

Chapter 7

ASM Pro Utilities

This chapter describes the ASM Configuration Utility for SCO OpenServer, Windows NT, and NetWare.

It also describes utilities from the ASM-Station, such as the UPS (note that this utility applies only to certain systems), printing, and online help.

7.1. Uninterruptible Power Supply (UPS) - Optional Component



This utility applies only to certain systems.

There are two kinds of UPS functions supported by ASM Pro.

- UPS Feature Built Into the Server System
- Redundant Power Supply

UPS Feature Built Into the Server System

The ASM-Agent supports the UPS feature. The UPS feature ensures a graceful system shutdown in the event of an AC power supply failure. A battery backup maintains power for a short time, allowing users to back up their files and log off the system.

UPS is a very important server feature, because most servers have critical data files stored online and these files are constantly being modified. If these changes are not saved or the file system becomes

damaged due to an AC power failure, the users may lose a substantial amount of work.

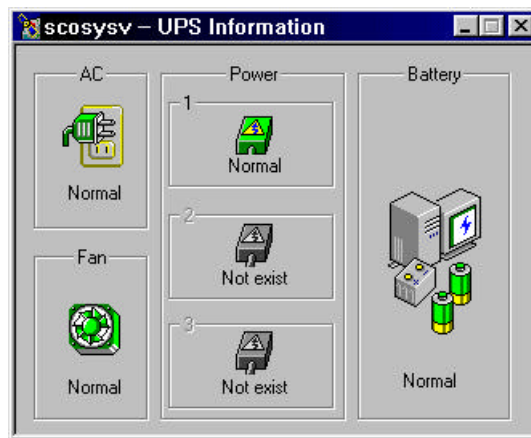
The ASM-Agent automatically detects an AC power failure and broadcasts a message to all users logged on to the server, notifying them that they need to save their work and log off the server. The first broadcast message appears two minutes before the server shuts down. A second broadcast message appears one minute before the server shuts down. One minute after the second message, the ASM-Agent syncs all file systems and performs a proper system shutdown.

The UPS feature distinguishes a power failure from a spike in the power source. When the AC power is interrupted, the UPS immediately activates the battery backup. The ASM-Agent initiates the two-minute warning message only after detecting a power failure that has lasted for 30 seconds. This makes a total of two minutes and 30 seconds between the AC power failure and the automatic system shutdown.

The UPS feature is built into the ASM-Agent software. You must install the ASM-Agent software on the server in order to use this feature. UPS is supported on all platforms: NetWare, Windows NT, and SCO OpenServer. Your hardware must also support UPS for this feature to be operational. See your system hardware manual for more details on the UPS feature.

UPS Information

ASM Pro automatically detects the UPS capability in your server. If your server system has built-in UPS hardware, you can view UPS information by selecting the Device submenu in the Information menu to display the UPS Information screen, as shown below. If the Device submenu is grayed out, it means that ASM Pro does not find the UPS hardware in your server.



There are four parts monitored by ASM Pro in UPS Information:

- AC Power
- UPS Fan
- UPS Power Supply (a maximum of 3 power supplies are supported)
- UPS Battery

The color shown for each icon represents its working status: green means Normal, red means Fail, and gray means Does Not Exist or Unknown.

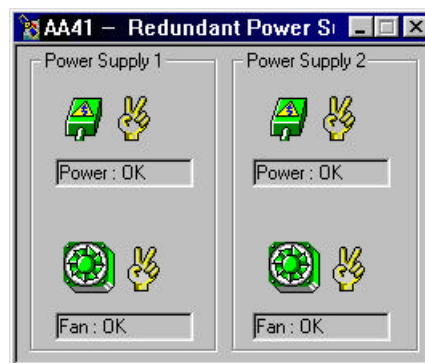
7.2. Redundant Power Supply

ASM Pro automatically detects the Redundant Power Supply hardware in your server.

Select the **Device** submenu of the Information menu to display the Redundant Power Supply screen. If the Device submenu is grayed out, it means that ASM Pro does not find the Redundant Power Supply hardware in your server.

This screen shows you the current working condition of the server's redundant power supplies and their respective fans. When redundancy between power supplies has been interrupted, i.e. one or both power supplies fail, or a fan stops working; a Fail status will be shown in the Information ⇒ Device ⇒ Redundant Power Supply window. Once this happens, you can refer to this window to determine the cause of failure.

The color shown for power supply or fan icons represent their working status. Green means Normal, red means Fail, and gray means Does Not Exist or Unknown.



7.3.1 *asmconfig* for SCO OpenServer

asmconfig is invoked during ASM-Agent installation. It may be invoked at any time by typing ***asmconfig*** from a UNIX shell prompt. The executable file is found in the /usr/bin directory.

After executing *asmconfig*, if the password option is enabled, the utility prompts you to input the password for the ASM-Agent before allowing access to the utility.

Use the right and left arrow keys to select a menu item.

To move around asmconfig:

- Use the up and down arrow keys to highlight the item and press the return key to execute or select the highlighted item.
- Use the left and right arrow keys to switch control between the main window and confirm selection window shown at the bottom of the screen.
- To quit, select **Quit** from the main menu and press **Enter**.

The utility has the following functions:

7.3.1.1 SNMP Config

[illegible]

This function allows the user to add, modify or delete any IP address in /etc/snmpd.trap. When the user wants the ASM-Station to monitor the ASM-Agent, the Station's IP address must be included in /etc/snmpd.trap on the server site. This is the place to do that.

7.3.1.2 Manager Information

```
SNMP_Config  Manager_Info Event_Action Password Threshold Event_Log Quit
+-----+
|Manager Name      :  
|Office Phone     :  
|Office Location   :  
|Home Phone       :  
|Home Location    :  
|Pager Number     :  
|Email Address    :  
|Server Location  :  
  
|  
|  
|  
|  
|  
|  
|  
|  
|Use arrow key and edit....
```

Users can modify Manager Contact Information and Server Location by selecting this function.

To edit data, follow the directions on the status line at the bottom of the screen. Press the **Enter** key to move the cursor to the next line. When you finish typing, press **Enter** and the arrow key to return to the menu item.

7.3.1.3 Event Action

SNMP_Config Manager_Info **Event_Action** Password Threshold Event_Log Quit

Event	Agent Action	Execution Program
Warning Temperature	Broadcast	
Critical Temperature	Broadcast	Shutdown
ECC Memory Error	Broadcast	
Fan Stops	Broadcast	
Voltage Exceeds Safe Range	Broadcast	
PCI Bus Utilization		
Memory Utilization High		
File System Utilization High	Broadcast	
XPower Supply Fail		
XUPS Battery Fail		
XPower Fan Stop		
XAC Power Fail		
Chassis Intrusion	Broadcast	
Fuse Fail	Broadcast	
Redundant Power Supply Fail	Broadcast	
Redundant Power Supply Fan Fail	Broadcast	

[Broadcast] [Execution] [Cancel]

A typical Event Action screen is shown above. The event type shown depends on the server (for example, UPS).

These events are defined in ASM Pro. Users can define the agent action (broadcast and/or shutdown) and user-defined program at the server site.

To specify an action, use the up and down arrow keys to select the event, then press **Enter** or **Tab** to go to the bottom of the screen. Use the left and right arrow keys to move between [Broadcast], [Execution], and [Cancel].

To exit this screen, press **Tab** and the left/right arrow key.

7.3.1.4 Password

SNMP_Config	Manager_Info	Event_Action	Password	Threshold	Event_Log	Quit
-------------	--------------	--------------	----------	-----------	-----------	------

Change Password

Disable Password

You can change a new password which is from 3 to 16 letters...

This item allows the user to change or enable/disable password. A valid password must have a minimum of 3 characters and a maximum of 16 characters. If the user disables the password, the ASM-Agent **will not** execute password checking when the threshold is set by the ASM-Station.



If the password feature is disabled, the server will have NO SECURITY protection.

ASM Pro has password protection for setting values. This means that if the user wants to modify threshold values, manager contact information or server location, the ASM-Station will request the user to input the ASM-Agent's password.

7.3.1.5 Threshold

```
SNMP_Config Manager_Info Event_Action Password Threshold Event_Log Quit
+-----+-----+-----+-----+-----+-----+-----+
|                                                                 |
|                                                                 |
|          PCI Bus Utilization                                   |
|          Memory Utilization                                  |
|          File System Utilization                             |
|                                                                 |
+-----+-----+-----+-----+-----+-----+-----+

Current PCI Bus Utilization Threshold is 100
```

The three threshold items that can be set at the server site are: PCI Bus Utilization (for some models only), Memory Utilization and global File System Utilization (for all file systems).

Setting a PCI or memory threshold is the same as setting these thresholds from the station side. However, the File System Utilization threshold is a global value that applies to all of the file systems on the setting agent.

7.3.1.6 Trap Log

This item allows user to view or clear the Trap Log. When any event occurs, the ASM-Agent will send a trap and save this event to the Trap Log.

When the View Event Log option is selected, it will allow you to view the Event Log file (/etc/eventlog.dat) by invoking the **vi** editor.

```

SNMP_Config  Manager_Info  Event_Action  Password  Threshold  Event_Log  Quit
+-----+
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
|                                                     |
| View event log file by vi |
+-----+

```

When you finish viewing the Event Log file, type : **q** ! and press Return to end the viewing session.

Before the program exits, *asmconfig* will ask the user to accept their modifications. If the user chooses **Update**, the corresponding files will be updated. If the user chooses **Cancel**, no modification occurs.

```

SNMP_Config  Manager_Info  Event_Action  Password  Threshold  Event_Log  Quit
+-----+
|                                                     |
|                                                     |
|                                                     |
|                                                     |
| Do you want to update ? |
|                                                     |
|                                                     |
|                                                     |
| [Update] [Cancel] |
+-----+

```

After the user updates all modifications, *asmconfig* will ask the user to restart the ASM-Agent. If the user has changed the IP address in /etc/snmpd.trap, the snmpd (SNMP daemon) will also be stopped and restarted.

```

SNMP_Config  Manager_Info  Event_Action  Password  Threshold  Event_Log  Quit
+-----+
|
|                                     +-----+
|                                     | Do you want to restart ASM-Agent ? |
|                                     +-----+
|
| Note: If you want ASM-Agent to execute correctly,
|       please choose [Restart] after you finish all
|       modifications.
|
+-----+
| [Restart]      [Cancel] |
+-----+

```

7.3.2 *asmcfg* for SCO UnixWare

Follow these steps to configure the SCO UnixWare agent:

1. At the shell prompt, execute command:

```
# /usr/asm/asmcfg
```

to start ASM Agent Configuration Utility.

2. Use key <ESC> to move cursor between menu and form region. When cursor is located in form region, use key <PageUp>/<PageDown> to switch around different form pages. (Each form page contains a group of related configuration parameters.) Use key <Tab> or Arrow keys to move cursor around fields in that form page then setup the values in them. When cursor is located in menu region, selecting items from the *Config* pulldown menu can directly jump into the corresponding form pages.
3. Select menu *File* -> *Save* to update those modified configuration parameters back to the ASM configuration file */usr/asm/asmsmxd.conf*.

4. Select menu **File** -> **Exit** to quit from ASM Configuration Utility.



Note that the changed parameters will not become effective until ASM agent is restarted. Therefore, if any configuration is modified and saved, ASM Configuration Utility will prompt to ask whether to restart ASM agent.

7.3.2.1 Config/SNMP

In this pop-up form, the user can enter the IP addresses of SNMP trap destinations (i.e. those ASM management stations expected to receive SNMP traps). The list of IP addresses will be saved to the SNMP configuration file `/etc/netmgt/snmpd.trap` after choosing the OK button. Notice that each IP address entered should be in decimal dot notation, and be typed in one line.

```

ASM Agent Configuration Utility (asmcfg)
File      Config   View
-----+-----+-----
[ASM Password]
Password Protection: Add/Modify/Delete IPs of SNMP
Password: [ Change . Trap Destinations below:
                                     127.0.0.1
                                     ]
                                     [ Ok ] [ Cancel ]
-----+-----+-----
+-Key: <Arrow Key>/<PgUp>/<PgDn>/<Tab>/<Enter>/<ESC>----- (Page-1)
```

7.3.2.2 Config/ASM_Password

In this form page the user can:

- Enable or disable the ASM password protection by selecting or unselecting the check mark in the square bracket. If the ASM password protection is enabled, the ASM station will request the user to enter the ASM password each time issuing a SNMP set command. (The default setting is DISABLE.)
- Change the ASM password. A valid password must have a minimum of 3 characters and a maximum of 16 characters. (The default password is a null string.)

```
ASM Agent Configuration Utility (asmcfg)
File      Config  View
+-----+
[ASM Password]
Password Protection: [ ]
Password: [ Change ... ]
+-----+
+-Key: <Arrow Key>/<PgUp>/<PgDn>/<Tab>/<Enter>/<ESC>----- (Page-1) -+
```



If the password feature is disabled, the server will have NO SECURITY protection.

ASM Pro has password protection for setting values. This means that if the user wants to modify threshold values, manager contact information or server location, the ASM - Station will request the user to input the password of the ASM Agent.

7.3.2.3 Config/Manager_Info

This form page contains the information related to system manager.

```

ASM Agent Configuration Utility (asmcfg)
File      Config      View
+-----+-----+
[Server Manager Info]
Manager Name:
Office Phone:
Office Address:
Home Phone:
Home Address:
Pager Number:
Email Address:

Server Location:

+--Key: <Arrow Key>/<PgUp>/<PgDn>/<Tab>/<Enter>/<ESC>----- (Page-2)

```

7.3.2.4 Config/Threshold

This form page contains the threshold values for some of ASM predefined events.

```

ASM Agent Configuration Utility (asmcfg)
File      Config      View
+-----+-----+-----+
[Threshold Values]
PCI Bus Util. (%):      100
Memory Util. (%):      100
File System Util. (%):  100

Polling Interval (sec.): 1

+--Key: <Arrow Key>/<PgUp>/<PgDn>/<Tab>/<Enter>/<ESC>----- (Page-3)

```

7.3.2.5 Config/Event_Actions

These form pages contain the parameters controlling the server-side ASM event handling actions.

```
ASM Agent Configuration Utility (asmcfg)
File      Config  View
+-----+-----+-----+
<< Event Handling (1) >>
      Broadcast Shutdown Execute
      =====
[Warning Temperature Event]
Event Action:      [V]      [ ]      [ ]
Execute Program:
Pager Number:

[Critical Temperature Event]
Event Action:      [V]      [V]      [ ]
Execute Program:
Pager Number:

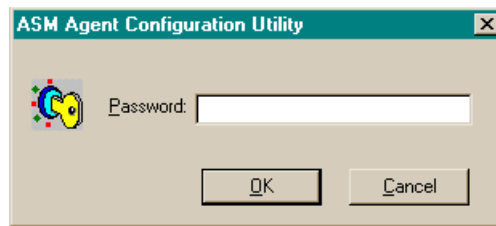
[ECC Memory Error Event]
Event Action:      [V]      [ ]      [ ]
Execute Program:
Pager Number:
+-----+-----+-----+
+-Key: <Arrow Key>/<PgUp>/<PgDn>/<Tab>/<Enter>/<ESC>----- (Page-4) -+
```

7.3.3 asmcfg for Windows NT

The ASM configuration utility for Windows NT (*asmcfg*) is found in the ASM-Agent target directory. The features are similar to the *asmconfig* for SCO OpenServer utility described earlier in this chapter.

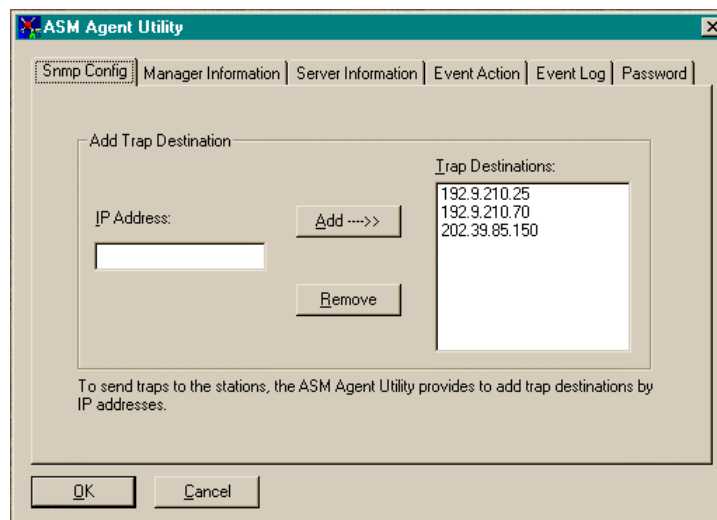
To Run the Program:

1. Under Windows NT, click **Start** then **Program**. Click **ASM Pro Agent** then **ASM-Agent Utility**. The password window will appear.



2. Type in the correct agent password and click **OK**. The utility consists of the following functions, each accessed by clicking on its button.

7.3.3.1 SNMP Config

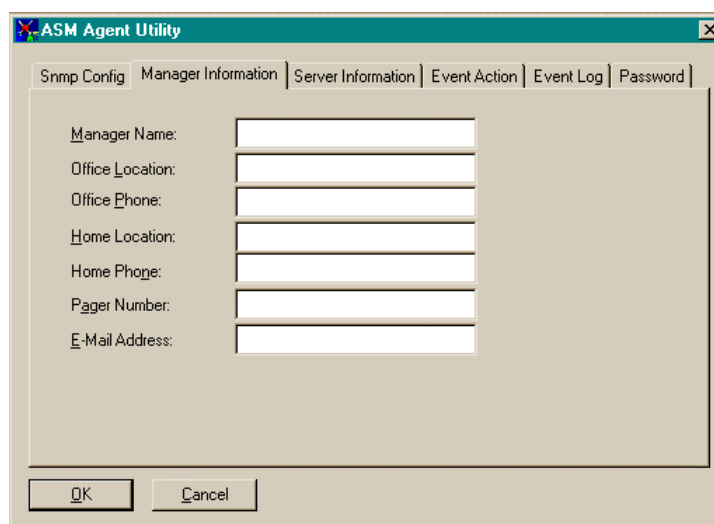


This section allows the user to add, modify or delete any IP address in the SNMP service trap destinations. When the user wants the ASM-Station to monitor the ASM-Agent, the Station's IP address must be included in the SNMP service trap destinations with the community name "public" on the server site.

To add an IP address to the trap list, type in the IP address and click on the **Add** button. To remove IP address(es) from the trap list, select the desired IP address and click on **Remove**.

7.3.3.2 Manager Information

Click on the **Manager Information** tab to modify manager contact information.

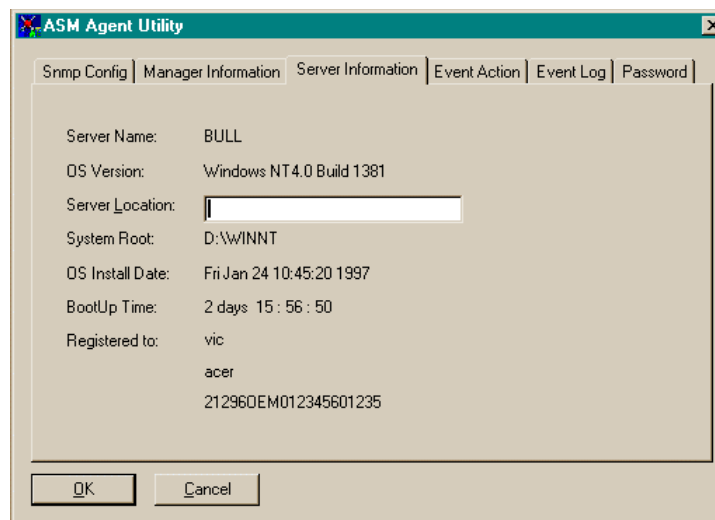


The screenshot shows the 'ASM Agent Utility' window with the 'Manager Information' tab selected. The window has a title bar with a close button. Below the title bar is a tabbed interface with six tabs: 'Snmp Config', 'Manager Information' (selected), 'Server Information', 'Event Action', 'Event Log', and 'Password'. The 'Manager Information' tab contains seven text input fields with labels: 'Manager Name:', 'Office Location:', 'Office Phone:', 'Home Location:', 'Home Phone:', 'Pager Number:', and 'E-Mail Address:'. At the bottom of the window are 'OK' and 'Cancel' buttons.

The maximum number of characters allowed is 48.

7.3.3.3 Server information

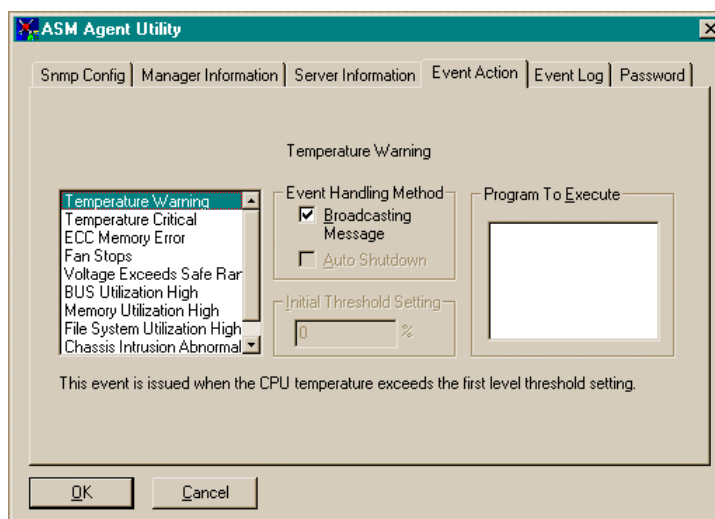
Click on the **Server Information** tab to modify the server location.



The maximum number of characters allowed is 48.

7.3.3.4 Event Action

Click on the **Event Action** tab to display the following screen.

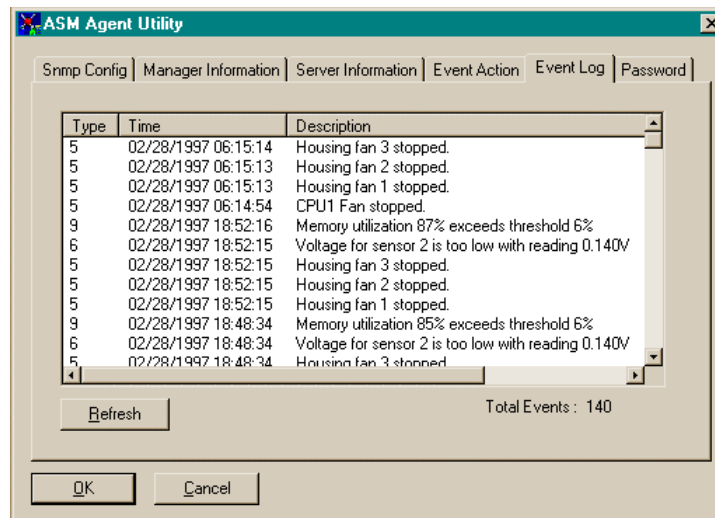


Various events are defined in ASM Pro. Users can define the agent action (broadcast message and/or shutdown), threshold setting and user-defined program at the server site.

To specify the event action, simply highlight the event, then use the mouse to check the Event Handling Method check box. You can also type in the name of the user-defined program you wish to execute when the event occurs. And you can set the threshold value for certain events here.

7.3.3.5 Event Log

Click on the **Event Log** tab to display the following screen.

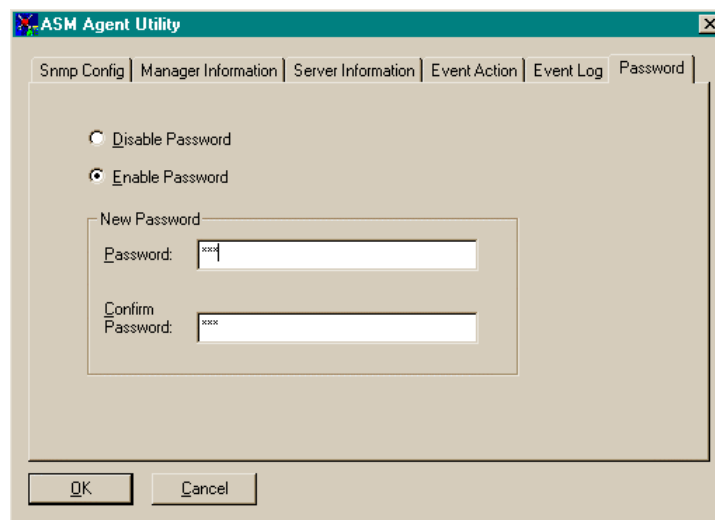


This screen shows the Event Log list which contains all the traps generated in the server machine.

To refresh the Event Log list, click on the **Refresh** button.

7.3.3.6 Password

Click on the **Password** tab to display the following screen:

The screenshot shows a window titled "ASM Agent Utility" with a tabbed interface. The "Password" tab is selected. It contains two radio buttons: "Disable Password" (unselected) and "Enable Password" (selected). Below these is a section titled "New Password" containing two text input fields. The first field is labeled "Password:" and the second is labeled "Confirm Password:". Both fields contain the text "xxxx". At the bottom of the window are "OK" and "Cancel" buttons.

This screen allows the user to change or enable/disable password. A valid password should have a minimum of 3 characters and a maximum of 16 characters. If the user disables the password, the ASM-Agent will not execute password checking when the threshold is set by the ASM-Station.

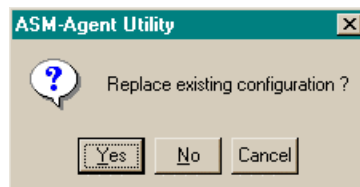


If the password feature is disabled, the server will have NO SECURITY protection.

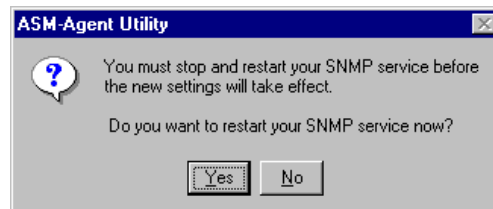
ASM Pro has password protection for setting values. This means that if the user wants to modify threshold values, manager contact information or server location, the ASM-Station will request the user to input the ASM-Agent's password.

7.3.3.7 Saving Changes in *asmcfg*

After you are finished making changes, click on **OK**. The following dialog box displays:



To save your modifications, click on **Yes**. Otherwise, click on **No**. The following dialog box displays:



After the file has been saved, this dialog box asks the user to restart the SNMP service for the changes to take effect. Click on **Yes** to restart these services.

7.3.4 *asmcfg* for NetWare

The ASM configuration utility for NetWare (*asmcfg*) is similar in function to the *asmcfg* utility used for Windows NT and SCO OpenServer.

To run *asmcfg*:

At the system console prompt on your NetWare server, enter the command **load asmcfg**. A window similar to the following appears:



The utility includes the following functions: (For each function, follow the instructions at the bottom of the screen.)

7.3.4.1 Password

Select the **Password** option to change, enable, or disable the password. A valid password must have a minimum of 3 characters and a maximum of 16 characters.



If the password feature is disabled, the server will have NO SECURITY protection.

ASM Pro contains password protection for setting threshold values. Whenever changing a threshold value or a default value from the ASM-Station, the ASM-Station will request the user to enter the password for the ASM-Agent having a value changed. If the user disables the password here, the ASM-Agent no longer executes password checking when any values are changed.

7.3.4.2 OOB

Click on the **OOB** button (Out of Band connection between the agent and the station via modem) to configure and to change the out of band modem settings. The modem settings control the out of band connection between the ASM-Agent and the ASM-Station, including the COM port settings. Refer to your modem manual for the proper values.

7.3.4.3 Manager Information

Select **Manager Information** from the pulldown menu to modify manager contact information, such as the manager's name, address, and phone number.

7.3.4.4 Server Location

Select **Server Location** from the pulldown menu to specify the physical location of the server.

7.3.4.5 Event Handling

Select **Event Handling** to display the Event Handling screen. (A typical Event Handling screen is shown below.)

Event Handling			
Event	Broadcast	Shutdown	Execute Program
Warning Temperature	Yes		
Critical Temperature	Yes	Yes	
ECC Memory Error	Yes		
Fan Stops	Yes		
Voltage Exceeds Safe Range	Yes		
		Threshold	
PCI Bus Utilization	No	100	
Memory Utilization	No	100	
Volume Utilization	Yes	100	

See the Event Type section of Chapter 6 (Fault Management) for an illustration and a description of the important events.

Saving changes made in *asmcfg* is similar to the procedure for saving changes made in *asmcfg* (the comparable utility for Windows NT and SCO OpenServer). See “Saving Changes in *asmcfg*” earlier in this chapter for instructions on how to save changes.

7.3.4.6 Uninstalling ASM-Agent

From the main *asmcfg* screen, choose the **uninstall** option. Follow the onscreen prompts.

7.4. ASM-Station Utilities

7.4.1 Printing Reports



To print reports from the ASM-Station, you must first have a server highlighted, then choose the information you want to print from the ASM-Station taskbar icons, and then click the **Print** icon on the menu bar. You will see Print Manager's screen prompting you.

7.4.2 ASM-Station Online Help



ASM-Station comes with context-sensitive online help. For help on specific topics:

1. Double click the **Help** icon on the menu bar. The ASM-Station Pro Help screen displays.
2. From here you can use the Contents, Index, or Find tab to search the help page.



For help on a specific screen item:

1. Click on the Help icon.
2. Click on the screen item you want. The help page for that topic will display.