

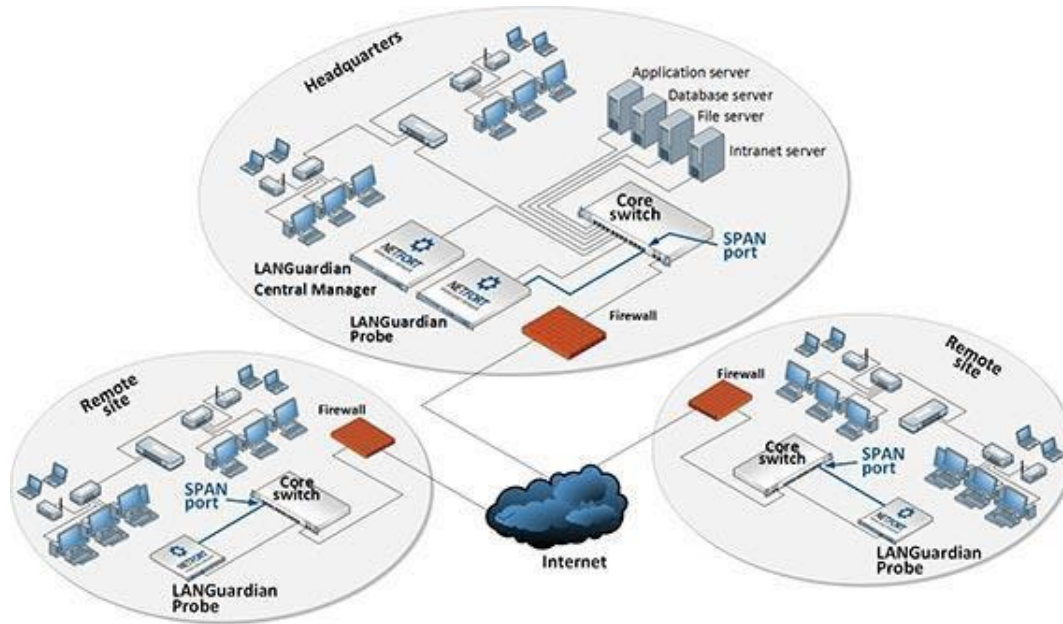
LANGUARDIAN

MONITORING WAN CONNECTIONS

How to monitor WAN connections with NetFort LANGuardian | Aisling Brennan

LANGuardian gives you the information you need to troubleshoot problems and monitor network bandwidth, so you can make the best possible use of the available capacity.

It shows at a glance how bandwidth is being used across your WAN, LAN and Internet links. It also enables you to see details of usage by specific network links, users, clients, servers, applications and websites.



Deployment Diagram – LANGuardian deployed on a network with multiple core switches

If LANGuardian is deployed in a large enterprise network, there are some basic steps that you can take to start monitoring the sites in the WAN.

The following procedure describes five basic steps to start monitoring a WAN connection:

1. Determine the IP address or subnet range for each WAN site and (optional) create a Report Variable for each one

Before you can start monitoring a WAN, you must first determine the IP address range or subnet range for each site in your organization. The following table shows some examples of typical IP information:

IP / Subnet filter	Monitors traffic for ...
192.168.127.0/24	All IP addresses in the range 192.168.127.1 to 192.168.127.254
192.168.127.1,192.168.127.2	The IP addresses 192.168.127.1 and 192.168.127.2
192.168.127.0/24,192.168.128.0/24	All IP addresses in the range 192.168.127.1 to 192.168.127.254 and 192.168.128.1 to 192.168.128.254
192.168.0.0/16,!192.168.127.0/24	All IP addresses in the range 192.168.0.1 to 192.168.255.254 but excludes IP addresses in range 192.168.127.1 to 192.168.127.254

You can manually enter the IP information each time, however, you can also create Report Variables to name and save the IP information for quick access in reports. *This is a quick but useful step.*

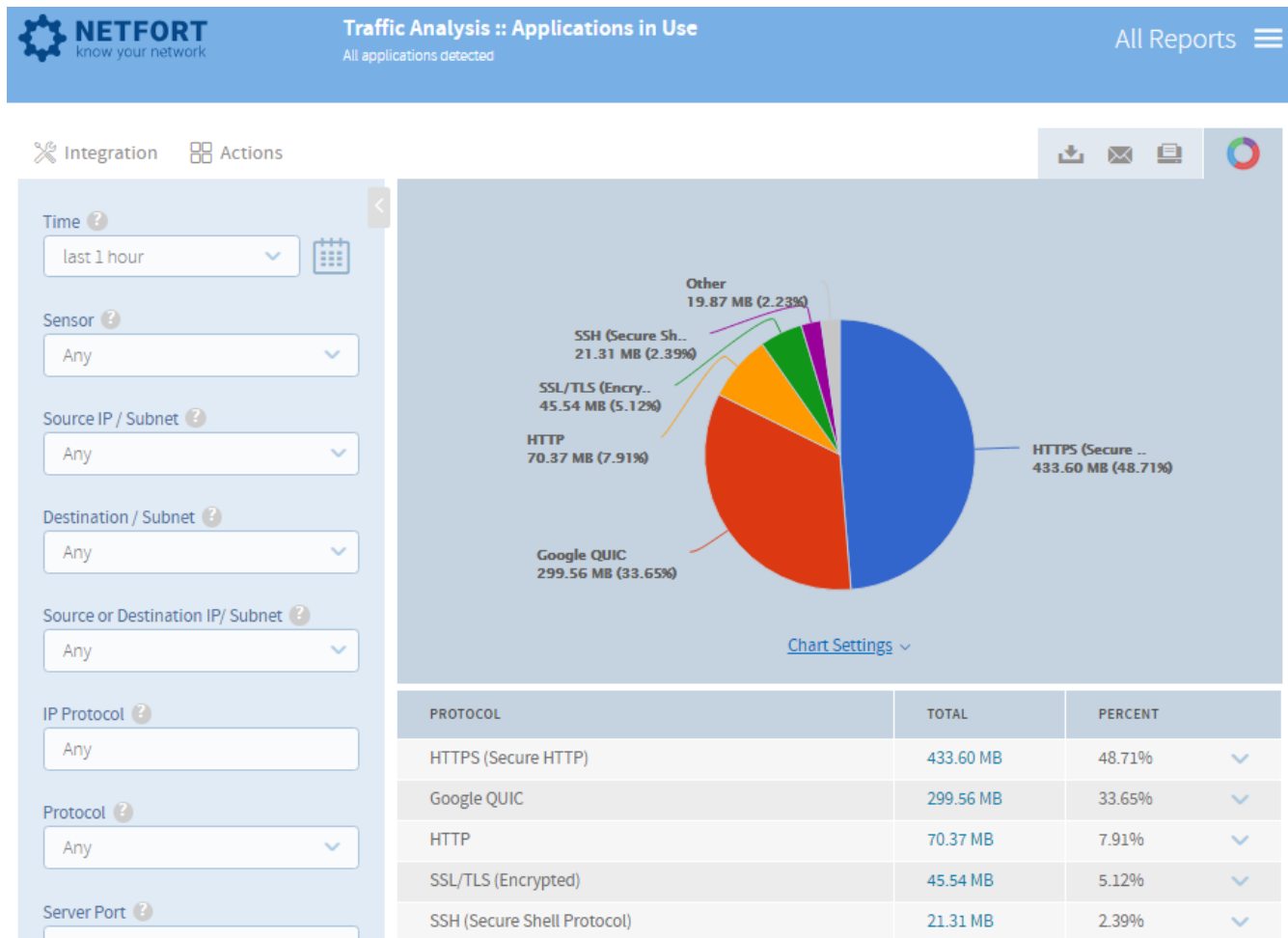
To do this: Click the gear icon on the LANGuardian GUI and click on **Customisation** > click on **Report Variables** > **Add New Report Variable** > Input a **Name** for this IP range, add the IP address/es to the **Value** Field, add a **Description** (for your own reference) and click on **Save**.

Do this for each remote location.

2. Set up an Applications in Use report

This report will give you an overview of the network and show the top applications being carried on the link. The report Top Applications in Use shows the amounts (and percentages) of different applications, identified by fingerprints. You can see what applications/protocols are being used, and how much bandwidth the applications are consuming on the WAN.

- Click on **All Reports** on the LANGuardian GUI and select **Applications in Use** (or type Applications in Use into the report finder search bar at the top centre of your LANGuardian GUI)
- Select the report variables as appropriate in the **Source or Destination IP/Subnet** or enter them manually and click **Run Report**.



- c. When the results are displayed, click **Actions** (above the filters section) and select **Save As**.
- d. Enter a **Name** and **Description** for the report, then click **Save**.

We recommend that you use a naming convention similar to that shown in the following example to ensure that all WAN reports are grouped together when they are listed in the **My Reports** section (of All Reports):

Duplicate report 'Traffic Analysis :: Applications in Use' ✕

Set the name and description for your custom report

Name

Description

- e. Create a graphic to display this on a dashboard by going back into the new custom report and clicking on **Actions > Trend Report**. Give it a name and save.

3. Set up a Top Website Domains Report

Run this report to show what are the Top Websites being accessed on the WAN and the amount of bandwidth associated with each domain. You can also get usernames by drilling down and then clicking on the usernames button.

- a. Click on **All Reports** in the LANGuardian menu bar and in the **Web** section, click on **Top Website Domains**:

WEBSITE DOMAIN NAME	TOTAL
googlevideo.com = youtube.com	158.57 MB
dropbox.com	128.61 MB
licdn.com	54.97 MB

- b. Enter the IP information/select the report variable in the relevant **IP/Subnet** filter fields.
- c. Click **Run Report**.
- d. When the results are displayed, click **Actions** and select **Save As**.
- e. Enter a **Name** and **Description** for the report, then click **Save**.
- f. Create a graphic to display this on a dashboard by going back into the new custom report and clicking on **Actions > Trend Report**. Give it a name and save.

4. Add a Proxy Analysis report

If there are proxy servers in use on the network, then some of the traffic on the WAN links may be associated with clients connecting to Internet sites.

- a. Click on **All Reports** in the LANGuardian menu bar and In the **Web** section, click on **Top Proxy Client IPs**

SOURCE IP	PROXY	TOTAL
🏠 10.1.1.100	🏠 10.1.1.202	853.14 MB
🏠 10.1.5.160	🇮🇳 43.225.20.73	73.02 MB

- b. Enter the IP information/report variable in the **Source IP / Subnet** field.
- c. Click **Run Report**.

- d. When the results are displayed, click **Actions** on the report menu bar and select **Save As**.
- e. Enter a **Name** and **Description** for the report, then click **Save**.
- f. Create a graphic to display this on a dashboard by going back into the new custom report and clicking on **Actions > Trend Report**. Give it a name and save.

5. Set up a Top Fileservers Report

If you use Microsoft files shares on your network some of this traffic may be visible on WAN links. The report Top File Servers and Clients displays files being accessed and the subsequent bandwidth being consumed on the WAN.

- a. Click on **All Reports** in the LANGuardian menu bar.
- b. In the **Windows File Shares** section, click on **Top Fileservers and Clients (by IP)**:

CLIENT IP	SERVER IP	PATH	ACTIONS	TOTAL
10.2.2.100	10.1.1.97 (DELYNAS)	\\10.1.1.97\netfort\Sales\customer_information.csv	14	1.05 GB
10.1.1.100	10.1.1.97 (DELYNAS)	\\10.1.1.97\netfort\Sales\customer_information.csv	4	1.01 GB
10.1.1.167 (USER_LAPTOP4)	10.1.1.204 (WIN2003STORE)	\Documents\Clinic\finance\Budget-Forecasts-2016.docx -> \Documents\Clinic\finance\Budget-Forecasts-2016.wnry	2 632	33.89 MB
10.1.1.167 (USER_LAPTOP4)	10.1.1.204 (WIN2003STORE)	\Documents\Clinic\finance\Budget-Forecasts-2016.wnry -> \Documents\	2 632	33.89 MB

- c. Enter the IP information/select the report variables in the relevant **IP / Subnet** field and click on **Run Report**.
- d. When the results are displayed, click **Actions** on the report menu bar and select **Save As**.
- e. Enter a **Name** and **Description** for the report, then click **Save**.

- f. Create a graphic to display this on a dashboard by going back into the new custom report and clicking on **Actions > Trend Report**. Give it a name and save.

6. Set up a Top Users Report

This report shows the most active users generating traffic on the WAN link. Note: You must be licensed for the Identity module to see usernames.

- a. Click on **All Reports** in the LANGuardian menu bar and select **Top Users**:

FULL NAME	LOGON NAME	DEPARTMENT	TOTAL	PERCENT
Ian Jones	Ian	Finance	2.43 GB	29.13%
Laura Higgins	Laura	HR	2.40 GB	28.76%
Leo Brown	Leo	Finance	1.31 GB	15.69%
Simon Williams	Simon	Sales & Marketing	936.44 MB	11.22%
Walter Scott	Walter	Information Services	892.50 MB	10.69%

- b. Enter the IP information/select the report variables in the relevant **IP / Subnet** field
- c. Click on **Run Report**.
- d. When the results are displayed, click **Actions** on the report menu bar and select **Save As**.
- e. Enter a **Name** and **Description** for the report, then click **Save**.
- f. Create a graphic to display this on a dashboard by going back into the new custom report and clicking on **Actions > Trend Report**. Give it a name and save.

7. Set up an alert on the trends

To view the trends that you have created, click on the gear icon from the LANGuardian menu bar > **Settings** > **Trends**.

To add an alarm to a trend, locate the trend on this page, click on **Alarms** and add the following information:

Name: Type a name for the alarm

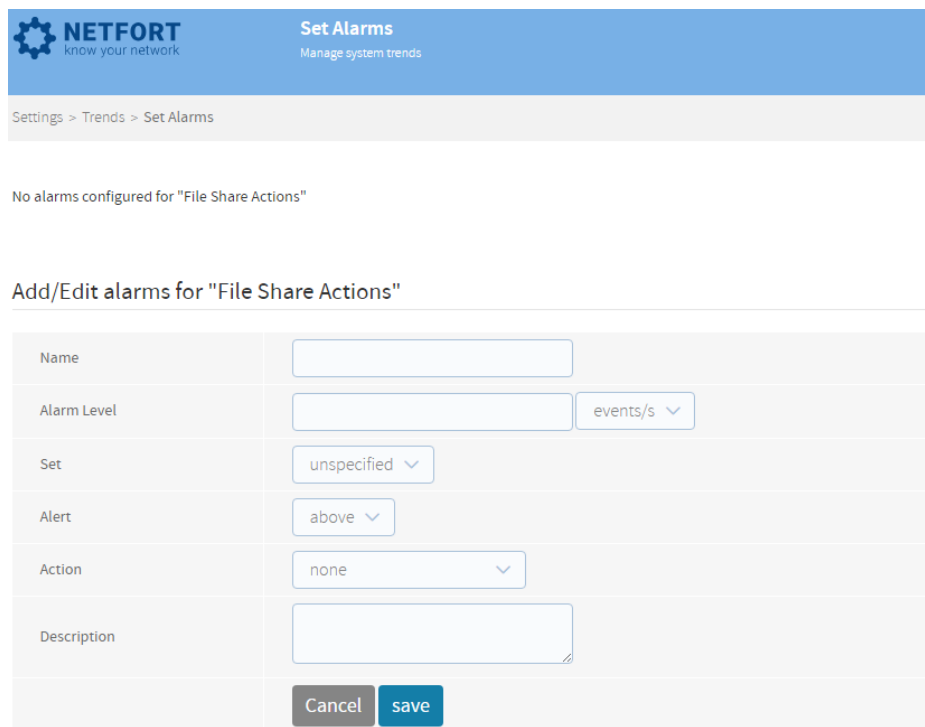
Alarm Level: Type the level at which the alarm is triggered. For example, 100 Mb/s or 4 events/s (per second)

Set: Select the appropriate data type that you want to monitor for the alarm from the Set drop - down list. The contents of this drop-down list will vary depending on the trend type e.g. for File Share Actions you can choose 'unspecified', 'rename' or 'delete'

Alert: Select whether the alarm is triggered when the level goes Above or Below the level specified in Alarm Level

Action: Select the action to take when the alarm is triggered. The options are none, Send Email, Ignore Events, or Send to Syslog Collector

Description: Type a description for the alarm. Click **Save**.



NETFORT know your network		Set Alarms Manage system trends	
Settings > Trends > Set Alarms			
No alarms configured for "File Share Actions"			
Add/Edit alarms for "File Share Actions"			
Name	<input type="text"/>		
Alarm Level	<input type="text"/>	events/s ▾	
Set	unspecified ▾		
Alert	above ▾		
Action	none ▾		
Description	<input type="text"/>		
		Cancel	save

Now that you have several WAN custom reports and trends in place, you can add them to an existing dashboard or create a new dashboard e.g. WAN Analysis.

Alarms will alert you to excessive use along with the protocols in use, website domains accessed, any proxy servers in use, file share activity and the top users.