AIX Questions

Compiled by Bruce Pine

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.

When I start InfoExplorer, I get the following message:

Error: Unable to connect socket: 3

However, Info still comes up and appears to work fine.

This message appears when `infod` is not running. Since InfoExplorer is a large application, `infod` is used to limit users to run only one instance of InfoExplorer at any given time, thereby conserving system resources.

In some work environments, multiple workers will login using the same user ID so, if `infod` is running, only one user will actually see InfoExplorer. To work around this limitation, some administrators turn off `infod`.

—David Stewart

When I start InfoExplorer nothing happens—all I get is a prompt.

There are several possible causes:

1. It is possible that `infod` is running and your user ID is listed in the process table as already running Info Explorer. This process may be hung or it is being displayed on another workstation. Try killing the InfoExplorer process and starting it again.

2. Permissions may be a problem. Check permissions on `/tmp/.info-help`. It should read as follows:

```
srwxrwxrwx   1 root     system
```

If these permissions keep changing back to something else, then you are probably at AIX 3.2. The Programmed Temporary Fix (PTF) IX43230 addresses this.

—David Stewart

When I start InfoExplorer, a window is displayed that contains the following:

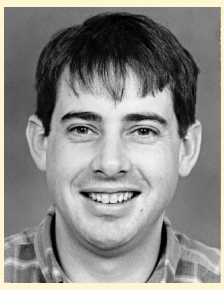
Operating System Error.
Error Number: 13

And InfoExporer fails to start.

When you start InfoExplorer, it attempts to read and write from/to `$HOME/info`. InfoExporer creates a directory when you start it for the first time. Chances are that you su'ed to some other user, probably root, and started InfoExporer for the first time.

If you did not use the `- <userid>` option with su, then `$HOME` is not changed and the InfoExplorer directory will be created with the incorrect ownership. Change `$HOME/info` ownership to the correct user and group as well as the additional files and directories below, including the "dot" files.

—David Stewart



David Stewart

Jeff Simon

When I start InfoExplorer, a window is displayed that contains:

Operating System Error.
Error Number: 28

If this error message appears, you will most likely find that your `/home` filesystem is full.

The fix is simple. Either remove unwanted files or make the filesystem larger. Use the command `chfs -a size=+1 <filesystem>` to increase the filesystem by 1 Physical Partition (PP) or 4 MB.

—David Stewart

Can the xlf Version 3 compiler accept C comment /* comment */" delimiters?

The xlf Version 3 compiler will accept C comment delimiters if you use the C preprocessor to preprocess your file. To call `cpp` for a particular file, use a file suffix of `.F`. Each `.F` file `<filename>.F` is preprocessed into an intermediate file `<F.filename.F>`, which is then compiled.

The intermediate file can be saved by specifying the `-d` compiler option; otherwise, the file is deleted. If you only want to preprocess and do not want to produce object or executable files, specify the `-qnoobject` option as well.

—Jeff Simon

The C library (libc.a) consists of many small modules, and one very large one called shr.o. What is this file?

The module `shr.o` is dynamically loadable and sharable by default and contains system calls and handlers.

—Jeff Simon

How can I call a C program from a FORTRAN program?

Figure 1 shows an example.

—Jeff Simon

How can I write to the text segment of an executable?

Writing to a text segment of an executable can be done by compiling the source code with `-qroconst`. Figure 2 shows an example.

```
c program name: FortranCallingC.f
      write (6,*) "Fortran is not just for mathematicians"
      call hello
      end
```

```
/* program name: Cprog.c */
void hello()
{
  printf("Most of UNIX is written in  C\n");
}
```

```
syntax of compilation:  xlc -c Cprog.c
                        xlf FortranCallingC.f Cprog.o -o <filename>
```

Figure 1. FORTRAN program calling C program

```
1. cc -qroconst -o <output> <filename>.c  // -qroconst will write to text
2. size -f <output>  –>>

   <output>: 380(.text) + 64(.data) + 16(.bss) + 302(.loader) = 762

3. cc -o <output> <filename>.c                // for comparison
4. size -f <output>  –>>

   data_out: 280(.text) + 164(.data) + 16(.bss) + 302(.loader) = 762
```

Figure 2. Writing to text segment of executable

Compiling with `-qroconst` will write to the text segment (the default is to write to the data segment). Note that pointers and complex aggregates containing pointer members cannot be placed in the text segment.

—Jeff Simon

I am sending as much information as possible through my Ethernet card. How can I improve its performance?

Most Ethernet cards today are based on the EISA bus standard, which can itself be a limiting factor on the speed at which your computer communicates on the network. Try an Ethernet card based on the PCI bus standard. This is the easiest way to improve performance. Another factor in network performance is the `mbuf` settings. A `netstat -m` command will show the status of the `mbufs` and if requests for `mbufs` are being denied.

—Craig Stermer

How can I tell if my system is using Domain Name Service (DNS)?

DNS looks for the existence of the `/etc/resolv.conf` file. If your machine has this file, it will use this file to resolve a name with a network address. To keep your system from using DNS, simply rename or remove this file.

—Craig Stermer

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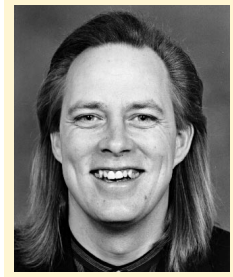
AIX Receives UNIX 95 Brand

X/Open has stamped its UNIX 95 brand on IBM's AIX operating system. The brand signifies that AIX complies with the X/Open Single UNIX Specification and indicates that the operating system supports a common set of Application Programming Interfaces (APIs) that enable greater portability of applications between UNIX systems.



Craig Stermer