

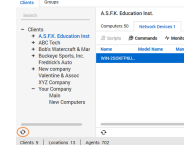
Overview

Remote network monitors run on the probe and monitor your network devices' performance and availability. As with other monitors, you can be alerted once the monitor has exceeded a threshold that you determine. This document walks you through creating a TCP Network Check Monitor and a Bandwidth Monitor. For more information on using the Network Device Monitor Wizard, please refer to [Create Network Device Monitor Using the Monitor Wizard](#).

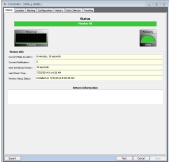
Create TCP Network Check Monitors for a Specific Device

To create TCP monitors for a specific device:

1. From the **Browse > Clients** tab, click on a client and select the **Network Devices** tab.
2. Double-click the desired **Device** to open the **Network Device** screen.
3. Click on the **Ports** tab and right-click on the port that you want to monitor and select **Create Monitor**. This creates a TCP Network Check monitor for the selected port. The monitor does not immediately display.
4. Close the device window and refresh the navigation tree by clicking the refresh icon.



5. Re-open the device window and your monitor is displayed.  
**Note:** You can also view the monitor by selecting the **Monitors > Remote Monitors**.
6. Double-click the monitor.



7. Click through each of the tabs and make any necessary changes. Click **Save** when done. For additional information on each of the tabs, refer to [Remote Agent Monitors](#).

Create Bandwidth Monitors for Network Devices

A remote bandwidth monitor can be created to run against an interface OID counter, such as `ifOctets`, to monitor the bandwidth of the network device itself, not necessarily the network the device is on.

How the Bandwidth Monitor Works

After this new monitor is created, it monitors the network bandwidth of the device.

To monitor the bandwidth:

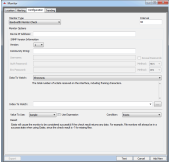
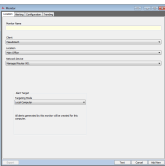
1. The monitor retrieves the OID value from the network device.
2. The monitor determines if this is the first time the value has been retrieved. This value is called **CurrentReading**.
  - a. If this is the first time it has been retrieved, the monitor stores the value and timestamp as a value called **LastReading**.
  - b. If this is not the first time the value has been retrieved:
    - i. The monitor queries the speed of the interface. This value is known as **NominalSpeed**. This calculation is done using the `ifSpeed` function, which is 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.
    - ii. The monitor then subtracts the current reading from the previous reading to determine the number of octets that have gone out since the last retrieval (e.g., `CurrentData - CurrentReading - LastReading`).
    - iii. The monitor then divides the value by the number of seconds that have passed since the last monitor check. This value is known as **CurrentBandwidth**.

- iv. Finally, the monitor determines the percent of bandwidth that is used. This is done by dividing the **CurrentBandwidth** value by the **NominalSpeed** value and multiplying by 100. This value is known as **BandwidthPercentUsed**.
3. The **BandwidthPercentUsed** is the value that is evaluated by the monitor. For example, the monitor can be set up to alert if the percentage of the bandwidth use is over ten percent. In this case, the **Condition** would be set to **Less than/Equal** and a value of 10 would be entered in the **Result** field.

How to Create the Bandwidth Monitor

To create a bandwidth monitor for a network device:

1. From the **Browse > Clients** tab, click on a client and select the **Network Devices** tab.
2. Right-click on the desired **Device** and select **Monitors > Create Monitor**.
3. Enter a descriptive name to identify the monitor in the **Monitor Name** field.



6. Select **Bandwidth Monitor Check** from the **Monitor Type** drop-down.
7. Enter the desired interval in seconds that the monitor should run in the **Interval** field.
8. Enter the IP address of the device to be monitored in the **Device IP Address** field.
9. Select the SNMP version from the **Version** field to determine the version of SNMP to associate with the monitor.
  - If you have selected SNMP version 1 or 2, enter a **Community String**, if necessary (e.g. public, private, etc.).
  - If you have selected SNMP version 3, you must provide the credentials for accessing the device. Optionally, you may select the **Reveal Passwords** checkbox to show the entered password in plain text. Enter the username with access to the device into the **Username** field. Enter the password for accessing the device into the **Auth Password** field and select the type of encryption from the corresponding **Method** drop-down. Enter the password for encryption into the **Enc Password** field, select the type of encryption from the corresponding **Method** drop-down.
10. Select the desired type of data to be monitored (e.g., `ifOctets`, `ifErrors`, etc.) from the **Data to Watch** drop-down. A description for each data type is displayed below the drop-down.
11. Select the index to watch in the **Index To Watch** drop-down or browse for the index by clicking the **... ellipsis** button.
12. If necessary, select a value option from the **Value To Use** drop-down. The value options are used with intelligent baselining monitor data. For more information, refer to [Trending Tab - Remote Agent Monitors](#).
13. Click **Add New** to add the new bandwidth monitor.