



Dave Swift

# Tivoli NetView Performance Monitor for TCP/IP 1.4 Using Linux as the Web Server

## Introduction

The purpose of this document is to detail how the author got Tivoli NetView Performance Monitor for TCP/IP to work using Apache and TomCat on Linux as the Web Server component.

This is intended as a supplement to the generic Web Server installation instructions in the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756, giving much more detail that is specific to the Linux environment. The product-supplied installation manual only contains detailed instructions for Windows, and generic instructions for anything else. The value of this document is that it provides equally detailed instructions for Linux.

The Linux environments used by the author were RedHat Version 7.2 on xSeries and SuSE 7.0 on zSeries. Although there are large elements of commonality in the install procedures for both these operating systems (OSs), there are some important differences. To avoid constant backward and forward references, this document treats the two OSs in isolation, allowing you to work through in a sequential fashion during each install activity for each of these OSs.

This document will assume some basic knowledge of Linux and Tivoli NetView Performance Monitor for TCP/IP. It further assumes that you have installed the Linux Operating System. These instructions explain how to obtain, install, and configure additional components required to implement the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server component on the pre-existing Linux OS.

This document does not cover any activities related to installation of Tivoli NetView Performance Monitor for TCP/IP on the z/OS host; this is detailed in the product-supplied installation manual. This document only covers the installation of the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server component, which can then be used to view data gathered by the Tivoli NetView Performance Monitor for TCP/IP host component on your z/OS or OS/390 systems running TCP/IP.

Following is a diagram showing a typical Tivoli NetView Performance Monitor for TCP/IP deployment, indicating which part of that deployment is covered by this document.

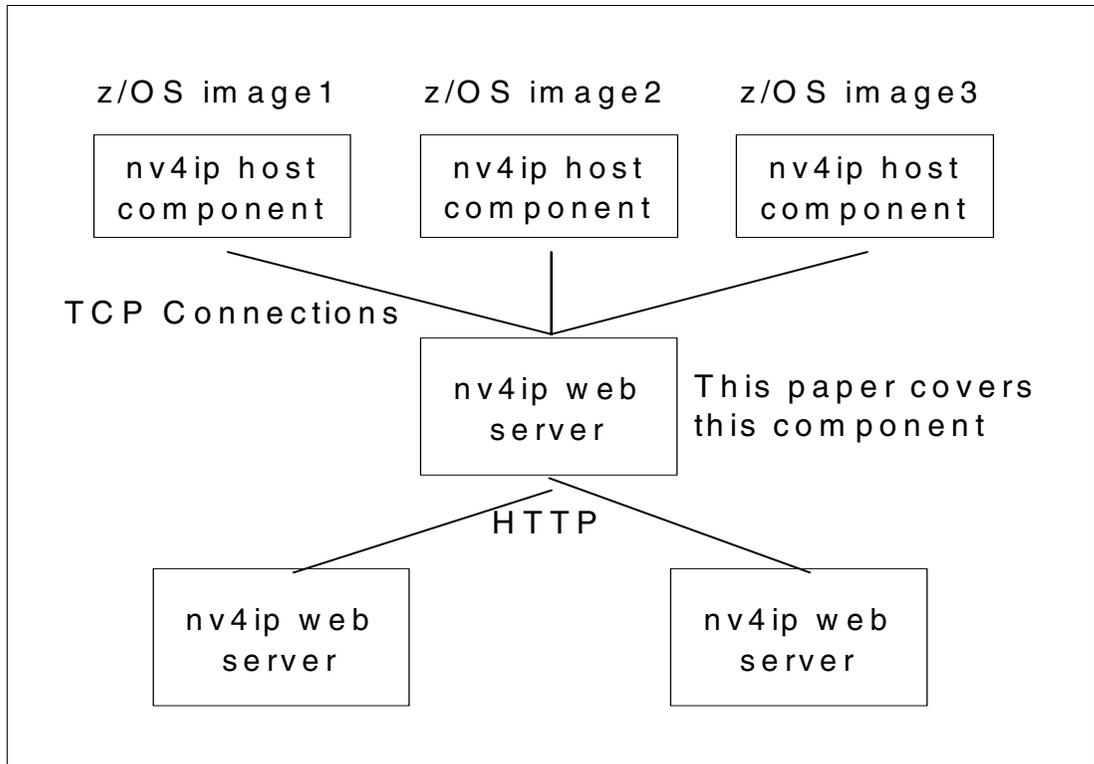


Figure 1

The existence of this document does not necessarily imply any formal support from IBM for running Tivoli NetView Performance Monitor for TCP/IP using these releases of Linux, Apache, or TomCat. This document is supplied as is with no formal support from IBM.

## RedHat Linux Version 7.2 on Intel

This section details the activities the author undertook to get the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server component to work using RedHat Linux Version 7.2 on an xSeries server. The instructions assume all activities are taking place on the system where you will install the Tivoli NetView Performance Monitor for TCP/IP Web Server, using the “root” user ID.

### J2SDK

The first component that is required is the Sun Java 2 SDK. Using your favorite Web browser, surf to:

<http://java.sun.com/j2se/1.3/download.html>

On the page that loads, select the line item labeled **Linux RPM in self-extracting file**. Ensure that you select the column labeled **SDK**, *not* the one labeled **JRE**. Click the link in this column, which takes you through to the Sun Licence agreement page for Sun J2SDK 1.3.1\_04. Click the **Accept** button, and on the page that then loads, choose a suitable FTP or HTTP download site. This will result in a prompt asking where you want to save the `j2sdk-1_3_1_04-linux-i586-rpm.bin` file locally. Choose any suitable temporary location, such as `/tmp`, then click **Enter**.

When the file has successfully downloaded, make it executable by opening a terminal session and switching to the directory where you downloaded the file, then issuing the following command:

```
chmod 755 j2sdk-1_3_1_04-linux-i586-rpm.bin
```

Then execute the file by issuing:

```
./ j2sdk-1_3_1_04-linux-i586-rpm.bin
```

The file will display a licence agreement. Keep paging down through that to the end, and enter yes to agree to the licence. You should now have a file called `j2sdk-1_3_1_04-linux-i586-rpm` in the same location as the `j2sdk-1_3_1_04-linux-i586-rpm.bin` file. You can now use the `rpm` command to install the j2SDK code, as follows:

```
rpm -ivh j2sdk-1_3_1_04-linux-i586.rpm
```

## Apache HTTP Server

The next component you need is the Apache HTTP Server. You need to download and install Apache 1.3.22. Using your favorite Web browser, surf to the following URL:

<http://www.apache.org/dist/httpd/binaries/linux/old>

On the page that loads, click the line item:

```
apache_1.3.22-i686-whatever-linux22.tar.gz
```

This will result in a prompt asking where you want to save the file locally. Choose any suitable temporary location, such as `/tmp`, then click **Enter**.

When the file has successfully downloaded, open a terminal session and switch to the directory where you downloaded the file to. As this is a GZIP'ped tar file, we must 'unpack' the file twice, using `gunzip` first, then `tar`, as follows:

```
gunzip apache_1.3.22-i686-whatever-linux22.tar.gz
tar -xvf apache_1.3.22-i686-whatever-linux22.tar
```

This will create an `apache_1.3.22` subdirectory in the directory where the tar file was located. Switch into this directory, then launch the Apache HTTP Server install script by issuing the following command:

```
sh install-bindist.sh
```

This will install Apache in the default location of `/usr/local/apache`. If you choose to add parameters to the above command to install Apache HTTP Server in a non-default location, the following instructions will need adjusting accordingly.

## Apache TomCat

The final prerequisite component you need to obtain is the TomCat Java Servlet engine.

Using a Web browser, surf to:

<http://jakarta.apache.org/builds/jakarta-tomcat/release/v3.3.1/bin>

On the page that loads, click the line item:

```
jakarta-tomcat-3.3.1.tar.gz
```

This will result in a prompt asking where you want to save the file locally. Choose any suitable temporary location, such as /tmp, then click **Enter**.

When the file has successfully downloaded, open a terminal session and switch to the directory where you downloaded this GZIP'ped tar file to. Use the gunzip command to unpack the original file and obtain the tar file:

```
gunzip jakarta-tomcat-3.3.1.tar.gz
```

You now need to move the tar file that results to the location where you want to install TomCat. The author choose /usr/local so that TomCat and Apache were in similar locations to make the following processes easier. However, you can install it anywhere, but if you install it anywhere other than /usr/local, you will need to modify all the remaining instructions in "RedHat Linux Version 7.2 on Intel" on page 2, where the Apache install path is used accordingly. Use the mv command to move the file, then the tar command to unpack it:

```
mv jakarta-tomcat-3.3.1.tar /usr/local
tar -xvf jakarta-tomcat-3.3.1.tar
```

This will create a jakarta-tomcat-3.3.1 subdirectory in the /usr/local directory.

## TomCat mod\_jserv

TomCat has an optional component called mod\_jserv, which provides the link between the Apache HTTP Server and Apache TomCat. Although you downloaded this code along with TomCat, by default it is not installed and configured. For an Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server using Apache and TomCat to work, this optional component must be installed and configured, otherwise the servlet calls will not work. This section describes how to do that.

Open a terminal session and switch to the /usr/local/jakarta-tomcat-3.3.1/native/mod\_jserv directory.

Issue the following command to compile the mod\_jserv executable:

```
perl /usr/local/apache/bin/apxs -c -o mod_jserv.so *.c
```

This command assumes a number of things. You need Perl Version 5 installed to run the Apache HTTP Server-supplied apxs script. This script in turn depends on the Linux gcc package being installed. The gcc package in turn has a number of prerequisite packages. Depending on which options you choose when installing RedHat Linux, you may or may not have all of these packages installed. The author had Perl, but not gcc and its prerequisites installed. However, all the missing packages were found as rpm-installable files in the RPMS directories on CD1 and CD2 of the RedHat Version 7.2 installation CDs.

Check the output of the above command and, assuming no error messages result, you should now have a file called mod\_jserv.so in the /usr/local/jakarta-tomcat-3.3.1/native/mod\_jserv directory.

This file needs to be copied into the Apache libexec directory:

```
cp mod_jserv.so /usr/local/apache/libexec
```

You now need to modify the Apache HTTP Server configuration file to get it to load the mod\_jserv.so module at startup. This involves using your favorite editor to add the following lines to the bottom of the /usr/local/apache/conf/httpd.conf file:

```
# Added for NV4IP V1.4
Include /usr/local/jakarta-tomcat-3.3.1/conf/jserv/tomcat.conf
```

The final step is to configure the `mod_jserv` file to understand the location of the Tivoli NetView Performance Monitor for TCP/IP servlets. Add the following lines to the `/usr/local/jakarta-tomcat-3.3.1/conf/jserv/tomcat.conf` file, using your favorite editor:

```
# Added For NV4IP V1.4
Alias /npmip /usr/local/jakarta-tomcat-3.3.1/webapps/npmip
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip>
</Directory>
ApJservMount /npmip/servlet /npmip
<Location /npmip/WEB-INF/>
AllowOverride None
deny from all
</Location>
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip/WEB-INF/>
AllowOverride None
deny from all
</Directory>
<Location /npmip/WEB-INF/>
AllowOverride None
deny from all
</Location>
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip/META-INF/>
AllowOverride None
deny from all
</Directory>
ApJservMount /npmip /root
ApJservMount /jsp /npmip/jsp
```

**Note:** The paths will need adjusting if you did not install TomCat in `/usr/local`.

You also need to ensure the following line near the top of the `tomcat.conf` file is uncommented:

```
LoadModule jserv_module libexec/mod_jserv.so
```

## Tivoli NetView Performance Monitor for TCP/IP Web Server code

Having installed the prerequisites for the Tivoli NetView Performance Monitor for TCP/IP code and configured the environment appropriately, we can now move on to actually installing the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server code.

The following is based on the section entitled “Type A: Installations Using WAR Files” in the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756.

Copy the entire contents of the `htdocs` directory on the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Java Servlets CD-ROM (LK3T-5785) to the `/usr/local/apache/htdocs` directory on the Web Server system.

Copy the `npmip.war` file from the Tivoli NetView Performance Monitor for TCP/IP CD-ROM to the `/usr/local/jakarta-tomcat-3.3.1/webapps` directory.

You now need to start TomCat to explode the `npmip.war` file. Open a terminal session and switch to the `/usr/local/jakarta-tomcat-3.3.1/bin` directory. Issue the following command to start TomCat:

```
sh startup.sh
```

The above command depends on the Java environment being correctly set. The author achieved this by modifying the `.bash_profile` file for root as follows:

```

# .bash_profile
# Get the aliases and functions
if [ -f ~/.bashrc ]; then
. ~/.bashrc
fi
# User specific environment and startup programs
PATH=$PATH:$HOME/bin
PATH=/usr/java/jdk1.3.1_04/bin:$PATH
BASH_ENV=$HOME/.bashrc
USERNAME="root"
export USERNAME BASH_ENV PATH

```

The line in bold is the line that was added.

TomCat should start, and you should see messages displayed, such as Autodeploy expanding /usr/local/jakarta-tomcat-3.3.1/webapps/npmpip.war, among other .war files.

You now need to start the Apache HTTP Server. You can do this by starting a terminal session, switching to the /usr/local/apache/bin directory, and issuing the following command:

```
./apachectl start
```

You can now go on to run the installation verification tests on pages 77-85 of the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756.

## Tivoli NetView Performance Monitor for TCP/IP Web Server patch

Having installed a nd verified the Tivoli NetView Performance Monitor for TCP/IP GA code, we highly recommended that you install the OW54488 patch code. This patch contains a number of bug fixes, and an additional feature—a detailed list is available in the read.me file available at the patch download site (see the URL below).

Note that this patch also has a S/390 host component, and you need to install both the host and Web Server components. The host component is PTF UW89141, available via your normal S/390 support processes.

The Web Server component of the OW54488 patch is available from the URL:

<https://www.ibm.com/software/sysmgmt/products/support>

Note that you will need a valid user ID and password to access this URL. You should have been given this as part of your Tivoli support contract.

On the page that loads from the above URL, enter OW54488 for the Topical Keyword search. Change Select a Topic to Systems Management. Then click the link entitled **Download OW54488.zip file** (do not be put off by the fact the Web page says that this is a Windows file). You will be prompted for a location to save the file locally; choose any suitable temporary location, such as /tmp, then click **Enter**. You now need to use a suitable utility such as PKWare's PKZIP for Linux to unzip the file (an alternative would be to download the zip file to a Windows system and use a utility such as WinZip to unzip the file; you could then FTP the resulting files and directories to a temporary directory such as /tmp on the Tivoli NetView Performance Monitor for TCP/IP Web Server).

However you unzip the file, you should end up with the following files and directories in the temporary directory on the Tivoli NetView Performance Monitor for TCP/IP Web Server. The author used /tmp, as in the following; you should adjust accordingly.

<b>/tmp/javascript</b>	Directory
<b>/tmp/javahelp</b>	Directory

<b>/tmp/logon.htm</b>	File
<b>/tmp/npmip.war</b>	File
<b>/tmp/docupdate.txt</b>	File; contains a documentation update on a new feature added by APAR OW54488
<b>/tmp/setup.exe</b>	File; Windows executable you can discard

To install the patch code, do the following:

1. Stop the Apache HTTP Web Server. Open a terminal session and switch to the `/usr/local/apache/bin` directory and issue the following command:

```
./apachectl stop
```

2. Stop the TomCat server. Open a terminal session, switch to the `/usr/local/jakarta-tomcat-3.3.1/bin` directory, and issue the following command:

```
sh shutdown.sh
```

3. Copy the new `logon.htm` file into the Apache HTTP Server `htdocs` directory (overwriting the existing file of the same name):

```
cp /tmp/logon.htm /usr/local/apache/htdocs
```

4. Copy all the contents of the new `javahelp` directory into the Apache HTTP Server `help` directory (overwriting the existing files of the same name):

```
cd /tmp/javahelp
cp * /usr/local/apache/htdocs/help/javahelp
```

5. Copy all the contents of the new `javascript` directory into the Apache HTTP Server `javascript` directory, and make them executable:

```
cd /usr/local/apache/htdocs/javascript
rm *
cd /tmp/javascript
cp * /usr/local/apache/htdocs/javascript
cd /usr/local/apache/htdocs/javascript
chmod 755 *
```

6. Install the new `npmip.war` file:

```
cd /usr/local/jakarta-tomcat-3.3.1/webapps
rm -fr npmip
rm npmip.war
cd /tmp
cp npmip.war /usr/local/jakarta-tomcat-3.3.1/webapps
```

7. Restart TomCat, then restart Apache HTTP Server as per the instructions in the previous section.

## SuSE Linux 7.0 on zSeries

This section details the activities the author undertook to get the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server component to work using SuSE Linux 7.0 running as a guest on a z/VM zSeries server. The instructions assume all activities are taking place on the system where you will install the Tivoli NetView Performance Monitor for TCP/IP Web Server, using the "root" user ID.

## J2SDK

The first component that is required is the Java 2 SDK. Using your favorite Web browser, surf to:

<http://www.ibm.com/developerworks/java/jdk/linux140/>

On the page that loads, click the link labeled **Developer Kit Package**. On the next page to load, click the **Download** link over on the right of the page. On the next page, select the radio button labeled **Dev Kit For Linux-31 bit zSeries (s/390)-version 1.4**, then click the **Continue** button. You will then need to log on using the user ID and password registered for downloading free IBM Software Group downloads. If you do not have one, on the logon page is a link to register free. Once you have logged on, on the next page is a section entitled **Developer Kit Package**. Within this section, click the **Download now** button next to **IBMJava2-SDK-1.4-0.0.s390.rpm**. This will result in a prompt asking where you want to save the IBMJava2-SDK-1.4-0.0.s390.rpm file locally. Choose any suitable temporary location, such as /tmp, then click **Enter**.

You can now use the rpm command to install the j2SDK code, as follows:

```
rpm -ivh IBMJava2-SDK-1.3.1-2.0.s390.rpm
```

## Apache HTTP Server

The next component you need is the Apache HTTP Server. You need to download and install Apache 1.3.22. Using your favorite Web browser, surf to the following URL:

<http://www.apache.org/dist/httpd/binaries/linux/old>

On the page which loads, click the line item:

```
apache_1.3.24-s390-whatever-linux22.tar.gz
```

This will result in a prompt asking where you want to save the file locally. Choose any suitable temporary location, such as /tmp, then click **Enter**.

When the file has successfully downloaded, open a terminal session and switch to the directory where you downloaded the file to. As this is a GZIP'ped tar file, we must "unpack" the file twice, using gunzip first, then tar, as follows:

```
gunzip apache_1.3.24-s390-whatever-linux22.tar.gz
tar -xvf apache_1.3.24-s390- whatever-linux22.tar
```

This will create an apache\_1.3.24 subdirectory in the directory where the tar file was located. Switch into this directory, then launch the Apache HTTP Server install script by issuing the following command:

```
sh install-bindist.sh
```

This will install Apache in the default location of /usr/local/apache. If you choose to add parameters to the above command to install Apache HTTP Server in a non-default location, the remaining instructions in "SuSE Linux 7.0 on zSeries" on page 7 will need modifying accordingly, where the Apache install path is used.

## Apache TomCat

The final prerequisite component you need to obtain is the TomCat Java Servlet engine.

Using a Web browser, surf to:

<http://jakarta.apache.org/builds/jakarta-tomcat/release/v3.3.1/bin>

On the page that loads, click the line item:

```
jakarta-tomcat-3.3.1.tar.gz
```

This will result in a prompt asking where you want to save the file locally. Choose any suitable temporary location, such as /tmp, then click **Enter**.

When the file has successfully downloaded, open a terminal session and switch to the directory where you downloaded the file to. Use the gunzip command to unpack the tar file:

```
gunzip jakarta-tomcat-3.3.1.tar.gz
```

You now need to move the tar file, which results to the location where you want to install TomCat. The author chose /usr/local so that TomCat and Apache were in similar locations to make the following processes easier. However, you can install it anywhere, but if you install it anywhere other than /usr/local, you will need to modify the remaining instructions in section 3 accordingly whenever the tomcat install path is mentioned. Use the mv command to move the file, then the tar command to unpack it:

```
mv jakarta-tomcat-3.3.1.tar /usr/local
tar -xvf jakarta-tomcat-3.3.1.tar
```

This will create a jakarta-tomcat-3.3.1 subdirectory in the /usr/local directory.

## TomCat mod\_jserv

TomCat has an optional component called mod\_jserv, which provides the link between the Apache HTTP Server and Apache TomCat. Although you downloaded this code along with TomCat, by default it is not installed and configured. For an Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server using Apache and TomCat to work, this optional component must be installed and configured, otherwise the servlet calls will not work. This section describes how to do that.

Open a terminal session and switch to the /usr/local/jakarta-tomcat-3.3.1/native/mod\_jserv directory.

Issue the following command to compile the mod\_jserv executable:

```
perl /usr/local/apache/bin/apxs/ -c -o mod_jserv.so *.c
```

This command assumes a number of things. You need Perl Version 5 installed to run the Apache HTTP Server-supplied apxs script. This script in turn depends on the Linux gcc package being installed. The gcc package in turn has a number of prerequisite packages. Depending on which options you choose when installing SuSE Linux, you may or may not have all of these packages installed. Any missing packages will need to be obtained and installed before the above command will work and you can proceed.

Check the output of the above command, and assuming no error messages result, you should now have a file called mod\_jserv.so in the /usr/local/jakarta-tomcat-3.3.1/native/mod\_jserv directory.

This file needs to be copied into the Apache libexec directory:

```
cp mod_jserv.so /usr/local/apache/libexec
```

You now need to modify the Apache HTTP Server configuration file to get it to load the mod\_jserv.so module at startup. This involves using your favorite editor to add the following lines to the bottom of the /usr/local/apache/conf/httpd.conf file:

```
# Added for NV4IP V1.4
Include /usr/local/jakarta-tomcat-3.3.1/conf/jserv/tomcat.conf
```

The final step is to configure the `mod_jserv` file to understand the location of the Tivoli NetView Performance Monitor for TCP/IP servlets. Add the following lines to the `/usr/local/jakarta-tomcat-3.3.1/conf/jserv/tomcat.conf` file, using your favorite editor:

```
# Added For NV4IP V1.4
Alias /npmip /usr/local/jakarta-tomcat-3.3.1/webapps/npmip
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip>
</Directory>
ApJservMount /npmip/servlet /npmip
<Location /npmip/WEB-INF/>
AllowOverride None
deny from all
</Location>
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip/WEB-INF/>
AllowOverride None
deny from all
</Directory>
<Location /npmip/WEB-INF/>
AllowOverride None
deny from all
</Location>
<Directory /usr/local/jakarta-tomcat-3.3.1/webapps/npmip/META-INF/>
AllowOverride None
deny from all
</Directory>
ApJservMount /npmip /root
ApJservMount /jsp /npmip/jsp
```

The paths will need adjusting if you did not install TomCat in `/usr/local`.

You also need to ensure that the following line near the top of the `tomcat.conf` file is uncommented:

```
LoadModule jserv_module libexec/mod_jserv.so
```

## Tivoli NetView Performance Monitor for TCP/IP Web Server code

Having installed the prerequisites for the Tivoli NetView Performance Monitor for TCP/IP code and configured the environment appropriately, we can now move on to actually installing the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server code.

The following is based on the section entitled “Type A: Installations Using WAR Files” in the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756.

Copy the entire contents of the `htdocs` directory on the Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Java Servlets CD-ROM (LK3T-5785) to the `/usr/local/apache/htdocs` directory on the Web Server system, using FTP or any other convenient mechanism. Once the files are in place, you need to ensure the javascript files are executable by issuing the following commands from a terminal session:

```
cd /usr/local/apache/htdocs
chmod -R 755 javascript
```

Copy the `npmip.war` file from the Tivoli NetView Performance Monitor for TCP/IP CD-ROM to the `/usr/local/jakarta-tomcat-3.3.1/webapps` directory.

You now need to start TomCat to explode the `npmip.war` file. Open a terminal session and switch to the `/usr/local/jakarta-tomcat-3.3.1/bin` directory. Issue the following command to start TomCat:

```
PATH=/opt/IBMJava2-s390-131/bin:$PATH
```

```
export PATH
sh startup.sh
```

TomCat should start, and you should see messages displayed, such as Autodeploy expanding /usr/local/jakarta-tomcat-3.3.1/webapps/npmip.war, among other .war files.

You now need to start the Apache HTTP Server. You can do this by starting a terminal session, switching to the /usr/local/apache/bin directory, and issuing the following command:

```
./apachectl start
```

To get Apache to start, the author had to add a group called nobody, using a **groupadd nobody** command. It was also necessary to issue a **cp index.html.en index.html** command in the /usr/local/apache/htdocs directory. Finally, to avoid permissions errors when using Apache, it was necessary to issue a **chmod -R 755** command in the /usr/local/apache/htdocs directory.

You can now go on to run the installation verification tests shown on pages 77-85 of the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756.

## Tivoli NetView Performance Monitor for TCP/IP Web Server patch

Having installed and verified the Tivoli NetView Performance Monitor for TCP/IP GA code, we highly recommended that you install the OW54488 patch code. This patch contains a number of bug fixes, and an additional feature—a detailed list is available in the read.me file available at the patch download site (see the URL below).

Note that this patch also has a z/OS host component, and you need to install both the host and Web Server components. The host component is PTF UW89141, available via your normal z/OS support processes.

The Web Server component of the OW54488 patch is available from URL:

<https://www.ibm.com/software/sysmgmt/products/support>

Note that you will need a valid user ID and password to access this URL; you should have been given this as part of your Tivoli support contract.

On the page that loads from the above URL, enter OW54488 for the Topical Keyword search. Change Select a Topic to Systems Management, then click the link entitled **Download OW54488.zip file** (do not be put off by the fact that the Web page says this is a Windows file). You will be prompted for a location to save the file locally; choose any suitable temporary location, such as /tmp, then click **Enter**. You now need to use a suitable utility such as PKWare's PKZIP for Linux to unzip the file (an alternative would be to download the zip file to a Windows system and use a utility such as WinZip to unzip the file; you could then FTP the resulting files and directories to a temporary directory such as /tmp on the Tivoli NetView Performance Monitor for TCP/IP Web Server).

However you unzip the file, you should end up with the following files and directories in the temporary directory on the Tivoli NetView Performance Monitor for TCP/IP Web Server. The author used /tmp, as in the following; you should adjust accordingly.

<b>/tmp/javascript</b>	Directory
<b>/tmp/javahelp</b>	Directory
<b>/tmp/logon.htm</b>	File
<b>/tmp/npmip.war</b>	File
<b>/tmp/docupdate.txt</b>	File; contains a documentation update on a new feature added by APAR OW54488

**/tmp/setup.exe** File; Windows executable you can discard

To install the patch code, do the following:

1. Stop the Apache HTTP Web Server. Open a terminal session and switch to the `/usr/local/apache/bin` directory and issue the following command:

```
./apachectl stop
```

2. Stop the TomCat server. Open a terminal session and switch to the `/usr/local/jakarta-tomcat-3.3.1/bin` directory and then issue the following commands:

```
PATH=/opt/IBMJava2-s390-131/bin:$PATH
i. export PATH
ii. sh shutdown.sh
```

3. Copy the new `logon.htm` file into the Apache HTTP Server `htdocs` directory (overwriting the existing file of the same name):

```
cp /tmp/logon.htm /usr/local/apache/htdocs
```

4. Copy all the contents of the new `javahelp` directory into the Apache HTTP Server `help` directory (overwriting the existing files of the same name):

```
cd /tmp/javahelp
cp * /usr/local/apache/htdocs/help/javahelp
```

5. Copy all the contents of the new `javascript` directory into the Apache HTTP Server `javascript` directory, and make them executable:

```
cd /usr/local/apache/htdocs/javascript
rm *
cd /tmp/javascript
cp * /usr/local/apache/htdocs/javascript
cd /usr/local/apache/htdocs/javascript
chmod 755 *
```

6. Install the new `npmip.war` file:

```
cd /usr/local/jakarta-tomcat-3.3.1/webapps
rm -fr npmip
rm npmip.war
cd /tmp
cp npmip.war /usr/local/jakarta-tomcat-3.3.1/webapps
```

7. Restart TomCat, then restart Apache HTTP Server as per the instructions in the previous section.

## Conclusion

Congratulations. If you have made it this far, you should now have a working Tivoli NetView Performance Monitor for TCP/IP Version 1.4 Web Server component, using Apache on Linux as the Web Server.

You can confirm it is working by going through the installation verification steps on pages 77-85 of the *Tivoli NetView Performance Monitor for TCP/IP Installation Manual*, GC32-0756. Note that screen shots in the installation manual incorrectly show TomCat Version 4; the screens you will see will be slightly different, as you are using TomCat Version 3.3.1.

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