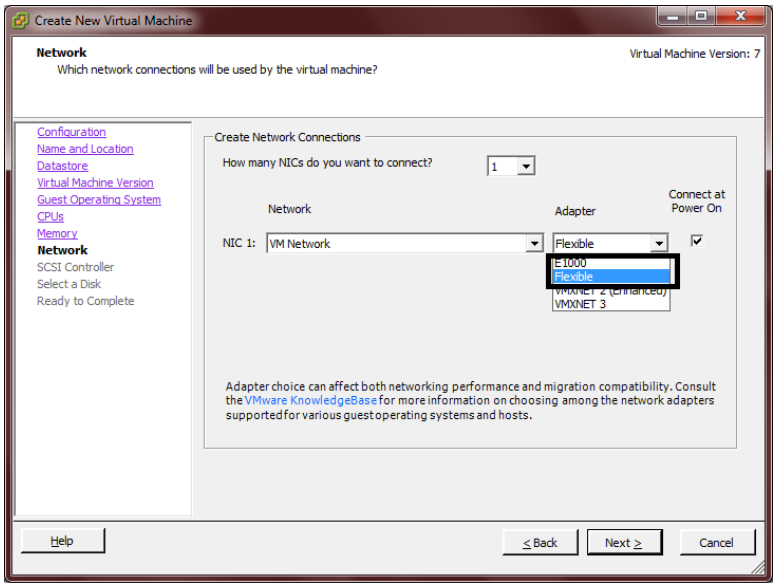

Figure 3.8. Network

i. Adjust the Virtual NIC according to our ESX configuration. Be sure to select the right adapter (E1000 for 64-bit appliances; Flexible for 32-bit appliances). Click **Next**.

   The SCSI Controller panel appears.

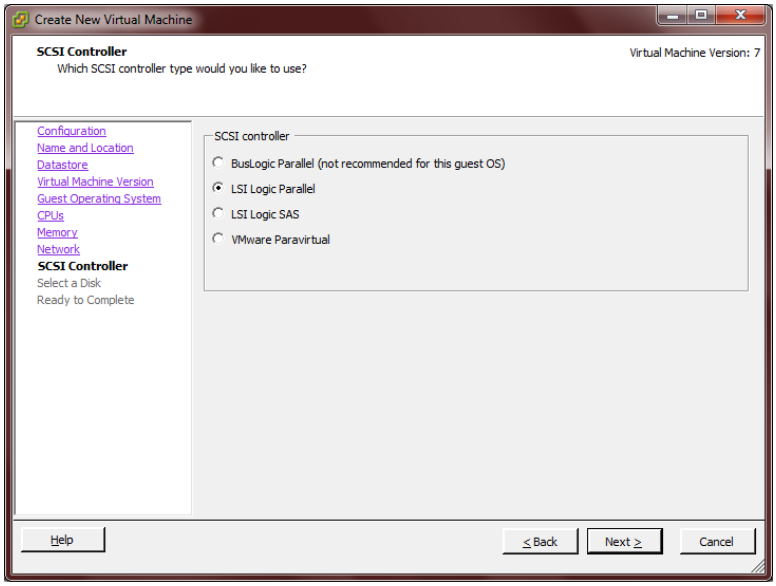

Figure 3.9. SCSI Controller

j. Select a SCSI controller (by default, LSI Logic Parallel), and then click **Next**.

   The Select a Disk panel appears.

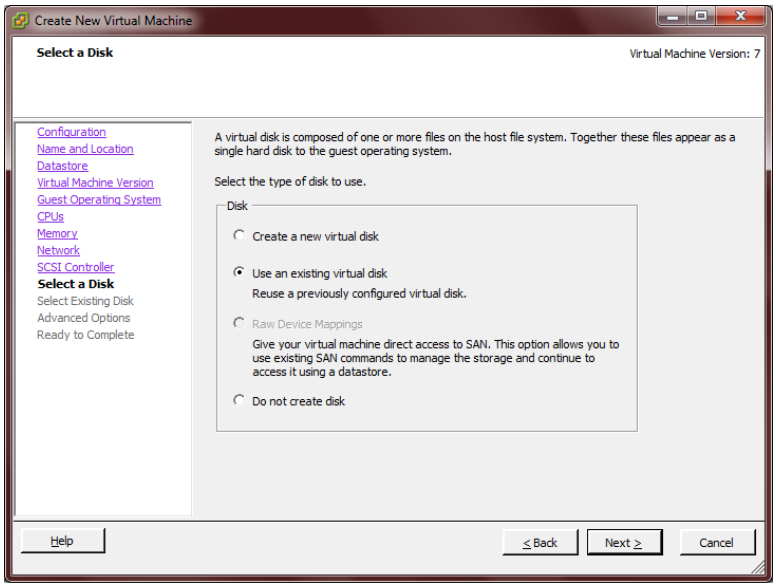

Figure 3.10. Select a Disk

k. Select the Use an existing virtual disk option, and then click **Next**.

   The Select Existing Disk panel appears.

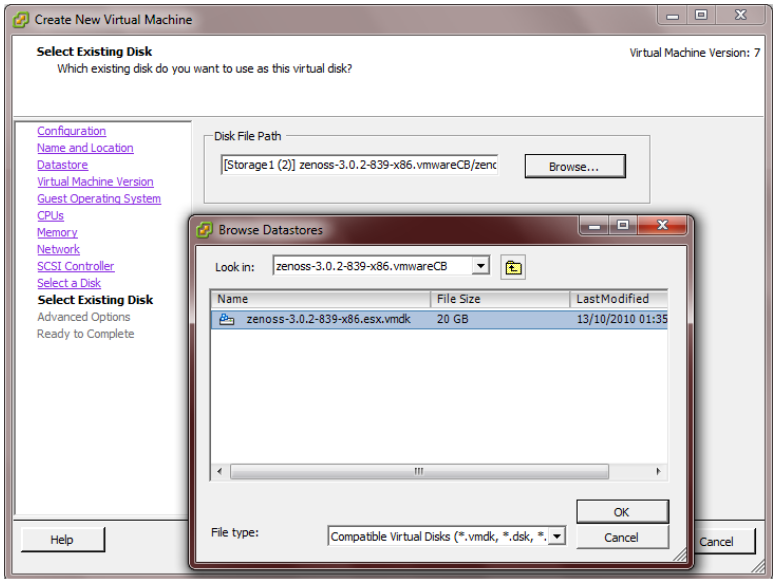

Figure 3.11. Select Existing Disk

l. Click Browse to browse to your datastore. Select `.vmdk`, and then click **OK**.

m. Click **Next**, and then click **Finish**.

n. Start the virtual machine.

VMware also ships a conversion tool, VMware vCenter Converter, that can convert the appliance to a proper ESX VM. For more information about this tool, go to:

http://www.vmware.com/products/converter

Chapter 4. Installing from the Stack Installers

4.1. Install for SUSE Linux Enterprise Server

Follow these instructions to install Zenoss and the Zenoss stack for SUSE Linux Enterprise Server (SLES).

4.1.1. Prerequisites

Ensure the umask is set to 022 (masks write permissions for group and others).

4.1.2. Download the Installer

If installing Zenoss Core, download the Zenoss installation files from this location:

http://zenoss.com/download

Download the Zenoss Enterprise installation files from the `suse/` directory at the Zenoss download site:

http://support.zenoss.com/download

Note

Contact your Zenoss representative for site login credentials.

4.1.3. Launch the Installer

Choose one of the following methods to launch the installer, depending on your preference or environment:

- Command line
- KDE
- Gnome

4.1.3.1. Command Line

Follow these steps to open the installer from the command line.

Note

`zenoss*.bin` is the current installation file.

1. Open a command line prompt, and then change to the directory where you downloaded the installer:

   ```
   $ cd <YourDownloadDirectory>/
   ```

2. Make the installer executable. Use this command:

   ```
   $ chmod +x zenoss*.bin
   ```

3. Run the Zenoss installer. Zenoss requires that you perform this installation as the root user.

   If you know your root password, then use the su command:

   ```
   $ su - root -c ./zenoss*.bin
   ```

   If you do not know your root password, then use the sudo command:

   ```
   $ sudo ./zenoss*.bin
   ```

4.1.3.2. KDE

Follow these steps to open the installer in KDE:

1. Make the file executable:
   a. Right-click the downloaded file, and then select Properties from the actions menu.
   b. Click the Permissions tab.
   c. Select the "Is executable" option.
   d. Click **OK**.
2. Run the program as root. Right-click the file, and then select the Open With menu item.
3. Enter this command to open the Zenoss installer:

```
kdesu
```

4.1.3.3. Gnome

Follow these steps to open the installer in Gnome:

1. Make the file executable:
   a. Right-click the downloaded file, and then select Properties from the actions menu.
   b. Click the Permissions tab.
   c. Select the "Allow executing file as program" option.
   d. Click **OK**.
2. Run the program as root. Right-click the file, and then select the Open with Other Application menu item.
3. Select Use a custom command, then enter this command to open the Zenoss installer:

```
gksu
```

4.1.4. Install

The installer prompts for this basic configuration information at startup:

- Installation location (the default location is `/usr/local/zenoss`)
- Root password for MySQL

If you run the installer from a desktop, it provides graphical dialog prompts. If the installer is run from a headless or remote location, is uses simple command-line prompts.

After launching the installer, the initial Zenoss installer screen appears.

1. Click **Forward**.
2. Choose the installation location for Zenoss, and then click **Forward**.

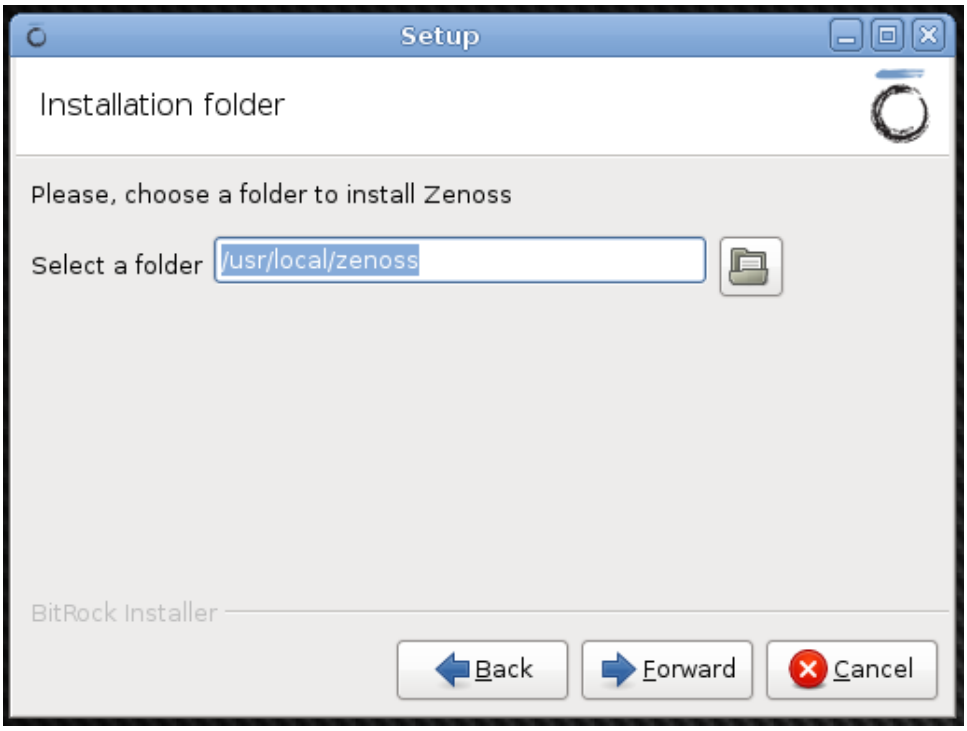

Figure 4.1. Zenoss Installer Screen Location

3. If port 8080 is in use, the installer prompts for an alternate port number:

   ```
   Please enter the Zope configuration parameters you wish to use.

   Zope Server port: [8080]:
   ```

   Enter an alternate port number.

   Note

   You also can override the default port number by using the following option when launching the installer:

   `--zope_server_port`*Port*

4. The MySQL Credentials screen appears and prompts you for MySQL password information.

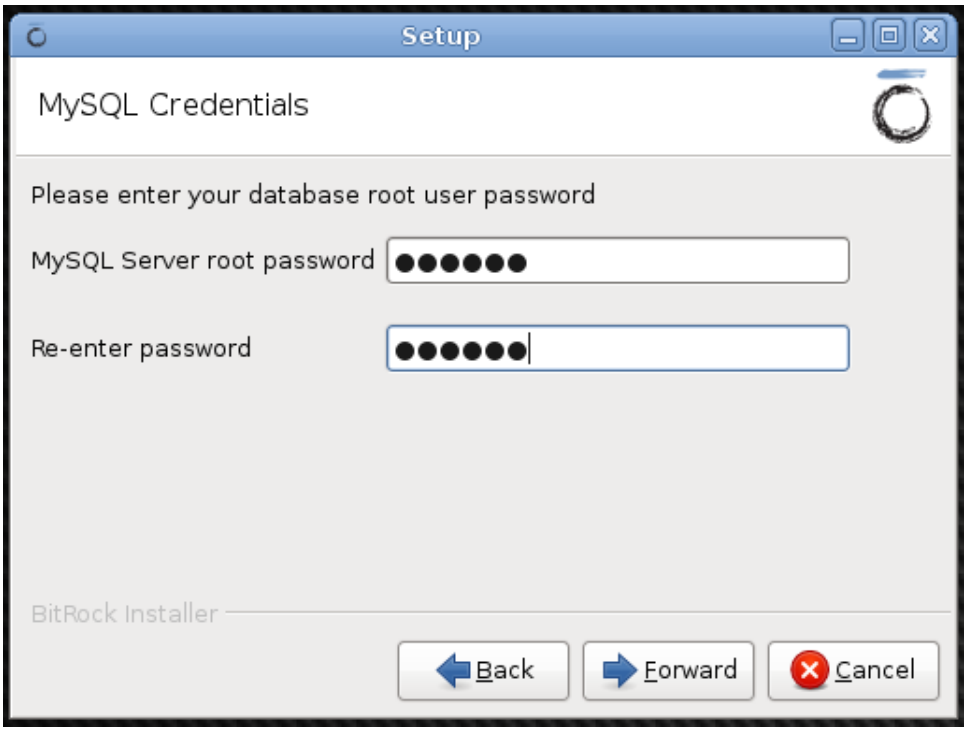

Figure 4.2. Zenoss Installer Screen - MySQL Password

The root password for MySQL is for a fresh installation of MySQL dedicated exclusively to Zenoss. It is not the root password for the computer, or the root password to any existing MySQL installation. You can use any non-empty password; this password is not stored by the Zenoss installer.

Click **Forward**.

5. You are now ready to Install Zenoss.

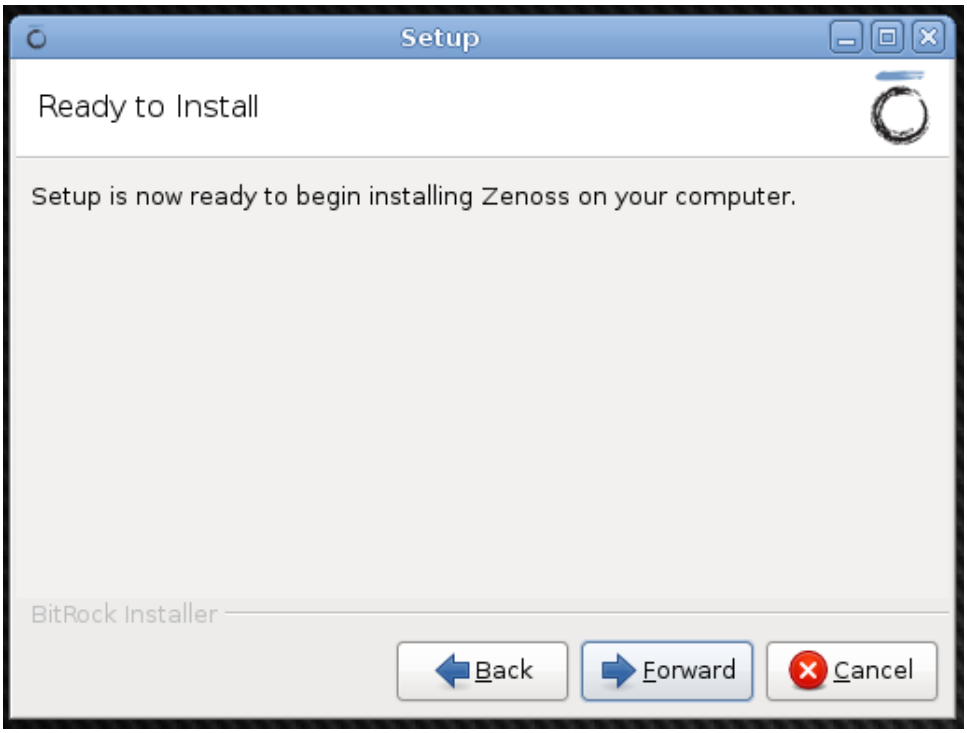

Figure 4.3. Zenoss Installer Screen - Ready to Install

Click **Forward** to start the install process.

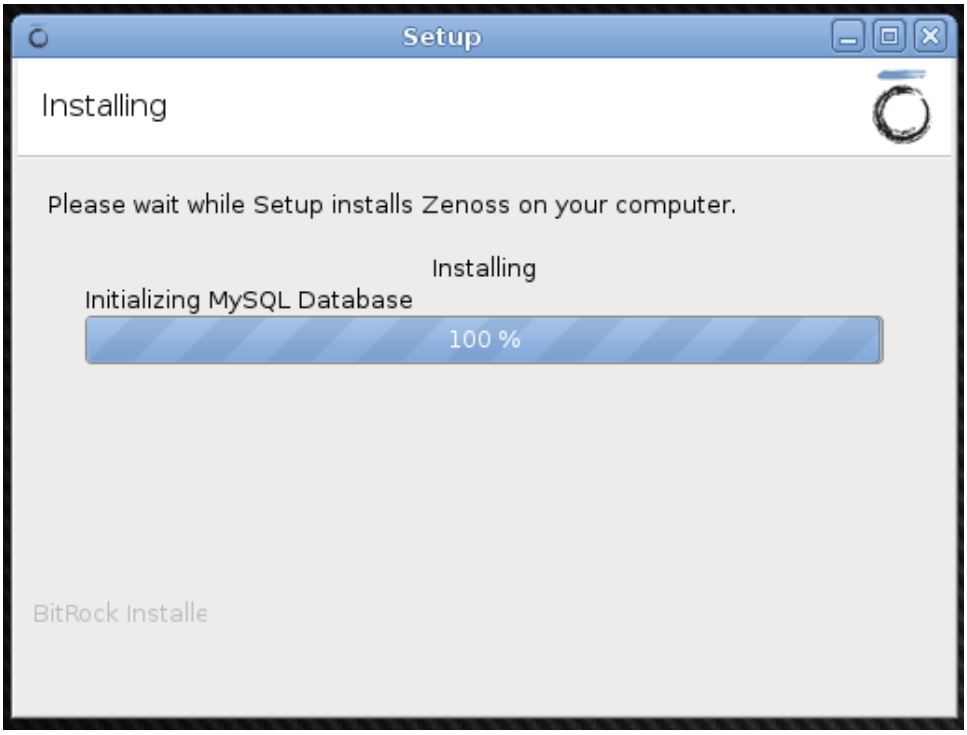

Figure 4.4. Zenoss Installer Screen - Progress Bar

This point in the installation process may take several minutes without showing any change. Note that there is a long pause (up to several minutes) near the end of the installation as Zenoss initializes.

6. When installation is complete, the following dialog appears.

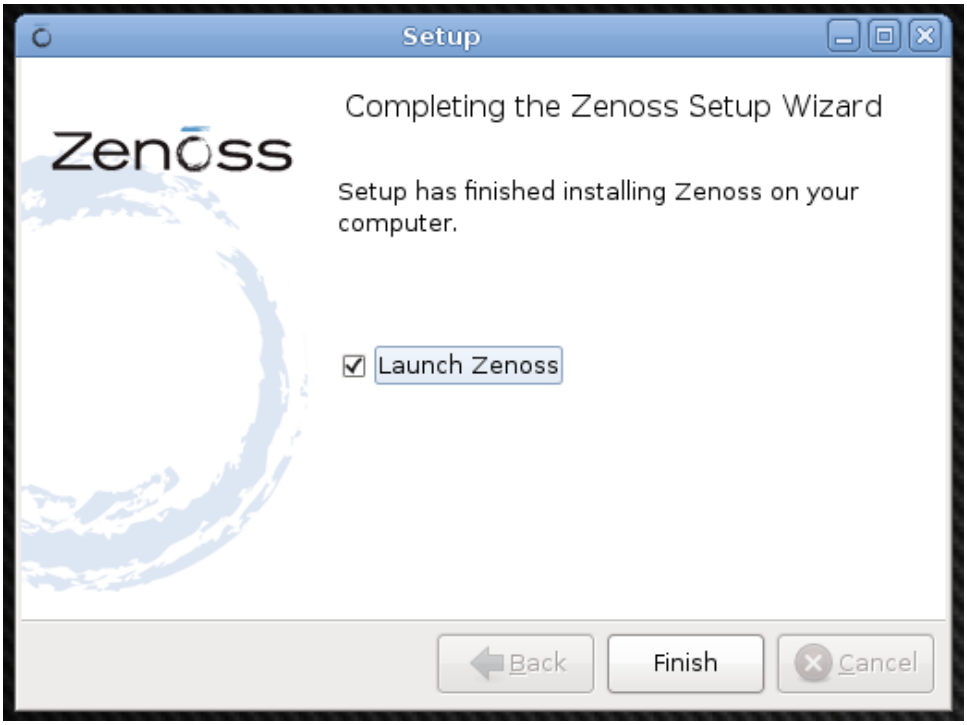

Figure 4.5. Zenoss Installer Screen - Finish and Launch Zenoss

If you select "Launch Zenoss" the installer will attempt to run your Web browser and point it to Zenoss. If this fails (usually because your browser is already running), then direct your browser to this location:

http://localhost:*PortNumber*/

Where *PortNumber* is 8080 (by default) or the alternate port number you selected during installation (if port 8080 was already in use). For example, if you installed on your local computer, and selected port 8888 as the new port for the Zope server, then use the following location:

http://localhost:8888

7. Click **Finish**. The Zenoss setup wizard appears.

4.1.5. What's Next?

After installing Zenoss, go to the section titled "Quick Start" in the guide titled Getting Started with Zenoss. There you will find instructions for initial setup tasks and basic information to help you begin using Zenoss.

Download the guide (in Portable Document Format) from the Documentation area of the Web site:

http://community.zenoss.org/community/documentation

Chapter 5. Installing from the Debian Stack Installer

5.1. Prerequisites

Ensure the umask is set to 022 (masks write permissions for group and others).

5.2. Install from the DEB

Use one of the procedures in this chapter to install Zenoss and the Zenoss stack (from the zenoss-stack DEB) for Debian or Ubuntu.

5.2.1. Using apt (Command Line)

1. Add the Zenoss repository to the `/etc/apt/sources.list` file. Add the following line at the bottom of the file:

   ```
   # Zenoss repository
        deb http://dev.zenoss.org/deb main stable
   ```

2. Enter the following commands:

   ```
   apt-get update
   apt-cache search zenoss-stack
   ```

   This should return:

   ```
   zenoss-stack - Zenoss Stack with all requirements.
   ```

3. Enter this command to install the Zenoss stack:

   ```
   apt-get install zenoss-stack
   ```

   Zenoss is installed in the `/usr/local/zenoss` directory.

4. Start Zenoss with this command:

   ```
   # /etc/init.d/zenoss-stack start
   ```

5.2.2. Using dpkg

1. Browse to the following location and download the desired Zenoss version to your local file system:

   http://dev.zenoss.org/deb/dists/main/stable/

2. Install the downloaded file:

   ```
   # dpkg -i FileName
   ```

3. Zenoss is installed in the `/usr/local/zenoss` directory.

   Start Zenoss with this command:

   ```
   # /etc/init.d/zenoss-stack start
   ```

Chapter 6. Installing for Mac OS X

Use the following information and procedures to install Zenoss for Mac OS X 10.5 Leopard.

6.1. Installation Notes

- The Zenoss installer creates the user "zenoss" and runs the application as that user.
- MySQL and all dependencies are installed in the directory you select during installation (by default, the `/usr/local/zenoss` directory).
- MySQL (`zenoss-stack-mysql.plist`) and Zenoss (`zenoss-stack.plist`) start scripts are automatically launched at startup. These scripts are located in the `/Library/LaunchDaemons` directory.
- If the installer cannot find MySQL:
  1. Modify the line in the .bashrc file to read:

     ```
     export PATH=$ZENHOME/bin:$PATH:/user/local/mysql/bin
     ```
  2. Change to the install directory and proceed with installation.
- To remove an installation of Zenoss, use `uninstall.app`, located in the directory where you installed Zenoss (by default, the `/usr/local/zenoss` directory).

6.2. Prerequisites

Ensure the umask is set to 022 (masks write permissions for group and others).

6.3. Installation Procedure

Follow these steps to install Zenoss for Mac OS X.

Note

Depending on your firewall configuration, inbound network connections may be restricted. In this case, one or more related dialogs may appear during Zenoss installation and launch. To successfully complete the installation process, click **Allow** in each dialog that appears.

1. Download the `zenoss-stack-`*Version*`.app.tar.gz` file from the Zenoss download site.
2. Double-click the `zenoss-stack-`*Version*`.app.tar.gz` file to expand it.
3. Double-click the `zenoss-stack-`*Version*`.app` file.
4. When prompted, enter your administrative password.

   The Zenoss Setup Wizard appears.
5. Click **Next**.

   The Installation Folder panel appears.

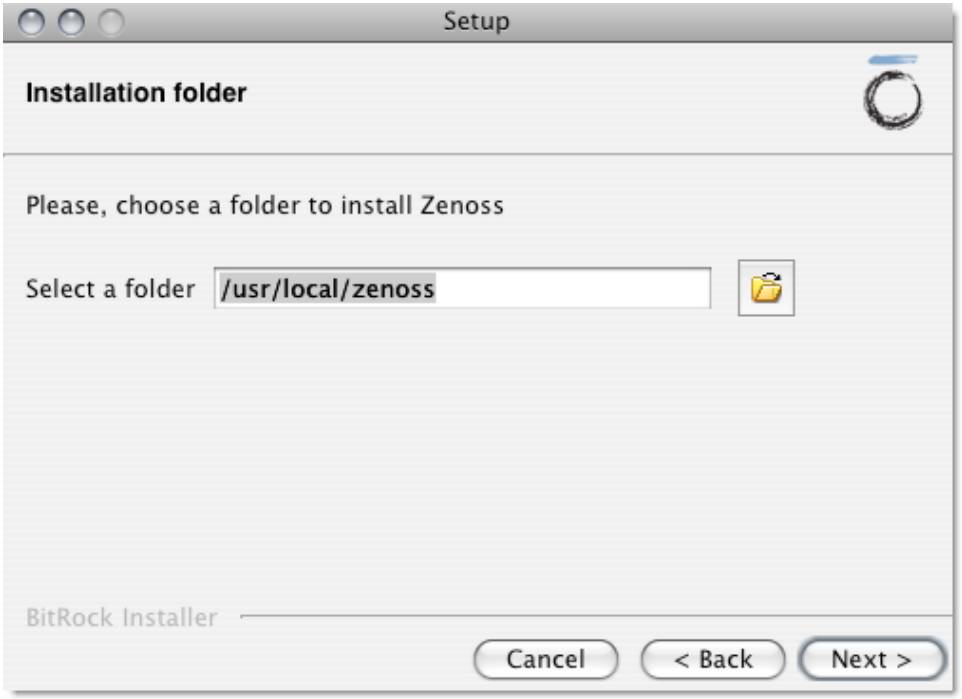

Figure 6.1. Installation Folder

6. Choose the location where you want to install Zenoss, and then click **Next**. By default, Zenoss is installed in `/usr/local/zenoss`.

   The Ready to Install dialog appears.

7. Click **Next** to start installation.

   A progress dialog appears. Click **Cancel** at any time to stop installation.

   When installation is complete, the Completing the Setup Wizard dialog appears.

8. Leave the Launch option selected and click **Finish**.

   Zenoss launches in the following browser location:

   http://localhost:8080

6.4. What's Next?

After installing Zenoss, go to the section titled "Quick Start" in the guide titled Getting Started with Zenoss. There you will find instructions for initial setup tasks and basic information to help you begin using Zenoss.

Download the guide (in Portable Document Format) from the Documentation area of the Web site:

http://community.zenoss.org/community/documentation

Chapter 7. Installing from Source

7.1. Source Installation

This section describes the process for installing Zenoss from source.

7.2. Major Dependencies

To install Zenoss from source, you need:

- A build environment including binutils, gcc/g++.
- MySQL 5.0.x

  Where x >= 22.

  Make sure you assign a password to root and that `mysql_config` is in the path.
- GNU build environment (GNU Make)
- SWIG >= 1.3
- Autoconf >= 2.53

7.3. Prerequisites

Ensure the umask is set to 022 (masks write permissions for group and others).

7.4. System Setup

Follow these steps to set up your system before installing.

1. Create the user "zenoss" under which most of the daemons will run:

   ```
   bash$ useradd zenoss
   ```

2. Set Zenoss environment variables. Add the following lines to the appropriate profile for your shell (for example, .profile):

   ```
   export ZENHOME=/usr/local/zenoss
   export PYTHONPATH=$ZENHOME/lib/python
   export PATH=$ZENHOME/bin:$PATH
   export INSTANCE_HOME=$ZENHOME
   ```

   ZENHOME is the path to your Zenoss installation. PYTHONPATH lets Python find the libraries used by the system.

   Zenoss recommends installing in a directory other than the zenoss user's home directory. Do not use `/home/zenoss`. If you need to reinstall Zenoss in the future, this is made easier by a dedicated installation directory.

   When you run the installation script, you must first log in as the zenoss user.

3. Create the Zenoss installation directory and set the ownership:

   ```
   bash$ mkdir /usr/local/zenoss
   bash$ chown zenoss /usr/local/zenoss
   ```

4. Start MySQL.

7.5. Build and Install

Follow these steps to build and install Zenoss.

1. Log in as the user `zenoss`.
2. Use one of the following commands to install Zenoss:

To build from the source tarball:

```
bash$ tar -xzvf zenoss-Version.tar.gz
bash$ cd zenoss-Version
bash$ ./install.sh
```

To build from the latest source in Subversion on the stable 3.0 branch:

```
bash$ svn co http://dev.zenoss.org/svn/branches/zenoss-3.0.x/inst zenossinst-3.0.x
bash$ cd zenossinst-3.0.x
bash$ SVNTAG=branches/zenoss-3.0.x ./install.sh
```

To build from the latest source in Subversion on the trunk:

Note

You should not use this procedure for production versions.

```
bash$ svn co http://dev.zenoss.org/svn/trunk/inst zenossinst
bash$ cd zenossinst
bash$ ./install.sh
```

Notes:

- To clean a failed install, execute the following command:

  ```
  bash$ make clean
  ```

- All files needed for execution are built and installed under $ZENHOME, including Zenoss and other components such as Zope, RDD, and Twisted.
- This script creates several tables, as well as a trigger to move events from status -> history on deletion. This trigger requires "SUPER" permission which is granted to root by default (but can be granted to other users manually).
- By default, the Zenoss Web server listens on port 8080 for Web connections. You can change this by modifying `$ZENHOME/zope.conf` and other references to the port number in daemon configs.
- zensocket needs to be setuid to open raw sockets. As root, run:

  ```
  chown root:zenoss /usr/local/zenoss/bin/zensocket
  chmod 04750 /usr/local/zenoss/bin/zensocket
  ```

- To access the Zenoss portal:

  In a Web browser, browse to:

  http://hostname:8080

  Username: admin

  Password: zenoss

3. Start the Zenoss daemons.

Use the zenoss script to stop and start the system. To start, enter:

```
bash$ $ZENHOME/bin/zenoss start
```

To check that all daemons are running, enter:

```
bash$ $ZENHOME/bin/zenoss status
```

The system should respond with output similar to this:

```
Daemon: zeoctl program running; pid=4295
Daemon: zopectl program running; pid=4299
Daemon: zenhub program running; pid=1093
Daemon: zenping program running; pid=8721
Daemon: zensyslog program running; pid=8726
Daemon: zenstatus program running; pid=8731
Daemon: zenactions program running; pid=8736
Daemon: zentrap program running; pid=8742
Daemon: zenmodeler program running; pid=8751
Daemon: zenperfsnmp program running; pid=8757
Daemon: zencommand program running; pid=8765
Daemon: zenprocess program running; pid=8770
```

7.6. Platform-Specific Notes

7.6.1. Setting Socket buffers on Unix platforms

You may want to increase the size of the systems net buffers.

on Linux in the file `/etc/sysctl.conf`, add:

```
 net.core.rmem_default=1048576
 net.core.rmem_max=1048576
 net.core.wmem_default=1048576
 net.core.wmem_max=1048576
```

to configure without a reboot:

```
sysctl -w net.core.rmem_default=1048576
sysctl -w net.core.rmem_max=1048576
sysctl -w net.core.wmem_default=1048576
sysctl -w net.core.wmem_max=1048576
```

7.6.2. Running with a Remote MySQL Instance

See the appendix titled "Using an Existing MySQL Server to Store Events" in Zenoss Administration.

Chapter 8. Other Installations

8.1. RHEL4 Installation Instructions

Follow these instructions to install Zenoss for Red Hat Enterprise Linux 4 or CentOS 4.

8.1.1. Prerequisite Tasks and Requirements

The `/opt/zenoss` directory cannot be a symbolic link to another location.

Run all commands as root, from the machine where you want to install Zenoss.

Ensure the umask is set to 022 (masks write permissions for group and others).

Before you install:

1. Run one of the following commands, depending on whether you are installing for RHEL 4 or CentOS 4.

RHEL 4

```
# up2date net-snmp net-snmp-utils gmp libgcj libgomp liberation-fonts
```

CentOS4

```
# yum -y install net-snmp net-snmp-utils gmp libgomp libgcj liberation-fonts
```

2. Download the Zenoss installation files.
3. Download the MySQL 5.0 packages (MySQL-server-standard, MySQL-client-standard, and MySQL-devel-standard) for your platform.

   For 32-bit:

   ```
   $ wget http://downloads.mysql.com/archives/mysql-5.0/MySQL-server-standard-5.0.22-0.rhel4.i386.rpm \
       http://downloads.mysql.com/archives/mysql-5.0/MySQL-client-standard-5.0.22-0.rhel4.i386.rpm \
       http://downloads.mysql.com/archives/mysql-5.0/MySQL-devel-standard-5.0.22-0.rhel4.i386.rpm
   ```

   For 64-bit:

   ```
   wget http://downloads.mysql.com/archives/mysql-5.0/MySQL-server-standard-5.0.22-0.rhel4.x86_64.rpm \
       http://downloads.mysql.com/archives/mysql-5.0/MySQL-client-standard-5.0.22-0.rhel4.x86_64.rpm \
       http://downloads.mysql.com/archives/mysql-5.0/MySQL-devel-standard-5.0.22-0.rhel4.x86_64.rpm
   ```

4. Install the MySQL packages:

   ```
   rpm -Uvh MySQL*.rpm
   ```

5. Enter the following command to display current run levels:

   ```
   # /sbin/chkconfig --list mysql
   ```

6. If the system responds with something similar to:

   ```
   mysql 0:off 1:off 2:off 3:off 4:off 5:off 6:off
   ```

   then enter the following command to adjust run levels:

   ```
   # /sbin/chkconfig --level 2345 mysql on
   ```

7. Restart MySQL and set the password.

Note

Do not add a space between the single quotes in the following commands.

```
# /etc/init.d/mysql restart
# /usr/bin/mysqladmin -u root password ''
# /usr/bin/mysqladmin -u root -h YOUR_SERVER_NAME password ''
```

Note

Initially, the MySQL password must be blank so that Zenoss can correctly create the database. After you have installed and started Zenoss, you can change this password.

8.1.2. Install the Software

Follow these steps to install Zenoss for Red Hat Enterprise Linux 4 or CentOS4.

1. Enter this command to Install the Zenoss RPM:

   ```
   # rpm -ivh zenoss-Version.el4.i386.rpm
   ```

   where *Version* is the current Zenoss version.

2. If MySQL is running on a different server, or has a different root user password, edit the `/opt/zenoss/bin/zenoss_init_pre` file and adjust the MYSQLHOST, MYSQLROOTUSER, and MYSQLROOTPASSWD values.

3. Use this command to start Zenoss:

   ```
   # service zenoss start
   ```

4. Install the Zenoss Core ZenPacks. Enter these commands:

   ```
   # rpm -ivh zenoss-core-zenpacks-Version.el4.i386.rpm
   ```

8.1.3. Disable or Configure the Firewall

To operate, Zenoss requires that several ports be open.

Open these ports in your firewall.

Port	Protocol	Direction to Zenoss Server	Description
8080	HTTP	Inbound	Zenoss Web interface
514	UDP	Inbound	syslog
162	UDP	Inbound	SNMP Traps

Table 8.1. Zenoss Ports

Alternatively, you can choose to disable the firewall. Use the following commands:

```
# service iptables stop
# chkconfig iptables off
```

Alternatively, open the following ports in your firewall.

8.1.4. What's Next?

After installing Zenoss, go to the section titled "Quick Start" in the guide titled *Getting Started with Zenoss*. There you will find instructions for initial setup tasks and basic information to help you begin using Zenoss.

Download the guide (in Portable Document Format) from the Documentation area of the Zenoss Web site:

http://community.zenoss.org/community/documentation

8.2. Installing on Other Platforms

For information and help with installing on other platforms (such as FreeBSD, Gentoo, or OpenSolaris), go to the Zenoss Porting and Platforms sub-community resource and join the group for your platform:

http://community.zenoss.org/community/developers/porting_%26_platforms

Chapter 9. Performance Tuning

After installing Zenoss, you can optimize its performance by:

- Packing the ZEO database
- Tuning MySQL
- Tuning Zope

Note

Performance tuning procedures assume an RPM installation. If you are using an alternate installation method, details (such as path information) likely will differ.

9.1. Packing the ZEO Database

The ZEO database keeps records of all transactions performed. As these records accumulate, the database file grows over time.

To keep the database running efficiently, Zenoss recommends that you regularly remove old transactions. As the zenoss user, use `cron` to run the following job:

```
#Pack database every Monday morning at 2am
0 2 * * 1 bash -lc "$ZENHOME/bin/zeopack.py -h localhost -p 8100 >> /tmp/logfile.log 2>&1"
```

9.2. Tuning MySQL

Zenoss performance is directly impacted by the performance of the MySQL database that supports the event system. The default MySQL configuration (located in `/etc/my.cnf` for a standard MySQL installation) is a "starter" configuration, and is not intended for Zenoss production use. Optimal tuning of the MySQL instance should be done by a DBA familiar with MySQL; however, the following minimal configuration settings can be used in most circumstances to yield acceptable performance.

1. Edit the `my.cnf` file.
2. Add `innodb_buffer_pool_size` and `innodb_additional_mem_pool_size` lines to the file, as follows:

```
[mysqld]
user=mysql
old_passwords=1

innodb_buffer_pool_size = Value
innodb_additional_mem_pool_size = 32M
```

3. Set the value of `innodb_buffer_pool_size` according to the following guidelines:

Deployment Size	Value of innodb_buffer_pool_size
1 to 250 devices	512M
250 to 500 devices	768M
500 to 1000 devices	1024M
1000 to 2000 devices	2048M

Table 9.1. Buffer Pool Size

Note

These are the minimum suggested settings for this value. MySQL (and Zenoss) performance will benefit from larger buffer pools if you have sufficient system memory. However, do not make the pool so large that swapping occurs.

4. Restart MySQL as the root user:

```
mysqld restart
```

9.3. Tuning Zope

The Zope application server runs the Zenoss user interface. Zope performance is tied closely to the performance settings in the `$ZENHOME/etc/zope.conf` file.

Zenoss recommends that you set several values in your `zope.conf` file to match your deployment. The value of `cache-size` (as specified in `zodb_db main`) should exceed the number of objects in the global catalog. The following steps will help you determine this value. You should check this value periodically and adjust it as necessary.

1. Edit the `zope.conf` file.
2. Add these lines to the file:

```
    zserver-threads {Value}
    python-check-interval {Value}

<zodb_db main>
  mount-point /
  cache-size {Value}
  pool-size {Value}
  <zeoclient>
    server localhost:8100
    storage 1
    name zeostorage
    var $INSTANCE/var
    cache-size {Value}
  </zeoclient>
</zodb_db>
```

Figure 9.1. zope.cnf File

3. Calculate and set `<zodb_db main> cache-size` value:
   a. In `zendmd`, execute the following command:

   ```
   len(zport.global_catalog)
   ```

   b. Round up the returned value to the next highest multiple over the catalog size. For example, round up a catalog value of 149,000 to 200,000. If this number exceeds 1 million, contact Zenoss Professional Services.
   c. Enter the rounded-up value for `cache-size` (in `<zodb_db main>`).
4. Calculate and set the `python-check-interval` setting:
   a. As the zenoss user, run the following script:

   ```
   import math; from test import pystone; int(math.ceil(sum(s[1] for s \
    in (pystone.pystones() for i in range(3)))/150.0))
   ```

   b. Enter the returned value for `python-check-interval`.
5. Calculate and set the `<zeoclient> cache-size` setting:
   a. Pack the database. (See the section titled "Packing the ZEO Database.")
   b. Set the value of `cache-size` to roughly two times the size of the `$ZENHOME/var/Data.fs` file.
6. Set the value of `zserver-threads` according to the following guidelines:

Number of Concurrent Users	Value of zserver-threads
1 to 50 users	4
50+ users	10

Table 9.2. zserver-threads Values

7. Set the value of pool-size according to the following guidelines:

Number of Concurrent Users	Value of pool-size
1 to 50 users	Remove the pool-size line.
50+ users	50

Table 9.3. pool-size Values

8. Restart Zenoss to acknowledge the new settings.

Chapter 10. Upgrading

10.1. Overview and Prerequisites

Use the instructions in this chapter to upgrade your Zenoss instance. Depending on how you installed Zenoss, follow the instructions in one of these sections to upgrade:

- bin stack installer
- Debian stack installer
- Zenoss Virtual Appliance
- RHEL 4 or RHEL 5 RPMs
- Source tarball installation
- Subversion source checkout

10.1.1. Upgrade Paths

Refer to the following table to determine the upgrade path you must follow when upgrading to a newer version.

If your current version is:	You can upgrade directly to this version:
2.1.x	2.1.3
2.1.3	2.2.4
2.2.x	2.2.4
2.2.4	2.3.3
2.3.x	2.4.5
2.4.x	2.5.2
2.5.x	3.0.3
3.0.x	3.0.3

Table 10.1. Upgrade Paths

10.1.2. Before Upgrading

To prepare your system for upgrade, you must:

- Verify prerequisites
- Disable the Zope persistent file system cache
- Install the PreUpgrade ZenPack (if upgrading from Version 2.5.x)
- Back up Zenoss data

10.1.2.1. Verify Prerequisites

Verify that Sun JRE 1.5 or later version is installed on your system.

Note

Zenoss is not compatible with the GNU Compiler for Java (GCJ).

10.1.2.2. Disable Zope Persistent File System Cache

Older versions of Zenoss used a persistent disk cache in the `zope.conf` file. If you originally installed an older Zenoss version, it is possible that your upgraded system still has this cache enabled. This configuration is not compatible with the current version of Zenoss, and must be disabled before starting the upgrade process.

Follow these steps to disable and remove the cache:

1. In the `zope.conf` file, verify that the `client zeo1` line is commented out, as follows:

```
<zodb_db main>
  mount-point /
  # ZODB cache, in number of objects
  cache-size 5000
  <zeoclient>
    server localhost:8100
    storage 1
    name zeostorage
    var $INSTANCE/var
    # ZEO client cache, in bytes
    cache-size 20MB
    # Uncomment to have a persistent disk cache
    #client zeo1
  </zeoclient>
</zodb_db>
```

2. As the `zenoss` user, enter these commands to remove old caches, if they exist:

```
zenoss stop
rm $ZENHOME/var/*.zec
zenoss start
```

10.1.2.3. Install the PreUpgrade ZenPack (for Upgrade from Version 2.5.x)

When upgrading from Version 2.5.x, you must install the PreUpgrade ZenPack to prepare your environment for the transition. This version depends on a new global catalog that indexes most objects in your database for quick retrieval.

Run this ZenPack only against the Zenoss master; do not run it against Zenoss collectors.

To prepare your environment:

1. Download and save the PreUpgrade30 ZenPack `.egg` file from the Zenoss Community ZenPacks page:

   http://community.zenoss.org/community/zenpacks

2. Run the following command as the zenoss user:

```
zenpack --install ZenPacks.zenoss.PreUpgrade30
```

3. Enter the following commands:

```
zopectl stop
zenhub stop
zopectl start
zenhub start
```

4. Run the following command to build the catalog:

```
zencatalog start
```

   When the `zencatalog` daemon starts, it will traverse your database and build the catalog.

   You can check the progress of the daemon from the event console, or from the `zencatalog.log` file. Run the following command:

```
tail -f $ZENHOME/log/zencatalog.log
```

Note

You must wait until `zencatalog` finishes before continuing upgrade. The amount of time required to create the global catalog depends on the number of devices and components in your database.

10.1.2.4. Back up Zenoss Data

Before upgrade, you must back up your Zenoss data

1. As the `zenoss` user, use the following commands to back up the Zenoss files. Use both backup methods for maximum recovery options.

```
zenoss$ zenbackup --save-mysql-access --file /tmp/zenoss-backup.tgz
zenoss$ tar czf complete-backup.tar.gz $ZENHOME
```

2. Save the backup files to a location other than `$ZENHOME`.

10.1.3. After Upgrading

After upgrading, you must:

- Delete your browser cache. For example, if using Firefox, press Ctrl-Shift-R to clear your cache.
- Update Zenoss-provided ZenPacks (unless using an RPM installation) and community ZenPacks.

10.2. Upgrading the bin Stack Installer

Use these instructions to install an updated version of Zenoss for SLES.

Note

When updating the stack installer, you must install in the same location as originally installed.

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Clean up cache files with the following commands:

```
root# rm /home/zenoss/var/*.zec
root# find /home/zenoss/perf -name \*.pickle -delete
```

3. As root, download the updated stack installer version from this site:

   http://www.zenoss.com/download

4. As root, run this command:

```
# chmod +x zenoss*.bin
```

5. Launch and run the installer.

   Follow the procedures outlined in Chapter 3, "Installing from the Stack Installers," beginning with Section 3.1.2 "Launch the Installer."

6. After upgrade, delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

10.3. Upgrading the Debian Stack Installer

Use one of the following procedures to install an updated version of Zenoss from the Debian stack installer.

Using apt (Command Line)

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Clean up cache files with the following commands:

```
root# rm /home/zenoss/var/*.zec
root# find /home/zenoss/perf -name \*.pickle -delete
```

3. Enter the following commands:

```
apt-get update
apt-get upgrade zenoss-stack
```

   Zenoss is installed in the `/usr/local/zenoss` directory.
4. Start Zenoss with this command:

```
# /etc/init.d/zenoss-stack start
```

5. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

Using dpkg

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Browse to the following location and download the desired version to your local file system:

   http://dev.zenoss.org/deb/dists/main/stable/binary-i386/
3. Install the downloaded file:

```
# dpkg -i FileName
```

4. Zenoss is installed in the `/usr/local/zenoss` directory.

   Start Zenoss with this command:

```
# /etc/init.d/zenoss-stack start
```

5. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

10.4. Upgrading the Zenoss Virtual Appliance

Note

Upgrades from Zenoss Version 2.x virtual appliances to Version 3.x are not supported.

To install an updated version of the Zenoss Virtual Appliance, navigate to the console of your virtual appliance, and then follow these steps:

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Install the libraries with the following command:

```
yum -y install libgomp libgcj liberation-fonts
```

3. Download the Zenoss software.
4. Shut down your existing Zenoss instance. Use this command:

```
root# service zenoss stop
```

5. Run the following command to make sure all of the Zenoss processes have stopped. Verify that no results return from the command.

```
root# ps ax|grep zenoss
```

Note

If you see processes owned by MySQL, do not stop them.

6. Clean up cache files with the following commands:

```
root# rm /opt/zenoss/var/*.zec
root# find /opt/zenoss/perf -name \*.pickle -exec rm -f {} \;
```

7. Install the RPM. (If you have the zenoss-core-zenpacks RPM already installed, use the `--nodeps` option with this command.)

```
root# rpm -Uvh --nodeps zenoss-Version.rpm
```

where *Version* is the current version of Zenoss.

8. Start the system to complete the upgrade:

```
root# service zenoss start
```

9. Stop the system, and then restart `zeoctl`:

```
root# service zenoss stop
su - zenoss sh -c "/opt/zenoss/bin/zeoctl start"
```

10. Upgrade the Core ZenPacks:

```
# rpm -Uvh --nodeps zenoss-core-zenpacks-Version.el5.i386.rpm
```

where *Version* is the current version of Zenoss.

11. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

10.5. Upgrading RHEL 4 / CentOS 4 or RHEL 5 / CentOS 5 RPMs

Use these instructions to install an updated version of the Zenoss RPM for RHEL 4 / CentOS 4 or RHEL 5 / CentOS 5.

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Install the libraries. Use one of the following commands:

RHEL 4

```
up2date libgomp libgcj liberation-fonts
```

RHEL 5, CentOS 5 or CentOS 4

```
yum -y install libgomp libgcj liberation-fonts
```

3. Download the Zenoss software.
4. Shut down your existing Zenoss instance. Use this command:

```
root# service zenoss stop
```

5. Run the following command to make sure all of the Zenoss processes have stopped. Verify that no results return from the command.

```
root# ps ax|grep zenoss
```

Note

If you see processes owned by MySQL, do not stop them.

6. Clean up cache files with the following commands:

```
root# rm /opt/zenoss/var/*.zec
root# find /opt/zenoss/perf -name \*.pickle -exec rm -f {} \;
```

7. Install the RPM. (If you have the zenoss-core-zenpacks RPM already installed, use the `--nodeps` option with this command.)

```
root# rpm -Uvh --nodeps zenoss-Version.rpm
```

where *Version* is the current version of Zenoss.

8. Start the system to complete the upgrade:

```
root# service zenoss start
```

9. Stop the system, and then restart `zeoctl`:

```
root# service zenoss stop
su - zenoss sh -c "/opt/zenoss/bin/zeoctl start"
```

10. Upgrade the Core ZenPacks:

```
# rpm -Uvh --nodeps zenoss-core-zenpacks-Version.elX.i386.rpm
```

where *Version* is the current version of Zenoss and *X* is "4" or "5," depending on your OS.

11. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

10.6. Upgrading a Source Tarball Installation

Follow these steps to upgrade a Zenoss source tarball.

Note

Before you begin:

- If upgrading to Version 3.0, you must install the PreUpgrade ZenPack and follow the associated instructions.
- Make sure you have Sun JRE 1.6 installed and that its `bin` directory is visible in your Zenoss-visible search path.

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Log in as user "zenoss" (or with the account name you used when you built your source installation):

```
$ su - zenoss
```

3. Verify that the ZENHOME environment variable is not null and is set to the expected location of your existing source build installation; for example:

```
zenoss$ echo $ZENHOME
zenoss$ ls -1 $ZENHOME
```

4. Add this Zenoss environment variable to the appropriate profile for your shell (for example, .profile):

```
export INSTANCE_HOME=$ZENHOME
```

5. Stop Zenoss with the following command:

```
zenoss$ zenoss stop
```

6. Clean up cache files with the following commands:

```
zenoss$ cd $ZENHOME
zenoss$ rm ./var/*.zec
zenoss$ find ./perf -name \*.pickle delete
```

7. Remove back-level Python and Zope files with the following commands:

```
zenoss$ cd $ZENHOME
zenoss$ rm -rf skel doc include lib share/doc/rrdtool-1.3.8 Products bin extras
```

8. If upgrading from Zenoss version 2.4 x to 3.0, remove these directories (if they exist) from `$ZENHOME/Products/`:

```
zenoss$ rm -rf Products/AdvancedQuery Products/CMFCore Products/Five Products/GenericSetup \
Products/Hotfix_20070320 Products/ManagableIndex Products/OFolder Products/PluggableAuthService \
Products/PluginRegistry Products/ZenTestRunner
```

9. Download and extract the new tarball, and then (as user "zenoss") run `install.sh`:

```
zenoss$ cd ~
zenoss$ tar zxf zenoss-Version.tar.gz
zenoss$ cd zenoss-Version
zenoss$ ./install.sh
```

   Where *Version* is the current Zenoss version.

10. After installation completes, migrate your data (as user "zenoss"):

```
zenoss$ zenmigrate
```

11. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

10.7. Upgrading a Subversion Source Checkout

Follow these steps to upgrade a Zenoss subversion source checkout.

Note

Before you begin:

- If upgrading to Version 3.0, you must install the PreUpgrade ZenPack and follow the associated instructions.
- Make sure you have Sun JRE 1.6 installed and that its `bin` directory is visible in your Zenoss-visible search path.

1. Back up your Zenoss data files, as outlined in the section titled "Back Up Zenoss Data."
2. Log in as user "zenoss" (or with the account name you used when you built your source installation):

```
$ su - zenoss
```

3. Verify that the ZENHOME environment variable is not null and is set to the expected location of your existing source build installation; for example:

```
zenoss$ echo $ZENHOME
zenoss$ ls -1 $ZENHOME
```

4. Add this Zenoss environment variable to the appropriate profile for your shell (for example, .profile):

```
export INSTANCE_HOME=$ZENHOME
```

5. Stop Zenoss with the following command:

```
zenoss$ zenoss stop
```

6. Clean up cache files with the following commands:

```
zenoss$ cd $ZENHOME
zenoss$ rm ./var/*.zec
zenoss$ find ./perf -name \*.pickle delete
```

7. Remove back-level Python and Zope files with the following commands:

```
zenoss$ cd $ZENHOME
zenoss$ rm -rf skel doc include lib share/doc/rrdtool-1.3.8 Products bin extras
```

8. If upgrading from Zenoss version 2.4 x to 3.0, remove these directories (if they exist) from `$ZENHOME/Products/`:

```
zenoss$ rm -rf Products/AdvancedQuery Products/CMFCore Products/Five Products/GenericSetup \
Products/Hotfix_20070320 Products/ManagableIndex Products/OFolder Products/PluggableAuthService \
Products/PluginRegistry Products/ZenTestRunner
```

9. Build from the latest source in Subversion on the stable 3.0 branch. To do this, switch to a directory of choice outside of $ZENHOME and check out the `inst` directory:

```
zenoss$ svn co http://dev.zenoss.org/svn/branches/zenoss-3.0.x/inst zenossinst-3.0.x
zenoss$ cd zenossinst-3.0.x
zenoss$ SVNTAG=branches/zenoss-3.0.x ./install.sh
```

10. After installation completes, migrate your data (as user "zenoss"):

```
zenoss$ zenmigrate
```

11. Delete your browser cache. (For example, if using Firefox, press Ctrl-Shift-R to clear your cache.)

Chapter 11. Upgrading from a Source Install to a Stack Install

11.1. Upgrading From a Source Install to a Stack Install

Follow these steps to upgrade from a source-based install to a zenoss-stack .deb or rpm.

Note: For all commands, the prompt "#" indicates "run as root" and "$" indicates the zenoss user.

1. Get the Zenoss `.deb` (for Debian) or `.rpm` (for RHEL and SUSE).
2. The Zenoss stack includes its own copy of MySQL, which, by default, will run on port 3307. Change your current configuration to point to port 3307.

   In the Zenoss interface, go to the Event Manager. Select Edit, and then change the port from 3306 to 3307
3. Back up all data:

   ```
   $ zenbackup --file=/tmp/zenbackup.tgz
   ```
4. Make a note of which ZenPacks you have installed.

   Note

   From the Zenoss interface, go to Settings > ZenPacks for a list of installed ZenPacks.
5. Shut down the system:

   ```
   $ zenoss stop
   ```
6. Move the current Zenoss to a new name:

   ```
   $ mv /usr/local/zenoss /usr/local/zenoss-2.1.3
   ```
7. Install the stack on Debian by using the `.deb`:

   ```
   # dpkg -i zenoss-stack*.deb
   ```
8. Copy the configuration files to a backup directory:

   ```
   $ cd /usr/local/zenoss/zenoss/etc
   $ cp zeo.conf zope.conf /tmp
   ```
9. Start MySQL:

   ```
   # /usr/local/zenoss/mysql/scripts/ctl.sh start
   ```
10. Reinstall any `.egg` ZenPacks that were previously installed. For `.zip` ZenPacks, convert these to `.egg` files and then install them.
11. Load your data back with zenrestore:

    ```
    $ zenrestore --dbuser=zenoss --dbpass=zenoss --file /tmp/zenbackup.tgz
    ```
12. Copy the configuration files back:

    ```
    $ cp /tmp/zope.conf /usr/local/zenoss/zenoss/etc
    $ cp /tmp/zeo.conf /usr/local/zenoss/zenoss/etc
    ```
13. Start zeo:

    ```
    $ zeoctl start
    ```

14. Migrate the data:

```
$ zenmigrate
```

15. Re-register the portlets:

```
$ zendmd
>>> from Products.ZenWidgets.ZenossPortlets.ZenossPortlets \
    import register_default_portlets
>>> register_default_portlets(zport.ZenPortletManager)
>>> commit()
```

16. Start Zenoss:

```
$ zenoss start
```

Chapter 12. Removing an Instance

12.1. Before You Begin

Before removing your Zenoss instance, you may want to save Zenoss data files. For information about saving your files, refer to the backup and archive instructions in *Zenoss Administration*.

Use the instructions in one of the following sections to remove a Zenoss instance.

12.2. Remove an RPM Installation

Use these instructions to remove a Zenoss RPM installation and all of its components from your system.

1. Use the following command to verify the Zenoss components you will remove. (This depends on your specific implementation.)

   ```
   rpm -qa | grep -i zenoss
   ```

2. As root, enter the following command, where *Components* is one or more Zenoss components listed in the order identified by the response to Step 1:

   ```
   rpm -e Components
   ```

   For example, if you are removing an Enterprise installation, you would enter a command similar to:

   ```
   rpm -e zenoss-enterprise-zenpacks zenoss-core-zenpacks zenoss
   ```

3. Then enter:

   ```
   rm -rf /opt/zenoss
   userdel zenoss
   mysql -u root
   ```

4. Enter the following commands at the `mysql` prompt:

   ```
   > drop database events;
   > drop user 'zenoss'@'localhost';
   ```

12.3. Remove a bin Stack Installation

Use these instructions to remove a Zenoss bin stack installation and all of its components from your system:

1. Log in as `root`.
2. From the command line, change to the location where Zenoss is installed (for example, `/usr/local/zenoss`).
3. Enter the following command:

   ```
   ./uninstall
   ```

4. Follow the prompts to remove the installation.

12.4. Remove a Debian Stack Installation

To remove a Zenoss instance and all of its files:

1. In the `/usr/local/zenoss` folder, locate an executable file named `uninstall`.
2. Run the `uninstall` command and follow the prompts. Zenoss is removed from your system.

To remove the Zenoss deb files, the removal process uses the `dpkg uninstall` command:

```
dpkg -r zenoss-stack-VERSION
```

Where VERSION is the Zenoss version you are removing.

12.5. Remove a Stack Installation (Mac OS/X)

To remove an instance of Zenoss installed by using the OS/X Stack installer:

1. In the Go menu of the Finder, select Go to Folder.
2. In the dialog that appears, enter:

   ```
   /usr/local/zenoss
   ```

   A new finder window installs and shows the contents of that folder. It contains an application called `uninstall.app`.
3. Run the application. Follow the screen prompts to remove Zenoss from your system.
4. After removing Zenoss, you must also remove the "zenoss" user and group. To do this:
   a. Remove the "zenoss" user from the "zenoss" group:

      ```
      sudo dscl . delete /groups/zenoss GroupMembership zenoss
      ```

   b. Delete the "zenoss" user and the user's directory:

      ```
      sudo dscl . delete /Users/zenoss
      sudo rm -rf /Users/zenoss
      ```

   c. Delete the "zenoss" group:

      ```
      sudo dscl . delete /groups/zenoss
      ```