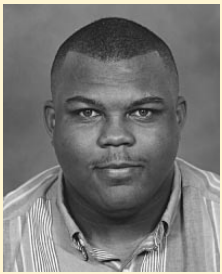




AIX Questions

Compiled by Daryl Green



Carl Senegal

The AIX Solution Provider Technical Support Group in Austin, Texas, supports software vendors who are developing or porting applications to AIX. This article is a compilation of questions that are frequently asked by vendors. The name of the responding Technical Support Group staff member appears after each response.

The output from the `ipcs` command seems to be garbage. How can I correct this problem?

Run the `bosboot` command and reboot the system. Several commands, including `ipcs`, use a copy of `/unix` kept in the boot logical volume. System changes can cause this copy to become outdated or corrupted. Running the `bosboot` command and rebooting the system synchronizes the copy in the boot logical volume, which allows the correct values to be restored.

—Carl Senegal

How can I determine the maximum number of semaphores per ID?

You can find the maximum number of semaphores per ID by using the `seminfo` struct defined in the `/usr/include/sys/sem.h` file and the `crash` command. Figure 1 shows what to run as root.

Check the `/usr/include/sys/sem.h` file for the format of the `seminfo` struct.

Since the second variable of the struct is `semmsl`, the second word from the `od` output is the maximum number of semaphores per ID (`semmsl`). This value is in hex and must be converted to decimal. In Figure 1, the `semmsl` value is `0xffff`, which is decimal `65536`.

Using this method can also identify other system values, such as message queue values (`/usr/include/sys/msg.h`) and shared memory values (`/usr/include/sys/shm.h`).

—Carl Senegal



Fred Arnold

How do I install from tape to a 40P machine?

You cannot install from tape to a 40P; it will not access tape during the boot process. If you are installing a `mksysb`, you must first boot from a CD-ROM, then change the installation device to tape.

—Fred Arnold

How can I do traces with `smit`?

Simply enter `smit trace`; then choose the item you want to trace and select the criteria you want to use.

—Fred Arnold

```
# crash          (bring up the crash utility)
> nm seminfo    (dump the address of the seminfo struct)

000E7F70 000004 TC SD    <seminfo>
000DDA60 00001C RW SD    seminfo

> od 000DDA60 16 (the line in the above output that)
                  (contains 'RW' gives the address of)
                  (the seminfo struct)

000dda60: 00001000 0000ffff 00000400 00000400
000dda70: 00002010 00007fff 00004000 00000000
000dda80: 10000000 00000001 00001000 00000000
000dda90: 00000001 00000000 40282329 31380931
```

Figure 1. Identifying the number of semaphores per ID

When creating a mksysb to load onto another system, should I always include device drivers for the new system?

AIX Version 4.1.X only installs the drivers required by the current system. If other drivers are needed for another system, they must be installed before the mksysb is created so that the other system can load the mksysb.

—Fred Arnold



What is a D5 processor and does AIX 4.1.3 have a special version for these processors?

The D5 processor is called an Entry-Level System—a Model 7006 (4xx), 7009 (Cxx), or 7011 (2xx). These systems require a special version of AIX 4.1.3 to be an entry-level server.

—Fred Arnold



How do I configure a 601 keyboard for kanji input and output?

Enter the following commands:

```
% cp /usr/lpp/X11/defaults/xmodmap/  
  En_US/keyboard /tmp/JP_keyboard  
% vi /tmp/JP_keyboard
```

Figure 2 shows the changes that need to be made to /tmp/JP_keyboard.

Next, enter the following commands at the prompt:

```
% xmodmap /tmp/JP_keyboard  
% aixterm -lang Ja_JP
```

To test the keyboard configuration, do the following in a new aixterm window:

1. Enter abc. It should be displayed in Roman characters.
2. Press <F9> (the Romanji key) to set Romanji entry when hiragana is selected.
3. Press <F11> (the Hiragana key) to start hiragana phonetic input.
4. Enter some text that you wish to convert to kanji.
5. Press <F12> (the Kanji key) to convert hiragana-romanji text into kanji text.

```
. . .  
!keycode 124 = F5          NoSymbol    NoSymbol  
!keycode 125 = F6          NoSymbol    NoSymbol  
!keycode 126 = F7          NoSymbol    NoSymbol  
keycode 126 = Eisu_toggle NoSymbol    NoSymbol  
!keycode 127 = F8          NoSymbol    NoSymbol  
keycode 127 = Henkan      NoSymbol    NoSymbol  
!keycode 128 = F9          NoSymbol    NoSymbol  
keycode 128 = Romanji     NoSymbol    NoSymbol  
!keycode 129 = F10        NoSymbol    NoSymbol  
keycode 129 = Katakana    NoSymbol    NoSymbol  
!keycode 130 = F11        NoSymbol    NoSymbol  
keycode 130 = Hiragana    NoSymbol    NoSymbol  
!keycode 131 = F12        NoSymbol    NoSymbol  
keycode 131 = Kanji       MaeKouho    NoSymbol  
!keycode 132 = Print      NoSymbol    NoSymbol  
!keycode 133 = Cancel     NoSymbol    NoSymbol  
!keycode 134 = Pause     NoSymbol    NoSymbol  
. . .
```

Figure 2. Changes to the /tmp/JP_keyboard

6. Press <F7> (the Eisu_toggle key) to shut off hiragana input.
7. Enter def. It should be displayed in Roman characters.

—Michael Nicholas



I do not want the desktop login to come up automatically. How do I configure my system for a command-line startup?

Comment out the dt entry in the /etc/inittab file to prevent the automatic desktop login. To start the desktop from the command line, enter the following:

```
xinit /usr/dt/bin/Xsession . . (extensions)
```

—Michael Nicholas



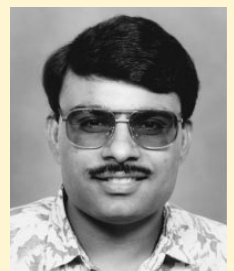
What is the maximum number of sockets that a process can open?

Any process can open up to 2000 sockets. This limit is hard-coded and cannot be changed.

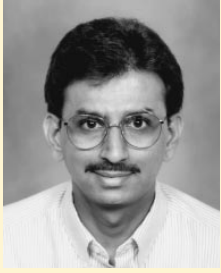
—Viral Shah



Michael Nicholas



Viral Shah



Darshan Patel

I have iFOR/LS installed. The netls daemon will not start when I boot the system. When I tried starting up manually using the start-src command, it died after a few seconds. How can I get this daemon working?

1. Perform the following commands to ensure that llbd, glbd, and netlsd are down.

```
stopsrc -s llbd
stopsrc -s glbd
stopsrc -s netlsd
```

2. Remove /usr/lib/netls/conf/log_file.
3. Run /usr/lib/netls/conf/netls_config. Answer "no" to the questions and select the default cell.
4. Run /usr/lib/netls/conf/netls_first_time.
5. Perform the following to ensure daemons are active:

```
lssrc -s llbd
lssrc -s glbd
lssrc -s netlsd
```

—Darshan Patel



Can I mount everything an NFS server exports without knowing the filesystem names and mounting them separately?

Use the automounter to mount all filesystems that a given NFS server exports and that your client is authorized to access. Enter automount -m /net -hosts to run the

automounter. For example, after issuing this command, if you want to access all filesystems exported from a server named aix6k, change directories to /net/aix6k. The automounter would then mount all available filesystems from that server below the /net/aix6k mount point. Calling any executable program from this mount tree using an explicit path would accomplish the same result. Because these are automounted filesystems, they will be unmounted automatically by default if no process accesses that tree for five minutes.

—Daryl Green



Can I specify the order in which the various hostname resolution databases (such as NIS, DNS, /etc/hosts) are accessed?

In AIX 3.2.5, the system always checks NIS first, then DNS/BIND, and finally the local /etc/hosts file. In AIX 4.1, however, you can use the /etc/netsvc.conf file or the NSORDER environment variable to configure the order of access. Place a line in the netsvc.conf file using the syntax hosts=value,value,value (for example, hosts=bind,local,nis) or issue export NSORDER=value,value,value to override the default sequence. If both NSORDER and netsvc.conf are used, the NSORDER environment variable takes precedence.

—Daryl Green

