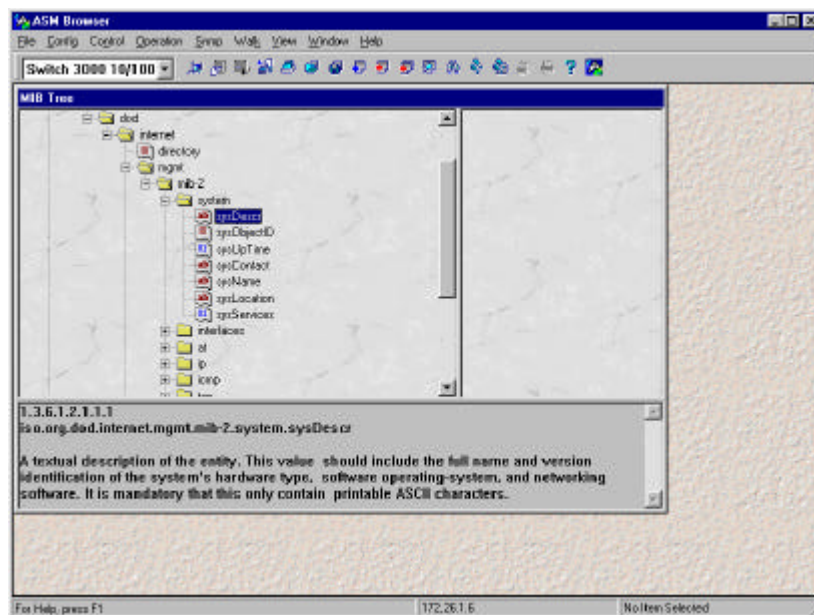


ASM Browser

6

ASM Browser is an MIB (Management Information Base) file browsing tool included with the ASM package. You can start ASM Browser by clicking on the ASM Browser icon in the ASM Manager Station toolbar.

To launch ASM Browser from ASM Manager Station, click the ASM Browser icon on the toolbar or select ASM Browser from the Tools menu.



This tool allows you to view and modify the OID (Object ID) values of the machines you are managing on your network. It also allows you to define and maintain a list of OIDs to view.

ASM Browser User Interface

The ASM Browser user interface allows you to move around easily. You can access different information using menu commands or by clicking buttons.

When you start ASM Browser, the main screen will display the information from your last ASM Browser session. This section discusses these major screen components:

- Menu Bar and Toolbar
- Machine List Combo Box
- MIB Tree Window
- Selection Window
- Description Window
- Status Bar



Menu Bar and Toolbar




The machine list combo box allows you to select the name of the machine whose OIDs you want to view. It contains all the machines added to the Machines Selected list in the Auto Discovery window.


Toolbar buttons enable quick access to selected functions in ASM Browser through a single mouse click. The Menu Bar contains the following items and commands:

- File Menu - allows you to save and print your files.




Item	Icon	Description
Save		Lets you save an existing query
Print Setup		Lets you setup the printer
Print Preview		Shows a preview of the printer material
Print		Lets you print information contained in the window
Exit		Ends ASM Browser session

- Config Menu - generally controls the environment of the browser. You can select machines to view and set polling intervals.






Item	Icon	Description
Auto Discovery		Lets you select machines to browse from your network
Trap		Lets you enable/disable the Trap Handling function and view the trap log. This function will be disabled when ASM station is running
Community		To specify the community and

Item	Icon	Description
and Port		port for Get and Set Operations
Option		Displays the Option window







- Control Menu - contains the tools for manipulating and viewing MIBs. It includes a submenu for adding and removing MIBs.

Item	Icon	Description
Define New Query		Lets you specify your own query (list of OIDs) to browse
Select Query		Lets you select from a list of previously defined queries to browse or remove queries from the list
Manage MIB Database		Displays a window where you can add, remove, initialize, and view history of MIB files
Telnet		Connect to the server by telnet


- Operation Menu - contains the tools for manipulating and viewing OIDs. It include commands to let you add or remove OIDs in the Selection window and view the values of these OIDs.




Item	Icon	Description
Add		Appends the highlighted OID or OIDs of a highlighted node in the MIB Tree window to the Selection window
Remove		Deletes the selected OIDs from the Selection window
Remove All		Clears the Selection window
Browse		Displays the values of the OIDs in the Selection window
Find		Searches for the OID the user wants to find in the MIB tree

- **SNMP Menu - SNMP** (Simple Network Management Protocol) is a tool that allows you to control and view information concerning OIDs. The pulldown menu is only enabled when the SNMP Table is open. Please refer to section Browsing OIDs, for more information on how to open the SNMP Table.

Item	Icon	Description
Get		Updates the contents of the OID Value table with the current OID values
Set		Enabled only when the SNMP Table is the active window and when the OID selected can be modified
Polling		Continually retrieves the current values of OIDs and updates the OID Value table
Stop		Stops browsing the OID
Rotate		Switches the order in which the contents of the OID Value Table are displayed and acts as a toggle between views, so rows are turned into columns and vice versa
Option		Displays the Option window

- **Walk Menu -** detects available OIDs from a node or subnode and display its values.

Item	Icon	Description
Walk		Displays the values of a selected node and its subnodes in the Walk Operation window

Item	Icon	Description
OID		To specify an OID in the Walk Operation - Input dialog box from which the walk operation will start
Pause		Available only when a walk operation is in progress to temporarily halt or resume the walk operation
Set		Enabled only when the Walk Operation window is the active window and when the OID selected can be modified, displays the Set Operation dialog box



- View Menu - gives you the option of whether or not to show the toolbar and status bar.

Item	Description
Toolbar	Displays/hides the toolbar
Status Bar	Displays/hides the status bar
Trap Log	Displays the trap log dialog box

-
- Window Menu - allows you to arrange the windows in your ASM Browser.

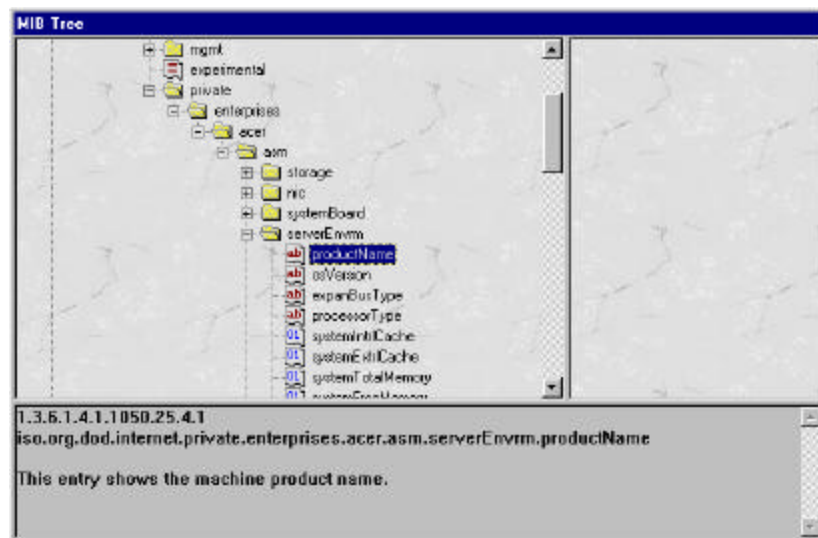
Item	Description
Cascade	Arranged the open windows in a cascading manner
Tile	Arranged the open windows in tile manner
Arrange Icons	Arranges the icons properly

- Help Menu - ASM Browser comes with a context-sensitive Help menu with the following items:

Item	Icon	Description
Help Topics		Starts ASM Browser Help, displaying the Index screen
About		Displays ASM Browser product information

MIB Tree Window

Located on the left side of the screen, this window shows the MIB tree structure. MIB nodes and subnodes are represented by folders while OIDs are represented by documents. You can expand or collapse these nodes by clicking the folder. When you double-click an OID, ASM Browser will get its value and show it in the Description Window. If you double-click a node, all OIDs contained in that level will be added.



Selection Window

This window can be found on the right side of the ASM Browser main screen. OIDs selected from the MIB Tree Window or a list of previously defined OIDs from the Select Query dialog box can be seen here.

Description Window

The description window is located at the lower part of the ASM Browser main screen. It displays OIDs, labels and a brief description of the node or OID highlighted in the MIB Tree Window.

Status Bar



Located along the bottom of the screen, the status bar provides different information as you work with ASM Browser. The left side displays a brief description of a highlighted menu command or a clicked toolbar button. The right side contains the network address of the selected machines.

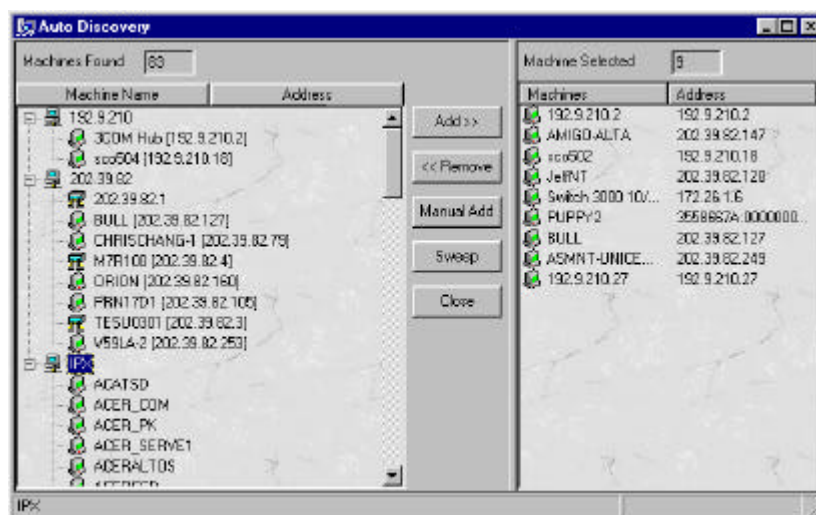
Browser Functions

This section tells you how to perform the following tasks:

- Selecting browsing machines
- Setting up browsing options
- Configure community and port
- Defining a new query
- Selecting a query
- Managing the MIB database
- Adding an OID
- Removing an OID
- Browsing OIDs (SNMP Table)
- Taking a Walk through the MIB
- Finding an OID
- Saving Information

Selecting Browsing Machines

From the Config menu, select Auto Discovery or click on the Auto Discovery icon on the toolbar menu to display the Auto Discovery dialog box.



This window displays all IP/IPX machines in your network detected by ASM Browser. The following items are available in this dialog box.

Auto Discovery Dialog Box Items

Item	Description
Machines Found	This list displays all the IP/IPX machines available on your network
Machines Selected	This list shows all the machines to be monitored by ASM Browser

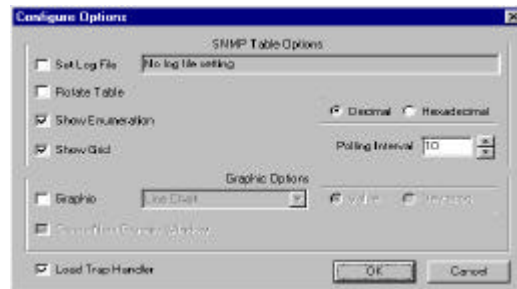
Item	Description
Buttons	
Add	Clicking this button will append the highlighted IPX machines in the Machines Found list or the IP machines specified in the IP Address field to the Machines Selected list
Remove	Clicking this button will delete the highlighted machines from the Machines Selected list
Manual Add	You can manually add an IP address by clicking this button
Sweep	Searches an address by matching the first three blocks you specify
Close	This button closes the dialog box and causes the modifications you made to take effects, the Server combo box will now contain all the machines you specified in the Machines Selected list.



In order to make the auto discovery function work properly, the agent must be able to respond to the standard MIB-2 requests. Please refer to RFC1213 for more information about MIB-2.

Setting Up Browsing Options

From the Config menu, select Options to display the Configure Options dialog box.



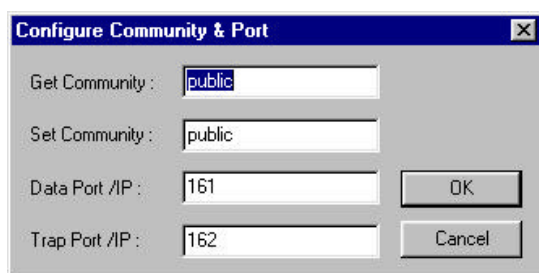
Configure Timer Dialog Box Items

Item	Description
Set Log File	Set the log file and start to record SNMP values to the log file
Rotate Table	Exchange the displaying style
Show Enumeration	Show the Enum String if this OID is declared as enum value in MIB file
Show Grid	Show grid line in SNMP table
Set Decimal/Hexadecimal	Show decimal or hexadecimal type of a OID value
Polling Interval Field	Type an integer from 1 to 60 to specify the polling interval
Graphic Options	Choose SNMP table with graphic display
Load Trap Handler	Load trap handler to handle trap receiving operation
Buttons	
OK	Closes the dialog box and causes the modifications you made to take effect

Item	Description
Cancel	Closes the dialog box, discarding all changes made

Configure Community and Port

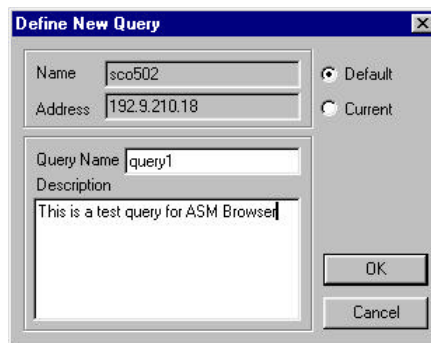
You can set Get/Set communities and ports for SNMP Operations.



Defining a New Query

Follow these steps to define a new query (set a list of OIDs to view):

1. From the MIB tree window, select the OIDs you want to include in the query and add them to the Selection Window.
2. Select Define New Query from the Control menu. The Define New Query dialog box displays.
3. Type a name and description for the query.
4. Click **OK** to accept it.

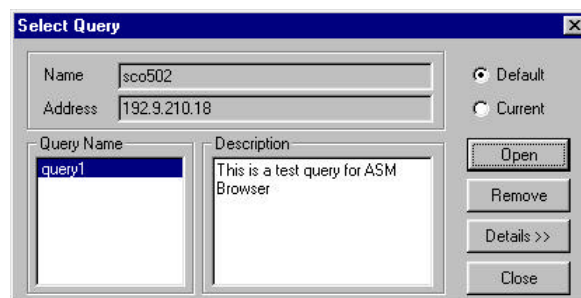


This dialog box lets you specify a name and description for a list of OIDs frequently viewed and saves this information to the database. This eliminates the need to individually search for the same sets of OIDs to view each time you start ASM Browser. After setting a query, it will be added to the Name field in the Select Query dialog box.

Each time you want to view this list, simply select its name from the Select Query dialog box. See [Selecting a Query](#) for more information.

Selecting a Query

From the Control menu, click on this command to select from or remove a list of previously defined OIDs to view. The Select Query dialog box appears.



This dialog box allows you to choose from a list of previously defined queries. It also places all OIDs in this query into the Selection window. You can also remove queries from the database or clear the database of all queries.

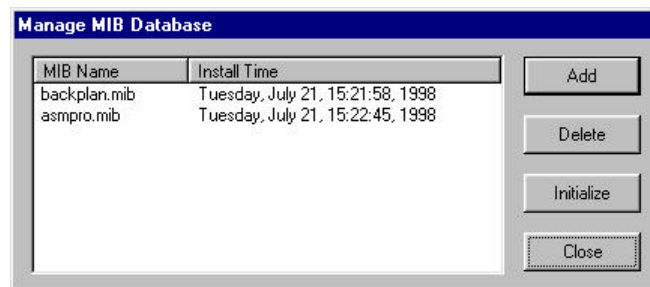
You can also see the following options in this dialog box:

Select Query dialog box items

Item	Description
Name Field	This field shows the name of the machines you are currently browsing.
Address Field	This field displays the network address of the machines you are currently browsing.
Query Name	All query names defined in the Define New Query dialog box are listed here. Click the name of the query you want to view or remove from the database.
Description Field	This field displays a brief description of the selected query.
Buttons	
Open	This button opens the selected query.
Remove	Click this button to remove all queries in the database. This action will take effect only after clicking OK.
Details >>	Shows the OIDs defined in this query.
Close	This button closes the dialog box, discarding all changes made.

Managing the Database

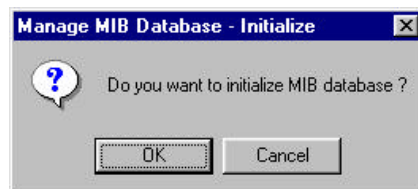
From the control menu, click on this command to launch the MIB database managing dialog box.



Initializing the Database

The Initialize command removes all installed MIB files from the existing MIB database. After this process is carried out, only the basic MIB tree contents will remain.

Select **Initialize** from the Manage Database submenu of the Control menu. The Database Management Initialize dialog box appears for you to confirm the initialization.



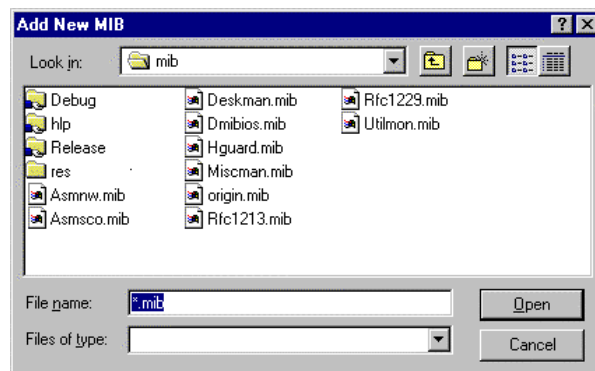
This dialog box prompts you to confirm whether or not to continue initializing the MIB database. To continue, click **OK**, otherwise, click **Cancel** to close this box without initializing.



The initialize action cannot be undone. Do not click the OK button unless you are sure about removing all installed MIB files from the database.

Adding a New MIB

To install a new MIB file into the existing MIB database, select Add from the MIB database managing dialog box. The Add New MIB dialog box appears where you can specify the path and filename of the MIB file you want to install.



The following options allow you to specify which file to add or remove:

ADD NEW MIB / REMOVE MIB DIALOG BOX ITEMS

Item	Description
File Name	Type or select the filename you want to add or remove. This box displays the files with the extension you specified from the List Files of Type box
Files of Type	This box lets you specify the extension of the file you want to add or remove

Look in:	Use this box to specify the drive and folder containing the file you want to add or remove
----------	--

Removing an MIB

To remove an installed MIB file from the existing MIB database, select **Delete** from the MIB database managing dialog box.

To remove all installed MIB files from the MIB database, choose the **Initialize** command.

Adding an OID

Select the OIDs you want to view by highlighting them from the MIB Tree then choosing the **Add** command from the Operation menu or clicking its button from the toolbar. The OID will appear in the upper right frame of the MIB Tree window.



If you highlight a node, all OIDs on that node will be added.

Removing an OID

Select the OID you want to remove by highlighting them in the Selection window then choosing the **Remove OID** command from the Operation menu, or press „Delete“ key on the keyboard. The OID will disappear from the Selection window.

Removing All OIDs

You can simultaneously remove all the OIDs in the Selection window by clicking on the **Remove all** toolbar button or by choosing the Remove All command from the Operation menu.

Browsing OIDs (SNMP Table)

To get the OID values of an SNMP agent:

1. From the combo box on the toolbar, select the machine's name.
2. Browse through the MIB Tree window to select the OIDs you want to view.
3. To search for a particular OID, choose the **Find** command from the Operation menu or click the **Add** button in the toolbar and specify the OID to find.
4. Select the OIDs you want to view by highlighting them from the MIB Tree then choosing the **Add** command from the Operation menu or clicking its button from the toolbar. The OID will appear on the upper right frame of the MIB Tree window.



If you highlight a node, all OIDs on that node will be added.

5. Select the Browse command from the Operation menu or click the Browse button on the toolbar. The SNMP Table window appears displaying the OID values you selected.

OID name	Access Type	Data Type	OID Value
sysVersion	Read	OctetString	SCO UNIX System V/386 3.2x5.0.4 - 97/05/07
sysName	Read	OctetString	ISA MCA
sysProcessorType	Read	OctetString	Pentium Pro 200Mhz
sysMemTotal	Read	Integer	512
sysMemFree	Read	Integer	0

SNMP Table

SNMP stands for Simple Network Management Protocol. This table allows you to manage and view information concerning OIDs.

The toolbar at the right allows you to Browse, Set, Poll, Rotate, Find, set up Options for, and Stop OIDs in the table. The Browse button updates the contents of the OID Value table with the current OID values. Clicking the Stop button immediately stops the browse feature. The Set button is enabled only when the SNMP Table is the active window and when the OID selected can be modified.

You can also record events in the log file by activating the log file entry.

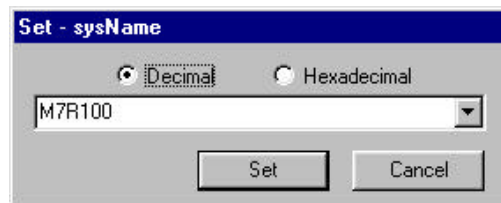
There are 4 columns for each OID: OID name, Access Type, Data Type and OID Value.

- **OID name** - the OID label defined in the MIB file.
- **Access Type** - Read, Write, R/W or No Access for each OID, depending on the definition in the MIB file. Only an OID whose access type is R/W or Write can be set.

- **Data Type** - Integer, Unsigned Integer, Gauge, Counter, Counter64, TimerTick, OctetString, BitString, Network Address, IP Address, Opaque, Object ID, and Unknown.
- **OID Value** - The value returned by SNMP agent for this OID. If the OID is a table, i.e., the values of this OID are more than one, the values will be shown in columns „OID Value #1“, „OID Value#2“, etc.

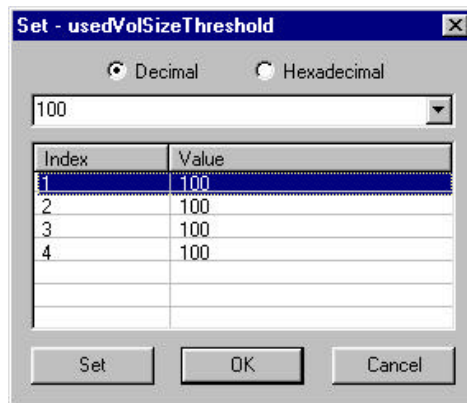
SET OPERATION

The OID value could be set if the attribute of this OID is R/W (Read/Write) or Write. If you highlight a R/W OID the SET button will be enabled.



A dialog box titled "Set - sysName". It has two radio buttons: "Decimal" (selected) and "Hexadecimal". Below them is a text input field containing "M7R100". At the bottom are "Set" and "Cancel" buttons.

If the OID has multiple values, you will have to lunch another Set dialog box to set another value in the table.



A dialog box titled "Set - usedVolSizeThreshold". It has two radio buttons: "Decimal" (selected) and "Hexadecimal". Below them is a text input field containing "100". Below the input field is a table with two columns: "Index" and "Value". The table has 4 rows of data, with the first row highlighted. At the bottom are "Set", "OK", and "Cancel" buttons.

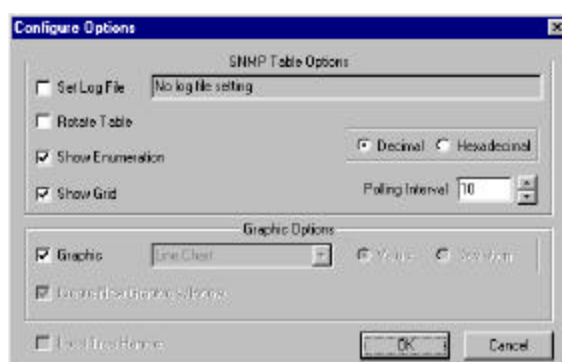
Index	Value
1	100
2	100
3	100
4	100

DECIMAL OR HEXADECIMAL

The OID Value column heading can be viewed in two ways: Decimal and Hexadecimal. The SNMP Table will display the OID values in decimal when you click Decimal. It will display OID Values in hexadecimal if you click Hexadecimal.

TO ACTIVATE A LOG FILE

1. Click the Option button. The SNMP-Option dialog box appears.



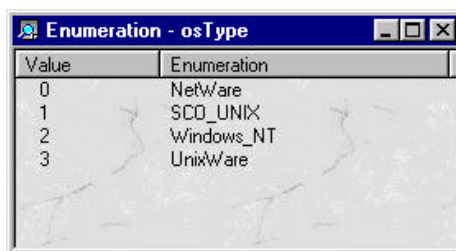
2. Click **Set Log File**. The Save Log File dialog box appears.



3. Enter the file name of the log file then click **Open**. You will notice that the file name is now displayed in the text box.

ENUMERATION DISPLAY

This window displays a list of string-to-integer mappings for the selected OID. User can highlight an OID and press right button of mouse, choose Enumeration from pop-up menu. The Enumeration window appears.



To see the Enumeration Display

User can view OID by enumeration value defined in MIB file instead of original value.

1. Click the Option button in the SNMP Table window. The SNMP-Option dialog box appears.
2. Click on the Enumeration Display check box.

To record OID polling information

The Polling button continually retrieves the current values of OIDs and updates the OID Value table. You can record this information by activating the Log File. If the Log File is not activated, then it will not be recorded. Please refer to the previous section „To activate a Log File“ for more information.

TO SET THE TIME INTERVAL FOR POLLING

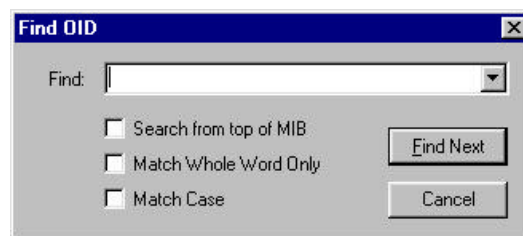
You can set the time interval for polling. The polling interval must be in the range from 1 to 60 seconds.

ROTATING THE SNMP TABLE

The Rotate button is used to switch the order in which the contents of the OID Value Table are displayed. This command acts as a toggle between views, so rows are turned into columns and vice versa. This function is disabled when non-tabled OIDs are selected in SNMP table window.

FINDING OIDS IN THE SNMP TABLE

To search for an OID, click the Find button. The Find OID dialog box displays. For more information about the Find OID dialog box, please refer to the „Finding an OID“ section later in this chapter.



Taking a Walk through the MIB

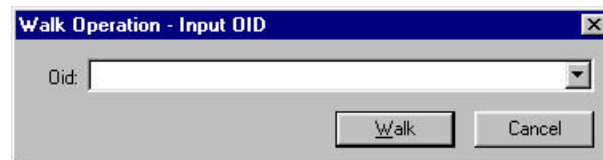
You can use the Walk function to automatically view OID values starting from a particular node or OID.

To Walk from a node (MIB Tree)

1. From the combo box in the toolbar, select the machine's name.
2. Browse through the MIB Tree window and select an OID or node from which you'd like to start the walk operation then select the **Walk** command from the Walk menu or click the walk button on the toolbar.
3. The Walk Operation window appears and the OIDs will pop up in the window.

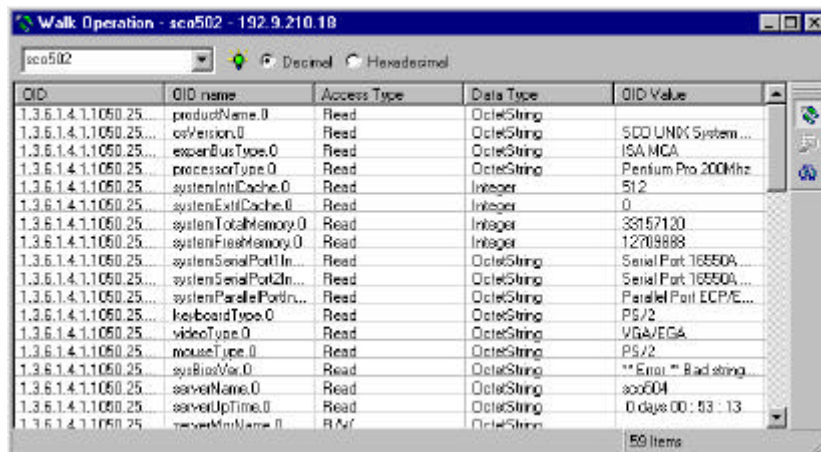
To Walk from a query input OID (OID)

1. To start at a particular OID, choose the OID command from the Walk menu or click the OID button on the toolbar. Type in the OID you want to Walk in the OID text box.



2. Click **Walk**. The Walk Operation window appears and all available OIDs will start popping up one-by-one.

Walk Operation Window

A screenshot of the "Walk Operation - sco502 - 192.9.210.18" window. The window has a title bar with the text "Walk Operation - sco502 - 192.9.210.18" and standard window controls. Below the title bar is a search field containing "sco502" and two radio buttons labeled "Decimal" and "Hexadecimal". The main area is a table with the following columns: "OID", "OID name", "Access Type", "Data Type", and "OID Value". The table contains 18 rows of data. At the bottom right of the table, it says "69 items".

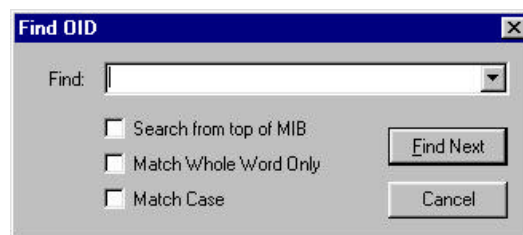
OID	OID name	Access Type	Data Type	OID Value
1.3.6.1.4.1.1050.25...	productName.0	Read	OctetString	
1.3.6.1.4.1.1050.25...	osVersion.0	Read	OctetString	SCO UNIX System...
1.3.6.1.4.1.1050.25...	exportBusType.0	Read	OctetString	ISA MCA
1.3.6.1.4.1.1050.25...	processorType.0	Read	OctetString	Pentium Pro 200Mhz
1.3.6.1.4.1.1050.25...	systemInitCache.0	Read	Integer	512
1.3.6.1.4.1.1050.25...	systemExtCache.0	Read	Integer	0
1.3.6.1.4.1.1050.25...	systemTotalMemory.0	Read	Integer	33157120
1.3.6.1.4.1.1050.25...	systemFreeMemory.0	Read	Integer	12709888
1.3.6.1.4.1.1050.25...	systemSerialPort1In...	Read	OctetString	Serial Port 16550A...
1.3.6.1.4.1.1050.25...	systemSerialPort2In...	Read	OctetString	Serial Port 16550A...
1.3.6.1.4.1.1050.25...	systemParallelPortIn...	Read	OctetString	Parallel Port ECP/E...
1.3.6.1.4.1.1050.25...	keyboardType.0	Read	OctetString	PS/2
1.3.6.1.4.1.1050.25...	videoType.0	Read	OctetString	VGA/EGA
1.3.6.1.4.1.1050.25...	mouseType.0	Read	OctetString	PS/2
1.3.6.1.4.1.1050.25...	sysBiosVer.0	Read	OctetString	** Error ** Bad string...
1.3.6.1.4.1.1050.25...	serverName.0	Read	OctetString	sco004
1.3.6.1.4.1.1050.25...	serverUpTime.0	Read	OctetString	0 days 00 : 03 : 13
1.3.6.1.4.1.1050.25...	serverMinName.0	Read	OctetString	

The Walk Operation window shows detailed information about each OID. It will keep displaying OIDs as long as there are OIDs available. The Pause button on the right side of the window pauses the walk function. The Find button displays the Find OID dialog box. See the next section for more information. The Set button displays the Set Operation dialog box. You can only set an OID, if it can be modified.

Finding an OID

You can use the Find function to look for OIDs.

1. In the MIB tree, highlight the node where you like to start the search.
2. Click the **Find** icon on the toolbar or click Find in the Operation menu. The Find OID dialog box appears.



3. Type in the OID name you want to find in the Find text box. You can check the check box for the browser to do the following:
 - Search from top of MIB - the browser will search the whole MIB tree.
 - Match Whole Word Only - the browser will search the MIB tree for matching words.
 - Match Case - the browser will search the MIB tree for case-sensitive words.
4. Click **Find Next**. The Browser will start searching for a match.

-
5. The find result will be displayed in the bottom part of the MIB Tree window.

Saving Information

Saving Information

This command works two ways depending on the current active window:

- If the SNMP Table window is the active window, choosing this command will display the Save SNMP Information dialog box. Information contained here is saved as a text file with a .smp file extension.



- If the Walk Operation window is the active window, choosing this command will display the Save Walk Information dialog box. Information contained here is saved as a text file with a .wlk file extension.

