

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

What is Spot instance?

The Shared product Object Tree (SPOT) is a fundamental resource in the NIM environment. It is required to install or initialize all types of machine configurations.

A SPOT provides a /usr file system for diskless and dataless clients, as well as the network boot support for all clients. Everything that a machine requires in a /usr file system, such as the AIX® kernel, executable commands, libraries, and applications are included in the SPOT.

Machine-unique information or user data is usually stored in the other file systems. A SPOT can be located on any standalone machine within the NIM environment, including the master. The SPOT is created, controlled, and maintained from the master, even though the SPOT can be located on another system.

What are the sources of creating spot instance?

- ❖ ISO images (Use the same server type of affected server ISO or download it from [IBM Entitled System Support](#))
- ❖ MKSYSB backup (Use the same server type of affected server)

Use ISO image as lpp_source to create a spot instance:

1. Download the similar version of base ISO image from [IBM Entitled System Support](#)
2. Save the image in NIM server.
3. Command to create lpp_source:
nim -o define -t lpp_source -a server=master -a location=<location of storing lpp_source> -a source=<location of ISO image> -a packages=all <lpp_sourcename>
4. Create a lpp_source from the image.

```
~NIM server# smit nim
Network Installation Management

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 POWERS Tools
  Thin Server Maintenance
```

Select “Perform NIM Administration Tasks” and Enter.

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

```
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
```

Select “Manage Resources” and Enter.

```
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
```

Select “Define a Resource” and Enter.

```
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

Resource Type

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

[TOP]
spot          = Shared Product Object Tree - equivalent to /usr fil
root          = parent directory for client / (root) directories
paging        = parent directory for client paging files
dump          = parent directory for client dump files
home          = parent directory for client /home directories
shared_home   = /home directory shared by clients
tmp           = parent directory for client /tmp directories
exclude_files = files to be excluded when creating a mksysb or save
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
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
adapter_def   = directory containing secondary adapter definition f
linux_source  = resource containing Linux installation images
devexports    = device handling file used during wpar installation
savewpar      = a workload partition backup image
secattrts     = security privileges file used during wpar installat
wpar_spec     = general specification file used during wpar install
[MORE...7]
```

Select “lpp_source = source device for optional product images” and Enter.

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

```
Define a Resource

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

* Resource Name      [lpp_source_name<server_lpp>]
* Resource Type      lpp_source
* Server of Resource [Press ESC+4 and select master]
* Location of Resource [Location_of_ISO_image]
NFS Client Security Method []
NFS Version Access    []
Architecture of Resource []
Source of Install Images []
Names of Option Packages []
Show Progress         [yes]
Comments              [Hint]
```

Fill the form with appropriate details and hit enter.

5. Verify the created lpp resource
 - a. **lsnim -c resources**
 - b. **lsnim -l <created resource name>**
6. Create spot instance by using created lpp_source.

```
# nim -o define -t spot -a server=master -a location=<location of spot files> -a
source=<lppsource_name> <spot_name>
```

```
~NIM server# smit nim

Network Installation Management

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 POWERS Tools
Thin Server Maintenance
```

Select “Perform NIM Administration Tasks” and Enter

```
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
```

Select “Manage Resources” and Enter.

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

```
Manage Resources

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List All Network Install Resources
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Verify Resources
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Manage Resources

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Resource Type

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

[ TOP ]
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exclude_files = files to be excluded when creating a mksysb or save
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
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
```

Select “spot” = Shared Product Object Tree - equivalent to /usr fil” and enter.

```
Define a Resource

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

* Resource Name      [Entry Fields]
* Resource Type      [<Server_spot>]
* Server of Resource spot
* Source of Install Images [Press ESC+4 and select master]
* Location of Resource [Press ESC+4 and select the lpp_source]
  NFS Client Security Method [FS_to_store_spot_resources]
  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
SAVE replaced files? yes
AUTOMATICALLY install requisite software? yes
OVERWRITE same or newer versions? no
VERIFY install and check file sizes? no
```

Fill the form with appropriate details and hit enter.

7. Verify the created spot
 - a. `lsnim -c resources`
 - b. `lsnim -l <created spot name>`

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

Creating a mksysb resource in the client server:

1. Add the client server as machines in NIM server:

```
# nim -o define -t standalone -a if1="<network name> <client name> 0" <client name>
```

Note: Verify the network settings should have proper network configuration

```
# lsnim -l <network name>
```

Network_name:

```
class    = networks
type     = ent
Nstate   = ready for use
prev_state =
net_addr = <client subnet first IP>
snm      = <client subnet mask>
routing1 = default <client gateway IP address>
```

2. Create a mksysb of similar version of affected server:
 - a. **For AIX server:**
 - i. **mksysb -i <backup dir/backup_file_name>**
 - ii. Copy it to the NIM server
 - b. **For VIO server:**
 - i. **/usr/ios/cli/ioscli backupios -mksysb -file <mksysb_name> -nomedialib**
(Run as padmin)
 - ii. **backupios -mksysb -file <mksysb_file_name> -nomedialib** (Run as root)
 - iii. Copy it to the NIM server
3. Create spot instance by using created mksysb.

```
# nim -o define -t spot -a source=<created_mksysb> -a server=master -a  
location=<location of spot files> <spot_name>
```

```
~NIM server# smit nim
Network Installation Management

Move cursor to desired item and press Enter.

Configure the NIM Environment
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Perform NIM Administration Tasks
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NIM POWER5 Tools
Thin Server Maintenance
```

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

Select “Perform NIM Administration Tasks” and Enter

```
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
```

Select “Manage Resources” and Enter.

```
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
```

Select “Define a Resource” and Enter.

```
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
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Verify Resources
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bosinst_data	= config file used during base system installation
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vg_data	= config file used during volume group restoration

Select “spot = Shared Product Object Tree - equivalent to /usr fil” and enter.

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

```
Define a Resource

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

* Resource Name      [Entry Fields]
* Resource Type      [<server_spot>]
* Server of Resource  spot
* Source of Install Images [Press ESC+4 and select master]
* Location of Resource [Press ESC+4 and select the mksysb]
  NFS Client Security Method [FS_to_store_spot_resource]
  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
SAVE replaced files? yes
AUTOMATICALLY install requisite software? yes
OVERWRITE same or newer versions? no
VERIFY install and check file sizes? no
```

Fill the form with appropriate details and hit enter.

4. Verify the created spot
 - a. `lsnim -c resources`
 - b. `lsnim -l <created spot name>`

Allocate the spot instance to the affected server in NIM master server:

1. Allocate the created spot instance to affected server:
 2. Command: `#nim -o maint_boot -a spot=<created spot name> <affected server name>`
- OR**

```
~NIM server# smit nim

Network Installation Management

Move cursor to desired item and press Enter.

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NIM POWER5 Tools
Thin Server Maintenance
```

Select “Perform NIM Administration tasks” and Enter.

```
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
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Manage Alternate Master Environment
Unconfigure NIM
```

Select “Manage Machines” and Enter.

CREATING SPOT INSTANCE IN AIX FOR RECOVERY

```

Manage Machines

Move cursor to desired item and press Enter.

List All Machines
Define a Machine
Change/Show Characteristics of a Machine
Specify New Master for Client Machine
Remove a Machine
Manage Network Install Interfaces
Manage Network Install Resource Allocation
Perform Operations on Machines
Query Remote Machine
Manage Secondary Adapter Definition Files

```

Select **“Perform Operations on Machines”** and Enter.

Select the affected server name and enter.

```

+-----+
+               Operation to Perform               +
+-----+
+
+ Move cursor to desired item and press Enter. Use arrow keys to scroll.
+
+
+ diag           = enable a machine to boot a diagnostic image
+ cust           = perform software customization
+ bos_inst       = perform a BOS installation
+ maint          = perform software maintenance
+ reset          = reset an object's NIM state
+ fix_query      = perform queries on installed fixes
+ check          = check the status of a NIM object
+ reboot         = reboot specified machines
+ maint_boot     = enable a machine to boot in maintenance mode
+ showlog        = display a log in the NIM environment
+ lppchk         = verify installed filesets
+ restvg         = perform a restvg operation
+ linux_inst     = operation to install Linux onto a standalone
+ lswpar         = show the characteristics of a workload partition
+ syncwpar       = synchronize workload partition software with the
+ showdump       = Show the location of a client dump
+ snap           = collect a snap record from a client
+ update_all     = update all currently installed filesets
+
+-----+

```

Select the “**maint_boot** = enable a machine to boot in maintenance mode” and enter.

Select the created spot resource and enter.

Reference Links:

Using NIM to boot into Maintenance Mode

Booting AIX into Maintenance Mode Using the HMC

NIM error warning messages