Recovery AIX system when hang on boot (554 code error).

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If AIX system does not boot properly, possible causes could be:

- corrupted file system
- corrupted Journaled File System (JFS) log device
- bad IPL-device record or bad IPL-device magic number; the magic number indicates the device type
- corrupted copy of the Object Data Manager (ODM) database on the boot logical volume
- fixed disk (hard disk) in the inactive state in the root volume group
- bad zonning mapping with (NPIV, VSCSI, switches FC, SAn storage)

Check this post http://wp.me/p5bweg-8i to see why AIX is not booting correctly.

Follow this steps to recovery the system.

1. Boot AIX in maintenance mode (From DVD, MKSYSB, NIM or TAPE).
NOTE: Booteable media must be the same version and level as the system.

Choose Start Maintenance Mode for System Recovery (Option 3)

- Choose Start Maintenance Mode for System Recovery (Option 3). The next screen displays prompts for the Maintenance menu.

```
1
                                        Welcome to Base Operating System
2
                                        Installation and Maintenance
3
4
                                Type the number of your choice and press Enter.
5                               Choice is indicated by &gt;&gt;&gt;.
```

```
6
7                                   1 Start Install Now with Default Settings
8
9                                   2 Change/Show Installation Settings and Install
10
11                                  >>> 3 Start Maintenance Mode for System
                                    Recovery
12
13
                                    4 Make Additional Disks Available
14
                                    5 Select Storage Adapters
```

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

```
1
                                        Maintenance
2
3
                                    Type the number of your choice and press Enter.
4
5
                                    >>> 1 Access a Root Volume Group
6
```

```
7                                   2 Copy a System Dump to Removable Media
8                                   3 Access Advanced Maintenance Functions
9                                   4 Erase Disks
10                                  5 Configure Network Disks (iSCSI)
11                                  6 Select Storage Adapters
                                    7 Install from a System Backup
```

- The next screen displays a warning that indicates you will not be able to return to the Base OS menu without rebooting.

```
1
                                    Choose 0 continue.
2
                                              Warning:
3
4
                                    If you choose to access a root volume group, you
5                                   will not be able to return
6                                   to the Base Operating System Installation menus
                                    without rebooting.
7
8
                                    Type the number of your choice and press Enter.
9
10
```

```
11                                    0 Continue

12

13                                    88  Help ?

14                                  >>> 99  Previous Menu



                                    >>> Choice [99]: 0
```

- The next screen displays information about all volume groups on the system.

```
1
                                                Access a Root Volume Group
2

3
                                    Type the number for a volume group to display the
4                                   logical volume information

5                                   and press Enter.

6

7                                     1)  Volume Group
                                    0000e4720000d9000000011d6c3294dc contains
8                                   these disks:

9                                         hdisk0  24576     C3-T1-01
                                    500507680b2122b4//0000000000000000 001e1f00
10
                                      2)  Volume Group
```

```
11                                  0000e4720000d9000000011d72e7acf8 contains
                                    these disks:
12
                                          hdisk1 130048     C3-T1-01
13                                  500507680b2122b4//0001000000000000 001e1f00

14                                    3)  Volume Group
                                    0000e4720000d9000000011d6c3296c9 contains
15                                  these disks:

16                                        hdisk2  33792     C3-T1-01
                                    500507680b2122b4//0002000000000000 001e1f00
17
                                      4)  Volume Group
                                    0000e4720000d9000000011d6c329781 contains
                                    these disks:

                                          hdisk3 132096     C3-T1-01
                                    500507680b2122b4//0003000000000000 001e1f00

                                      5)  Volume Group
                                    000fd1fb0000d4000000015385553deb contains
                                    these disks:

                                          hdisk4  74752     C3-T1-01
                                    500507680b2122b4//0004000000000000 001e1f00



                                    Choice: 5
```

- Select the root volume group by number. The logical volumes in rootvg will be displayed with two options below.

```
                    Volume Group Information

-----------------------------------------------------------------------------

   Volume Group ID 000fd1fb0000d4000000015385553deb includes the following

   logical volumes:


       hd5         hd6         hd8   log_SCCC   sfs_SSS        hd4

    soft_lv  backups_lv        hd1     hd10opt    hd3       tools

       hd2      hd9var   varsyslog      fslv01   nmon_lv    audit_lv

   cores_lv   hd11admin  logbbb



-----------------------------------------------------------------------------
```

- Choose **Access this volume group and start a shell before mounting the file systems** (Option 2).

```
1
                                Type the number of your choice and press Enter
2
                                  1) Access this Volume Group and start a shell
3
                                  2) Access this Volume Group and start a shell
4                               before mounting filesystems
5
6                                 99) Previous Menu
7
                                  Choice [99]: 2
```

2. Run fsck to repair filesystems (Do not use -y option)

```
1
                                # fsck -p /dev/hd4
2
                                # fsck -p /dev/hd2
3
                                # fsck -p /dev/hd9var
4
                                # fsck -p /dev/hd3
5
                                # fsck -p /dev/hd1
```

- If fsck indicates that block XX could not be read, the file system is probably unrecoverable

(Nothing to do, stop this procedure andrecover system from backup)

- If fsck indicates that a file system has an unknown log record type, a corruption of the JFS log logical volume has been detected. Use the logform command to reformat it.

```
1
                                        # /usr/sbin/logform /dev/hd8
```

- If the file system checks were successful, continue procedure

3. Reboot the system.

```
1
                                        # exit
2
                                        # sync;sync;sync;reboot
```

4. AIX failed again? Check ODM.

If AIX does not boot OK, is possible that ODM is corrupt. The following steps will overwrite your Object Data Manager (ODM) database files. You have to be carefull with this. You will loose important infotmation like network , devices and imported volume groups.

```
1
                                        # mount /dev/hd4 /mnt
2
                                        # mount /dev/hd2 /mnt/usr
3
                                        # mkdir /mnt/etc/objrepos/bak
4
                                        # cp /mnt/etc/objrepos/Cu* /mnt/etc/objrepos/bak
```

```
5                                   # cp /etc/objrepos/Cu* /mnt/etc/objrepos

6                                   # umount /dev/hd2

7                                   # umount /dev/hd4

8                                   # exit
```

- 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.

```
1
                                    # lslv -m hd5
2
                                    hd5:N/A
3
                                    LP    PP1  PV1             PP2  PV2             PP3
4                                   PV3

                                    0001  0102 hdisk4
```

5. Save the clean ODM database to the boot logical volume. (# is the number of the fixed disk, determined with the previous command.)

```
1
                                    # savebase -d /dev/hdisk#
```

6. Recreate the boot image (hdisk4 in our case):

```
# bosboot -a -d /dev/hdisk4

trustchk: /usr/sbin/cfgmgr: Verification of attributes failed: mode

trustchk: /usr/sbin/ifconfig: Verification of attributes failed: accessauths innateprivs secflags

trustchk: /usr/sbin/chdev: Verification of attributes failed: mode

trustchk: /usr/sbin/mknod: Verification of attributes failed: mode

trustchk: /usr/sbin/route: Verification of attributes failed: mode

trustchk: /usr/sbin/mount: Verification of attributes failed: mode

trustchk: /usr/sbin/ipl_varyon: Verification of attributes failed: mode



bosboot: Boot image is 51228 512 byte blocks.
```

7. Make sure the bootlist is set correctly:

```
# bootlist -m normal -o
```

```
2                                   hdisk4 blv=hd5 pathid=0

3                                   hdisk4 blv=hd5 pathid=1

4                                   hdisk4 blv=hd5 pathid=4

5                                   hdisk4 blv=hd5 pathid=5

6                                   hdisk4 blv=hd5 pathid=2
```

8. Make changes, if necessary:

```
1
                                    # bootlist -m normal hdiskX cdX
```

9. Make sure that the disk drive that you have chosen as your bootable device has a yes next to it:

```
1
                                    # ipl_varyon -i
2
                                    [S 2359402 2490530 01/23/17-13:23:32:132
3                                   ipl_varyon.c 1312] ipl_varyon -i

4

5                                   PVNAME          BOOT DEVICE
                                    PVID                 VOLUME GROUP ID
6
                                    hdisk0          NO
7                                   000fd1eba39e6b120000000000000000
```

```
8                                                0000e4720000d900

9                                                hdisk1          NO
                                                 000fd1eba3a3de1c0000000000000000
10                                               0000e4720000d900

                                                 hdisk2          NO
                                                 000fd1eba3ba7f480000000000000000
                                                 0000e4720000d900

                                                 hdisk3          NO
                                                 000fd1eba3c6b7860000000000000000
                                                 0000e4720000d900

                                                 hdisk4          YES
                                                 000fd1fb7eaa2cf30000000000000000
                                                 000fd1fb0000d400

                                                 [E 2359402 0:334 ipl_varyon.c 1453] ipl_varyon:
                                                 exited with rc=0
```

10. Reboot the system again.

```
1
                                                 # sync;sync;sync;reboot
```