Recovery from an LED 553 in AIX 4.1

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About This Document

This document sets out a procedure to recover from an LED 553 and is applicable to AIX 4.1.

About LED 553

An LED 553 occurs during IPL on a RISC System/6000 if the system cannot read or run the /etc/inittab file.

To recover from an LED 553, check /dev/hd3 and /dev/hd4 for space problems, and erase files if necessary. Check the /etc/inittab file for corruption, and fix it if necessary. If the inittab file was not corrupted, you will need to check the shell profiles, the /bin/bsh file, and some other files.

Recovery Procedure

1. Turn the key to the Service position.
2. With **Bootable media of the same version and level as the system**, boot the system.

   The bootable media can be ANY ONE of the following

   - Bootable cdrom
   - Mksysb
   - Bootable Install Tape

   Follow the prompts to the "Welcome to Base OS" menu.
3. Choose "Start Maintenance Mode for System Recovery" (Option 3)

   The Next Screen would prompt the following Menu "Maintenance"

   - Choose "Access a Root Volume Group" (Option 1)

At this stage the console would display information about rootvg, and also Display a Menu with two Options.

- Choose "Access this volume group and start a shell" (Option 1)

If you get errors from the above option, do not continue with the rest of this procedure. 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
- 1-800-CALL-AIX (to register for fee-based services)

All of the above avenues for assistance may be billable.

4. Use the df command to check for free space in /dev/hd3 and /dev/hd4.

```
df  /dev/hd3
df  /dev/hd4
```

5. If df showed that either file system is out of space, erase some files from that file system. Three files you may want to erase are /smit.log, /smit.script, and /.sh_history.

6. Next, check the /etc/inittab file for corruption. It may be empty or missing, or it may have an incorrect entry. For comparison, see "Sample /etc/inittab Files" at the end of this document.

7. If the inittab file is corrupt, set your terminal type in preparation for editing the file. (xxx is a terminal type, such as lft, ibm3151, or vt100.)

```
TERM=xxx
export TERM
```

   Now use an editor to create the /etc/inittab file. For an example, see "Sample /etc/inittab Files" at the end of this document. If your /etc/inittab file was corrupt and you recreated it, you may not need to perform any of the following steps.

8. Use the following command to check for any modifications or problems with permission.

```
ls -al /.profile /etc/environment /etc/profile
```

   Example output:

```
-rw-r--r--  1 root  system  158 Dec 14 1993  /.profile
-rw-rw-r--  1 root  system 1389 Oct 26 1993  /etc/environment
-rw-r--r--  1 root  system 1214 Jan 22 1993  /etc/profile
```

   One of the above files may contain a command that is valid only in the Korn shell. Change the command to something that is also valid in the Bourne shell. For example, change

```
export PATH=/bin:/usr/bin/:/etc:/usr/ucb:.
```

   to

```
PATH=/bin:/usr/bin/:/etc:/usr/ucb:.
export PATH
```

9. Check for missing or moved files with the following command:

```
ls -al /bin /bin/bsh /bin/sh /lib /u /unix
```

Example output

```
lrwxrwxrwx 1 root sys      8 Aug 5 1994 /bin -> /usr/bin
-r-xr-xr-x 3 bin  bin 256224 Jun 4 1993 /bin/bsh
-r-xr-xr-x 3 bin  bin 256224 Jun 4 1993 /bin/sh
lrwxrwxrwx 1 root sys      8 Aug 5 1994 /lib -> /usr/lib
lrwxrwxrwx 1 root sys      5 Aug 5 1994 /u -> /home
lrwxrwxrwx 1 root sys     18 Aug 5 1994 /unix -> /usr/lib/boot/unix
```

If any of the above files are missing, the problem may be a missing symbolic link. Use the commands from the list below that correspond to the missing links.

```
ln -s /usr/bin /bin
ln -s /usr/lib/boot/unix /unix
ln -s /usr/lib /lib
ln -s /home /u
```

10. Use the following command to make sure that fsck and rc.boot are not missing or corrupt.

```
ls -l /etc/fsck /sbin/rc.boot
```

Example output-

```
lrwxrwxrwx 1 root system    14 Aug  5 1994 /etc/fsck -> /usr/sbin/fsck
-rwxrwxr-- 1 root system 33760 Aug 30 1993 /sbin/rc.boot
```

11. Make sure the /etc/inittab file is the 4.1 version. For that version, the line that begins with "brc" should be

```
brc::sysinit:/sbin/rc.boot 3 >/dev/console 2>&1
```

See "Sample /etc/inittab Files" at the end of this document for an example.

12. If you have not found any obvious problems, try substituting ksh for bsh with the following commands. (The first command saves your bsh before you copy over it.)

```
cp /bin/bsh /bin/bsh.orig
cp /bin/ksh /bin/bsh
```

If you can then reboot successfully, you know that one of the profiles was causing problems for bsh. Check the profiles again by running the following:

```
/bin/bsh.orig /.profile
/bin/bsh.orig /etc/profile
/bin/bsh.orig /etc/environment
```

If you receive errors with any of the above commands, you know there is a command in that profile that bsh cannot handle.

If you followed all of the above steps and the system still stops at an LED 553 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.

Sample /ETC/INITTAB File for AIX 4.1

```
:@(#)49 1.28.2.7 src/bos/etc/inittab,cmdoper,bos411,
: 9430C411a 7/26/94 16.27.45
init:2:initdefault:
brc::sysinit:/sbin/rc.boot 3 >/dev/console 2>&1 # Phase 3 of
   system boot
powerfail::powerfail:/etc/rc.powerfail 2>&1 | alog -tboot >
   /dev/console
rc:2:wait:/etc/rc > alog -tboot > /dev/console 2>&1
   # Multi-User checks
fbcheck:2:wait:/usr/lib/dwm/fbcheck > alog -tboot >/dev/console
   2>&1
srcmstr:2:respawn:/etc/srcmstr
   # System Resource Controller
rctcpip:2:wait:/etc/rc.tcpip > /dev/console 2>
   &1 # Start TCP/IP daemons
rcnfs:2:wait:/etc/rc.nfs > /dev/console 2>&1 # Start NFS Daemons
cron:2:respawn:/etc/cron
cons:0123456789:respawn:/etc/getty /dev/console
piobe:2:wait:/usr/lib/lpd/pio/etc/pioinit >
   /dev/null 2>&1  # pb cleanup
qdaemon:2:wait:/bin/startsrc -sqdaemon
writesrv:2:wait:/bin/startsrc -swritesrv
uprintfd:2:respawn:/usr/sbin/uprintfd
dt:2:wait:/etc/rc.dt
```

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