

This topic deals with networked printers that are SNMP enabled.

While a printer is not usually considered a critical device, some businesses depend on their printers for continued productivity. When a printer is not performing as expected, it can create quite a concern for certain occupations.

The monitoring of networked printers is a specialized job. Not all network administrators are, or should be tasked with this, but when they are asked to, it is often surprising how much information and activity can be monitored on a printer.

As long as the printer is SNMP (Simple Network Management Protocol) enabled, you can query it for several specific values, or 'trap' alerts that are generated by the printer. The definitions for these SNMP values are stored in a standard format defined in the Management Information Base (MIB).

Each object in a MIB file has an OID (Object Identifier) associated with it. An OID is a series of numbers separated by dots that represent where on the MIB 'tree' the object is located. The MIB defines the SNMP objects that can be managed and the format for each object.

### Using the Printer MIB

Most SNMP enabled printers support a standard MIB, generally called Printer MIB v2. While many printers also support proprietary MIBs that contain objects specific to their printers, the printer MIB contains several objects that are very useful to monitor.

Some of the objects in this MIB allow for the detection of critical events that prevents the printer from working properly. Others are useful in the everyday maintenance and operation of the printer by letting you monitor the toner ink level or paper supply.

### Navigating the Printer MIB

In WhatsUp Gold, the MIB Walker feature allows you to browse through a MIB and read the live data on the device you are concerned with monitoring. The MIB Walker is used during the creation of a custom SNMP Performance Monitor in WhatsUp Gold v11, but can be useful if you need to quickly find OIDs you need for other monitors.

To connect to the printer through the MIB Walker, you must supply the proper SNMP community string in Device Properties > Credentials. This is a password or phrase that is configured with the device when you add it to your network.

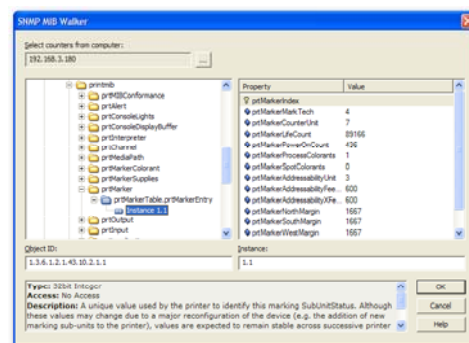
To access the MIB Walker in WhatsUp Gold:

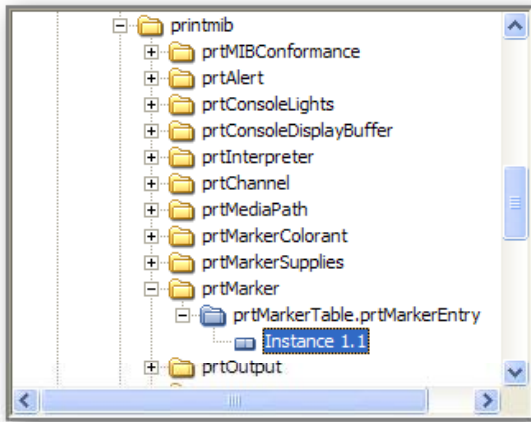
1. On your printer device, go to **Device Properties > Performance Monitors**.
2. Click **New**, then select **SNMP Performance Monitor**.
3. Click the Browse (...) button to open the MIB Walker for that device.

When the MIB Walker opens, the object tree is at the mib-2 level. Select the printmib folder to open it. The listings in that folder are the various object tables found in that MIB. As you browse through the MIB tree, blue folders (or groups) are objects that are defined in the MIB. If the folder is empty, it is not supported by your printer.

### Breaking Down the Printer MIB

This section describes specific entries in the MIB, along with how you can use this information to monitor the operational status of your printers





**The MIB Walker Object Tree**

As you navigate the tree, notice that each supported object/table has an instance entry. Select this in the tree to view the properties in the table. These properties and values are what WhatsUp Gold monitors on the device.

Here are a few interesting tables and objects that you can configure monitors for:

**prtCoverStatus** - The status of the printer cover and interlock.

**prtMarkerSuppliesLevel** - Shows the current level of toner in the printer.

**prtMarkerSuppliesMaxCapacity** - Shows the maximum amount of toner in the printer. This is necessary to put the level object into context.

**prtAlert** - This group contains objects that report on the severity, component, detailed location within the component, alert code, and description of each critical alert that active on the printer. This will indicate events such as 'paper jam,' or 'out of paper' or 'powersave on.'

**prtInput** - This table contains properties that show the current level and maximum capacity of the input tray in the printer.

**prtOutput** - This table contains properties that show the current level and maximum capacity of the output tray on the printer.

Many other items can potentially be monitored. It just takes browsing around the properties to see what is supported by your specific type of printer.

## Creating Monitors for a Printer

In WhatsUp Gold, there are three types of Monitors that you can assign to a device: Passive Monitors, Active Monitors, and Performance Monitors. The differences between these monitors come in the way they gather and report data.

- ❖ **Active.** Active Monitors query network services installed on a device then wait on the response. In a printer, you might create a SNMP action that checks on the status of the paper level. If a certain level is returned, the state of the printer would be changed to down, and after a few minutes in this state, an action could be configured to fire.
- ❖ **Passive.** These monitors 'listen' for specific types of information on a device. As long as your printer is configured to send these SNMP traps to the WhatsUp computer, then you can create passive monitors to watch for alerts from the Alert Group.
- ❖ **Performance.** These monitors gather data about specific properties on a device. You can create a custom SNMP performance monitor to trend the toner supply level over time.

## More Information

For more information about how to use WhatsUp Gold, refer to the User Guide, and the WhatsUp Gold online help. Both are great resources for configuration and solution information.

