## Using WhatsUp to Access the SNMP Management Information

Visit Ipswitch official website at <u>http://www.whatsupgold.com/products/download/</u> to download WhatsUp and run the installation after downloaded.

**Step 1.** In the navigation pane, click **Management** > **SNMP**.

Step 2. Tick the checkbox of Enable SNMP Agent. (See figure below)

- Type the device name, device location, community, contact person and the description of the device in the corresponding fields.
- Click **OK** to complete the settings.

NUS-M	urity Fighter 53500			0
🗏 System	System > Configure > SNMP			
Administration	SNMP Agent Setting			
Configure	Enable SNMP Agent			
-⇒ Setting	Applance Name	Mail Security Gateway	(Max. 255 characters)	
-+ Date/Time	Appliance Location	Taipei, Taiwan.	(Max. 255 characters)	
→ Multiple Subnet	Community	public	(Max. 255 characters)	
	Contact Person	root@public	(Max 255 characters)	
→ Dynamic DNS	Description	Mail Security Gateway Appliand	(Max, 255 characters)	
-⇒ Host Table				
-+ SNMP	SNMP Trap Setting			
L⇒ Language	Enable SNMP Trap Alert Notification			
🚨 Interface	SNMP Trap Receiver Address	172.19.100.6	(Max. 79 characters)	
🖬 Policy Object	SNMP Trap Port	162 ( Range: 1 - 65535	)	
🖾 Policy	SNMP Trap Test	Trap Test		
🚨 Mail Security				
Mail Archive / Audit			OK Cancel	
Anomaly Flow IP				
Web VPN/SSL VPN				
Monitor				
Monto				

Step 3. To run WhatsUp, click Start > Programs > WhatsUp > WhatsUp
Gold SNMPViewer Utility. (See figure below)



Step 4. Click Continue Evaluation. (See figure below)



**Step 5.** Complete the blank fields and click **OK.** (See figure below)

- Host Name: Enter the host name or IP address of a device.
- **Community**: This is the password used for SNMP read permission for this device. (Note: You can set the Read Community for all maps and all devices by using the Replace SNMP Community feature.)
- **Timeout**: Enter the timeout. A value of 500 or greater is treated as milliseconds; less than 500 as seconds. If a device does not respond to the SNMP request within this time, the request times out.

Device SNMP Info		
<u>H</u> ost Name:	172.19.1.254	OK
Communit	public	Cancel
<u>I</u> imeout (seconds):	1	Help

**Step 6.** This view shows all interfaces on the selected device, and for each interface, shows its type and status. (See figure below)



Colors indicate the status of an interface: (See table below)

Color	Status
Green	the interface is up and running
Red	the interface is down
Grey	the interface is not configured

**Step 7.** To view detailed SNMP data for an interface, right-click the interface icon and then select **View MIB**. (See figure below)





Step 8. The MIB Viewer shows current data for that interface. (See figure below)

## Below are some frequently seen SNMP Objects:

**ifType:** the type of interface.

ifSpeed: the transfer speed of the interface.

ifSpecific: the specification of the interface.

ifPhysAddress: the MAC address of the interface.

ifOutUCastPkts: the total number of packets transmitted.

ifOutQLen: the length of the output packet queue (in packets).

ifOutOctets: the total number of octets transmitted (including framing characters).

**ifOutNUCastPkts:** the total number of packets transmitted to a non-unicast (i.e., a subnet broadcast or subnet multicast) address.

ifOutErrors: the number of outbound discarded packets due to errors.

ifOutDiscards: the number of outbound discarded packets.

ifOperStatus: the current state of the interface. (1: active; 2: idle)

ifMtu: the size of the largest packet that can be processed on the interface (octet).

ifLastChange: the current operational state of the interface.

**ifInUnknownProtos:** the number of inbound discarded packets due to an unknown or unsupported protocol.

ifInUCastPkts: the number of (subnet) unicast packets received.

ifInOctets: the total number of octets received (including framing characters).

**ifInUNCastPkts:** the number of non-unicast (i.e., subnet broadcast or subnet multicast) packets received.

ifInErrors: the number of inbound discarded packets due to errors.

ifInDiscards: the number of inbound discarded packets.

ifIndex: a unique value that identifies the interface in the MIB's ifTable.

**ifDescr:** the name of the manufacturer, the product name and the version of the hardware interface.

ifAdminStatus: the desired state of the interface. (1: monitored; 2: not being monitored)

**Step 9.** Right-click on the device in a map, then select **View MIB** from the pop-up menu. (See figure below)

🙀 SNMPView - "Bandwidth Management"	-OX
<u>File Yiew Tables Configure Help</u>	
Very MIB Ether Ether Ether Ether Wer Will Wer Mib	
Updating lo	li.

Step 10. You can use the MIB Viewer to view any SNMP object for the device. (See figure below)



## The definitions for SNMP objects:

sysUpTime: the uptime of the device sysServices: the services provided by the device sysObjectID: the object identifiers of the device sysName: the name of the device sysLocation: the location of your company sysDescr: the description for the device sysContact: the contact person

Step 11. To graph any of the SNMP counters, right-click the interface icon, and then select Monitor Counters. (See figure below)

	•	her Ether Ether Ether	Ether	
	کا کک	<u>M</u> onitor Counters		-
Et	er PPP	Help	-45	

Step 12. Select one or more counters to graph, and then click OK. (See figure below)

Choose the SNM you can choose	IP object more th	rts to graph. an one objec	Note that t.
ifInEnors ifInNUCastPkts ifInUCastPkts ifOutNUCastPk ifOutNUCastPkts ifOutUCastPkts	ts		
OK	Ĩ	Cancel	T

**Step 13.** The SNMP Graph Utility appears and begins graphing the selected SNMP object. The view of which is continuously updated. (See figure below)



**Step 14.** From the MIB Viewer, you can select an SNMP object to monitor. Right-click on an SNMP counter and then select **Monitor**. (See figure below)



**Step 15.** The SNMP Graph Utility appears and begins graphing the selected SNMP object. (See figure below)



**Step 16.** From the **Table** menu, you can view the device's MIB data for different kinds of information (see figure below). Each of these views is continuously updated.



**Step 17.** The columns in the ARP Table show the following information. (See figure below)

Index	Address	Physical Address	Type	 
3	172.19.0.110 172.19.1.115	00aadeadbef0 0048544afa44	3 3	
3	172.19.1.137	0048544afb66	3	
3	172.19.2.249	0090fb0459b3	3	
5	211.22.93.137 211.22.93.137	00a0c51101e8 0000000000000	3	
5	211.22.93.141	0050bf16f5ce	3	
·	211.22.33.142	004001050015	~	

Step 18. The columns in the Address Table show the following information. (See figure below)

į.	Address Table	- "Bandwidth N	fanagement"				
					[	OK	Help
	Address	Index	Mask	BCast	Reas		
1	25						

Step 19. The columns in the Interface Table show the following information. (See figure below)

latedace	e Table - "Banilva	10 Moogement"								_ [0] 2
									C OK	Help
Infex	Description	Interface Type	Adduess	Admi.	Opeca	MTU	Speed	Last Change	idlaUCard9kts	iflaNUCartPin
1	ko	softwareLoopback.		02	Up	16436	10000000	Enne SNMP: Resource	225	0
2	3mg30	other		Down	Down	1500	0	Ermr INMP: Resource	0	0
3	+00	ethemet-cunacd	0040:99207#8	Up	Up	1500	100000000	Entre 2NMP: Resource	5572	0
4	eth1	ethermet-crimecd	0080:9920715	Up	Up	1500	100000000	Error SNMP: Resource	1217	0
5	+0.2	ethemet-canacd	0040+99207#5	Up	Up	1500	100000000	Enne 2NMP: Resource	6353	0
6	ະໝີ	ethemet-canacd	0040:99207/7	Up	Up	1500	100000000	Error SNMP: Resource	134	0
7	dames/0	ethemet-camed.		Down	Down	1500	10000000	Enve SNMP: Resource	0	0
8	mail0	tranel		Down	Down	1490	0	Entry SNMP: Resource	0	0
9	gpe0	#musel		Down	Down	1476	0	Error INMP: Resource	0	0
10	material (Constant	ethemet-consol	0040c99207t5	Up	Up	16260	10000000	Error SNMP: Resource	0	0
11	ippec1	100		Up	Down	16260	0	Error SNMP: Resource	0	0
12	ipses2	tunned		Down	Down	0	0	Enne 2NMP Resource	0	Ô.
13	ipsec3	finned		Down	Down	0	0	Ennr SNMP: Resource	0	0
14	hd0	ethemet-comacd	0040+9920745	Up	Us	1500	10000000	Erme INMP: Resource	1350	0
15	2021	101		Up	Down	1492	0	Entre SNMP: Resource	3679	ō
4				D	-					*

Step 20. The columns in the Route Table show the following information. (See figure below)



## The definitions for the columns in each table:

Index: a unique value that identifies the interface in the MIB's ifTable (same as ifIndex).

**Description:** the descriptions for the interface, including the name of the manufacturer, the product name and the version of the hardware interface.

**Interface Type:** the type of interface, distinguished according to the physical/link/network protocol(s) immediately "below" IP in the protocol stack.

Address: the interface's address at the protocol layer immediately "below" IP in the protocol stack. For interfaces that do not have such an address (e.g., a serial line), this object should contain an octet string of zero length.

Admin Status: the desired state of the interface: Up - ready to pass packets; Down; or Testing - in some testing state.

**Operator Status:** the current state of the interface: Up - ready to pass packets; Down; or Testing - in some testing state.

**MTU:** the size of the largest IP datagram that can be sent / received on the interface, specified in octets.

**Speed:** an estimate of the interface's current bandwidth in bits per second. For interfaces that do not vary in bandwidth, or for those where no accurate estimation can be made, this object should contain the nominal bandwidth.

**Last Change:** the value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, then this object contains a zero value.

InUCastPkts: the number of (subnet) unicast packets delivered to a higher-layer protocol.

**InUNCastPkts:** the number of non-unicast (i.e., subnet broadcast or subnet multicast) packets delivered to a higher-layer protocol.

**InErrors:** the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol.

**InDiscards:** the number of inbound packets which were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.

**Unknown Protos:** the number of packets received via the interface which were discarded because of an unknown or unsupported protocol.

**OutUCastPkts:** the total number of packets that higher-level protocols requested be transmitted to a subnet-unicast address, including those that were discarded or not sent.

**OutNUCastPkts:** the total number of packets that higher-level protocols requested be transmitted to a non-unicast (i.e., a subnet broadcast or subnet multicast) address, including those that were discarded or not sent.

**OutErrors:** the number of outbound packets that could not be transmitted because of errors.

**OutDiscards:** the number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free up buffer space.

**InOctets:** the total number of octets received on the interface, including framing characters.

**OutOctets:** the total number of octets transmitted out of the interface, including framing characters.