

NetFlow Analyzer – Best Practices Document

- This document will list the AdventNet ManageEngine NetFlow Analyzer best practices

Hardware and Software requirements

Configuring NetFlow Analyzer

NetFlow Analyzer Database Management

1. Hardware and Software requirements

Performance of NetFlow Analyzer depends considerably on the CPU and memory of the system. the following table describes the configuration of the system required for various deployments..

We strongly recommend having a dedicated server for NetFlow Analyzer when going into production. NetFlow Analyzer can be used to monitor up to 20,000 interfaces depending on the edition. The hardware configuration for Professional and Enterprise Edition setup is mentioned below.

No. Of Interfaces to be Managed	Processor	RAM	Hard-disk Space
Up to 10 (low end routers)	2.6 GHz P-D/ 3.0 GHz P4 HT or equivalent	512 MB	20 GB
11 - 25	2.8 GHz P-D or equivalent	1 GB	40 GB
26 - 50	2.6 GHz Core 2 Duo or equivalent	1 GB	60 GB
51 - 100	3.0 GHz Core 2 Duo / 2.4 GHz dual core Xeon 3000 series or equivalent	2 GB	75 GB
101 - 300	2.6 GHz dual core 3000 series Xeon Processor or equivalent	4 GB	225 GB
301 - 600	2.6 GHz quad core 3000 series Xeon Processor or equivalent	4 GB	450 GB

The recommended software requirements for installing and running NetFlow Analyzer are as follows:

Supported Operating Systems	Supported Browsers
<ul style="list-style-type: none">Windows VistaWindows 2000 ServerWindows 2000 Professional with SP 4Windows 2003 Server	<ul style="list-style-type: none">Internet Explorer 5.5 and aboveFireFox 1.xNetscape 7.0 and aboveMozilla 1.5 and above

Enterprise Edition

NFA – Enterprise Edition is a scalable version of NFA, targeted for the large enterprises with distributed networks. Built on a robust central server – collector architecture, Enterprise Edition can be used to monitor thousands of devices from a centralized console.

Enterprise Edition runs on both 32-bit and 64-bit machines.

Enterprise Edition - Central Server Hardware Configuration.

No. of Interfaces	Processor	RAM	Hard-disk
Less than 2500	2 * 3.2 GHz	2 GB	600 GB SATA
2500 to 5000	4 * 3.2 GHz	2 GB	1.5 TB SATA with RAID 0
5000 to 10000	4 * 3.2 GHz	2 GB	3 TB SCSI with RAID 0/ SAN
Greater than 10000	4 * 3.2 Ghz	2 GB	6 TB SAS with RAID 0/ SAN

Enterprise Edition - Collector Hardware Configuration

No. of Interfaces	Processor	RAM	Hard-disk
Up to 2000	2*3.2 Ghz	2 GB	100 GB

Note: To monitor more than 5000 interfaces, usage of 64-bit machine with Quad processor 16 GB RAM is recommended

The recommended software requirements for installing and running NetFlow Analyzer Enterprise Edition is as follows:

Supported Operating Systems	Supported Browsers
Windows Vista	Internet Explorer 5.5 and above
Windows 2000 Server	FireFox 1.x
Windows 2000 Professional with SP 4	Netscape 7.0 and above
Windows 2003 Server with SP 2	Mozilla 1.5 and above
Windows XP with SP 2	

2. Configuring NetFlow Analyzer

Up to 600 interfaces can be monitored using NetFlow Analyzer – Professional edition, In the case of number of interfaces being monitored being more than 600, NetFlow Analyzer – Enterprise Edition needs to be used.

Refer the following links for more information on Enterprise Edition:
<http://manageengine.adventnet.com/products/netflow/distributed-monitoring/index.html>

MySQL Database Tuning

The database parameters for NetFlow Analyzer are tuned to work well with 512 MB of RAM and in cases where you are running with more RAM, you can easily tune the MySQL parameters to extract better performance. This can result in SIGNIFICANT improvements in the client response. These parameters can be set in startDB.bat file present in C:\AdventNet\ME\NetFlow\bin directory (startDB.sh in case of Linux).

The 2 main parameters are the `key_buffer_size` and the `innodb_buffer_pool_size`. These values are set to
`--key_buffer_size=180000000 --innodb_buffer_pool_size=212000000`
by default

Note: Please take a back up of this file before you make any changes. In case you are uncomfortable making these changes, please send a mail to support@netflowanalyzer.com so that we can assist you in doing this.

For a machine running with 1 GB of RAM, you can set these to
`--key_buffer_size=360000000 --innodb_buffer_pool_size=424000000`

For a machine running with 2 GB of RAM or more, you can set these to --
`key_buffer_size=720000000 --innodb_buffer_pool_size=848000000`

For a machine running with 3 GB of RAM or more, you can set these to --
`key_buffer_size=820000000 --innodb_buffer_pool_size=948000000`

Please note that you will have to restart NetFlow Analyzer after making these changes.

Java Tuning for Windows

Please follow these steps in case your machine is running with RAM of 3 GB or more.

1. Shutdown NetFlow Analyzer.
2. Open the file "wrapper.conf" present under the /server/default/conf directory in a text editor. Find the following line in the file
`# Maximum Java Heap Size (in MB)`
`wrapper.java.maxmemory=256`
Please change the value of "wrapper.java.maxmemory" from 256 to 1024. Modified line will look like as the following.
`# Maximum Java Heap Size (in MB)`
`wrapper.java.maxmemory=1024`
Please save the wrapper.conf file.
3. Open a command prompt and execute the following batch files one after the other
`na_service.bat -r`
`na_service.bat -i`

4. Open the file "run.bat" present under the /bin directory in a text editor Find the following lines in the run.bat file
`# Setup JBoss specific properties`
`JAVA_OPTS="$JAVA_OPTS -Xms128m -Xmx256m`

Please change the "-Xmx256m" to -Xmx1024m.
Save the run.bat file
5. Start NetFlow Analyzer

Java Tuning for Linux

Please follow these steps in case your machine is running with RAM of 3 GB or more.

1. Shutdown NetFlow Analyzer.
2. Open the file "wrapper.conf" present under the `<NETFLOW_HOME>/server/default/conf` directory in a text editor. Find the following line in the file
`# Maximum Java Heap Size (in MB)`
`wrapper.java.maxmemory=256`

Please change the value of "wrapper.java.maxmemory" from 256 to 1024. Modified line will look like as the following.
`# Maximum Java Heap Size (in MB)`
`wrapper.java.maxmemory=1024`

Please save the wrapper.conf file.
3. Open the run.sh file present under the "`<NetFlow_HOME>/bin`" directory in a editor. Find the following line
`# Setup JBoss specific properties`
`JAVA_OPTS="$JAVA_OPTS -Xms128m -Xmx256m`
`-Dprogram.name=$PROGNAME`
`-Djboss.server.type=com.adventnet.j2ee.deployment.system.`
`AdventNetServerImpl -Djboss.deploy.localcopy=true`
`-Djboss.boot.library.list=log4j-boot.jar,jboss-`
`common.jar,jboss-system.jar,`
`AdventNetDeploymentSystem.jar,commons-logging.jar"`

Please change the "-Xmx256m" to -Xmx1024m.
4. Modified lines will look like
`# Setup JBoss specific properties`
`JAVA_OPTS="$JAVA_OPTS`
`-Xms128m -Xmx1024m -Dprogram.name=$PROGNAME`
`-Djboss.server.type=com.adventnet.j2ee.deployment.system.`
`AdventNetServerImpl -Djboss.deploy.localcopy=true`
`-Djboss.boot.library.list=log4j-boot.jar,jboss-`
`common.jar,jboss-system.jar`
`,AdventNetDeploymentSystem.jar,commons-logging.jar"`
5. Start NetFlow Analyzer

3. MySQL Database Tuning

Data backup

It is very important to backup the NetFlow Analyzer data in database every fortnight, so that data is not lost in case of any disaster.

Refer the following link on how to backup the data

<http://manageengine.adventnet.com/products/netflow/help/appendix/database-backup.html>

Other General Guidelines

You can install NetFlow Analyzer as a Windows Service or configure on Linux to start on server start up.

Refer the following link

<http://manageengine.adventnet.com/products/netflow/help/installation/start-netflow-analyzer.html>

If you are planning to use the Enterprise Edition, fully understand the EE architecture

<http://manageengine.adventnet.com/products/netflow/distributed-monitoring/help/netflow-misc/typical-setup.html>

To change the default HTTP port used by NetFlow Analyzer, refer the Server settings document given in the below link. You can refer to this document on other settings that you can modify

<http://manageengine.adventnet.com/products/netflow/help/installation/netflow-pre.html>