How to Resolve an X.25 'Device Busy' Condition

Special Notices

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About This Document

This document is intended to help users identify and correct the cause of the x.25 "Device Busy" condition. This condition prevents users from modifying x.25 attachment configuration. Please note that there are modified steps for users who are running x.25 LPP at the end of this document. This document has been verified for AIX 3.1-4.1.

Problem Identification

While setting up an x.25 attachment, the user, who is running x.25 support in SMIT receives the following error message:

```
method error (/etc/methods/chgx25)
Cannot perform the requested function because the
specified device is busy.
```

This error is indicative of the incorrect number of the logical channels having been entered.

Problem Solution

To fix this problem the user must stop all processes using X.25. The user cannot change attachment characteristics while a process is using x.25 because technically this process is holding the device open.

Some possible kills are:

- Kill any xmonitor, xmanage, or xtalk (look for IBMXTALK) processes in the process table.

  Use "kill -15" on the process ID. Kill levels 2 and 3 are okay too. NEVER use kill -9 to stop xmonitor. This is an error in the AIX V3 X.25 Communications Cookbook (GG24-3692-01)

- Stop any device driver tracing
- Detach the TCP/IP interface (execute "ifconfig xt0 detach")
- Stop SNA (via SMIT or via the "stopsrc -s sna" command)
- Stop OSI
- Stop HBX-PAD daemon (do a kill -15 on the rxd process)
- Stop any user-written applications
- Stop network management daemons

  1. Stop the NetView end user interface

     Top left corner of the interface, click on file, then exit

  2. Stop NetView (follow menu options)

     ```
     Smit
     Communication Applications and Services
     NetView for AIX
     Control
     Stop all running daemons
     ```

  3. Stop systems monitor (follow menu options)

     ```
     Smit
     Communication Applications and Services
     Systems Monitor for AIX
     Local options
     Control SIA    (F4 to list)
     Stop sysinfod
     Control MLM    (F4 to list)
     Stop midmand
     ```

If you have tried all of these things and the device busy message persists, skip to the "If all else fails" section at the end of this document.

Notes For Systems Running AIX X.25 LPPS.

This situation also occurs on AIX systems running one of the new X.25 LPPs when the following message is posted:

```
method error (/etc/methods/chgx25)
0514-029  Cannot perform the requested function because a child
device of the specified device is not in a correct state.
```

On these systems, look for things similar to those listed for AIX V3 BOS. In addition, the following things are unique to the new LPPs:

- Stop the IBM Triple-X PAD daemon (x29d)
- Stop the SNMP daemon (x25smuxd)
- Stop anything running on COMIO, then remove COMIO Emulation from a port to free it.

COMIO emulates the AIX V3 BOS X.25 device driver (/dev/x25s0) and allows pre-LPP applications to run unchanged. Thus, check for all applications as described in the previous section.

- Stop any user-written NPI or DLPI applications
- Bring the TCP/IP xs interface down (it is not necessary to detach)
- Stop any device driver tracing

If all Else Fails

If all else fails and you cannot identify the culprit, the following workaround can be used on systems running AIX V3 BOS X.25 support. Although this is a way around the situation, it is not an ideal solution to the problem because the system must be rebooted.

The same, general workaround can be used by systems running the X.25 LPPs. Notes on the differences follow these steps.

1. Rename the /etc/microcode/icaaim.com file so that X.25 will not be able to start up at reboot. Any unique name will do, for example:

   ```
   mv icaaim.com Icaaim.com
   ```

2. Shutdown and reboot the system via:

   ```
   shutdown -Fr
   ```

3. When the system comes back up, make the desired changes in SMIT.

   At this point, the "lsdev -C | grep X.25" command should show that ampx0 is Available, but x25s0 is Defined.

4. Change the icaaim.com file back to the correct name:

   ```
   mv Icaaim.com icaaim.com
   ```

5. Either reboot or use the following SMIT progression to reactivate the X.25 device driver. (follow menu options)

   ```
   Smit
   Devices
   Communications
   X.25 CoProcessor/2 or Multiport
   Adapter
   Manage an X.25 CoProcessor/2 Device Driver
   Configure a Defined Device Driver
   ```

   The microcode copyright information will be posted. After processing has completed, the "lsdev -C | grep X.25" command should show that ampx0 and x25s0 are Available.

6. Restart any applications that were stopped in the previous steps.

Modified Steps For AIX X.25 LPP Users

AIX X.25 LPP users can follow the same steps listed above, with the following modifications.

The adapter microcode, shipped with the LPP software, is found in the /usr/lib/asw directory. The Portmaster/A adapters use the sx25pma.cod file while the X.25 Co-Processor adapters (both microchannel and ISA bus) use sx25cyc.cod file. Substitute these names in steps 1 and 4.

In step 3, the adapter (apm0 or ampx0) should be Available, but the port (named xs25a#) should be Defined. A user can modify a port's characteristics as long as that port is in a Defined state It isn't necessary to disable all of the ports on a single adapter or in a system. When using this workaround, however, all ports of this type will become Defined.

In step 5, reactivate by selecting "Configure a Defined Port" in the "Manage X.25 Ports" menu, accessed via fastpath "smit x25str_mp" on Portmaster and "smit cx25str_mp" on the X.25 Co-Processor systems. Users may either bring up the ports/interfaces one-at-a-time with this menu or reboot the system to bring them all up together.

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