# NIM

## Setup NIM Environment

****

**install NIM master fileset on NIM Server**

Install and Update from ALL Available Software

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[TOP] [Entry Fields]

\* Installation Target master

\* LPP\_SOURCE lpp\_souceAll

\* Software to Install [bos.adt, bos.nim > +

## How NIM Works

NIM Server providse OS/software needed by clients, through network; Sample steps using NIM Server to install OS on a standalone client, same thing if you use NIM Server to install software to Client, and/or backup client data using mksysb/savevg to NIM Server

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## Define NIM Resource

Nim Server hold NIM DB, The NIM database is stored in the AIX Object Data Management (ODM) repository on the NIM master and is divided into four classes: machines, networks, resources, groups:



**Define lpp\_source resource, Copy AIX DVD/image to NIM Server filesystem:**

1. copy software packaged as CD Image(ios format) to NIM Resource Server directory /export/lpp\_source, define as lpp\_source:

*#loopmount -i AIX6.1BaseTL05SP06\_DVD1.iso -o "-V cdrfs -o ro" -m /mnt*

*#cd /mnt*

*#find . -print | cpio -pdl /export/lpp\_source/lpp\_sourceAll*

*#inutoc .*

*#gencopy -d /recyclebox/aix6.1-tl6-sp7 -U all*

1. Copy from CD to NIM Resource Server

*1. Place CD into the CD-ROM drive.*

*2. Enter # smit bffcreate*

1. You can create your own bff installation package using mkinstallp to make lpp\_source

Use mkinstallp to create bff package for AIX “smitty installp”

root@ifx01:/cgi #cat cgi.template

Package Name: CGIMIGRATION

Package VRMF: 1.0.0.0

Update: N

Fileset

Fileset Name: CGIMIGRATION.rte

Fileset VRMF: 1.0.0.0

Fileset Description: CGIMIGRATION

Bosboot required: N

License agreement acceptance required: N

Include license files in this package: N

Requisites:

ROOT Part: Y

ROOTFiles

/bin

/bin/cgi.backup

/bin/cgi.comment

/bin/cgi.crfs

/bin/cgi.db2backup

/bin/cgi.delete

/bin/cgi.ftp

/bin/cgi.idsbackup

/bin/cgi.idsrestore

/bin/cgi.mkchunk

EOROOTFiles

EOFileset

root@ifx01:/cgi #mkinstallp -T /cgi/cgi.template -d /cgi

root@ifx01:/cgi/tmp #restore -qTvf CGIMIGRATION.1.0.0.0.bff

Copy this new created “CGIMIGRATION.1.0.0.0.bff” to /export/lpp\_source/cgitools

Create content of table for the directory:

#cd /export/lpp\_source/cgimiragtiontools

#inutoc.

**create new lpp\_source named “ cgimigrationtool”**

**Then, you can install this “cgimgrationtools” on any machines with NIM**

#smitty nim

Manage Resources

Move cursor to desired item and press Enter.

List All Network Install Resources

Define a Resource

Change/Show Characteristics of a Resource

Show the Contents of a Resource

Remove a Resource

Perform Operations on Resources

Verify Resources

Define a Resource

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[Entry Fields]

\* Resource Name [lpp\_souceAll]

\* Resource Type lpp\_source

\* Server of Resource [master] +

\* Location of Resource [/export/lpp\_source/lp> /

NFS Client Security Method [] +

NFS Version Access [] +

Architecture of Resource [] +

Source of Install Images [] +/

Names of Option Packages []

Show Progress [yes] +

Comments []

Command: OK stdout: yes stderr: no

Before command completion, additional instructions may appear below.

Preparing to copy install images (this will take several minutes)...

Now checking for missing install images...

All required install images have been found. This lpp\_source is now ready.

**Create s SPOT resource from lpp\_source or mksysb by installing needed software in SPOT for NIM operation.**

Define a Resource

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[TOP] [Entry Fields]

\* Resource Name [spotAll]

\* Resource Type spot

\* Server of Resource [master] +

Source of Install Images [lpp\_souceAll] +

\* Location of Resource [/export/spot/spotAll] /

NFS Client Security Method [] +

NFS Version Access [] +

Expand file systems if space needed? yes +

Comments []

installp Flags

PREVIEW only? (install operation will NOT occur) no +

COMMIT software updates? no +

[MORE...4]

**Then, you can install/migrate/backup/restore any machine managed by NIM Server**

**Backup Client Mksysb to NIM Server by creating mksysb from client**

Manage Resources

Move cursor to desired item and press Enter.

List All Network Install Resources

Define a Resource

Change/Show Characteristics of a Resource

Show the Contents of a Resource

Remove a Resource

Perform Operations on Resources

Verify Resources

Manage Resources

Mo+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

| Resource Type |

| |

| Move cursor to desired item and press Enter. Use arrow keys to scroll. |

| |

| [MORE...8] |

| lpp\_source = source device for optional product images |

| installp\_bundle = an installp bundle file |

| fix\_bundle = fix (keyword) input file for the cust or fix\_query o |

| bosinst\_data = config file used during base system installation |

| image\_data = config file used during base system installation |

| vg\_data = config file used during volume group restoration |

| mksysb = a mksysb image |

| script = an executable file which is executed on a client |

| resolv\_conf = configuration file for name-server information |

| savevg = a savevg image |

| [MORE...10] |

| |

| F1=Help F2=Refresh F3=Cancel |

| Esc+8=Image Esc+0=Exit Enter=Do |

F1| /=Find n=Find Next |

Es+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

Define a Resource

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[TOP] [Entry Fields]

\* Resource Name [mksysb\_lms]

\* Resource Type mksysb

\* Server of Resource [master] +

\* Location of Resource [/export/mksysb/mksysb> /

NFS Client Security Method [] +

NFS Version Access [] +

Comments []

Source for Replication [] +

-OR-

System Backup Image Creation Options:

CREATE system backup image? yes +

NIM CLIENT to backup [admsrv2] +

[MORE...14]

Install OS from mksysb using NIM, the best practice is to un-define disks from SAN, and run cfgmgr to configure SAN disks after OS installation finished.

and more, Check following OS level directory/file,defined bos\_inst resources for a defined machine should be there,

1. /etc/bootp.conf
2. /tftpboot

## Manage NIM resource

Network Installation Manager

Move cursor to desired item and press Enter.

Configure the NIM Environment

Perform NIM Software Installation and Maintenance Tasks

Perform NIM Administration Tasks

Create IPL ROM Emulation Media

NIM POWER5 Tools

Thin Server Maintenance

Perform NIM Administration Tasks

Move cursor to desired item and press Enter.

Manage Networks

Manage Machines

Manage Control Objects

Manage Resources

Manage Groups

Backup/Restore the NIM Database

Configure NIM Environment Options

Rebuild the niminfo File on the Master

Change the Master's Primary Interface

Manage Alternate Master Environment

Unconfigure NIM

Manage Network Install Resource Allocation

Move cursor to desired item and press Enter.

List Allocated Network Install Resources

Allocate Network Install Resources

Deallocate Network Install Resources

+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

| Target Name |

| |

| Move cursor to desired item and press Enter. |

| |

| master machines master |

| admsrv2 machines standalone |

| admsrv1 machines standalone |

| |

| F1=Help F2=Refresh F3=Cancel |

| Esc+8=Image Esc+0=Exit Enter=Do |

F1| /=Find n=Find Next |

Es+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

Manage Network Install Resource Allocation

Mo+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

| Available Network Install Resources |

| |

| Move cursor to desired item and press Esc+7. |

| ONE OR MORE items can be selected. |

| Press Enter AFTER making all selections. |

| |

| [MORE...39] |

| vac-aix50 installp\_bundle |

| vacpp-aix50 installp\_bundle |

| wsm\_remote installp\_bundle |

| bid\_ow bosinst\_data |

| hacmp\_source lpp\_source |

| mksysb\_lms mksysb |

| > lpp\_souceAll lpp\_source |

| > spotAll spot |

| [BOTTOM] |

| |

| F1=Help F2=Refresh F3=Cancel |

| Esc+7=Select Esc+8=Image Esc+0=Exit |

F1| Enter=Do /=Find n=Find Next |

Es+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

## Install/Migrate OS/software

Migration NIM Server using CD AXI6.1,

Cloning rootvg with alt\_disk\_install

{nimmast}:/ # unmirrorvg -c1 rootvg hdisk1

{nimmast}:/ # chpv -c hdisk1

{nimmast}:/ # lspv -l hdisk1 ; migratepv hdisk1 hdisk0 (if required)

{nimmast}:/ # lspv -l hdisk1

{nimmast}:/ # reducevg rootvg hdisk1

{nimmast}:/ # lsvg -p rootvg

{nimmast}:/ # bosboot -a -d /dev/hdisk0

{nimmast}:/ # bootlist -m normal hdisk0

{nimmast}:/ # bootlist -m normal -o

hdisk0

{nimmast}:/ # alt\_disk\_install -B -C hdisk1

Perform migration installation of AI6.1. We are now ready to execute the AIX migration. At this point in our case, we must go to the NIM master’s console (via the HMC) and prepare to migrate via CD.

Insert AIX6.1 Installation CD Volume 1 into the CD drive.

Follow the procedure in the AIX installation and migration guide to migrate via media to AIX6.1

After the migration is finished, remove the AIX 5L V5.3 Installation Volume 1 CD from the CD-ROM drive.

Check the system configuration, for example, oslevel, disk, network, AIX error report, and so on.

Clean up old AIX 5.2 filesets. It may be necessary to remove old AIX 5.2 filesets after the migration.

Check the NIM environment. In our case, we perform some quick tests to verify the NIM environment after the migration. Using the lsnim command, we verify that the NIM database is intact. We check the state of the master and clients. We also validate some of our NIM resources.

Check the NIM database:

{nimmast}:/ # lsnim

Check the status of the NIM master:

{nimmast}:/ # lsnim -a Cstate -a Mstate master

Check the status of a NIM client:

{nimmast}:/ # lsnim -a Cstate -a Mstate LPAR4

Validate the NIM resources:

{nimmast}:/ # nim -o check LPP\_52\_ML8

{nimmast}:/ # nim -o check SPOT\_52\_ML8

Build an AIX6.1 lpp\_source and SPOT.

After NIM Server Migrated successfully, We will migrate a system from AIX 5.3 to AIX 6.1 using nimadm.

The NIM master in this environment is running AIX 6.1 TL3 SP2. Our NIM client name is aix1 (running AIX 5.3 TL7 SP5 and migrating to AIX 6.1 TL3 SP1) and the NIM masters name is nim1.

Ensure that you read the AIX 6.1 release notes and review the documented requirements such as the amount of free disk space required.

Prior to a migration, it is always a good idea to run the pre\_migration script on the system to catch any issues that may prevent the migration from completing successfully. You can find this script on the AIX 6.1 installation media.

Run this script, review the output (in /home/pre\_migration), and correct any issues that it reports before migrating.

|  |
| --- |
| #./pre\_migration   All saved information can be found in: /home/pre\_migration.090903105452  Checking size of boot logical volume (hd5).   Your rootvg has mirrored logical volumes (copies greater than 1) Recommendation: Break existing mirrors before migrating.   Listing software that will be removed from the system.  Listing configuration files that will not be merged.   Listing configuration files that will be merged.   Saving configuration files that will be merged.   Running lppchk commands. This may take awhile.   Please check /home/pre\_migration.090903105452/software\_file\_existence\_check  for possible errors.   Please check /home/pre\_migration.090903105452/software\_checksum\_verification  for possible errors.   Please check /home/pre\_migration.090903105452/tcbck.output for possible errors.   All saved information can be found in: /home/pre\_migration.090903105452   It is recommended that you create a bootable system backup of your system before migrating. |

I always take a copy of the /etc/sendmail.cf and /etc/motd files before an AIX migration. These files will be replaced during the migration and you will need to edit them again and add your modifications.

Commit any applied filesets. You should also consider removing any ifixes that may hinder the migration.

If rootvg is mirrored, I break the mirror and reduce it to a single disk. This gives me a spare disk that can be used for the migration.

To allow **nimadm** to do its job, I must temporarily enable rshd on the client LPAR. I will disable it again after the migration.

|  |
| --- |
| # chsubserver -a -v shell -p tcp6 -r inetd   # refresh –s inetd  # cd /  # rm .rhosts  # vi .rhosts  +  # chmod 600 .rhosts |

On the NIM master, I can now 'rsh' to the client and run a command as root.

|  |
| --- |
| # rsh aix1 whoami  root |

At this point I'm ready to migrate. The process will take around 30-45 minutes; all the while the applications on the LPAR will continue to function as normal.

On the NIM master, I have created a new volume group (VG) named nimadmvg. This VG has enough capacity to cater for a full copy of the NIM clients root volume group (rootvg). This VG will be empty until the migration is started.

Likewise, on the NIM client, I have a spare disk which has enough capacity for a full copy of its rootvg.

On the master (nim1):

|  |
| --- |
| # lsvg -l nimadmvg  nimadmvg:  LV NAME TYPE LPs PPs PVs LV STATE MOUNT POINT |

On the client (aix1):

|  |
| --- |
| # lspv   hdisk0 0000273ac30fdcfc rootvg active  **hdisk1 000273ac30fdd6e None** |

The fileset bos.alt\_disk\_install.rte fileset is installed on the NIM master:

|  |
| --- |
| # lslpp -l bos.alt\_disk\_install.rte  Fileset Level State Description  ---------------------------------------------------------------------------- Path: /usr/lib/objrepos  bos.alt\_disk\_install.rte 6.1.3.1 APPLIED Alternate Disk Installation  Runtime |

And it is also installed in the AIX 6.1 TL3 SP1 SPOT:

|  |
| --- |
| # nim -o showres 'spotaix61031' | grep bos.alt\_disk\_install.rte  bos.alt\_disk\_install.rte 6.1.3.1 C F Alternate Disk Installation |

The **nimadm** command is executed from the NIM master.

|  |
| --- |
| # nimadm -j nimadmvg -c aix1 -s spotaix61031 -l lppsourceaix61031 -d "hdisk1" –Y |

Where:

* –j flag specifies the VG on the master which will be used for the migration
* -c is the client name
* –s is the SPOT name
* -l is the lpp\_source name
* -d is the hdisk name for the alternate root volume group (altinst\_rootvg)
* –Y agrees to the software license agreements for software that will be installed during the migration.

Now I can sit back and watch the migration take place. All migration activity is logged on the NIM master in the /var/adm/ras/alt\_mig directory. For this migration, the log file name is aix1\_alt\_mig.log. Here's a sample of some of the output you can expect to see for each phase:

|  |
| --- |
| MASTER DATE: Mon Nov 9 14:29:09 EETDT 2009 CLIENT DATE: Mon Nov 9 14:29:09 EETDT 2009 NIMADM PARAMETERS: -j nimadmvg -c aix1 -s spotaix61031 -l lppsourceaix61031 -d hdisk1 -Y Starting Alternate Disk Migration.  +----------------------------------------------------------------------+ Executing nimadm phase 1. +----------------------------------------------------------------------+ Cloning altinst\_rootvg on client, Phase 1. Client alt\_disk\_install command: alt\_disk\_copy -j -i /ALT\_MIG\_IMD -M 6.1 -P1 -d "hdisk1" Checking disk sizes. Creating cloned rootvg volume group and associated logical volumes. Creating logical volume alt\_hd5. Creating logical volume alt\_hd6. Creating logical volume alt\_hd8. Creating logical volume alt\_hd4. Creating logical volume alt\_hd2. Creating logical volume alt\_hd9var. Creating logical volume alt\_hd3. Creating logical volume alt\_hd1. Creating logical volume alt\_hd10opt. Creating logical volume alt\_hd7. Creating logical volume alt\_local\_lv. Creating logical volume alt\_varloglv. Creating logical volume alt\_nmonlv. Creating logical volume alt\_chksyslv. Creating logical volume alt\_hd71. Creating logical volume alt\_auditlv. Creating logical volume alt\_nsrlv. Creating logical volume alt\_hd11admin. Creating /alt\_inst/ file system. Creating /alt\_inst/admin file system. Creating /alt\_inst/home file system. Creating /alt\_inst/home/nmon file system. Creating /alt\_inst/nsr file system. Creating /alt\_inst/opt file system. Creating /alt\_inst/tmp file system. Creating /alt\_inst/usr file system. Creating /alt\_inst/usr/local file system. Creating /alt\_inst/usr/local/chksys file system. Creating /alt\_inst/var file system. Creating /alt\_inst/var/log file system. Creating /alt\_inst/var/log/audit file system. Generating a list of files for backup and restore into the alternate file system... Phase 1 complete.  +----------------------------------------------------------------------+ Executing nimadm phase 2. +----------------------------------------------------------------------+ Creating nimadm cache file systems on volume group nimadmvg. Checking for initial required migration space. Creating cache file system /aix1\_alt/alt\_inst Creating cache file system /aix1\_alt/alt\_inst/admin Creating cache file system /aix1\_alt/alt\_inst/home Creating cache file system /aix1\_alt/alt\_inst/home/nmon Creating cache file system /aix1\_alt/alt\_inst/nsr Creating cache file system /aix1\_alt/alt\_inst/opt Creating cache file system /aix1\_alt/alt\_inst/tmp Creating cache file system /aix1\_alt/alt\_inst/usr Creating cache file system /aix1\_alt/alt\_inst/usr/local Creating cache file system /aix1\_alt/alt\_inst/usr/local/chksys Creating cache file system /aix1\_alt/alt\_inst/var Creating cache file system /aix1\_alt/alt\_inst/var/log Creating cache file system /aix1\_alt/alt\_inst/var/log/audit  +----------------------------------------------------------------------+ Executing nimadm phase 3. +----------------------------------------------------------------------+ Syncing client data to cache ...  +----------------------------------------------------------------------+ Executing nimadm phase 4. +----------------------------------------------------------------------+ nimadm: There is no user customization script specified for this phase.  +----------------------------------------------------------------------+ Executing nimadm phase 5. +----------------------------------------------------------------------+ Saving system configuration files. Checking for initial required migration space. Setting up for base operating system restore. /aix1\_alt/alt\_inst Restoring base operating system. Merging system configuration files. Running migration merge method: ODM\_merge Config\_Rules. Running migration merge method: ODM\_merge SRCextmeth. Running migration merge method: ODM\_merge SRCsubsys. Running migration merge method: ODM\_merge SWservAt. Running migration merge method: ODM\_merge pse.conf. Running migration merge method: ODM\_merge vfs. Running migration merge method: ODM\_merge xtiso.conf. Running migration merge method: ODM\_merge PdAtXtd. Running migration merge method: ODM\_merge PdDv. Running migration merge method: convert\_errnotify. Running migration merge method: passwd\_mig. Running migration merge method: login\_mig. Running migration merge method: user\_mrg. Running migration merge method: secur\_mig. Running migration merge method: RoleMerge. Running migration merge method: methods\_mig. Running migration merge method: mkusr\_mig. Running migration merge method: group\_mig. Running migration merge method: ldapcfg\_mig. Running migration merge method: ldapmap\_mig. Running migration merge method: convert\_errlog. Running migration merge method: ODM\_merge GAI. Running migration merge method: ODM\_merge PdAt. Running migration merge method: merge\_smit\_db. Running migration merge method: ODM\_merge fix. Running migration merge method: merge\_swvpds. Running migration merge method: SysckMerge.  +----------------------------------------------------------------------+ Executing nimadm phase 6. +----------------------------------------------------------------------+ Installing and migrating software. Updating install utilities. +----------------------------------------------------------------------+  Pre-installation Verification... +----------------------------------------------------------------------+ Verifying selections...done Verifying requisites...done Results... |

…output truncated….

|  |
| --- |
| install\_all\_updates: Generating list of updatable rpm packages. install\_all\_updates: No updatable rpm packages found.  install\_all\_updates: Checking for recommended maintenance level 6100-03. install\_all\_updates: Executing /usr/bin/oslevel -rf, Result = 6100-03 install\_all\_updates: Verification completed. install\_all\_updates: Log file is /var/adm/ras/install\_all\_updates.log install\_all\_updates: Result = SUCCESS Restoring device ODM database.  +----------------------------------------------------------------------+ Executing nimadm phase 7. +----------------------------------------------------------------------+ nimadm: There is no user customization script specified for this phase.  +----------------------------------------------------------------------+ Executing nimadm phase 8. +----------------------------------------------------------------------+ Creating client boot image. bosboot: Boot image is 40952 512 byte blocks. Writing boot image to client's alternate boot disk hdisk1.  +----------------------------------------------------------------------+ Executing nimadm phase 9. +----------------------------------------------------------------------+ Adjusting client file system sizes ... Adjusting size for / Adjusting size for /admin Adjusting size for /home Adjusting size for /home/nmon Adjusting size for /nsr Adjusting size for /opt Adjusting size for /tmp Adjusting size for /usr Adjusting size for /usr/local Adjusting size for /usr/local/chksys Adjusting size for /var Adjusting size for /var/log Adjusting size for /var/log/audit Syncing cache data to client ...  +----------------------------------------------------------------------+ Executing nimadm phase 10. +----------------------------------------------------------------------+ Unmounting client mounts on the NIM master. forced unmount of /aix1\_alt/alt\_inst/var/log/audit forced unmount of /aix1\_alt/alt\_inst/var/log forced unmount of /aix1\_alt/alt\_inst/var forced unmount of /aix1\_alt/alt\_inst/usr/local/chksys forced unmount of /aix1\_alt/alt\_inst/usr/local forced unmount of /aix1\_alt/alt\_inst/usr forced unmount of /aix1\_alt/alt\_inst/tmp forced unmount of /aix1\_alt/alt\_inst/opt forced unmount of /aix1\_alt/alt\_inst/nsr forced unmount of /aix1\_alt/alt\_inst/home/nmon forced unmount of /aix1\_alt/alt\_inst/home forced unmount of /aix1\_alt/alt\_inst/admin forced unmount of /aix1\_alt/alt\_inst Removing nimadm cache file systems. Removing cache file system /aix1\_alt/alt\_inst Removing cache file system /aix1\_alt/alt\_inst/admin Removing cache file system /aix1\_alt/alt\_inst/home Removing cache file system /aix1\_alt/alt\_inst/home/nmon Removing cache file system /aix1\_alt/alt\_inst/nsr Removing cache file system /aix1\_alt/alt\_inst/opt Removing cache file system /aix1\_alt/alt\_inst/tmp Removing cache file system /aix1\_alt/alt\_inst/usr Removing cache file system /aix1\_alt/alt\_inst/usr/local Removing cache file system /aix1\_alt/alt\_inst/usr/local/chksys Removing cache file system /aix1\_alt/alt\_inst/var Removing cache file system /aix1\_alt/alt\_inst/var/log Removing cache file system /aix1\_alt/alt\_inst/var/log/audit  +----------------------------------------------------------------------+ Executing nimadm phase 11. +----------------------------------------------------------------------+ Cloning altinst\_rootvg on client, Phase 3. Client alt\_disk\_install command: alt\_disk\_copy -j -i /ALT\_MIG\_IMD -M 6.1 -P3 -d "hdisk1" ## Phase 3 ################### Verifying altinst\_rootvg... Modifying ODM on cloned disk. forced unmount of /alt\_inst/var/log/audit forced unmount of /alt\_inst/var/log forced unmount of /alt\_inst/var forced unmount of /alt\_inst/usr/local/chksys forced unmount of /alt\_inst/usr/local forced unmount of /alt\_inst/usr forced unmount of /alt\_inst/tmp forced unmount of /alt\_inst/opt forced unmount of /alt\_inst/nsr forced unmount of /alt\_inst/home/nmon forced unmount of /alt\_inst/home forced unmount of /alt\_inst/admin forced unmount of /alt\_inst Changing logical volume names in volume group descriptor area. Fixing LV control blocks... Fixing file system superblocks... Bootlist is set to the boot disk: hdisk1 blv=hd5  +----------------------------------------------------------------------+ Executing nimadm phase 12. +----------------------------------------------------------------------+ Cleaning up alt\_disk\_migration on the NIM master. Cleaning up alt\_disk\_migration on client aix1. |

After the migration is complete, I confirm that the bootlist is set to the **nst\_rootvg** disk.

|  |
| --- |
| # lspv | grep rootvg  hdisk0 0000273ac30fdcfc rootvg active  **hdisk1** 000273ac30fdd6e **altinst\_rootvg** active     # bootlist -m normal -o  **hdisk1** blv=hd5 |

At an agreed time, I reboot the LPAR and confirm that the system is now running AIX 6.1.

|  |
| --- |
| # shutdown –Fr    ; system reboots here…    # oslevel –s  6100-03-01-0921      # instfix -i | grep AIX  All filesets for 6.1.0.0\_AIX\_ML were found.  All filesets for 6100-00\_AIX\_ML were found.  All filesets for 6100-01\_AIX\_ML were found.  All filesets for 6100-02\_AIX\_ML were found.  All filesets for 6100-03\_AIX\_ML were found. |

At this point, I would perform some general AIX system health checks to ensure that the system is configured and running as I'd expect. There is also a post\_migration script that you can run to verify the migration. You can find this script in /usr/lpp/bos, after the migration.

You may want to consider upgrading other software such as openssl, openssh, lsof, etc at this stage.

The rsh daemon can now be disabled after the migration.

|  |
| --- |
| # chsubserver -d -v shell -p tcp6 -r inetd   # refresh –s inetd  # cd /  # rm .rhosts  # ln -s /dev/null .rhosts |

With the migration finished, the applications are started and the application support team verify that everything is functioning as expected. I also take a mksysb and document the system configuration after the migration.

Once we are all satisfied that the migration has completed successfully, we then return rootvg to a mirrored disk configuration.

|  |
| --- |
| # lspv | grep old\_rootvg  hdisk0 000071da26fe3bd0 old\_rootvg  # alt\_rootvg\_op -X old\_rootvg  # extendvg –f rootvg hdisk0  # mirrorvg rootvg hdisk0  # bosboot -a -d /dev/hdisk0  # bosboot -a -d /dev/hdisk1  # bootlist -m normal hdisk0 hdisk1  # bootlist -m normal -o   hdisk0 blv=hd5  hdisk1 blv=hd5 |

If there was an issue with the migration, I could easily back out to the previous release of AIX. Instead of re-mirroring rootvg (above), we would change the boot list to point at the previous rootvg disk (old\_rootvg) and reboot the LPAR.

|  |
| --- |
| # lspv | grep old\_rootvg  hdisk0 000071da26fe3bd0 old\_rootvg  # bootlist -m normal hdisk0  # bootlist -m normal –o  hdisk0 blv=hd5  # shutdown –Fr |

This is much simpler and faster than restoring a mksysb image (via NIM, tape, or DVD), as you would with a conventional migration method.

Install/update Software from NIM Server

Install and Update Software

Move cursor to desired item and press Enter.

Install the Base Operating System on Standalone Clients

Install Software

Update Installed Software to Latest Level (Update All)

Install Software Bundle

Update Software by Fix (APAR)

Install and Update from ALL Available Software

Install Linux on a Standalone Client or Machine Group

Perform a Network Install

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[Entry Fields]

Target Name admsrv2

Source for BOS Runtime Files rte +

installp Flags [-agX]

Fileset Names []

Remain NIM client after install? yes +

Initiate Boot Operation on Client? yes +

Set Boot List if Boot not Initiated on Client? no +

Force Unattended Installation Enablement? no +

ACCEPT new license agreements? [yes] +

Manage Network Install Resource Allocation

Mo+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

| Available Network Install Resources |

| |

| Move cursor to desired item and press Esc+7. |

| ONE OR MORE items can be selected. |

| Press Enter AFTER making all selections. |

| |

| [MORE...38] |

| openssh\_server installp\_bundle |

| vac-aix50 installp\_bundle |

| vacpp-aix50 installp\_bundle |

| wsm\_remote installp\_bundle |

| bid\_ow bosinst\_data |

| > hacmp\_source lpp\_source |

| > lpp\_souceAll lpp\_source |

| spotAll spot |

| [BOTTOM] |

| |

| F1=Help F2=Refresh F3=Cancel |

| Esc+7=Select Esc+8=Image Esc+0=Exit |

F1| Enter=Do /=Find n=Find Next |

Es+­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­+

COMMAND STATUS

Command: failed stdout: yes stderr: no

Before command completion, additional instructions may appear below.

[MORE...57]

of the selected filesets listed above. They are not currently installed

and could not be found on the installation media.

bos.adt.syscalls 5.3.7.0 # Base Level Fileset

bos.data 5.1.0.0 # Base Level Fileset

bos.data 5.3.0.0 # Base Level Fileset

bos.net.nfs.server 5.3.7.0 # Base Level Fileset

rsct.basic.rte 2.5.5.0 # Base Level Fileset

GROUP REQUISITES: The dependencies of one or more of the selected filesets

listed above are defined by a group requisite. A group requisite must pass

a specified number of requisite tests. The following describe group

[MORE...266]

Verify an Optional Program Product

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[TOP] [Entry Fields]

\* Installation Target admsrv2

\* LPP\_SOURCE lpp\_souceAll

\* Software to Install [bos.adt > +

Customization SCRIPT to run after installation [] +

(not applicable to SPOTs)

Force yes +

installp Flags

PREVIEW only? [no] +

COMMIT software updates? [yes] +

SAVE replaced files? [no] +

[MORE...18]

Verify an Optional Program Product

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[TOP] [Entry Fields]

\* Installation Target admsrv2

\* LPP\_SOURCE hacmp\_source

\* Software to Install [cluster.adt.es > +

Customization SCRIPT to run after installation [] +

(not applicable to SPOTs)

Force yes +

installp Flags

PREVIEW only? [no] +

COMMIT software updates? [yes] +

SAVE replaced files? [no] +

[MORE...18]

COMMAND STATUS

Command: failed stdout: yes stderr: no

Before command completion, additional instructions may appear below.

[MORE...69]

requisite failures for filesets that you selected. (See the "Requisite

Failure Key" below for details of group member failures.)

At least 1 of the following:

| At least 2 of the following:

| | \* rsct.compat.clients.hacmp 2.5.4.0

| | \* rsct.compat.basic.hacmp 2.5.4.0

| At least 2 of the following:

| | ~ rsct.compat.basic.hacmp 2.4.12.0

| | \* bos.rte v=5, r<4