

Manage and monitor bandwidth usage with Tomato

In the tutorial article below, we will introduce you some basic ways to perform the management, monitoring and monitoring of bandwidth usage used with the Tomato firmware ...

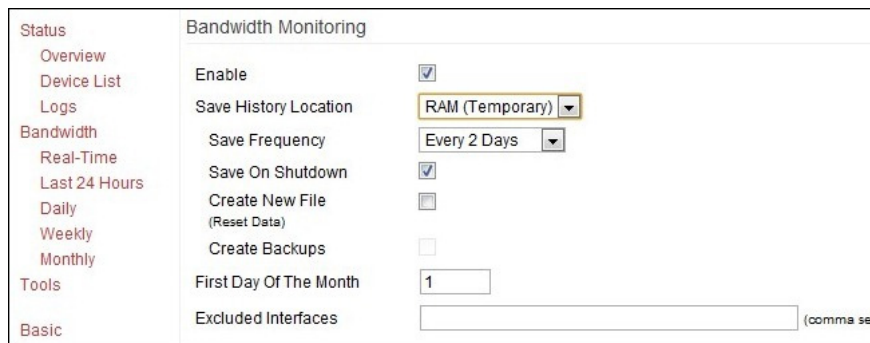
TipsMake.com - In the tutorial article below, we will introduce you some basic ways to perform the management, monitoring and monitoring of bandwidth usage used with the Tomato firmware .

>>> Instructions for installing Tomato firmware on the router

To apply in this test, you will need to:

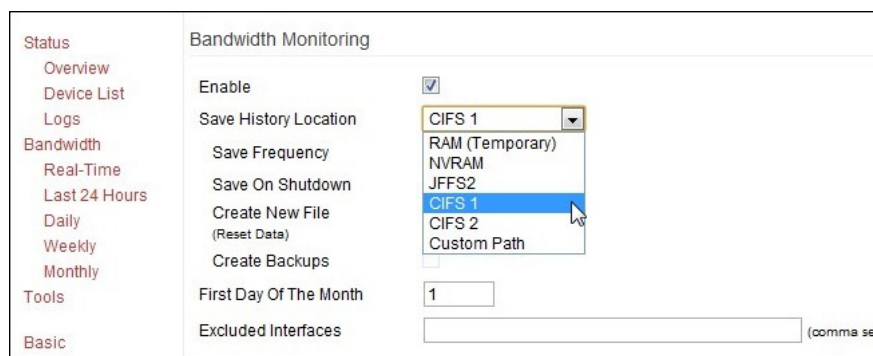
- 1 router device with Tomato firmware
- Desktop or portable computer to access and control Tomato's main functions via web interface
- Share peer on network if you want to store router log files

Enable Bandwidth Monitoring:



This is the first step to take to look at the entire process, visit the configuration page, the main control of the router (eg 192.168.1.1 .), then go to **Administration> Bandwidth Monitoring** and check the **Enable** box.

In addition, the system has several other options: **Save History Location**, **Save Frequency**, the first day of the month . to save information according to user needs. The first is the **Save History Location** for those who are interested in storing information during work. For most router devices, you will see **(temporary) RAM, NVRAM, JFFS2, CIFS1, CIFS2, and Custom Path** . What are their functions and their advantages and disadvantages?



- **RAM (temporary):** the advantage of using **RAM** is very fast and users almost do not have to customize or set up any components. However, you will lose all data if the router is suddenly or unexpectedly disabled, and one more point to note is that if this log file is too large, the system will erase that extra volume.

- **NVRAM:** stands for the **Non-volatile Random-Access Memory component** on the router. This is simply a **RAM** with the function of storing data when the router is not working, this advantage is slightly higher than the old **RAM** component, and the risk of data loss is also less than the above case. .

- **JFFS2:** is an abbreviation of **Journaling Flash File System** - a part of **NVRAM** that has been formatted specifically for recording and creating files. Although not too big, it is enough to meet the demand of storing information and data for many months. But besides that, the only problem that exists with the **NVRAM / JFFS2** is that most users' systems are not specifically designed to meet data writing.

- **CIFS 1/2:** In essence, **Tomato** has a built-in **CIFS client** component - **Common Internet File System** . This is essential for the system to allow **Tomato** to access **Samba / Windows Share** shared data and combine it as a hard drive partition. If you want to store information without worrying about capacity, this is the most appropriate option, besides, users do not need to perform too many configuration operations compared to the usual way.

- **Custom Path:** this function allows users to create customized folders inside **JFFS2** to store log files. It is not really necessary unless you are enabling the **JFFS2** feature based on business needs, strict management and monitoring.

Other options to note are in the Bandwidth Monitoring section:

- **Save Frequency:** determines how often **Tomato** will save log files. If you are using **RAM** then this setting does not affect anything, and for some other modes such as **JFFS2 / CIFS** , it will allow users to set up to save the log file. Frequency - The higher the **frequency** , the lower the risk of data loss.

- **Save On Shutdown:** If a user (or a certain program) sends a request to **Tomato** , the system will immediately save the log file first.

- **Create New File:** wipe all existing data and create a new file. Sometimes when a user wants to transfer a storage folder (eg switching from **RAM** to **CIFS**), creating a new file is essential to ensure that the old data is not lost.

- **Create Backups:** create a file that reports the backup process to a certain storage folder, usually a file with an extension of ***.BAK**

- **First Day of the Month:** the default value here is 1, applied to most cases.

If the user chooses a method to store on the local partition via **CIFS** , it will be necessary to set up a **CIFS** client first.

Enable Tomato CIFS Client mode:

Status	CIFS Client
Overview	/cifs1
Device List	Enable <input checked="" type="checkbox"/>
Logs	UNC <input type="text" value="\\192.168.1.120\RouterLogs"/>
Bandwidth	Username <input type="text" value="Uploader"/>
Real-Time	Password <input type="password" value="*****"/>
Last 24 Hours	Domain <input type="text"/>
Daily	Execute When Mounted <input type="text"/>
Weekly	Total / Free Size 698.64 GB / 126.44 GB
Monthly	
Tools	

To do this, open the **Administration > CIFS Client** section. Here, check the **Enable** box below / cifs 1 and fill in the following information:

- **UNC:** the IP address of the directory stored on the local system, eg 192.168.1.120RouterLogs. However, you should note that you should not use the shared name of the system but use the IP address

- **Username / Password:** Technically, we can use existing accounts and have access to shared partitions, or create new (on the server) for each router device. Either way, you need the **Username** and **Password** information. However, there have been some cases where the user has successfully logged in with only the Guest account and any password string.

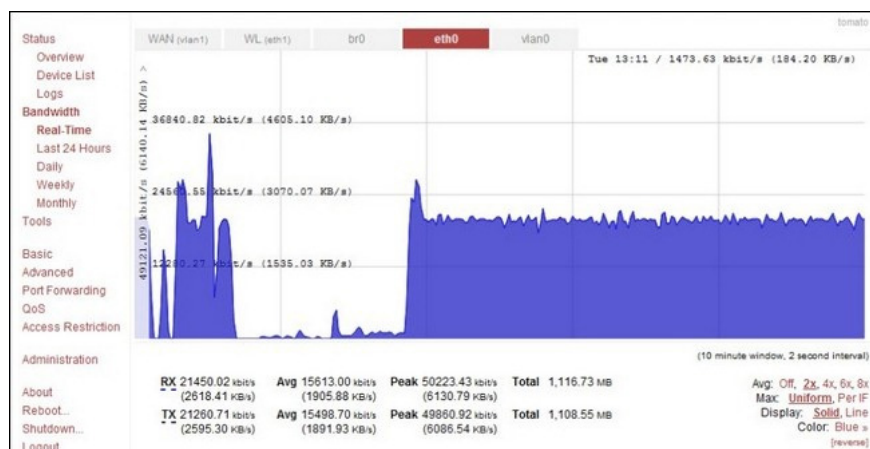
- **Domain:** normally you just need to leave this part blank

- **Execute When Mounted:** this feature allows the user to execute the code on the router via the Linux operating system when the remote hard drive partition is combined. In this test, we will leave it blank

After you have filled in the correct information in the empty box, click **Save** . This process will take about 2 - 5 minutes, then we will see the data storage partition listed in the **Total / Free Size** section . If an error occurs while combining the drive, please check the declared information, or create a new storage folder to check. In many cases, users who often experience problems with **Windows Home Server** do not assign full access to the previously specified directory in the **WHS** shared structure (**// Server / Public / folder**), so that You should fix the new directory at the root level (**// Server / RouterLogs**) and all **CIFS** related components will disappear.

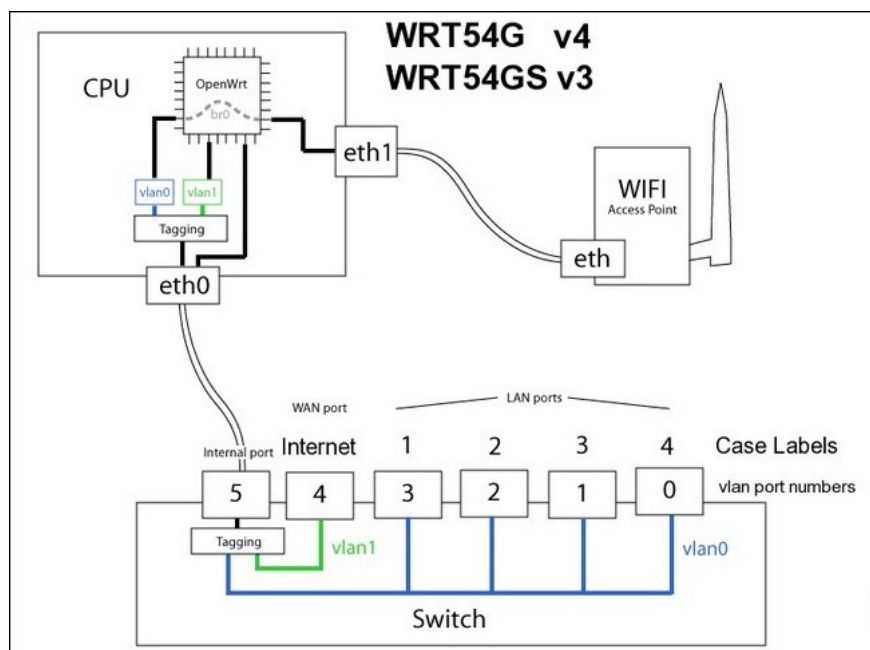
After setting this up, the shared partition will be successfully combined, so go back to the **Bandwidth Monitoring** section and change the storage location to **CIFS 1**.

Real Time Monitoring mode with Tomato:



When you have completed the process, we will move on to the next step, which is to use Tomato to manage and track the data traffic used in the past. To do so, open the Bandwidth section in the left menu in **Tomato** 's main console (as shown above). Some data parameters should be noted as follows:

- **WAN (vlan1)**: this is the amount of information going in and out of the **WAN / Broadband** port on the router. If the router is directly connected to the modem, this is the most convenient and accurate way to monitor usage.
- **WL (eth1)**: this is the amount of traffic used via **Wifi** . In this section we can monitor all activities in the ongoing wifi system. Usually just check if you see any unusual phenomenon, for example, someone is 'stealing' wifi waves .
- **br0**: this is a 'bridge' between **WAN** and **LAN** ports. The data section here will show us the total capacity transmitted via the router including Wifi, connected via Ethernet device .
- **eth0**: This tab will show all traffic going through wired connected hardware devices, including local and **WAN** ports with the **Internet** .
- **vlan0**: this part is not really a **LAN** system, but the information and data here will show the ports of wired network cards, traffic and Internet traffic. If you want to see details about both Internet traffic (data upload and download) as well as the information is circulated in the system at the same time.



The chart above shows the internal setup and naming structures for **Lynksys router devices** , so that the manager will be easier to visualize the system. The data sections will be analyzed and displayed in full, specifically by capacity (**KB, MB, or GB**).

Good luck!

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