Trouble-shooting Nways Mgr for AIX V1.2

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1 Trouble-Shooting Tips

The following information is provided to you by the North American Advanced Technical Support organization to assist in identifying and resolving problems encountered with the Nways Campus Manager code SHIPPED ON THE NWAYS MANAGER FOR AIX V1.2 CD-ROM. NOTE THAT the following component versions can be found on this CD:

```
Nways Campus Manager LAN for AIX V3.3
Nways Campus Manager AIX for AIX V3.3
Nways Remote Monitor for AIX V2.1.1
```

For additional and more current hints and tips refer to the

```
http://www.networking.ibm.com/cma/tips.html
```

page which is provided by IBM NHD development for “Tips and Techniques on Nways Manager products.”

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2 Checking Current Product Status

2.1 “Try and Buy”

The Nways Manager for AIX V1.2 CD-ROM can be installed and run for 60 days (after the first time the EUI is presented). After this time period expires, ifor/LS unlock procedures must be followed to continue operation.

To determine if the code is running in production or still in “try and buy” state, use the following command:

```
i4nat -l
```

The reply to this command is the list of licenses installed with their versions. You will see Nways listed as either V1.2 (production) or 1.2T (“try and buy”).

---

3 Problems During Installation

3.1 Java Run-Time Environment

The new Java installation program provided for V1.2 will fail if the required level of the Java run-time environment is not installed. To determine if the pre-requisites are met use the following commands:

```
java -fullversion
```

This command should return ***"JDK 1.1.2 ... 19970920"*** or higher.

Follow this with the next command:

```
lslpp -l Java
```

The reply from "lslpp" should give the following information:

- Java.rte.bin v1.1.2
- Java.rte.classes V1.1.2
- Java.rte.lib V1.1.2

3.2 Java Install Never Finishing

Another symptom of having the wrong level of the Java Run-Time environment installed is having the Java install never complete. A symptom of this condition is the JAVA process pegging the machine consistently at over 90%. We found that JREs containing java.rte.bin files earlier than V1.1.2 caused this problem.

3.3 Install Error missing "bos.install" file

Nways install process checks for required AIX "bos.install" files for both supported AIX versions (V4.1.5 and V4.2.1). If you are running on AIX V4.1.5 you will get erroneous messages saying you are missing pre-requisites:

```
bos.install.4.2.1.0.bff
bos.install.4.2.1.3.bff
```

These messages can be ignored.

3.4 Install Failure due to Small /tmp

A database reorganization is run after every PSM is installed. A temporary file is created by this. Once the MAT (Management Application Transporter) is started, these files are removed. Until then the temporary files exist in /tmp. If /tmp is too small the install will fail.

/**tmp** should have at least 1 Mb for each PSM that is going to be installed.

3.5 ATM customization changed

All Nways databases are migrated during V1.2 installation except for:

- `AHMostopo.db` and
- ATM and Hub polling parameters.

These changes must be re-made after installation.

3.6 Success of Installation

The installation process puts entries in the following locations:

- `/usr/CML/install_log/smit.log`
- `/usr/CML/install_log/xxx.log` (where "xxx" is the fileset being installed, such as `ahm6000.base.log`)

3.7 Core dump by cmld

The G/A code for Nways Manager for AIX V1.2 had a bug in the ***cmld*** that caused a core dump at initial start-up after installation. This occurs when the installation included all of the components (not a selective install). A fix is now available for this problem.

3.8 Installation of NCM ATM

The new Nways Campus Manager V3.3 (contained in the Nways Manager for AIX V1.2 package) no longer contains the processes for managing ATM devices (no PSMs or MAT). These functions were moved to the NCM LAN V3.3 component. This causes problems if the ATM application is installed over the Nways Manager for AIX V1.1 code – **WITHOUT** installing the new NCM LAN package (from Nways Manager V1.2).

If the NCM ATM V3.3 is installed without replacing MAT and the ATM device PSMs, the ***ovwdb*** will be corrupted. This will require removing **ALL** of the databases (including IP) before NCM can be installed successfully (NCM LAN or NCM ATM).

3.9 ReMon Summary View not staying up

The installation instructions for Nways Remote Monitor require that you set the **RMONHOME** environment variable to point to the directory where it has been installed. Failure to do this will have the symptom of the ReMon Summary Viewpoint screen disappearing from view once displayed.

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4 Operational Problems

4.1 Core dump by oscmgr

A core dump by the ***oscmgr*** daemon is caused when the cache size has been set too low.

4.2 NetScape core dump

The JMA help information is stored as HTML web pages. When you ask for help from a JMA window, a web browser is launched to display the appropriate HTML help pages. If you configured NetScape V3.01 as your preferred web browser, you may experience a core dump from NetScape. NetScape does not support internationalization, so if you have set the LANG environment variable to a value other than "C", it will have a core dump.

To check your LANG environment variable, type this on a command line:

```
echo $LANG
```

If the result is not “C”, you can expect problems from NetScape. To circumvent this NetScape problem, you can create a small shell script which temporarily sets the LANG to C before launching NetScape.

An example of such a script is shown below:

```
#!/usr/bin/ksh
export LANG=C
/usr/NetScape/netscape $1 $2 $3
```

You need to substitute the location of your NetScape program in the last line above. You will also need to edit the webBrowser.path property in the

```
/usr/CML/JMA/java/websvr/properties/BrowserApplet.txt
```

file.

4.3 “ovaddobj” Failures

During the installation process of Nways, and during some clean-up procedures, the command ***“ovaddobj”*** is executed. If there is a problem with NetView configuration or DNS name resolution, this command can fail, causing various symptoms including failures in IP discovery.
Note: If problems exist with NetView configuration, the

```
/usr/OS/service/reset_ci
```

command is recommended to resolve/clean-up configuration problems.

However, assuming NetView is properly configured, one of the causes of “ovaddobj” failures is the use of “netsvc.conf” set to direct NetView to a “host name file” rather than DNS as primary name resolution. If the host names file contains the short name format (e.g., “node005”) rather than the full name used by DNS (e.g., “node005.raleigh.ibm.com”), name resolution during IP discovery can fail.

One way to avoid conflicts, if you need to use a local host names file, is to define the resolution configuration within “netsvc.conf” to the following:

```
hosts = local, bind
```

This will cause the local host name to be used first, and if resolution fails, the DNS will be used.

4.4 Java applet “unable to connect to server”

One installation error that can be easily circumvented is when the Nways Java Integrator registration fails during install. This will show up as an error in “nwaysmanager.jma.log”. The operational symptom is that when you start up a Java Device Management application an error window pops up saying that the application was “unable to connect to the server”.

To fix this problem issue the following commands:

```
ovaddobj NwaysJMA.lrf
ovstart JMAintegrator
```

4.5 Operational Error Logs

ObjectStore will log exceptions by application in one of the following filespaces:

- `/etc/environment/OS_ROOTDIR`
- `/usr/CML/conf/OSserver.conf/OS_AS_START`
- `/usr/CML/conf/OSserver.conf/OS_CACHE_DIR`
- `/usr/CML/conf/OSserver.conf/OS_COMSEG_DIR`
- `/usr/CML/conf/OSserver.conf/OS_CACHE_SIZE`

Other log files key to problem resolution are:

- `nv6000.log`
- `/usr/OV/log/nettl.LOG00`
- `/usr/CML/install_log`
- `/usr/CML/deinstall_log`
- `/tmp/oss_out`
- `/tmp/rabmEventServer.log`

4.6 Processes growing in size

It is not normal for a process to continue to grow in size allocation after it has had time to stabilize. ***Inmbrmon*** can take around 40Mb memory but should stop at that point. If you notice that process is continuing to use up additional memory, there may be a memory leak problem that should be reported.

4.7 Management Application Transporter (MAT) startup failure

When NetView is started, you may see the following messages:

```
Application Transporter Request Broker V.3 R.0 Port No xxxx
Application Transporter System Startup: ..
Starting application: Rnvgate
Alert Manager: Unknown failure
ovhelp: Cannot initialize OVw API: Cannot connect to database
Starting application: Rnvch
Starting application: Rwatch
ovhelp: Cannot initialize OVw API: Cannot connect to database
Warning: XtRemoveInput: Input handler not found
Application Transporter System shutdown: ..
Shutting down application: Rnvgate
Warning: XtRemoveInput: Input handler not found
...
Rnvgate: shutdown
```

```
Shutting down application: Rnvch
Rnvch: shutdown
Shutting down application: rb ..
```

These messages indicate that NetView is not far enough along in its startup for MAT to connect to it. The result is that MAT shuts down. However, the first MAT action that you take through the NetView pulldown menus will restart the MAT. No additional action is required.

These messages may appear on slow or overloaded AIX machines.

4.8 Purple (or dark pink) icons in Hub Topology

The NCM LAN V3.3 code now colors device icons with a unique color when the device is "pingable" but has no reporting SNMP agent. This condition used to show up as blue. When this occurs, check the community name setup at the device.

4.9 MAT continuous re-synchronization

The Application Transporter will automatically attempt to re-synchronize the Nways Device Management submap every time the NetView GUI is restarted.

To STOP this synchronization:

- `cd /usr/lpp/mgtapptran/bin`
- `vi ed.conf`
- add the string "-NO_SYNC_AT_START" to the line that starts with "Rvngate" (resulting in a line reading "Rvngate -NO_SYNC_AT_START")

If you wish to resynchronize the MAT database at any time, use NetView $\rightarrow$ Tools $\rightarrow$ Application Transporter $\rightarrow$ Refresh Device Management submap.

4.10 LNM Discovery

There are times when the LNM discovery under NCM LAN does not seem to be finding the agents you would expect. Part of this is due to polling cycles and part is due to slow SNMP GET responses. One way to force all of the LNM discovery daemons to recheck the status of their reporting agents is to do a **cmlstop** (either from the command line or from within SMIT ... "Stop CML daemons").

4.11 Multiple LNM Views for Same Segment

LNM can show multiple segment views for the same segment. There are a number of possibilities that can cause this. LNM will merge views if more than 50% of the adapters reported through a TR surrogate agent match more than 50% of the list reported by another agent.

- **RMON non-canonical MAC reporting:** Some RMON agents report their NAUN order in canonical order. You can use NCM configuration of Surrogate Agents (specifically RMON agents) and specify which form you want the MAC addresses displayed in by LNM. This is done by specific IP address so you should first see which form the RMON agent is reporting in. Once you change the MAC address format, this should cause better merging. An example

of this is 8230 SNMP models that report their adapter list through SNMP in non-canonical and their MAC list through RMON in canonical format.

- There are still potential merging problems in LNM caused by bugs in priority merging of reports from different surrogate agents on the same segment. One way to avoid this is to use a new capability in "NCM General Configurations" to "Configure a TR Surrogate agent" and specify "Manage Agent = NO" for the specific node offering the agent. This option has been added for RMON agents as well as TR Surrogate Agents and will allow the device to be managed by other NCM LAN applications, but the SNMP reporting agent that is normally used for segment views will not be managed by LNM. The idea is that you would have ONE networking device used as the reporting surrogate agent on a segment, instead of multiple devices.

4.12 Device icons not appearing executable

There are several situations that can cause Nways device management applications from correctly associating the appropriate application to a device icon and marking it as "executable". One is a timing problem when Nways attempts to GET the MIB variable that is needed to define the association. There are 2 different paths for correcting this symptom once it has occurred.

- If the device is managed with a **PSM**, you will need to make the icon executable using the **Application Transporter** pull-down menu option.
  1. Add *public* as a read/write community name to the device.
  2. Associate the device with the PSM,
  3. open the subsystem, and
  4. from the PSM view, select **Edit** $\rightarrow$ **Modify...** from the menu bar and change the **General Parameters** screen to the correct community name.
  5. You can then remove *public* from the device setup.
- If the device element management application is either the ***Hub Manager*** or the ***Nways Java Management Application*** you must use the NetView ***Modify/Describe*** option to make the symbol executable.
  1. Select the icon with the left mouse button.
  2. With the right mouse button select the **Edit** $\rightarrow$ **Modify/Describe** $\rightarrow$ **Symbol** option.
  3. Mark the "Behavior" as **Execute**.
  4. If the device is an 8250, 8260 or 8265, select the "Application Actions" as **IBM Hub Manager: explodeHubView**.
  5. If the device is a 2210, 2216, 8210, 8273, 8229, 6611 or one of the newer models of the 8271, select the "Application Actions" as **IBM Nways Java Management: openJavaDeviceView**.
  6. Select and Add the "Target Object" of the device you wish to make executable.
  7. **OK** this action.

4.13 RABM Menus Not Appearing

There were several problems in the RABM G/A code. Most have been fixed. The most severe symptom seems to be a breakage in the link between MLM and the NCMPserver (common poller).

Problems with RABM can usually be tracked to one of four areas:

1. **Language variable being changed causing RABM failures in building views:** RABM assumes that the messages it needs to configure MLM can be found in a language file in the "c" directory. If another application requires the setting of a language variable to something other than "en_US" this can cause RABM to be looking in the wrong directory.

   The installation of RABM causes three files to be placed in the

   ```
   /usr/lib/nls/msg/$LANG directory
   ```

   depending on the setting of the LANG variable. (Options are "c", "en_US" or "En_US"). These files are:

   - `ipf.cat`
   - `rabm.cat`
   - `NCMPmlm.cat`

   To assure these files are located in all three directories, create softlinks for these three RABM files into the necessary directories. Example:

   ```
   ln -s /usr/rabm2/usr/lib/nls/msg/C/ipf.cat /usr/lib/nls/msg/C/ipf.cat
   ln -s /usr/rabm2/usr/lib/nls/msg/C/ipf.cat /usr/lib/nls/msg/En_US/ipf.cat
   ln -s /usr/rabm2/usr/lib/nls/msg/C/ipf.cat /usr/lib/nls/msg/en_US/ipf.cat
   ```

   Follow the above example for creating softlinks for the other 2 files: "rabm.cat" and "NCMPmlm.cat", replacing the file name "ipf.cat" in the three commands above (i.e., issue 9 commands).

2. **Mid-Level Manager not running:** When NetView is started, if for some reason **nvot_server** is not operational, the **midmand** daemon will not be started. To correct this issue (once you have ascertained nvot_server is now running), issue the following command:

   ```
   /usr/etc/smmlm ""
   ```

   Note: There is one condition when the Nways Manager installation will fail to install MLM (normally it is installed if not already on the AIX system). MLM will not install unless the AIX SNMP configuration and NetView SNMP configuration is set up for read/write access to itself. If ***SMMLM*** is not found on your system, this is probably what has happened. You need to follow the below procedure:

   (a) Edit your `/etc/snmpd.conf` file and add the following:

   ```
   community private x.xx.xx.xx 255.255.255.255 readwrite
   ```

where "x.xx.xx.xx" is the IP address of the RISC machine on which NetView is installed.

(b) Check your NetView SNMP configuration (`xnmsnmpconf` utility) and make sure there is an entry for this machine's IP address to have Community = public and Set Community = private. (*Note:* This assumes you used "private" for the previous step allowing read/write access in the `snmpd.conf` file).

(c) Issue the following command:

```
refresh -s snmpd
```

(d) Install Mid-level Manager (which you may do by re-installing NCM LAN rabm component).

3. **RABM ObjectStore Cache FileSpace Full:** The RABM ObjectStore cache files are located in

```
/usr/rabmv2/cache
```

You may remove these cache files from the directory once you have stopped **ovw** and the RABM processes (i.e., **rabm_client, rabmEventServer, NCMPserver**).

Issue the following instructions:

```
cd /usr/rabmv2/cache
ls -p
rm *
```

WARNING: Make sure you are in the correct directory by checking the result of the "ls -p". You should see one filespace named *"lost+found"* plus the ObjectStore cache files.

When you issue the "rm *" command you will probably get an error return saying "you cannot remove the lost+found file". This is OK.

4. **Failure of rabmEventServer Installation:** If the `rabm_client` won't stay up, the chances are good that the installation of `rabmEventServer` failed. Check the

```
/tmp/RabmServer.log
```

for errors. The log may indicate that the NetView daemons should be stopped and the rabmEventServer installation should be re-run.

5. **Corruption of RABM database:** For various reasons RABM databases may get out of sync with the NetView databases. To correct this you should follow the below instructions:

(a) Remove all nodes from RABM submap in NetView (*Note:* Use Router and Bridge Manager function to "Delete Node").

(b) Stop the "rabm_client" process (through menu bar or from "kill" command).

(c) Run:

```
/usr/OV/bin/rabmServerInstall -c
```

The "`rabmServerInstall -c`" will shut down the main RABM daemons, reseed the database and start the daemons (`rabmEventServer` and `NCMPserver`) back up.

4.14 Message "can't find file /usr/ucb/wc"

One operational problem that has been reported has the symptom of a pop-up window saying "Application Transporter already running and can't find file /usr/ucb/wc". This message indicates a failure in some required directory softlinks that are used for RABM and MAT. The easiest fix is to get an AIX installation CD and install the following component:

`bos.compat.links`

4.15 Timeout problems configuring ELAN

When changing an ELAN configuration (with MSS as the LECS) it is recommended to increase the "time-out" value when creating new ELANs. The default is picked up from the NetView SNMP configuration. The recommended value seems to be around 300 seconds if the MSS is local. A setting of 120 seconds gets time-out errors when issuing configuration changes, AS DOES a setting of 600 seconds.

4.16 "Bad SNMP Value" configuring MSS

A problem occurs when moving an ATM LEC from one ELAN to another when the LECS was within an MSS. An error message can pop-up saying "Bad SNMP Value" which was caused by MSS rejecting an SNMP Set due to problems with community name access. The symptom occurred when the only community access defined for the MSS was "public" for both "read" and "write" access. By defining another community name (i.e., "private") for "write" access, we got past the problem.

4.17 Incorrect ATM Topology

Another symptom of incorrect SNMP access to ATM devices is an invalid ATM topology view. If devices show up in the "default" ATM PNNI group this can indicate lack of readWrite access to the ATM node. Make sure all CPSWs and MSS Servers are supported in the NetView SNMP configuration with correct readWrite access.

4.18 Access problems to networking devices

The most common problem the management station has when trying to manage networking devices is community name and read/write privileges. Some devices REQUIRE a separate read and write community name. If you want to make sure your devices are accessible to SNMP SETs and are not concerned about security issues, the minimum we recommend is defining a "public" community name for "read" access, and a "private" community for "readWrite".

An additional problem, however, may occur if your devices have multiple IP interfaces and you are attempting to use the NCM ATM product to make SNMP Sets. The ATM application (including the ELAN application) uses the IP address in the NetView discovery database to determine the community name access which will be sent with the SNMP SET. If you are not taking the defaults, you need to make sure each interface of the device is defined with the appropriate readWrite community name in your NetView SNMP configuration.

---

5 Problems with Remote DIA

The following tips cover common Java error messages which may occur and actions to take to correct the cause of the condition.

5.1 java.net.UnknownHostException

This message usually indicates that the HTTP server cannot be contacted. Verify that the host-name is correct and that the server is online.

Another cause of this message is a failure of the HTTP server on the network management station to recognize the host name of the DIA workstation. Verify that if a host name file is being used on your management server, the “real” host name of the DIA station is listed. Also, the host file must be correct at start-up of the Java integrator code on the server machine.

5.2 java.net.ConnectException

This message usually indicates that the HTTP server can be contacted, but the service is unavail-able. Verify that an HTTP server is running on the HTTP server host.

5.3 java.io.FileNotFoundException

This message usually indicates that the URL given in the script file is not recognized by the HTTP server. Verify that the URL given is consistent with the name assigned to the Nways Manager web pages on the HTTP server.

5.4 java.rmi.ConnectException

Also shown as “lookup of server failed”.

This message usually indicates that the Nways Manager host specified is not operating. Make sure that the station is operational and that the Nways Manager programs are operating. The runDIA script will not exit when this message occurs, but will instead keep retrying until the Nways Manager session responds.