Recovery from LED 551, 555, or 557 in AIX 3.1 or 3.2

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.

Note: The information in this document has **not** been verified for AIX 4.1.

Warning: Please do not use this document if the system is a /usr client, diskless client, or dataless client.

Warning: Do not use this procedure on an AFS fileserver. Doing so may remove all AFS fileserver data because fsck would be run on the AFS volumes.

Causes of an LED 551, 555, or 557

The known causes of an LED 551, 555, or 557 during IPL on an RISC System/6000 are:

- A corrupted file system.
- A corrupted journaled-file-system (JFS) log device.
- A failing fsck (file-system check) caused by a bad file-system helper.
- A bad disk in the machine that is a member of the rootvg.

Summary of the Recovery Procedure

To diagnose and fix the problem, you will need to boot from bootable media, run logform on /dev/hd8, and run fsck to fix any file systems that may be corrupted.

Steps

Warning: Please do not use this document if the system is a /usr client, diskless client, or dataless client.

1. Turn the key to the Service position.

2. With BOSboot diskettes or tape **of the same version and level as the operating system**, boot the system.

> **Warning:** If you boot a 3.2 system with 3.1 media, or boot a 3.1 system with 3.2 media, then you will not be able to use the standard scripts (getrootfs or /etc/continue) to bring your workstation into full maintenance mode.
>
> Moreover, performing the scripts on a 3.1 system with 3.2 boot media may actually remove some files and prevent your system from booting successfully in normal mode until missing files (/etc/mount and /etc/umount) are replaced on the disk.

Notes:

a. For information on BOSboot diskettes, refer to InfoExplorer or order fax #2462 from 1-800-IBM-4FAX (or 415-855-4FAX outside the U.S. from a fax machine phone).

b. If booting from diskettes, when you see LED c07, insert the next diskette. This may be the optional display extensions diskette (required for AIX 3.2.5) or the display diskette.

c. If you have AIX 3.2.5, used a fddi network install, and selected that option for the install device, you will need the communications extensions diskette. If this diskette is not available, you can build it from another system with fddi installed or call your branch office for assistance.

Note: If you get a 551, 555, or 557 on this step, the diskette or tape is bad, and the machine is trying to boot off the fixed disk. Try it again with new BOSboot diskettes or tape.

Follow the prompts to the installation/maintenance menu.

3. Choose the maintenance shell (option 5 for AIX 3.1, option 4 for AIX 3.2).

4. Determine the hdisk# to use with the getrootfs or /etc/continue command. If you have only one disk, then `hdisk0` is the proper hdisk# to use. If you have more than one disk, do the following:

   - **For AIX 3.2.4 or later:**

     Run

     ```
     getrootfs
     ```

     The output indicates the disk that should be used with getrootfs in the next step.

   - **For AIX 3.1 to 3.2.3e:**

     Run

```
lqueryvg -Atp hdisk# | grep hd5
```

for each hdisk# (hdisk0, hdisk1, etc.) until you get output that looks like:

```
00005264feb3631c.2  hd5 1
```

The exact output you get will be different but will follow the form

```
large_number.x  hd5 1
```

You may find more than one disk has this output. These will all be disks which belong to the rootvg volume group. You may use any of the disks identified to be in rootvg in the following step.

5. Now access the rootvg volume group by running /etc/continue (for AIX 3.1) or getrootfs (for AIX 3.2). ('#' is the number of the fixed disk, determined in step 4.

   For AIX 3.1 only, run

   ```
   /etc/continue hdisk# sh
   ```

   For AIX 3.2 only, run

   ```
   getrootfs hdisk# sh
   ```

   If you get errors indicating that a physical volume is missing from the rootvg, run diagnostics on the physical volumes to find out if you have a bad disk. Do not continue with the rest of the steps in this document.

   If you get other errors from getrootfs or /etc/continue, do not continue with the rest of the steps in this document. Correct the problem causing the error. If you need assistance correcting the problem causing the error, contact one of the following:

   - local branch office
   - your point of sale
   - call 1-800-CALL-AIX (to register for fee-based services)

   All of the above avenues for assistance may be billable.

6. For AIX 3.2.4 or greater, enter the following command:

   ```
   ODMDIR=/dev/objrepos
   ```

| 7. Format the default jfslog for the rootvg jfs file systems.

| For AIX 3.1 only, run

| ```
| /etc/aix/logform /dev/hd8
| ```

| For AIX 3.2 only, run

| ```
| /usr/sbin/logform /dev/hd8
| ```

| Answer YES when asked if you want to destroy the log.

| 8. Next, run the following commands to check and repair file systems. (The
| "-y" option gives fsck permission to repair file systems when necessary.)

```
fsck -y /dev/hd1
fsck -y /dev/hd2
fsck -y /dev/hd3
fsck -y /dev/hd4
```

For AIX 3.2 only, also run

```
fsck -y /dev/hd9var
```

9. Type "exit". The file systems will automatically mount after you type "exit".
10. If you are running the Andrew File System (AFS), use the following commands to find out whether you have more than one version of the v3fshelper file.

    In AIX 3.1,

    ```
    cd /etc/helpers
    ```

    In AIX 3.2,

    ```
    cd /sbin/helpers
    ```

    Then in both AIX 3.1 and 3.2,

    ```
    ls -l v3fshelper*
    ```

    If you have only one version of the v3fshelper file (for example, "v3fshelper"), proceed to step 11.

    If there is a version of v3fshelper marked as original (for example, "v3fshelper.orig"), run the following commands:

    ```
    copy v3fshelper v3fshelper.afs
    copy v3fshelper.orig v3fshelper
    ```

11. Determine which disk is the boot disk with the lslv command. The boot disk will be shown in the PV1 column of the lslv output.

    ```
    lslv -m hd5
    ```

WARNING: Please do not proceed further if the system is a /usr client, diskless client, or dataless client.

12. Recreate the boot image and alter the boot list. (hdisk# is the boot disk determined in step 11.)

    ```
    bosboot -a -d /dev/hdisk#
    bosboot -u -d /dev/hdisk#
    ```

13. If you copied the v3fshelper file in step 10, copy the AFS file-system helper back to v3fshelper:

    ```
    copy v3fshelper.afs v3fshelper
    ```

14. With the key in Normal position, run

    ```
    shutdown -Fr
    ```

If you followed all of the above steps and the system still stops at an LED 551, 555, or 557 during a reboot in Normal mode, you may want to pursue further system recovery assistance from one of the following:

- local branch office
- your point of sale
- 1-800-CALL-AIX (to register for fee-based services)

All of the above avenues for assistance may be billable.

For reasons of time and the integrity of your AIX operating system, the best alternative at this point may be to reinstall AIX.

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:

END OF DOCUMENT (led551.krn, 4FAX# 1746)