

# **IBM® i Network Install using Network File System**



**IBM® i Virtual Media**  
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# 1 Introduction

## 1.1 What is IBM® i Network Install?

This document addresses new capabilities and enablement for installing an IBM® i using the Network File System (NFS). Starting in IBM® i 6.1, you have the ability to perform complete installations and upgrades of IBM® i partitions, in addition to loading PTFs or restoring data via a virtual optical image on an image server, all without having to manually FTP the data across the network to the individual partitions. This change allows for the install of Licensed Internal Code, operating system, licensed programs, and PTFs across IBM® i partitions from a single image source. This capability will be available through PTFs beginning in i 6.1. This document will cover the information need to configure and initiate a network install of IBM® I for 6.1 and 7.1. For basic steps on planning and installing IBM® i you should refer to Installing, upgrading, or deleting i5/OS and related software:

### V6R1M0:

PDF SC41-5120-10: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

### V7R1M0:

PDF SC41-5120-10: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

## 1.2 Advantages

- Quick, Easy and Efficient.
- You can install multiple partitions at the same time from the same image server.
- You do not need to manually change the panel functions in the partition properties on the HMC.
- This is great for users that have large hardware configurations with multiple partitions that share physical DVD devices.
- Setup and configuration is simple.

## 1.3 Terminology

Image Server or the Source System - The Network File System (NFS) server which hosts the virtual optical images.

Client System or Target System - The IBM® i system that contain the virtual optical device and is being installed/upgraded.

Network upgrade - A version of network install used for upgrading that requires the system being installed to be at command entry. The STRNETINS command is used to initiate the upgrade.

Network new partition install - A version of network install used for installing new partitions. This version of network install uses a Hardware Management Console (HMC) CLI interface to initiate the install of a new partition.

Trivial File Transfer Protocol (TFTP) - File transfer protocol, with the functionality of a very basic form of File Transfer Protocol (FTP).

## **2 IBM® i Network install Requirements**

### **2.1 Software Requirements**

The release to be installed must be IBM® i 6.1.1 or greater.

### **2.2 System requirements**

To prepare and share virtual optical images with the Network File System (NFS) network, you need to ensure that the client system and source system meet specific requirements.

#### **2.2.1 Source system requirements**

To share virtual optical images through a network, the source system serves as the image server and must meet the following requirements:

- I. System must be at IBM® i 6.1 or greater.
- II. IBM® i 6.1 PTF's SI39390, SI35186, and SI35189.
- III. IBM® i 7.1 PTF's SI39238
- IV. The server must be able to share virtual optical images using version 3 or later of the Network File System (NFS).
- V. The images to be served must exist in a image catalog which must have an image catalog path name that is limited to 127 characters. Path name characters are limited to A-Z, a-z, 0-9, and / (slash). Each image file name is limited to 127 characters.
- VI. A volume list (VOLUME\_LIST) file containing the list of images to be loaded in the virtual optical device must exist in the image catalog directory. The VFYIMGCLG command is used to create the volume list file from the image catalog containing the images you want to share.
  - A. A volume list has the following characteristics:
    1. Must be called VOLUME\_LIST
    2. Each line is either a image file name or a comment
    3. ASCII format
    4. All entries are ended by the end of a line.
    5. All characters following the pound sign '#' are considered comments until the end of the line
    6. Comments can be added after # and must be followed by a EOL character
    7. Provides the order that the image files will be processed on the client system
    8. File names are limited to 127 characters
    9. Can be created with the Verify Image Catalog Entry (VFYIMGCLG) with the NFSSHR(\*YES) parameter or manually by using a ASCII editor
    10. No tabs or line feeds can be used in the path name

Note: Changes to VOLUME\_LIST file are not active until the next time the client device is varied off/on.

## 2.2.2 Client system requirements

The client system or system to be installed needs to access virtual optical images through a network and must meet the following requirements:

- System must be at IBM® i 6.1 or greater.
- POWER6 or later.
- See section 6.5 for Ethernet adapter requirements and restrictions.
- The install media must be IBM® i 6.1.1 or later.
- The following IBM® i 6.1 PTFs are required:
  - SI39400 (Lead PTF – this will cause the other PTFs to be ordered and installed)
  - SI39390
  - SI35186
  - SI35189
  - SI35747
  - MF47284
  - MF47285
- The following IBM® i 7.1 PTF is required:
  - SI47701

The 632B-003 optical device is created by using the Create Device Description Optical (CRTDEVOPT) command. The client must meet the following requirements.

- Either a service tools server or a LAN console connection must be configured
- The Internet Protocol (IP) must be Version 4

Additional requirements for a new partition client:

- Only supported with Hardware Management Console (HMC) 7.2
- The EFW levels must be as follows:
  - Power 6 EFW Service Pack 3.5.5, 10/21/2010
  - Power 7 EFW 7.2 or EFW 7.1 with Service Pack 7.1.4, 09/22/2010
    - a) Supports standalone PCI Ethernet adapters only
  - Power 7 EFW 7.2 or EFW 7.1 with Service Pack 7.1.4, 09/22/2010
    - a) Supports standalone PCI ethernet adapters
    - b) Supports virtual ethernet adapters

- NOTE: See section 6.5 of this document for usage information concerning FC 5260 or FC 5899 (CCIN 576F) 4-port 1Gb Ethernet adapters when operating in a 10/100Mb network install environment or any network install environment if you have a firmware level of AL770\_xxx.

## 3 Preparing for network install

This section will serve as a guide to the activities needed to prepare for a network install. To determine if you can use network install review the following requirements.

### 3.1 Planning for the install

Refer to [Installing, upgrading, or deleting i5/OS and related software](#) and complete your install planning:

V6R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

V7R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

Return here to setup your install device.

### 3.2 Setup virtual optical storage for installing IBM® i install

The virtual optical device support of IBM® i provides a method for using virtual optical images from a single image source that can be shared with other systems in a network.

A client partition with a virtual optical device type 632B model 003 can access images located on a server using the Network File System (NFS). In previous releases, it existed in a local system integrated file system directory. This device can be used to install Licensed Internal Code, operating system, licensed programs, and PTFs.

#### 3.2.1 Setting up the source system

The following directions assumes you will be using IBM supplied media and will demonstrate how to set up the server to share virtual optical image files with the client system for IBM® i network install. These steps are only for IBM® i. If you want to generate your own distribution media refer to "Distributing software" topic in the IBM® i Information Center:

V6R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzai4/rzai4distsw.htm>

V7R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzai4/rzai4distsw.htm>

For more information on setting up and using optical image catalogs, see the “Storage Solutions” topic in the IBM® i Information on Center:

V6R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

V7R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

Setting up the server to share virtual optical image files with the client system  
To create virtual storage from physical media in an optical device or from images received from another system, take the following steps.

1) Create the image catalog:

```
CRTIMGCLG IMGCLG(MYCATALOG) DIR('/catalog_directory') CRTDIR(*YES)
```

2) Add the image from physical media or from image files received from another system.

- To add images from physical media:

```
ADDIMGCLGE IMGCLG(MYCATALOG) FROMDEV(OPTXX) TOFILE(*fromfile)
```

\*\*\* Repeat for each optical disk \*\*\*

- To add images from image file:

```
ADDIMGCLGE IMGCLG(MYCATALOG) FROMFILE(SLIC_N) TOFILE(*fromfile)
```

Note: Repeat this step for each file in your catalog directory. This step assumes your image is already in the image catalog directory.

3) Create the virtual device

```
CRTDEVOPT DEVD(OPTVRT01) RSRNAME(*VRT)
```

4) Vary on the virtual device

```
VRFCFG CFGOBJ(OPTVRT01) CFGTYPE(*DEV) STATUS(*ON)
```

5) Load the image catalog in the virtual device:

```
LODIMGCLG IMGCLG(MYCATALOG) DEV(OPTVRT01)
```

The following directions show how to set up the server to share virtual optical image files with the client system. These steps are only for i5/OS®.

You must use the previously creating an image catalog containing the install images that you want to share. The images must contain Licensed Internal Code and base IBM® i (which includes libraries QSYS, QGPL and QUSRSYS). The image catalog used must have an image catalog path name of 127 characters or less. Path name characters are limited to A-Z, a-z, 0-9, and / (slash). Each image file name is limited to 127 characters. For more information on setting up and using optical image catalogs, see the "Storage Solutions" topic in the IBM® i Information Center:

V6R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

V7R1M0:

<http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

1. After the image catalog has been created and loaded, you'll need to verify the image catalog to create a volume list file (VOLUME\_LIST) that will be used by the virtual optical device on the client system. The following command is an example of how to create the volume list file:

```
VFYIMGCLG IMGCLG(MYCATALOG) TYPE(*UPGRADE) NFSSHR(*YES) SORT(*YES)
```

Note: This command creates the volume list file and adds a new subdirectory called BOOTP in the image catalog directory. This subdirectory contains files required to run the IBM® i install.

The volume list file can also be created by using an ASCII editor. There are specific guidelines that must be met when creating a volume. Refer to Requirements for virtual optical storage within a Network File System network for more information.

3. Ensure that the NFS file servers are running. Enter either one of the following Start Network File System Server (STRNFSSVR) commands:
  - Run all of these commands on your servers:
    - STRNFSSVR \*RPC
    - STRNFSSVR \*SVR
    - STRNFSSVR \*MNT
  - Or start all of the servers with this command:
    - STRNFSSVR \*ALL
4. Export the image catalog directory. This example restricts access by all NFS clients because it is read-only. Ensure that the exported directory is in the public directory and that it is a subdirectory of the NFSROOT path.
  - **CHGNFSEXP OPTIONS('-i -o ro') DIR('/catalog\_directory')**
5. Specify the level of authority for the user id (UID), group id (GID), or \*PUBLIC that owns or manages the image catalog directory and the image files. The minimum authority that is required is the following:
  - Execute (\*X) data authority for the exported directory and any subdirectories

- Read (\*R) data authority for files in the exported directory and any subdirectories.

The following authority example is for \*PUBLIC:

- **CHGAUT OBJ('/catalog\_directory') USER(\*PUBLIC) DTAAUT(\*RWX) SUBTREE(\*ALL)**

6. Add the /CATALOG\_DIR/BOOTP directory as the TFTP alternate source directory by using CHGTFTPA command:

- **CHGTFTPA AUTOSTART(\*YES) ALTSRCDIR('/catalog\_directory/BOOTP')**

TFTP is able to find the BOOTP images as long as they are somewhere within the subdirectory structure of the specified ALTSRCDIR directory. This makes it possible to serve up multiple install images at the same time without ending and re-starting the TFTP server. For example, you could specify 'installimages' for ALTSRCDIR, and the following image catalog directories could all be served up at the same time:

'installimages/catalog1/BOOTP'

'installimages/catalog2/BOOTP'

.

.

'installimages/catalogN/BOOTP'

Note: Just make sure your image catalog directory is specified as 'installimages/catalog1', etc. when creating your image catalogs.

7. Ensure QTFTP has \*RX authority to all install files located in the TFTP alternate source directory:

- **CHGAUT OBJ('/catalog\_directory/BOOTP') USER(QTFTP) DTAAUT(\*RX) SUBTREE(\*ALL)**

8. Ensure the TFTP servers are started and reflect changes made above by stopping/starting the servers:

- **ENDTCPSVR \*TFTP**
- **STRTCPSVR \*TFTP**

**Note:** The fully exported image catalog directory name is limited to 127 characters. The directory path name may only contain characters A-Z, a-z, 0-9, and / (slash).

### 3.2.2 Setting up the virtual optical device on the client system (Upgrade only)

If you are performing an upgrade network upgrade and you have set up the Network File System server to share images, proceed with these steps to set up virtual optical device on the client.

To set up the virtual optical device type 632B-003 on the client, follow these steps.

1. Configure a service tools server for the virtual optical device to use. See Preparing your console for software installation for details. For more information about configuring the Service Tools Server refer to Infocenter [Configuring the service tools server using SST](#) or refer to section “Configuring a service tools server” in this document.
2. Vary on the virtual optical device. The virtual device name specified on the VRYCFG command should be the same as the name specified for DEVD on the CRTDEVOPT command.
3. Create a device description for the virtual optical device.

```
CRTDEVOPT DEVD(virtual_device_name)
RSRCNAME(*VRT)
LCLINTNETA(*SRVLAN)
RMTINTNETA('X.X.XXX.XXX')
NETIMGDIR('/catalog_directory')
```

Note: (1) The RMTINTNETA is the remote internet address of the Network File system (NFS) server where this virtual optical device will look for virtual image files.

Note: (2) The NETIMGDIR parameter specifies the network path on the Network File System (NFS) server containing the virtual image files that were prepared for use with this device. The path is limited to 127 characters. The character set is limited to A-Z, a-z, 0-9, and / (slash).

Vary on the virtual optical device. The virtual device name specified on the VRYCFG command should be the same as the name specified for DEVD on the CRTDEVOPT command.

- VRYCFG CFGOBJ(*virtual\_device\_name*) CFGTYPE(\*DEV) STATUS(\*ON)

Use the following command to verify the virtual device.

- WRKIMGCLGE IMGCLG(\*DEV) DEV(*virtual\_device\_name*)

The virtual optical device is now ready for use with the shared image files.

## 4 Performing the Install (Network upgrade)

This section is intended for upgrading using network install. If you are installing a new partition then go to section “Performing the Install (New Partition). To continue with the network installation you need to ensure you have completed your install preparation. Refer to the following [Installing, upgrading, or deleting i5/OS and related software](#) and complete your install planning:

V6R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/iserics/v6r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/iserics/v6r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

V7R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/topic/rzahc/sc415120.pdf>  
HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

The network install is initiated with the STRNETINS command.  
The requirements for this command are covered in the “Client system requirements” section in this document. You must pick one of the following sections for manual or automatic install to continue:

#### **4.1 Automatic install**

Refer to the following document and complete your install. Use “Upgrading or replacing software using automatic installation” topic in the IBM® i Information Center:

V6R1M0:

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/autoins.htm>

V7R1M0:

HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/autoins.htm>

Once you are ready for the “Power down the system or logical partition to perform the upgrade” step of the install process use the following command instead of the PWRDWNSYS command:

- STRNETINS DEV(virtual-device-name) OPTION(\*ALL) KEYLCKMOD(\*NORMAL)

Note: We are specifying \*ALL to perform a full install of the licensed internal code, operating system, options and licensed products that that available on the install media loaded in the specified network optical device. The KEYLOCK parameter indicates the system key lock mode to be used for the installation.

You will be prompted with a 'Confirm Power Down of System' screen. To confirm power down, press F16 for the install to continue. Or press F12 to cancel.  
The following screens that the user will see will be the familiar IBM® i install screens.

#### **4.2 Manual install**

Refer to the following document and complete your install. Use “Upgrading or replacing software using manual installation” topic in the IBM® i Information Center:

V6R1M0:

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/manual.htm>

V7R1M0:

HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/manual.htm>

Once you are ready for the “Power down the system or logical partition” step of the install process use the following command instead of the PWRDWNSYS command:

- STRNETINS DEV(virtual-device-name) OPTION(\*ALL) KEYLCKMOD(\*MANUAL)

You will be prompted with a 'Confirm Power Down of System' screen. To confirm power down, press F16 for the install to continue. Or press F12 to cancel. The following screens that the user will see will be the familiar IBM® i install screens - these may differ depending if you have selected \*MANUAL mode.

#### **4.2.1 Replacing the IBM® i operating system**

Note: Ignore this section if you are using the V7R1M0 Installing, upgrading, or deleting i5/OS and related software documentation.

There is a change to the device selection for the IBM® i operating system install for V6R1M0. Refer to section [Replacing the IBM® i operating system](#):

- Type 2 (Install the operating system) and press Enter. The Install Device Type Selection display appears.

```

Install Device Type Selection
                                System: LP02UT14
Select the installation device type:

1. Tape
2. Optical
3. Virtual device - preselected image catalog
4. Current alternate selected device      None
5. Network device

Selection

```

- Select option 5 and see the “Network Device – Configuration” screen. Confirm the Image server IP and path name and press enter.

```

Network Device - Configuration
                                System:  xxxxxxxx

Status      : Current selected
Server IP   : x.x.x.x
Path Name   : /catalog_driectory
Bus         : 13
Board      : 0
Card       : 36
Port       : 0
Local IP    : x.x.xxx.xxx
Subnet Mask : xxx.xxx.xxx.x
Gateway IP  : x.x.xxx.x
MTU Size    : 1500

```

- Press enter on the “Confirm Install of the Operating System” to continue the installation.

Once the OS install has completed then continue the install of options, products and PTF’s using the virtual device created previously.

## 5 Performing the Install (New partition)

This section is intended for upgrading using network install. If you are installing a new partition then go to section “Performing the Install (New Partition). To continue with the network installation you need to ensure you have completed your install preparation. Refer to the following [Installing, upgrading, or deleting i5/OS and related software](#) section “Installing i5/OS and related software on a new system or logical partition” and complete your install planning:

V6R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

V7R1M0:

PDF: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

The new partition network install requires the system is at standby and the partition to be installed is powered off. This install uses a 7.2 HMC command line to issues the CLI command to install the partition.

The requirements for this command are covered in the “Client system requirements” section in this document.

### 5.1 New Partition install

Refer to the following document and complete your install. Use “Installing i5/OS and related software on a new system or logical partition” topic in the IBM® i Information Center:

V6R1M0:

HTML: <http://publib.boulder.ibm.com/infocenter/series/v6r1m0/index.jsp?topic=/rzahc/rzahcinstall.htm>

V7R1M0:

HTML:

<http://publib.boulder.ibm.com/infocenter/series/v7r1m0/index.jsp?topic=/rzahc/rzahcinstall.htm>

When you are ready for the “Installing Licensed Internal Code on the new logical partition” skip step 5 and do the following steps:

From you HMC select the ethernet adapter to be used for the install as your alternate restart device. You may want to create a new profile based on you existing profile and change the new alternate restart device.

From the HMC command line:

```
chsysstate -o on -k manual -m iszxxxx-9117-MMB-SNxxxxxxxx -n iszsat1 -f iszxxxx -r
lpar -i d --ip x.x.x.x --netmask xxx.xxx.xxx.x --gateway x.x.x.x --serverip x.x.x.x --
serverdir /xxxxxxxx --duplex auto --mtu 1500
```

For command help use:

```
chsysstate --help
```

Continue your install the next step of “Installing Licensed Internal Code on the new logical partition”.

## 6 Appendix

### 6.1 Configuring a service tools server

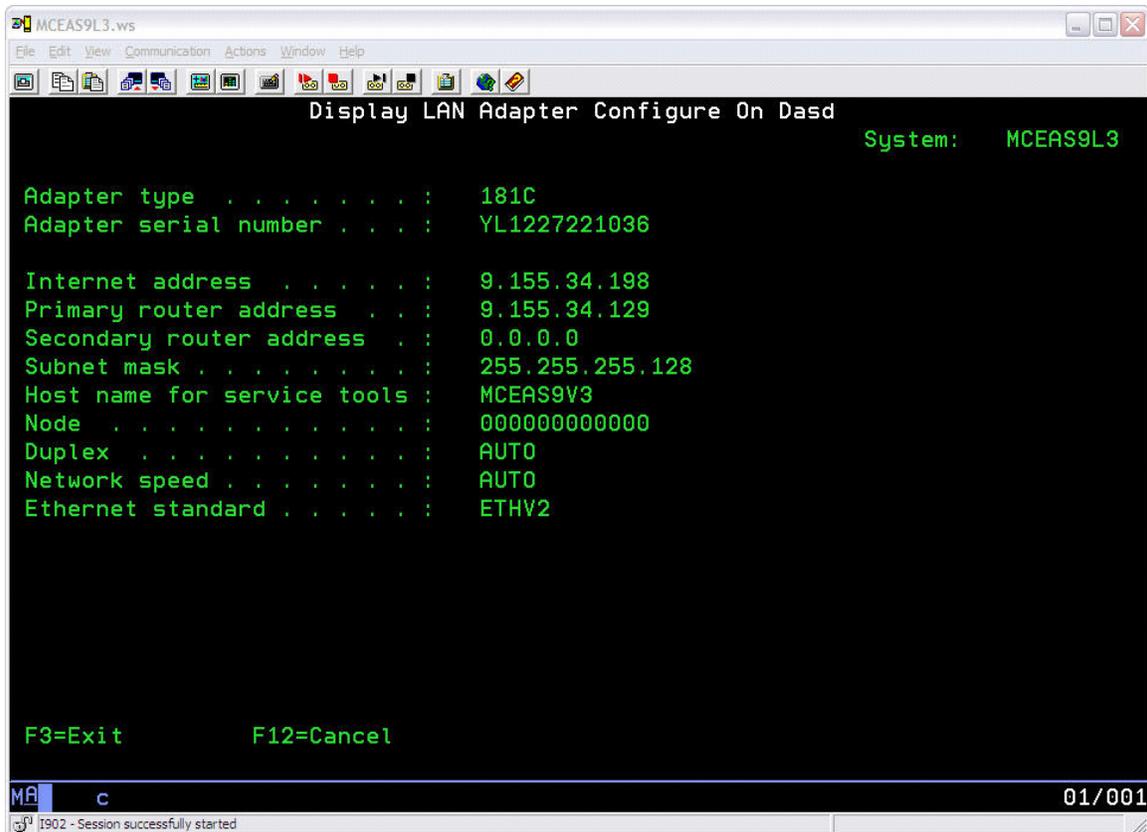
The client system must be at R610 or above.

The type of system and configuration determines what type of setup is required to configure the Service Tools Server.

System Configuration	Tagging IOP/LAN Adapter	Configuration Setup
Operations Console with LAN Connectivity	Not required	Not required
Non-partitioned system	LAN adapter must be in specific location based on system model	SST
Partitioned 8xx model	Tag the IOP the LAN adapter reports to as the console	SST
Partioned 5xx model	Tag the LAN adapter as the console and temporarily configure Operations Console	SST

As indicated in the table above, if Operations Console with LAN Connectivity is configured, there is no additional setup required. If not, a LAN adapter or IOP must be tagged, depending on the model of your system. The table shows what is required to tag the IOP or LAN adapter. In some cases, Operation Console needs to be temporarily configured.

One way to help determine whether your client system has a service tools server for DST configured, log on to SST, select option 8. 'Work with service tools user IDs and Devices', and press F5. A valid internet address needs to be specified. The display should look similar to the following screen, if a service tools server is configured:



## 6.2 Tips and Techniques:

- It is preferred that the user 'un-tag' or 'de-select' the alternate restart device on the client system before starting the install.
- The Network Optical Device is the Primary device when using STRNETINS
- You must have communications up and running on the client system when you issue the STRNETINS command
- The STRNETINS command issues an ENDSBS \*ALL \*IMMED and then issues the PWRDWN SYS \*IMMED RESTART(\*YES) IPLSRC(D) after you confirm the power down.

## 6.3 References:

- For more information about configuring the Service Tools Server refer to Infocenter [Configuring the service tools server using SST](#)
- For Further information and details on image catalogs refer to Installing, upgrading, or deleting i5/OS and related:

### V6R1M0:

PDF SC41-5120-10: <http://publib.boulder.ibm.com/infocenter/iserics/v6r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/iserics/v6r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

### V7R1M0:

PDF SC41-5120-10: <http://publib.boulder.ibm.com/infocenter/iserics/v7r1m0/topic/rzahc/sc415120.pdf>

HTML: <http://publib.boulder.ibm.com/infocenter/iserics/v7r1m0/index.jsp?topic=/rzahc/rzahc1.htm>

- For more information about NFS refer to PDF SC41-5714 [i5/OS Network File System Support PDF](#)

- For more information on setting up and using optical image catalogs, see the “Storage Solutions” topic in the IBM® i Information Center

V6R1M0:

<http://publib.boulder.ibm.com/infocenter/iseres/v6r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

V7R1M0:

<http://publib.boulder.ibm.com/infocenter/iseres/v7r1m0/index.jsp?topic=/rzam4/rzam4overview.htm>

## **6.4 Questions, Comments, and Feedback**

If you have technical questions, comments, corrections, or other feedback related to this document, please contact Jeff Block (jblock@us.ibm.com), (507) 253-0127, IBM® i Install and Virtual Media Development.

## **6.5 Ethernet adapter requirements and restrictions**

### **6.5.1 Supported adapter port**

Install is only supported on port 0 of native IBM® i adapters and virtual adapters. Virtual adapters could be a different port and appear as port 0 on the client.

### **6.5.2 Unsupported configurations**

The following Ethernet IOA adapter CCINs are not supported:

- 2743
- 2760
- 5700
- 5701
- 573A
- 576A

### **6.5.3 Restrictions when using FC 5260 or FC 5899 CCIN 576F 4-port 1Gb Ethernet adapters**

Network Install of IBM® i 6.1 and IBM i® 7.1 on POWER7 servers with FC 5260 or FC 5899 (CCIN 576F) 4-port 1Gb Ethernet adapters when operating in a 10/100Mb will

result in failure to successfully install. Typical error codes are B2004158, B2003110, or B2006110.

NOTE: This symptom is for Network installs only, and does not affect runtime function.

If possible, select a Network Install environment that operates at 1Gb ethernet speeds, If not available a 1Gb ethernet switch must be installed between the adapter and the 10/100Mb Ethernet switch. Other alternatives include:

1. Utilize DVD media to install OS image
2. If applicable, use a virtual ethernet adapter to partition OS images
3. Utilize a different ethernet adapter feature that Network install at 10/100Mb speeds
4. Update the adapter firmware per these PTF's or supersedes:
  - a) IBM® i 6.1.1 = MF55728
  - b) IBM® i 7.1 = MF55729, MF55400Note: You need to follow the adapter firmware update direction in the cover letter for MF55728 or MF55729.

#### **6.5.4 IBM® i network install using firmware level AL770\_xxx using FCs 5899 or 5260 (CCIN of 576F) Ethernet adapters**

Network Install of IBM® i 6.1 and IBM® i 7.1 on 8202-E4D, 8205-E6D, 8231-E1D, and 8231-E2D systems using the Feature Code (FC) #5899 or FC #5260 LAN adapters (CCIN 576F) may fail with an error code of B2006110.

NOTE: This symptom is for Network installs only, and does not affect runtime function.

Alternatives include:

1. Utilize DVD media to install OS image
2. If applicable, use a virtual ethernet adapter to install partition OS images
3. Utilize a different ethernet adapter feature that supports Network install, such as FC 5767 (UTP) or FC 5274 (FRU 46K6602) 5768 (Fiber)
4. When another IBM® i partition is available, update the adapter firmware per these PTF's or supercedes:
  - a) IBM® i 6.1.1 = MF56681
  - b) IBM® I 7.1 = MF56683Note: You need to follow the adapter firmware update directions in the cover letters or you can refer to retain tip H207693.

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