09/17/96,

Named Debug Guide

Special Notices

Information in this document is correct to the best of our knowledge at the time of this writing. Please send feedback by fax to "AIXServ Information" at (512) 823-4009.

Please use this information with care. IBM will not be responsible for damages of any kind resulting from its use. The use of this information is the sole responsibility of the customer and depends on the customer's ability to evaluate and integrate this information into the customer's operational environment.

ABOUT THIS DOCUMENT

This document list steps for gathering information about a naming problem and is applicable to AIX 3.2. This document assumes that you are working with AIX Support under one of the service options. For information on the AIX Support Family and Program Services (IBM's base support for code-related problems), request these faxes from 1-800-IBM-4FAX:

```
1537      Overview of AIX Support
1760      Using Program Services
2464      The AIX Support Family
```

Use the following steps to gather information about your naming problem to send to AIX Support.

NOTES:

- Please perform all the steps given below on the machine which is having "named" problems.
- Replace XXXXX with your problem number and YYY with your IBM branch office code.

STEPS

1. Make a temporary subdirectory:

   ```
   mkdir /tmp/XXXXX
   ```

2. Make subdirectories for the primary nameserver and for each secondary. For example:

   ```
   mkdir /tmp/XXXXX/pri
   mkdir /tmp/XXXXX/sec.1
   mkdir /tmp/XXXXX/sec.2
   ```

3. Copy the named configuration files on these systems to their respective directories. Among the configuration files include the "named.boot" file and each of the database files listed in named.boot. For example:

   ```
   cp /etc/named.boot /tmp/XXXXX/pri
   cp /etc/named.data /tmp/XXXXX/pri
   ```

4. On the machine with which you are having named problems, please do the following:

   Start named with level 9 debugging or, if named is already running, send it "kill -USR1 <named_pid>" 9 times. Please note that "named" debugging will be collected in "/var/tmp" and that you must have sufficient space in that file system. IF you run out of space you will have to give signals to stop "named" debugging occasionally, backup the debug output, and send "named" a signal to start debug output. Examples of starting and stopping debugging are:

   ```
   startsrc -s named -a "-d 9"
   kill -USR1  cat /etc/named.pid
   ```

5. Now, reproduce the problem. After the problem appears,

   a. Send a signal to have named dump its configuration:

      ```
      kill -2  cat /etc/named.pid
      ```

   b. Send a signal to stop named debugging:

      ```
      kill -USR2  cat /etc/named.pid
      ```

   c. Issue the following commands to copy files to the temporary directory:

      ```
      cp /var/tmp/named.run /tmp/XXXXX
      cp /var/tmp/named_dump.db /tmp/XXXXX
      ```

   d. If a problem with zone transfer is suspected, issue the following command:

      ```
      cp /usr/tmp/xfr* /tmp/XXXXX
      ```

   e. Please include a README file in /tmp/XXXXX which includes:

   - Some indication of the naming hierarchy, (domains, subdomains)
   - Ip addresses and hostnames of all name servers, (primaries, secondaries, etc.)

6. Compress and tar the whole XXXXX directory:

   ```
   tar -cvf- XXXXX | compress > XXXXX.tar.Z
   ```

7. tar the compressed tar file to a diskette or tape:

   ```
   tar -cvf /dev/(device) XXXXX.tar.Z
   ```

8. Include on the media label the problem number and branch office number (XXXXX,YYY) and the command used to place the data on the

Note: Send dumps by standard mail/overnight delivery or electronically over the Internet. Within IBM, dumps can be sent over VM, but in all cases FTP is the preferred method.

Standard Mail or Overnight Delivery

All media sent in this manner must be labeled.

Labeling Physical Media:

To prevent delays in processing, the problem number (PMR or XMENU item number) must be on the media label. If the testcase media cannot be associated with an existing PMR or XMENU item, the files associated with these numbers will be considered lost and eventually deleted from the system.

Indicate the archive format and tape block size on the media label.

Sample label is:

```
<customer name>
<problem or item #> <customer or branch office #>
<exact command used to copy to media>
<block size used, density setting used>
```

(You can determine the block size by typing:

```
lsattr -E -l rmt# | grep block_size
```

The block size is listed after "block_size".)

Very Important: If the person sending this testcase is **Not** the person who reported the problem, be sure to include the name of the person who reported it. If the proper information is not on the package, then process delays will occur.

Approved media:

```
8mm tape, 4mm tape or 1/4" diskettes
```

Mail to:

Note: Look at the "file Naming Convention" section of this document and name testcases accordingly.

IBM Corp. / Zip 2900 / Bldg 42
Attn: AIX Testcase Dept. J66S
11400 Burnet Road
Austin, TX 78758-3493
Extension 3-4050

Note: NO overnight delivery service delivers directly to bldg. 42, instead they are delivered to IBM Receiving. Please keep this in mind when choosing a delivery time.

If you specify Saturday delivery you must first make special arrangements with an AIX Support specialist (1-800-225-5249 or 1-800-call-aix), otherwise there could be a delay of several days.

VM (IBM Internal)

Reminder: If you have absolutely no other available electronic method of sending a testcase, you can send it through VNET. This method only works for IBM internal customers. It is not automated, which could cause delays in testcase processing. **FTP is the preferred method for sending testcases**.

The testcase should be combined into a single compressed tar archive and uploaded in BINARY format.

Please name the file PPPPPBBB TARZBIN, where PPPPP is the PMR number and BBB is the branch office number (without the "b").

node = AUSVMR userid = V3DEFECT

Mailing Via Internet

| All users who wish to send testcases via the Internet must read and understand
| the "Service Use Aggreement" below.

Service Use Agreement

International Business Machines Corporation
Internet Testcase Delivery Service
Service Use Agreement

This is a legal agreement to which you are consenting to be bound. If you do not agree to all of the terms of this license, do not use the service.

- International Business Machines Corporation (IBM) grants you a non-exclusive access to the Testcase Delivery Service via the Internet.
- IBM makes no representations about the suitability of this service or about any content or information made accessible by the service, for any purpose. The service is provided "as is" without express or implied warranties, including warranties of merchantability and fitness for a particular purpose or noninfringement. This service is provided gratuitously and, accordingly, IBM shall not be liable for any damages suffered by you or any user of the service.
- While IBM intends to maintain this Service, IBM reserves the right at any time to alter access, features, capabilities and functions of this Service. IBM may terminate this Service at any time without notice to you.

(continued)

Service Use Agreement (continued)

- You may not download or upload or otherwise export or reexport images or files from or to systems providing this Service except in full compliance with all United States and other applicable laws and regulations. In particular, but without limitation, none of the images or files provided or received by this Service may be downloaded or uploaded or otherwise exported or reexported (i) into or received from (or to a national or resident of) Cuba, Haiti, Iraq, Libya, Yugoslavia, North Korea, Iran, or Syria or (ii) to anyone on the US Treasury Department's list of Specially Designated Nationals or the US Commerce Department's Table of Deny Orders. By downloading or uploading images or files from or to systems providing this Service, you are agreeing to the foregoing and you are representing and warranting that you are not located in, under control of, or a national or resident of any such country on any such list.

Email Via Internet

Relatively small testcases can be sent via e-mail to aasc@austin.ibm.com. The allowable size of the testcase depends mostly on intermediate mail gateways. It is generally not advisable to send tescases larger than approximately 4MB via e-mail. Testcases sent via e-mail in the correct format are automatically proc-

essed, making them almost immediately available for analysis. See the "File Naming Convention" section of this document for more details.

FTP Via Internet

Sample file names for the tarred and compressed files:

```
ad1000.tar.Z         (item number.tar.Z)
1x234.001.tar.Z      (problem_report_#.branch_office_#.tar.Z)
1x234.1234567.tar.Z  (problem_report_#.customer_#.tar.Z)
```

FTP it to our testcase repository:

```
ftp 198.17.57.67       (or "ftp testcase.boulder.ibm.com")
login:  anonymous
password:  <your complete email address>
          (e.g., "customer@wallyworld.com")
bin                    (change to binary transfer mode)
cd aix
put 1x234.001.tar.Z   (for example)
ls -l
quit
```

File Naming Convention:

Note: Testcases should be archived into a compressed tar archive using relative path names. If FTPing, Do not create a separate directory on the testcase server.

Use of the following naming convention will allow our tools to automatically move the testcase to the proper directories and update the PMR to indicate that the testcase is available. Failure to use this naming convention could cause delays in processing the testcase.

If the testcase files cannot be associated with an existing PMR or XMENU item, they will be tagged as lost and eventually deleted.

Testcases associated with PMRs

```
 ppppp.bbb.ccc.tar.Z
     |   |   |   | |
     |   |   |   | Indicates that the archive is compressed.
     |   |   |   | If you have the gzip command available,
     |   |   |   | this will be .gz rather than .Z.
     |   |   |   |
     |   |   |   Indicates a tar archive.
     |   |   |
     |   |   The 3 character country code.
     |   |   (May be omitted if the country code is 000.)
     |   |
     |   The 3 character branch office number.
     |
     The 5 character PMR number.
```

Testcases associated with XMENU items

```
xxxxxx.tar.Z
     |   | |
     |   | Indicates that archive is compressed.
     |   | If you have the gzip command available,
     |   | this will be .gz rather than .Z.
     |   |
     |   Indicates a tar archive.
     |
    The XMENU item number.
```

Creating a Compressed tar Archive

Testcases should be archived into a compressed tar archive using relative path names. The following is an example of how to create a compressed tar archive.

- Place the testcase files into a separate directory using commands similar to those in the following example. In this example, we'll use a directory named /tmp/testcase.

```
cd /tmp
mkdir testcase
cp file1 file2 file3 testcase
```

- Execute one of the following commands to create the compressed tar archive. Using the gzip command (if available), will generally produce a significantly smaller file.

```
With the gzip command:
tar -cf- testcase | gzip -9 >9x999.999.999.tar.gz
Without the gzip command:
tar -cf- testcase | compress >9x999.999.999.tar.Z
```

Testcases should be archived into a compressed tar archive using relative path names. The following example will uuencode and send the compressed tar archive created in the previous section. You should substitute the correct filename when sending your testcase.

```
uuencode 9x999.999.999.tar.gz 9x999.999.999.tar.gz | \
mail -s "AIX_Testcase:9x999.999.999.tar.gz" aasc@austin.ibm.com
```

09/17/96,

Reader's Comments

Please fax this form to (512) 823-4009, attention "AIXServ Information". You may also e-mail comments to: elizabet@austin.ibm.com. These comments should include the same customer information requested below.

Use this form to tell us what you think about this document. If you have found errors in it, or if you want to express your opinion about it (such as organization, subject matter, appearance) or make suggestions for improvement, this is the form to use.

If you need technical assistance, contact your local branch office, point of sale, or 1-800-CALL-AIX (for information about support offerings). These services may be billable. Faxes on a variety of subjects may be ordered free of charge from 1-800-IBM-4FAX. Outside the U.S. call 415-855-4329 using a fax machine phone.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Note: If you have a problem report or item number, supplying that number may help us determine why a procedure did or did not work in your specific situation.

Problem Report or Item #: Branch Office or Customer #:

Be sure to print your name and fax number below if you would like a reply:

Name: Fax Number:

09/17/96,

END OF DOCUMENT (named.debug.tcp)