



PureSight Management Server Installation Manual

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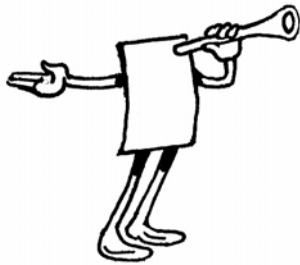
About This Manual

This manual provides instructions for installing the PureSight Management Server. It contains the following chapters:

- ❖ **Chapter 1, Introduction**, introduces PureSight and describes its main features.
- ❖ **Chapter 2, Installing PureSight Management Server on a Linux Platform**, provides step-by-step instructions for the PureSight installation procedure on a Linux platform and describes the basic configuration features.
- ❖ **Chapter 3, Installing PureSight Management Server on a Windows Platform**, provides step-by-step instructions for the PureSight installation procedure on a Windows platform and describes the basic configuration features.
- ❖ **Chapter 4, Uninstalling the PureSight Management Server**, provides instructions for removing a server.
- ❖ **Chapter 5, Troubleshooting**. This chapter includes information to assist you in handling problems that may arise in the installation process, as well as procedures for manually editing the Apache web server and the OpenLDAP configuration files on a Linux platform.

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Chapter 1

Introduction

This chapter provides an overview of PureSight™ and its system architecture, and describes the functionality provided by the PureSight Management Server.

Introducing PureSight

PureSight was created especially for the complex requirements of the modern online corporation or institution. PureSight combines precision Internet filtering capabilities with powerful management tools to offer a highly accurate and reliable Internet content-filtering solution. PureSight is suitable for small, medium, and large organizations, as well as service providers.

PureSight is based on proprietary Artificial Content Recognition™ (ACR) technology. Using Artificial Intelligence (AI) algorithms, ACR enables PureSight to analyze the HTML page of each requested Web site and categorize the page based on its content. PureSight allows Internet usage policies to be defined, implemented and modified according to the changing needs of the organization.

DisCo System Architecture

PureSight employs an advanced Distributed Collaborative (DisCo) System architecture. This modular system architecture is designed to maximize management investments by providing flexible integration, improved performance and scalability.

Designed to simplify management of a high availability network, PureSight's distributed architecture utilizes three basic modules: PureSight Management Server, PureSight Content Filtering Server and PureSight Log Server.

This next generation architecture provides for:

- ◆ Centralized management and configuration of all PureSight Content Filtering Servers by a single PureSight Management Server. This also enables large organizations to manage remote branch office sites using the same Management Server, and thereby implementing a centralized policy throughout the organization regardless of physical location.
- ◆ Automatic, unified distribution of configuration changes to all Content Filtering Servers, eliminating the need to configure each server individually.
- ◆ Scalability. One or more additional Content Filtering Servers can be installed as new gateways are added or increased performance is required. PureSight is easily deployed in systems where load-balancing is used to distribute traffic between multiple Content Filtering Servers.
- ◆ Reduced risk for single point of failure. The distributed modular structure enables the PureSight Content Filtering servers to continue filtering, even if the PureSight Management Server or the PureSight Log Server fails or other PureSight Content Filtering Servers are down for maintenance. Cross platform support. Each module can be installed on a different operating system (Windows or Linux) and each PureSight Content Filtering Server can be installed on a different platform (Squid or ISA). The selected platform is transparent to the other modules installed.

The role of each of the system modules is described in the next section.

System Modules

The basic system architecture is comprised of three modules that interact to provide a complete content-filtering solution. The functionality of each of the modules is clearly defined as follows:

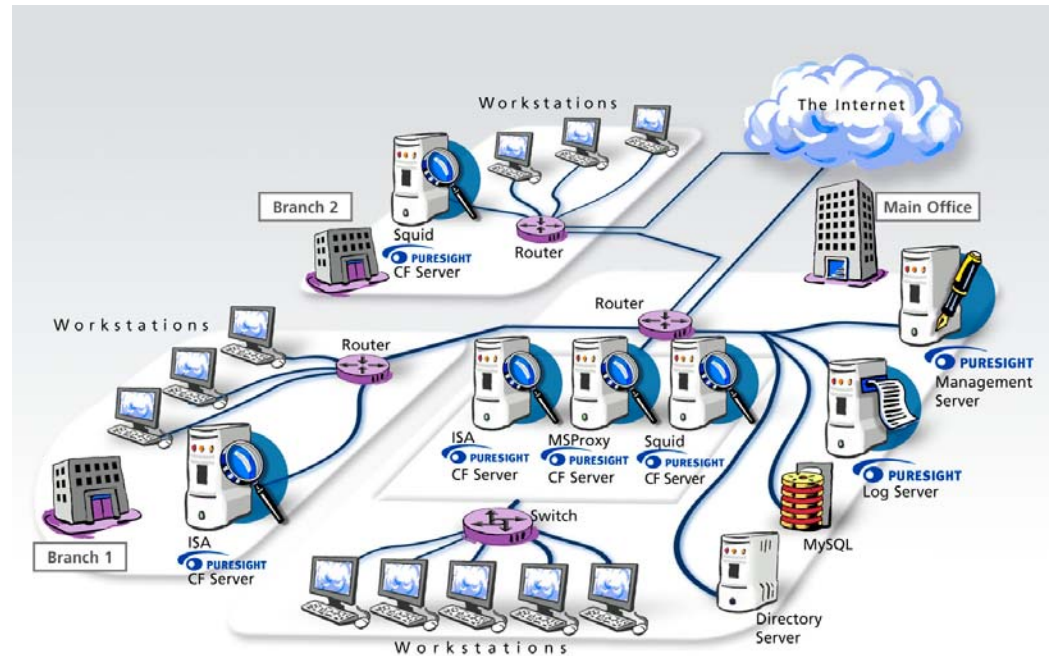
- ◆ **PureSight Management Server** - responsible for configuring and managing all PureSight modules and functions, including the PureSight Log Server and the PureSight Content Filtering Server(s). The PureSight Management Server features an intuitive user-interface that allows the administrator to define and manage the users and filtering policies that support the organization's Internet Acceptable Use Policy.
- ◆ **PureSight Content Filtering Server(s)** - responsible for analyzing all Internet traffic on the network. PureSight Content Filtering Servers can be installed on platforms located in the organization's Server Farm or on remote machines. The PureSight Content Filtering Server analyzes all HTTP traffic on the gateway where it is installed, and categorizes the content in real-time. According to the Internet Acceptable Use Policy defined on the PureSight Management Server, the PureSight Content Filtering Server then executes an Allow, Block, Monitor or Warn response, as required.
- ◆ The PureSight Management Server configures all PureSight Content Filtering Servers on the network, regardless of their location. This system-wide configuration includes the users and filtering policies that support the organization's Internet Acceptable Use Policy. The PureSight Content Filtering Servers also interact with a single PureSight Log Server, which is responsible for logging all of the filtering activity that takes place in the network.
- ◆ **PureSight Log Server** - provides real-time tracking, monitoring and accounting information for all Internet activity - the details of all HTTP requests and replies, including time, users and the resulting filtering actions (allow/block/warn).

The PureSight Management Server accesses the data on the PureSight Log Server to generate reports on the sites that were visited, the users that access those sites and other information that helps managers to evaluate employee productivity, bandwidth consumption and Internet usage. A single PureSight Log Server logs the activity for all PureSight Content Filtering Servers in the network, regardless of location or platform to enable generating unified reports for all activity. The PureSight Log Server supports logging to the file system or to an SQL database (MySQL).

These independent modules can be installed together on one machine or on separate machines, on varying combinations of platforms and operating systems. This architecture is highly flexible and customizable, allowing the systems administrator to easily adapt the deployment to the organization's network environment.

Network Architecture Diagram

One possible implementation of the PureSight network architecture is shown in the following diagram:



This example shows PureSight deployed in a network with a headquarters and two remote branch offices.

This network includes one PureSight Management Server for the system-wide configuration of five PureSight Content Filtering Servers and one PureSight Log Server. This system-wide configuration includes the users and filtering policies that support the organization's Internet Acceptable Use Policy.

Internet traffic originating in the Headquarters' workstations is monitored by one of three PureSight Content Filtering Servers located in the PureSight Server Farm. The PureSight Content Filtering Server located on the branch gateway routers monitors Internet traffic originating in the remote branch workstations.

The PureSight Log Server generates logs and the log contents are stored in a file system or in an SQL database (MySQL) on a separate server.

PureSight Management Server Functionality

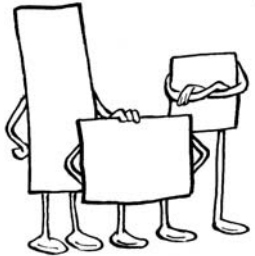
The PureSight Management Server is responsible for configuring and managing all PureSight modules and functions, including the PureSight Log Server and the PureSight Content Filtering Server(s). The PureSight Management Server enables the centralized configuration of PureSight's features and settings for all connected PureSight Content Filtering Servers. The centralized management functions are performed using PureSight's intuitive user-interface – the PureSight Administration Tool – which enables administrators and IT managers to do the following:

- ◆ **Define Users:** Set up user groups or individual users, and assign them a filtering policy.
- ◆ **Define Usage Policies:** Create different policies for different users and/or user groups. Policies for each user or group dictate whether a given category of sites will be allowed, blocked or warned against. Each policy can be implemented on specific days and/or at specific times.
- ◆ **Improve Network Bandwidth Management:** Create policies that block specific file types, such as mp3 extensions.
- ◆ **Customize Site Filtering:** Create lists of specific Web sites to be allowed or denied, independent of PureSight's categorization.

- ◆ **Manage PureSight Content Filtering Servers:** Centralize management of multiple PureSight Content Filtering Servers by applying the same configuration settings for users, policies, filters and general settings to multiple PureSight Content Filtering Servers.
- ◆ **Customize blocking mechanism:** Define the blocking and warning messages that will be displayed in the browser when a site is blocked or warned against.
- ◆ **User Directory:** Define the user directory server from which to retrieve directory users and groups to which filtering policies are assigned.
- ◆ **Define and configure PureSight Log Server:** Manage the PureSight Log Server settings, including the log storage type, log size and log storage location.
- ◆ **Administrator Password:** Reset the PureSight Administration Tool password.
- ◆ **Generate Reports:** Generate comprehensive reports of Internet activity and bandwidth activity.

All changes made in the PureSight Administration Tool are automatically distributed to all connected PureSight Content Filtering Servers, as well as the PureSight Log Server.

Please refer to the *PureSight User's Guide* for directions and explanations regarding the use of the PureSight Administration Tool.



Chapter 2

Installing PureSight Management Server on a Linux Platform

This chapter describes the system requirements and procedure for installing the PureSight Management Server on a Linux platform.

System Requirements

The following minimum system requirements must be met in order to run the PureSight Management Server on a Linux platform:

- ◆ **Hardware**
 - ❖ The equivalent of Pentium II 400 mHz processor or higher; Pentium III recommended
 - ❖ 128 MB RAM (minimum)
 - ❖ 20 MB free disk space
- ◆ **Software**
 - ❖ RedHat Linux versions 7.2, 7.3, 8.0 or 9.0 or Advanced Server 3 or Fedora Core Linux versions 1.0 or 2.0.
 - ❖ Apache 1.2.12 or higher

- ❖ Perl 5.004 or higher (including the libraries: URI, CGI, MIME-Base64, libwww-perl, libnet, DBI and DBD-mysql. Refer to <http://www.perl.com/CPAN/> for module documentation and download.)
- ❖ Sudo
- ❖ OpenLDAP Server 2.0.11

Installing PureSight Management Server

The PureSight Management Server is installed via an installation script, `install_psmngsrv.sh`. The procedure described herein details the installation process as it takes place in script mode.

The installation process installs the following components:

- ◆ **PureSight Administration Tool** – the user interface of PureSight, used for managing PureSight users, policies, filters, PureSight Log Server, PureSight Content Filtering Servers and general settings.
- ◆ **PureSight Reporter** – used for generating reports on Internet usage based on logged data on the PureSight Log Server.
- ◆ **PureSight blocking mechanism** – used for providing the blocking and warning messages displayed for inappropriate Internet usage.
- ◆ **PureSight synchronizer** – run as a daemon, `psmngsvd` is responsible for synchronizing between PureSight Directory Objects and the directory server to reflect on going changes on the directory server in PureSight.
- ◆ **PureSight Management Server data files.**

During the installation you will be prompted to confirm or enter various settings. The default value for each setting is indicated within brackets. You can accept the default settings or enter alternate values, as required.

➤ **To install PureSight Management Server:**

- 1 Log in as root.
- 2 Go to the directory where the `install_psmngsrv.sh` file is located.
- 3 Run the `install_psmngsrv.sh` file.

**NOTES:**

The installation script must be run from the directory in which it is located.

The installation script can be run in the graphic mode (non X like linuxconf) using `run_setup.sh ./install_psmngsrv.sh`. In some cases, depending on your terminal settings, the graphic mode may not display properly.

- 4 The License Agreement is displayed. Select [Y]es to accept the terms of the license agreement.

The installation process begins and you are prompted to accept default values or enter new settings on a line-by-line basis.

- 5 If a previous version of PureSight Management Server is found, installation will ask whether to upgrade. Select [Y]es to upgrade or [N]o to abort installation. If upgrade is selected, no PureSight settings will be required and all Management Server files will automatically be updated.

For all other cases, continue to step 6.

- 6 Click **Enter** to accept the default setting for each of the parameters described in the sections below, or enter the required setting and then click **Enter**.

❖ **Installation Path:** The path where the application is to be installed.

❖ **PureSight Management Server Configuration Storage:** PureSight configuration settings are stored on the OpenLDAP server on the PureSight Management Server machine, enabling the same configuration settings to be applied to multiple PureSight Content Filtering Servers connected to a single PureSight Management server.

**NOTE:**

The installation process edits the slapd.conf file and a backup copy of the original file is created (slapd.conf.icg.bak). During the installation the slapd will be restarted to apply changes made. (The slapd.conf file can also be configured manually, refer to *Manually Configuring the OpenLDAP Server*, page 5-3.)

- ❖ **OpenLDAP server port:** The port of the OpenLDAP server on the PureSight Management Server machine.
- ❖ **OpenLDAP configuration directory path:** The full path to the directory where the OpenLDAP configuration file, slapd.conf, is located.
- ❖ **OpenLDAP daemon path:** The full path to the daemon responsible for starting and stopping the OpenLDAP server.
- ❖ **OpenLDAP replication daemon path:** The full path to the daemon executable responsible for starting and stopping the OpenLDAP replication server (slurpd).
- ❖ **OpenLDAP user:** The user under which OpenLDAP runs. This is required in order to set proper permissions on the PureSight directories and files for the user running OpenLDAP.
- ❖ **PureSight Administrator Password:** The password to be used to log into the PureSight Administration Tool.
- ❖ **Confirm:** Reenter password for confirmation.
- ❖ **PureSight Management Server GUI:** The PureSight Management Server uses an Apache web server to access its web user interface - PureSight Administration Tool. In addition, the PureSight blocking mechanism is supported by the Apache web server.

**NOTE:**

The installation process automatically edits the httpd.conf file and a backup copy of the original file is created (httpd.conf.icg.bak). During installation the Apache web server will be restarted to apply changes. (The httpd.conf file can also be configured manually, refer to *Manually Configuring the Apache Web Server*, page 5-2.)

- ❖ **Apache configuration file path:** The full path to the Apache web server configuration file (httpd.conf).
- ❖ **Apache daemon file path:** The full path to the daemon executable responsible for starting and stopping the Apache web server.
- ❖ **PureSight Management Server IP:** The IP address of the PureSight Management Server machine.

NOTE:

The IP address cannot be 127.0.0.1 (the alias of any local machine), it must be the real physical address.

- ❖ **PureSight Management Server GUI port:** The port on the Apache web server that is used to access the PureSight Management Server user interface.
- ❖ **PureSight Management Server Blocking Mechanism port:** The port on the Apache web server that is used for the PureSight blocking mechanism. If a user is blocked when surfing, the web browser is redirected to a blocking message that is located on the PureSight Management Server Apache server.

NOTE:

The IP and port must be accessible to all browsers in the local network.

After accepting or editing each of the above parameters, the installation automatically builds the PureSight Management Server default configuration. If you require PureSight Management Server to work automatically after start up, you need to make sure that httpd, slapd and slurpd are automatically started.

NOTE:

A bug in certain versions of OpenLDAP startup script, including versions that are distributed with RedHat 7.x, prevents proper startup of the service. A workaround for the problem is to remove the "-u ldap" from the lines in the script. Fixing this problem will allow proper startup of the OpenLDAP service at startup, as well as the subsequent startup of PureSight services that are dependant upon this service.

Installation Script (Default Installation)

The following is an example of an installation based on the default values:

```
#####
Welcome to the PureSight Management Server Installation,
version 1.3

PureSight Management Server includes a number of settings. To
accept the default settings press 'Enter'.

#####
Installation path [ /user/local/ ]:

Please enter [N]ext\[C]ancel: [N] :

#####
PureSight Management Server configuration storage

PureSight Management Server uses OpenLDAP for configuration
storage.

#####
OpenLDAP Server Port [ 389 ] :

OpenLDAP configuration directory Path [ /etc/openldap ] :

OpenLDAP Daemon Path [ /etc/rc.d/init.d/ldap ] :

OpenLDAP user [ ldap ] :

Please enter [N]ext\[C]ancel: [N] :

#####
PureSight Administrator Password

Type and confirm Administrator Password.

#####
Password :

Confirm :

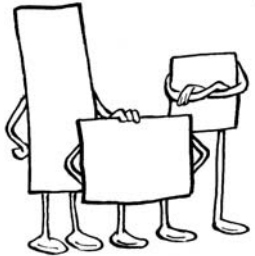
Please enter [N]ext\[B]ack\[C]ancel: [N] :

#####
PureSight Management Server GUI

PureSight Management Server uses Apache web server for web
user interface.

#####
```

```
Apache configuration file path [ /etc/httpd/conf/httpd.conf ] :
Apache daemon file path [ /etc/rc.d/init.d/httpd ] :
PureSight Management Server IP [ 10.10.10.10 ]:
PureSight Management Server GUI port [ 5000 ]:
PureSight Management Server Blocking Mechanism port [ 4999 ]:
[F]inish \ [B]lack \ [C]ancel \[F]:
Building PureSight Management Server default configuration.
This process may take a few minutes.
PureSight Management Server default configuration - update
complete.
PureSight Management Server is running
#####
PureSight Management Server Installation
completed successfully.
#####
```

Chapter 3

Installing PureSight Management Server on a Windows Platform

This chapter describes the system requirements and procedure for installing the PureSight Management Server on a Windows platform.

System Requirements

The following minimum system requirements must be met in order to run the PureSight Management Server on a Windows platform:

- ◆ **Hardware**
 - ❖ The equivalent of Pentium II 400 MHz processor or higher; Pentium III recommended
 - ❖ 128 MB RAM (minimum)
 - ❖ 20 MB free disk space
- ◆ **Software**
 - ❖ NT Server Service pack 6.0, or Windows 2000 Server or Advanced Server, Service Pack 3 or above or Windows 2003 Enterprise

Installing PureSight Management Server

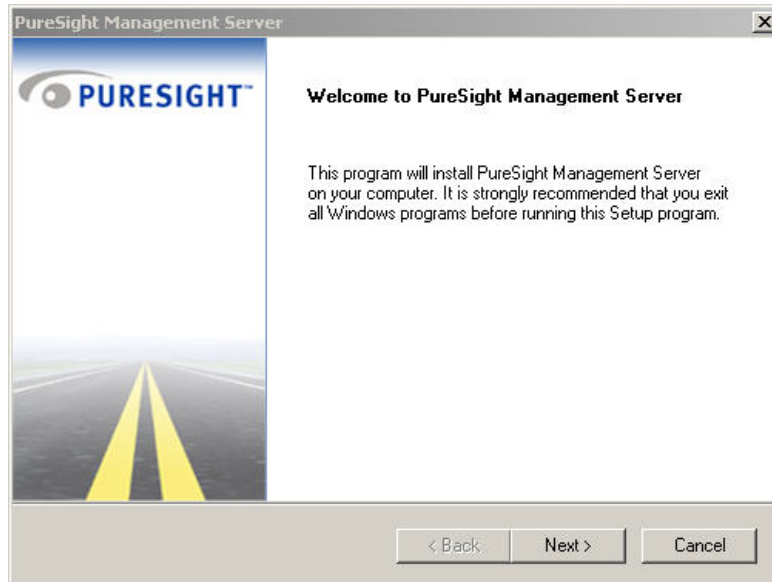
The PureSight Management Server is installed on the Windows platform via an installation wizard, as described herein. The installation process installs the following components:

- ◆ **PureSight Administration Tool** – the user interface of PureSight, used for managing PureSight users, policies, filters, PureSight Log Server, PureSight Content Filtering Servers and general settings.
- ◆ **PureSight Reporter** – used for generating reports on Internet usage based on logged data on the PureSight Log Server.
- ◆ **PureSight blocking mechanism** – used for providing the blocking and warning messages displayed for inappropriate Internet usage.
- ◆ **OpenLDAP server** - installed as a service, this component is used for storage of data configuration settings
- ◆ **PureSight Management Server data files.**

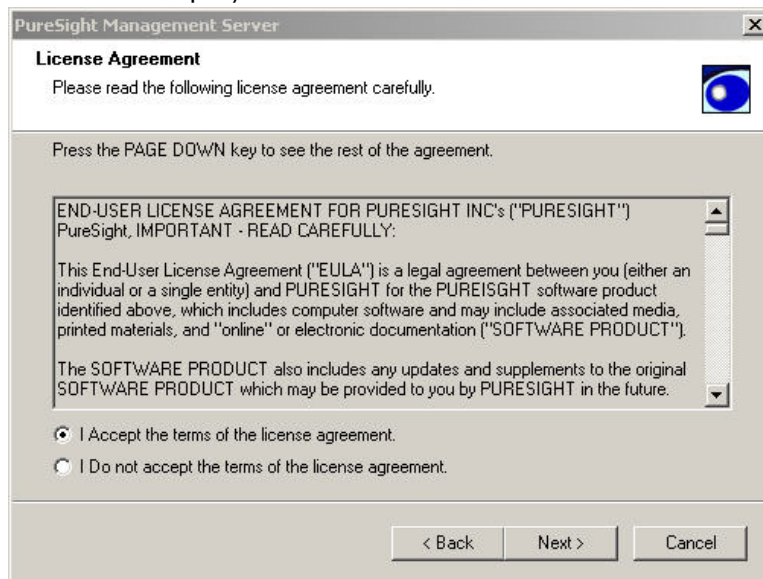
The PureSight application is installed via a self-extracting installation file, **PureSight_Management_Server_1.3_win32.exe**.

- **To install PureSight Management Server:**
- 1 Log in with administrator privileges.
 - 2 Close all open applications and windows.
 - 3 Double-click **PureSight_Management_Server_1.4_win32.exe** to run the PureSight Management Server installation program.

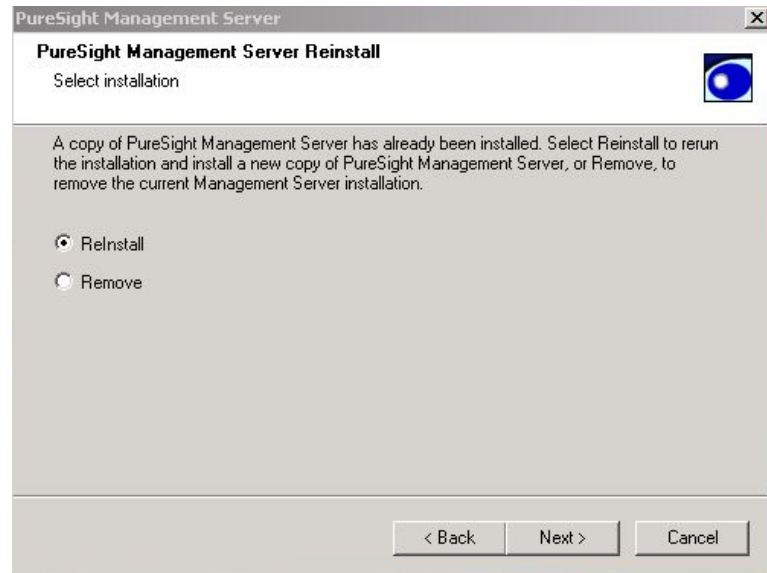
The *Welcome* window of the *PureSight Management Server Setup* wizard is displayed:



- 4 Click **Next** to begin the installation. The *License Agreement* window is displayed:

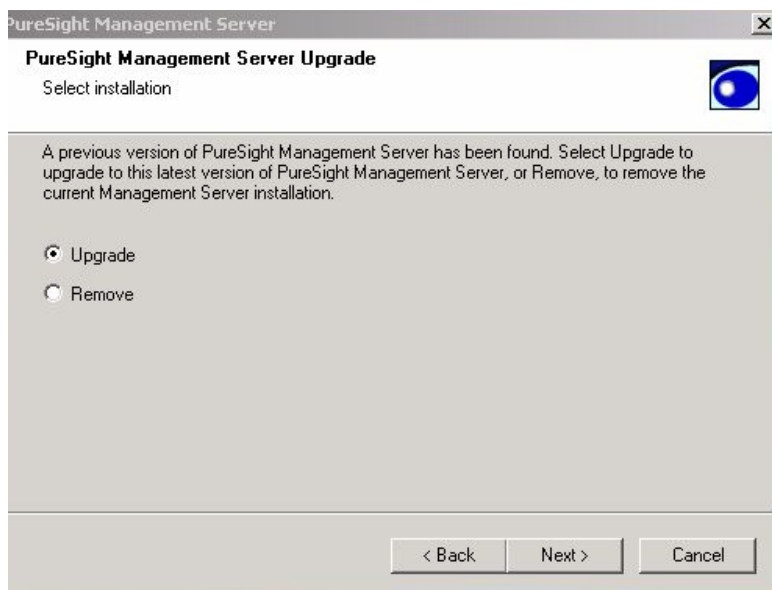


- 5 Read the license agreement carefully. (Scroll down to view the license agreement in its entirety.) If you agree to the terms, select the **I Accept the terms of the license agreement** radio button and click **Next** to continue the installation.
- 6 If a previous copy of the same version of PureSight Management Server is found, The *PureSight Management Server Reinstall* window is displayed:



Select Reinstall to rerun the installation or Remove to uninstall all files and components.

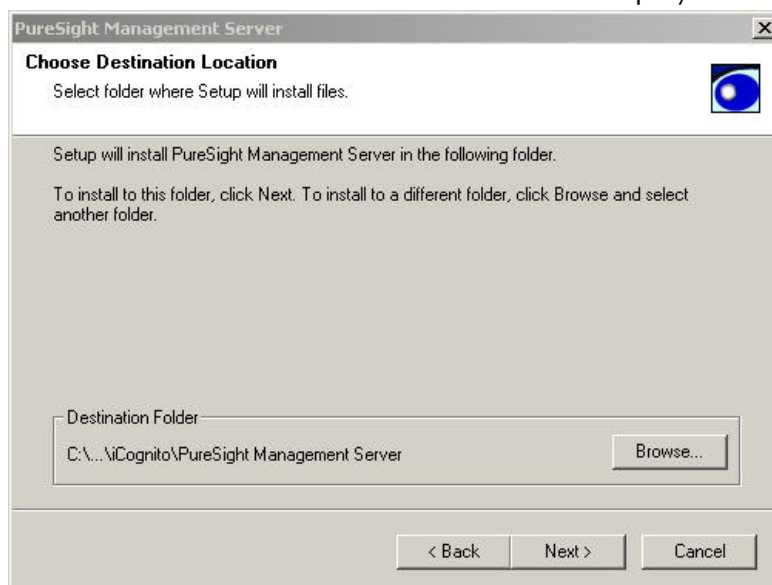
If a previous version of PureSight Management Server is found, the *PureSight Management Server Upgrade* window is displayed:



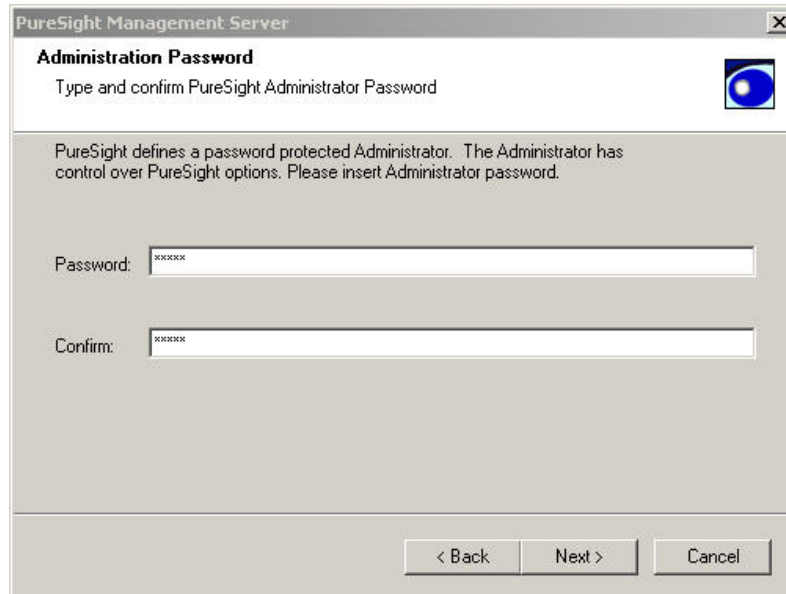
Select Upgrade to upgrade the system to the new version or Remove to uninstall all files and components. If upgrade is selected, no PureSight settings will be required and all Management Server files will automatically be updated.

For all other cases, continue to step 7.

7 The *Choose Destination Location* window is displayed:



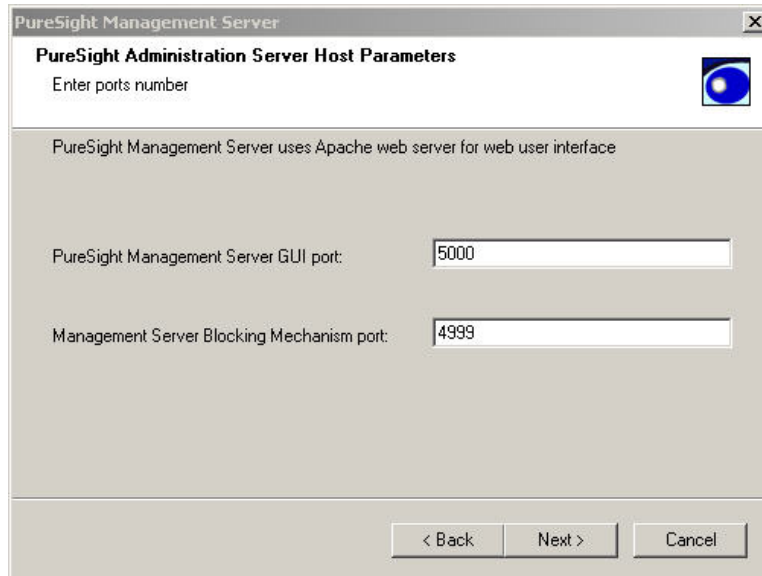
- Click **Next** to accept the default location for the destination folder, or click **Browse** to select an alternate location and then click **Next**. The *Administration Password* window is displayed:



The screenshot shows a dialog box titled "PureSight Management Server" with a close button (X) in the top right corner. The main heading is "Administration Password" and the instruction is "Type and confirm PureSight Administrator Password". Below this, a paragraph states: "PureSight defines a password protected Administrator. The Administrator has control over PureSight options. Please insert Administrator password." There are two text input fields: "Password:" and "Confirm:", both containing "xxxxxx". At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

- Enter the password to be used to log into the PureSight Administration Tool in the **Password** field, and then re-enter the same password in the **Confirm** field.

- 10 Click **Next**. The *PureSight Administration Server Host Parameters* window is displayed:



PureSight Management Server

PureSight Administration Server Host Parameters

Enter ports number

PureSight Management Server uses Apache web server for web user interface

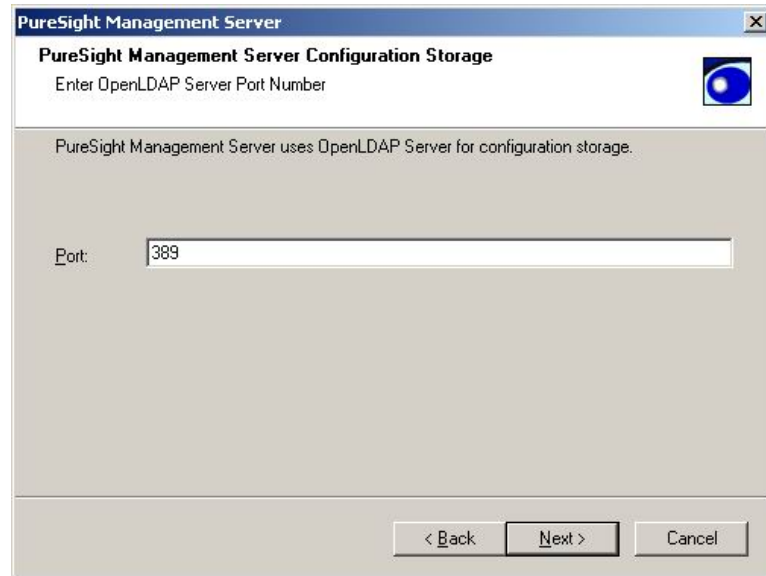
PureSight Management Server GUI port: 5000

Management Server Blocking Mechanism port: 4999

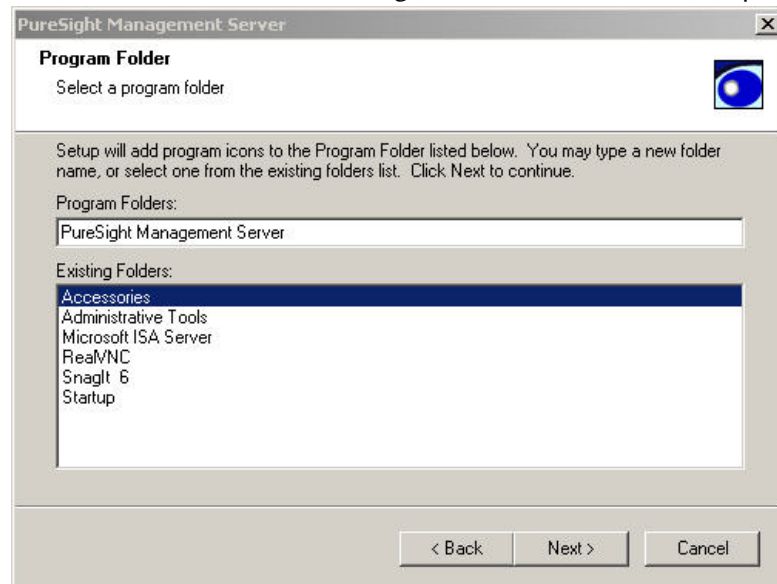
< Back Next > Cancel

- 11 Enter the port to be used by the Apache web server to access the web interface in the **PureSight Management Server GUI** field.
- 12 Enter the port on the Apache web server that is to be used for the PureSight blocking mechanism in the **Management Server Blocking Mechanism port** field. If a user is blocked when surfing, the web browser is redirected to a blocking message that is located on the PureSight Management Server Apache server.

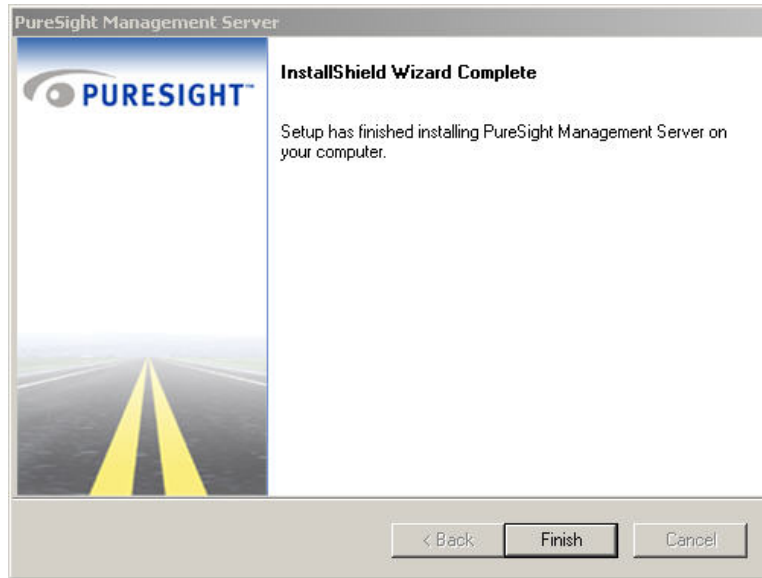
- 13 Click **Next**. The *PureSight Management Server Configuration Storage* window is displayed:



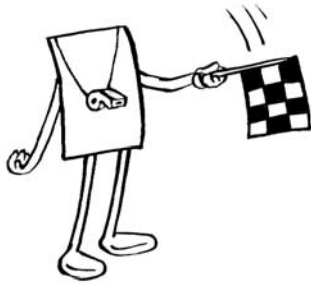
- 14 Enter the port of the OpenLDAP server on the PureSight Management Server machine in the **OpenLDAP Server Port** field, and click **Next**. The *Program Folder* window is displayed:



- 15 Select the program folder into which program icons are to be added from the list displayed and click **Next**. The *InstallShield Wizard Complete* window is displayed:



- 16 Click **Finish**. The installation process is complete.



Chapter 4

Uninstalling PureSight Management Server

This chapter describes how to uninstall the PureSight Management Server.

Uninstalling PureSight Management Server

The uninstall process removes all of the files that relate to the PureSight Management Server, and restores the machine's original configuration. On Windows systems, the uninstall removes the OpenLDAP and Apache servers that were installed.

On Linux systems, the uninstall removes configuration data from the OpenLDAP storage, and restores the original OpenLDAP and Apache configurations, using the backup copies created in the installation process. **Any changes to the OpenLDAP or Apache configuration files that were made after the installation was completed and which may affect the operation of other applications must be re-implemented after the uninstall process is complete.**

PureSight Content Filtering Servers and the PureSight Log Server should be uninstalled prior to uninstalling the PureSight Management Server. Without the PureSight Management Server, the PureSight Content Filtering Servers will not be able function properly nor will you be able to initialize the PureSight Log Server.

Uninstalling PureSight Management Server (Linux)

The PureSight Management server is uninstalled from a Linux platform by running an uninstall script (`uninstall_psmngsrv.sh`).

- **To uninstall the PureSight Management Server from a Linux Platform:**
- 1 Log in as root.
 - 2 Go to the directory where the `uninstall_psmngsrv.sh` file is located.
 - 3 Run the `uninstall_psmngsrv.sh` file.

**NOTE:**

The uninstall script must be run from the directory in which it is located.

The uninstall process checks to determine whether one or more PureSight Content Filtering Servers are currently connected to the PureSight Management Server and alerts if any servers are found connected.

The uninstall process also checks whether there is a PureSight Log Server defined and if so alerts accordingly.

**NOTE:**

If there are PureSight Content Filtering Servers or a PureSight Log Server connected to the PureSight Management Server, you are prompted to indicate whether or not to continue with the uninstall process. Enter **y** for yes or **n** for no.

Assuming that no other PureSight servers are connected to the PureSight Management Server, the installation proceeds automatically and you are prompted to accept default values or enter new settings on a line-by-line basis.

- 4 Click **Enter** to accept the default setting for each of the following parameters, or enter the required setting and then click **Enter**:

- ❖ **OpenLDAP configuration directory path:** The location of the file containing the default management configuration, and policy and filtering settings.

**NOTE:**

The uninstall process restores the original version of the slapd.conf file from the backup copy created in the installation process (slapd.conf.icg.bak). Any changes to configuration made after installation that may affect the operation of other applications must be re-implemented after the uninstall process is complete.

- ❖ **OpenLDAP daemon path:** The executable responsible for starting and stopping the LDAP server.
- ❖ **Apache configuration file path:** The path to the configuration file for the web user interface.
- ❖ **Apache daemon file path:** The full path to the daemon executable responsible for starting and stopping the Apache web server.

**NOTE:**

The uninstall process restores the original version of the httpd.conf file from the backup copy created in the installation process (httpd.conf.icg.bak). Any changes to configuration made after installation that may affect the operation of other applications must be re-implemented after the uninstall process is complete.

Uninstall Script (Default)

The following is an example of an uninstall run based on the default values:

```

Welcome to the PureSight Management Server, version 1.3
Uninstall

Management Server uninstall:
#####
There is one more filtering server connected to the
management server.

Continue with uninstall ( y / n) [n]: y

A log server is connected to the management server in a
working mode.

Continue with uninstall? (y/n) [n] y

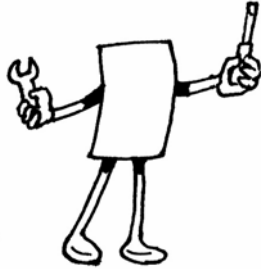
OpenLDAP configuration Directory path [/etc/openldap ] :
OpenLDAP daemon executable path [/user/sbin/slapd ] :
Apache configuration file path [ /etc/httpd/conf/httpd.conf ] :
Apache daemon file path [ /etc/rc.d/init.d/httpd ] :
Removing files, this may take a few minutes.

```

Uninstalling PureSight Management Server (Windows)

The PureSight Management server is uninstalled from a Windows platform using an Uninstall Wizard application.

- **To uninstall the PureSight Management Server on a Windows Platform:**
 - 1 From the Windows *Control Panel*, select **Add/Remove Programs**.
 - 2 Select the PureSight Management Server application, click **Remove** and then click **OK**.
 - 3 Follow the onscreen instructions to complete the uninstall process.



Chapter 5

Troubleshooting

This chapter includes information to assist you in handling troubleshooting problems that may arise in the installation process. This chapter also includes procedures for manually editing the Apache web server and the OpenLDAP configuration files on Linux.

Troubleshooting

| Problem | Solution |
|--|--|
| After restart, the Management Server is not responding | <p>On Linux – make sure that both the OpenLDAP daemon (slapd) and Apache daemon (httpd) are up and running.</p> <p>On Windows – make sure that both the PureSight Management Server and PureSight Administration services are started.</p> |
| Cannot install OpenLDAP on Windows | Make sure that there is no other application running and listening on port 389. |

Manual Configuration Procedures

Although both the Apache web server and the OpenLDAP server are automatically configured when the installation script is run, you can manually edit their respective configuration files, if required.

Manually Configuring the Apache Web Server

Configuring the Apache web server can be done by directly editing the Apache configuration file (usually named httpd.conf). The location of the file varies according to the version of the Apache web server in use.

➤ **To configure Apache:**

- 1 Open the Apache configuration file.
- 2 Add the following lines at the end of the file:

```
# --- PureSight directives ---
#NameVirtualHost <Management Server IP>
Listen <PureSight GUI port>
<VirtualHost _default_:<PureSight GUI port>>
  ServerName _default_
  SetEnv PS_HOME_DIR <PureSight install directory>/
  DocumentRoot <PureSight install directory>/psra
  ScriptAlias /psadmi <PureSight install directory>/psadmi
</VirtualHost>

Listen <PureSight blocking port>
<VirtualHost _default_:<PureSight blocking port>>
  ServerName _default_
  SetEnv PS_HOME_DIR <PureSight install directory>/
  DocumentRoot <PureSight install directory>/psra
  ScriptAlias /psblock <PureSight install
directory>/psblock</VirtualHost>
```

```
# // --- PureSight directives ---
```

- 3 Restart the Apache server.

Manually Configuring the OpenLDAP Server

The OpenLDAP Server can be configured either via the installation script or by directly editing the `slapd.conf` file.

➤ **To manually configure the OpenLDAP Server:**

- 1 Add the following lines to the end of the `slapd.conf` file:

```
##### PureSight Database #####
database ldbm
suffix "cn=root"
readonly off
rootdn "cn=Manager,cn=root"
rootpw secret
index objectClass eq
index cn eq,subinitial

directory <PureSight install directory>/ldap
include /etc/openldap/schema/PureSight.schema
include <OpenLDAP conf. Dir. Path>/schema/
PureSight.schema
##### PureSight Database end #####
```

- 2 After editing the `slapd.conf` file, restart the OpenLDAP server.