

Université IBM i 2017

17 et 18 mai – IBM Client Center de Bois-Colombes

S16 – IBM i hosting IBM i

Mercredi 17 mai – 16h00-17h30

Bertrand Guibert – IBM



IBM i hosting IBM i (aka. i Virtualization)

Janus Hertz - Senior IT Specialist

IBM Europe ETS Center of Competency lead for Power Systems



2016

IBM Systems Technical Events

ibm.com/training/systems



Abstract

In this session I will go through the concepts and implementation steps for IBM i client partitions (aka. virtual partitions), when hosted by an IBM i host partition.

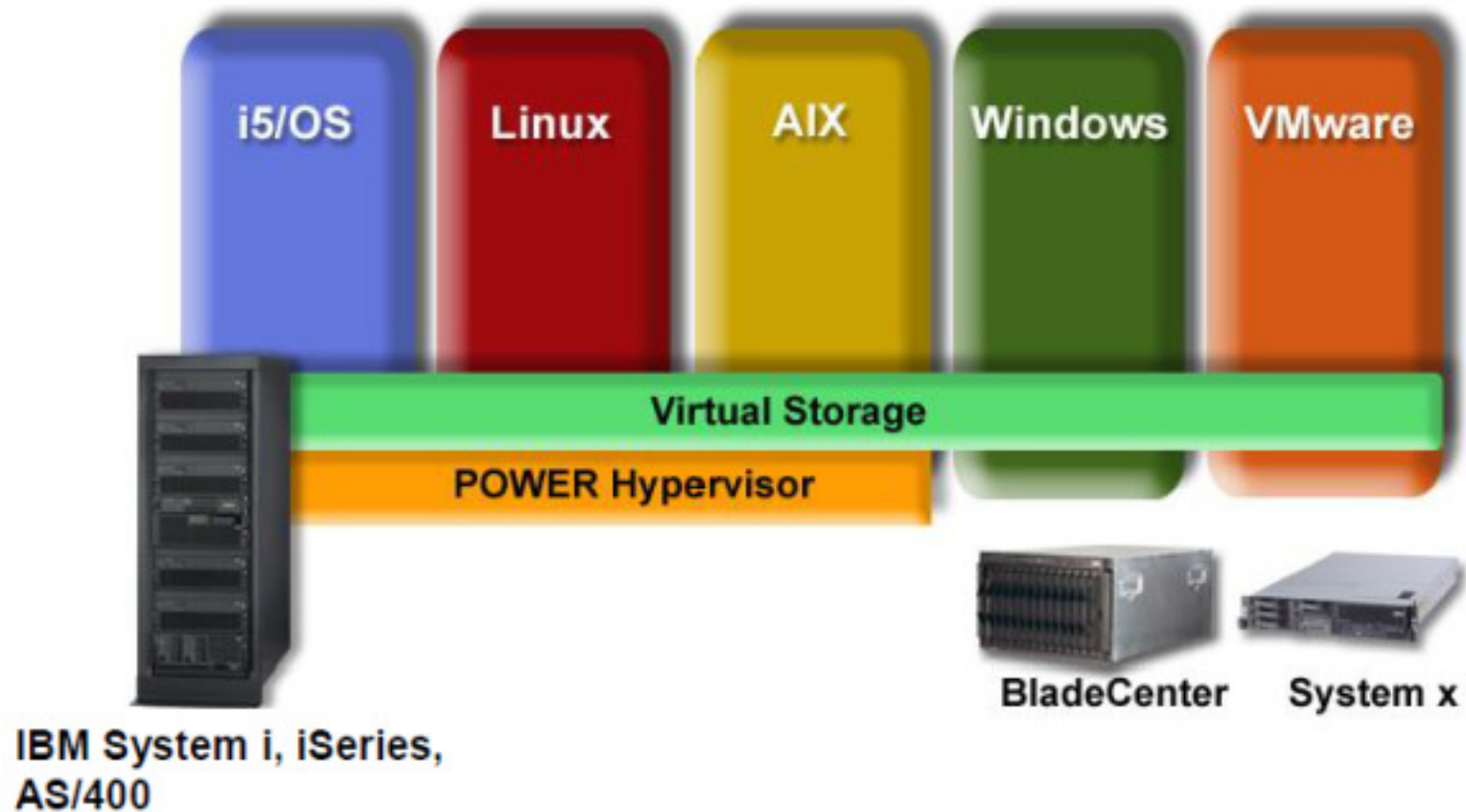
Both HMC controlled machine and Non-HMC controlled setups will be covered.



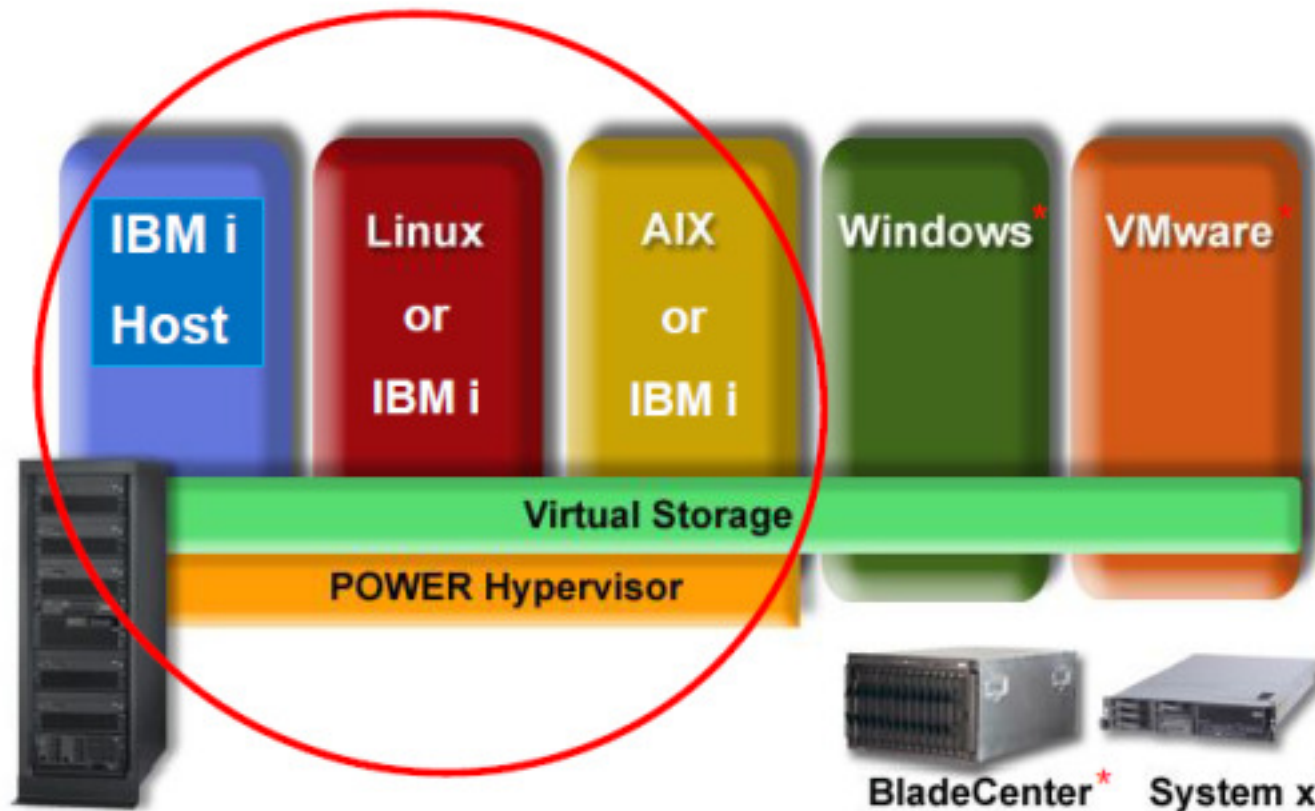
Agenda

- Overview
- Enhancements in IBM i 7.1, 7.2 & 7.3
- VPM based setup (GUI & 5250)
- HMC based setup (Classic UI)
- Hints & Tips
- Documentation

Remember this one?!



IBM i Innovative Virtualization Technology – over the last 20+ years



IBM Power Systems
And earlier System i,
iSeries, AS/400

** No further development on iSCSI attached System x & BC.
Power8 and IBM i 7.2 is the last supported HW & SW.
No non-IBM x86 servers to be supported*



What Is PowerVM?

Hardware and software that delivers industry-leading virtualization on IBM POWER processor-based servers for IBM i, UNIX and Linux clients



- Subsystems
- Workload Capping
- IBM i Hosting i**



- Workload Partitions
- Live Application Mobility

PowerVM

Features (edition dependent):

- Micro-Partitioning
- Virtual I/O Server (VIOS)
- Integrated Virtualization Manager (IVM)
- Live Partition Mobility (LPM)
- Active Memory Sharing (AMS)
- Suspend/Resume
- Shared Storage Pools
- Logical Partitioning

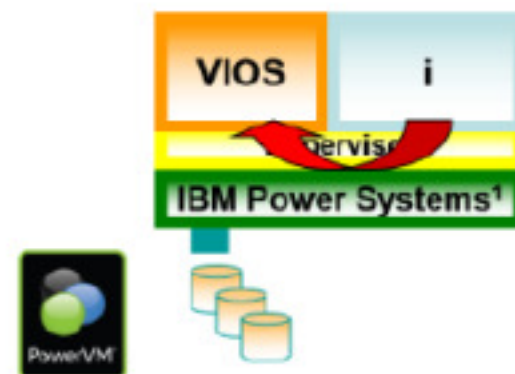
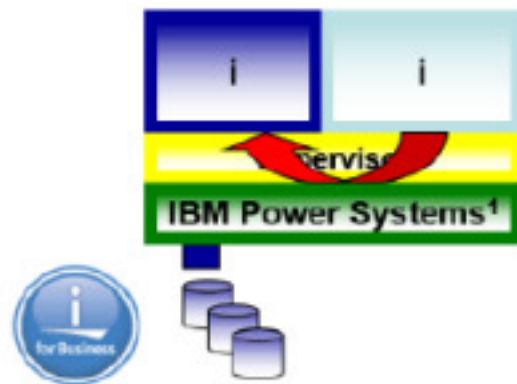
Virtualizing storage for partitions on traditional servers

IBM i hosting

- **Disk storage resources owned by an IBM i partition**
- Used by secondary partitions (AIX, IBM i, Linux, and/or Windows)
- **Integrated or SAN attached disk storage virtualized using virtual SCSI (vSCSI)**
- Tape virtualization as standalone device via vSCSI
- HMC usually required, but VPM is an option on smaller systems
- Can mix virtual and direct I/O in client partitions

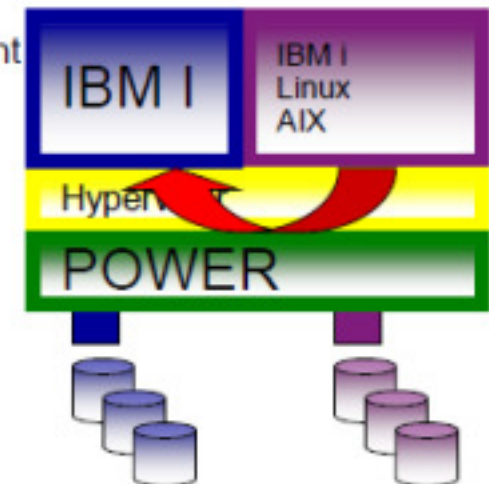
Virtual I/O Server (VIOS) hosting

- **Disk storage resources “owned” by VIOS partition**
- Used by secondary partitions (AIX, IBM i, Linux)
- Integrated or SAN attached disk storage virtualized using vSCSI
- **SAN attached storage via virtual fibre channel (NPIV)**
- Tape virtualized as standalone device via vSCSI
- **Tape virtualized as library via NPIV**
- HMC usually required, but IVM is an option on smaller systems
- Can mix virtual and direct I/O in client partitions



IBM i Virtual Client Partitions

- 'IBM i' based Virtualization ("iVirtualization")
 - IBM i partition uses I/O resources from another IBM i partition
 - Eliminates requirement to buy adapters and disk drives for each IBM i partition
 - Supports simple creation of additional partitions for test, development or production workload.
 - Requires IBM i 7.1 or later. IBM i 6.1 will work*
 - Requires *PowerVM standard edition***
 - Can mix virtual and direct I/O in client (with HMC)
- Platform support
 - All POWER6, P7, P8 System models (that supports IBM i)
 - (NOT PowerBlades or Flex System Power Nodes)
- Storage support
 - Determined by host IBM i partition and HW (External Storage or integrated disks)
- LPAR management
 - HMC / vHMC
 - VPM (virtual partition manager) with IBM i 7.1 TR3 (or later) on scale-out servers.

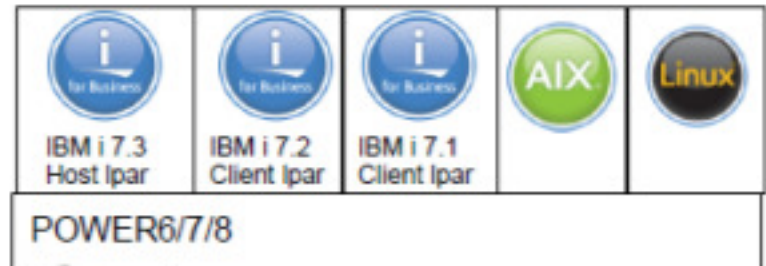


- * IBM i 6.1 only supported with Service Extension
- ** On some older systems with VPM, you can create up to 2 client lpar without the PowerVM key

Virtualization Options

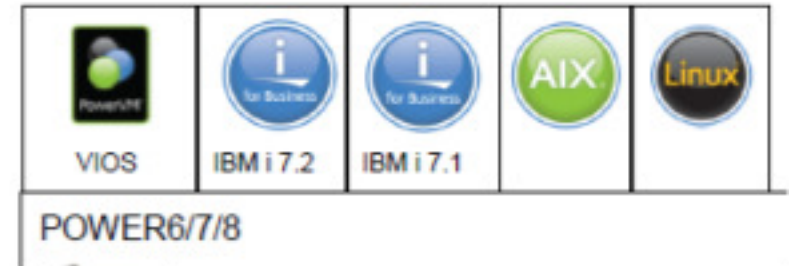
1. IBM i partition can host (“N+1 / N-2”):

- IBM i 7.3, 7.2, 7.1 and IBM i 6.1* client partitions
 - Note: NOT 6.1 clients on Power8 servers!
- AIX and Linux client partitions
- iSCSI attached System x and BladeCenter **



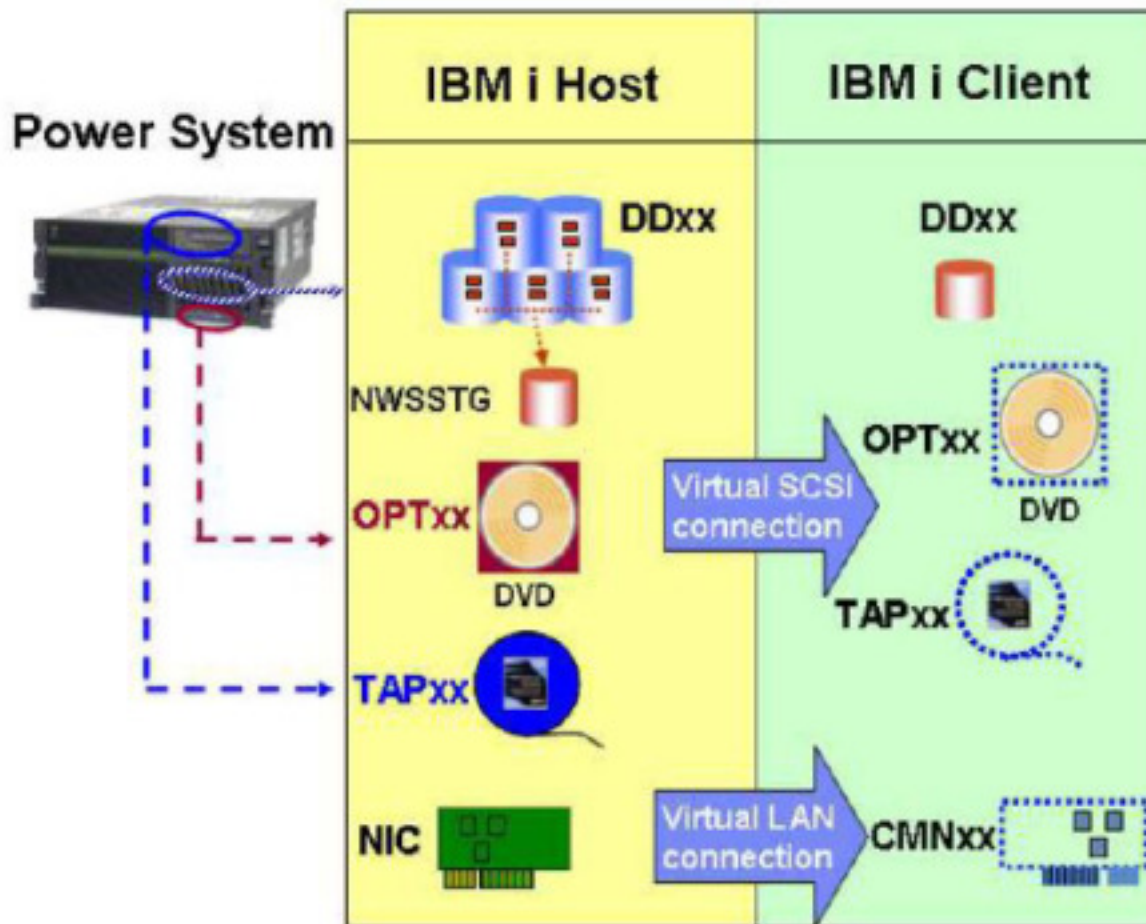
2. PowerVM VIOS can host:

- IBM i 7.3, 7.2, 7.1 and IBM i 6.1* client partitions
- AIX and Linux client partitions
- VIOS supports advanced virtualization technologies including Active Memory Sharing, NPIV, Live Partition Mobility, Suspend/Resume



- * IBM i 6.1 only supported with Service Extension
- ** No further development on iSCSI attached System x & BC. Power8 and IBM i 7.2 is the last supported HW & SW.

IBM i Host and Client Partitions: Overview



- Requirements
 - POWER6/7/8 hardware
 - IBM I 6.1 (or later) on host and client
 - PowerVM standard edition
- DASD
 - Hardware assigned to host LPAR in HMC
 - DASD can be integrated or external storage
 - DASD virtualized as NWSSTG objects (aka. Storage spaces / Virtual disks)
- Optical
 - DVD drive in host LPAR virtualized directly (OPTxx)
- Tape virtualization
 - new from 7.1 TR2
- Networking
 - Network adapter and Virtual Ethernet adapter in host LPAR
 - Virtual Ethernet adapter in client LPAR
 - Layer 2 bridge supported from 7.1 TR3



IBM i Virtualization Enhancements Overview 1/2

IBM i Virtualization Support	Configuration (Native, VIOS, iVirt)	IBM i 7.3	IBM i 7.2	IBM i 7.1
---- Enhancements from April / May 2016 (below) ----				
Live Partition Mobility - Support for active tapes	VIOS	Base	Tech Refresh 4	N/A

IBM i Virtualization Support	Configuration (Native, VIOS, iVirt)	IBM i 7.2	IBM i 7.1
----- Enhancements from Nov 2015 (below) -----			
Little Endian Linux Client	iVirt	Tech Refresh 3	Tech Refresh 11
vNIC with SR-IOV	VIOS	Tech Refresh 3	Tech Refresh 11
VLAN Tag Support for Network Boot and Install	VIOS	Tech Refresh 3	N/A
Large Send Offload on Virtual Ethernet	iVirt	Tech Refresh 3	Tech Refresh 11
----- Enhancements from May 2015 (below) -----			
SR-IOV support for Power Systems with POWER8 technology	Native, iVirt, VIOS	Tech Refresh 2	Tech Refresh 10
----- Enhancements from Jun 2014 (below) -----			
Native SR-IOV Ethernet	Native, iVirt, VIOS	Base	Tech Refresh 8
Increased number of virtual disks per VSCSI adapter	iVirt, VIOS	Base	Tech Refresh 8
Layer-2 bridging of VLAN-tagged frames	iVirt	Base	N/A
Control over resources used to initialize client disk	iVirt	Base	N/A
SSD preference for virtual disk	iVirt	Base	N/A
Easier tape and optical configuration	iVirt	Base	N/A

<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20i%20Technology%20Updates/page/IBM%20i%20Virtualization%20Summary>

<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20i%20Technology%20Updates/page/IBM%20i%20Virtualization%20Details>

IBM i Virtualization Enhancements Overview 2/2

Virtualization Support by GA date	IBM i 7.2	IBM i 7.1 Minimum code level	IBM i 6.1 (with 6.1.1 Machine Code) Minimum code level	Environment
March 2013 – NPV attach of SVC and Storwize V7000, V3700, V3500	Base	Technology Refresh 6 x	-	VIOS
October 2012 – Large Receives Offload for layer 2 bridging – IBM PowerVM V2.2 Refresh with SSP & LPM updates	Base Base	Technology Refresh 5 x x	- -	VIOS VIOS
May 2012 – IBM i Live Partition Mobility – HMC Remote Restart PRPG – Performance enhancement for zeroing virtual disk	Base Base Base	Technology Refresh 4 x x x	- - -	VIOS VIOS Virtualization
December 2011 – IBM PowerVM V2.2 Refresh with SSP enhancements	Base	Technology Refresh 3 x	-	VIOS
October 2011 – Ethernet layer-2 bridging – Mirroring with NPV Attached Storage – VPM enhancement to create IBM i partitions – PowerVM NPV attachment of DS5000 for Blades – IBM PowerVM V2.2 Refresh with Network Load Balancing	Base Base Base Base Base	Technology Refresh 3 x x x x x	- - x (client only) - x	Virtualization VIOS Virtualization VIOS VIOS
May 2011 – Partition Suspend and Resume – IBM i to IBM i virtual tape support – PowerVM N_Port ID Virtualization attachment of DS5000	Base Base Base	Technology Refresh 2 x x x	- APAR 814515 (client only) -	VIOS Virtualization VIOS
December 2010 – PowerVM with Shared Storage Pools	Base	Technology Refresh 1 x	-	VIOS
September 2010 – Support for embedded media changers – Expanded HBA and switch support for NPV on Blades	Base Base	Technology Refresh 1 x x	- x	Virtualization VIOS



Review of Load Source Sizes

	7.1	7.2	7.2 TR1
Minimum LS Size	17 GB	70 GB	70 GB physical disks 35 GB* virtual disks 520 bytes 40 GB* virtual disks 512 bytes
Max Device size	2 TB	2 TB	2 TB
Max LS Size	1.2 TB	2 TB	2 TB

* PTFs are required before upgrading to a 35 GB Load Source



IBM i host to IBM i Client Virtual Tape Summary

- **Allows IBM i client partitions to use tape devices attached to IBM i server partitions**
 - Client partition utilizes existing support for VIOS-hosted tape devices
 - Server partition utilizes existing support for Linux & Windows virtual tape clients
 - Error recovery & serviceability improvements
- **Only a subset of tape drives are supported for virtualization**
 - Physical tape drives only, no support for exporting tape image catalogs to IBM i clients
 - LTO3/LTO4/LTO5/LTO6
 - DAT72/DAT160/DAT320
 - IOPlless attachment only, IOP attached tape drives are not supported by the IBM i client
 - **Tape library devices are only supported when in sequential mode (no library functions).**
- **Both the server and client partitions should be at the latest PTF levels.**



System Requirements – Virtual Tape

■ Server Partition Software

- IBM i 7.3 GA
- IBM i 7.2 GA
- IBM i 7.1 with Technology Refresh 2

■ Client Partition Software

- IBM i 7.3 GA
- IBM i 7.2 GA
- IBM i 7.1 with TR2 + MF52103
 - -- OR --
- IBM i 7.1 + client support PTFs
 - -- OR --
- IBM i 6.1.1 + client support PTFs.

Note: LTO6 support requires the following PTFs:

- V6R1M1 - MF55885 and MF55968
 - If using BRMS, SI47038 or superseding PTF
- IBM i 7.1 - MF55886 and MF55967
 - If using BRMS, SI47039 or superseding PTF

Note: LTO-7 support requires the following PTFs:

- IBM i 7.1 - MF60438
 - If using BRMS, SI57213 or superseding PTF
- IBM i 7.2 - MF60437
 - If using BRMS, SI57214 or superseding PTF

■ For complete list of required PTFs see:

<https://www.ibm.com/developerworks/community/wikis/home?lang=en#/wiki/IBM%20Removable%20Media%20on%20IBM%20I/page/Client%20Virtual%20Tape%20Devices>

- Or Info APAR: "II14615 - SUPPORT OF CLIENT VIRTUAL TAPE DEVICES ON SYSTEM I"

Tape Device Hardware

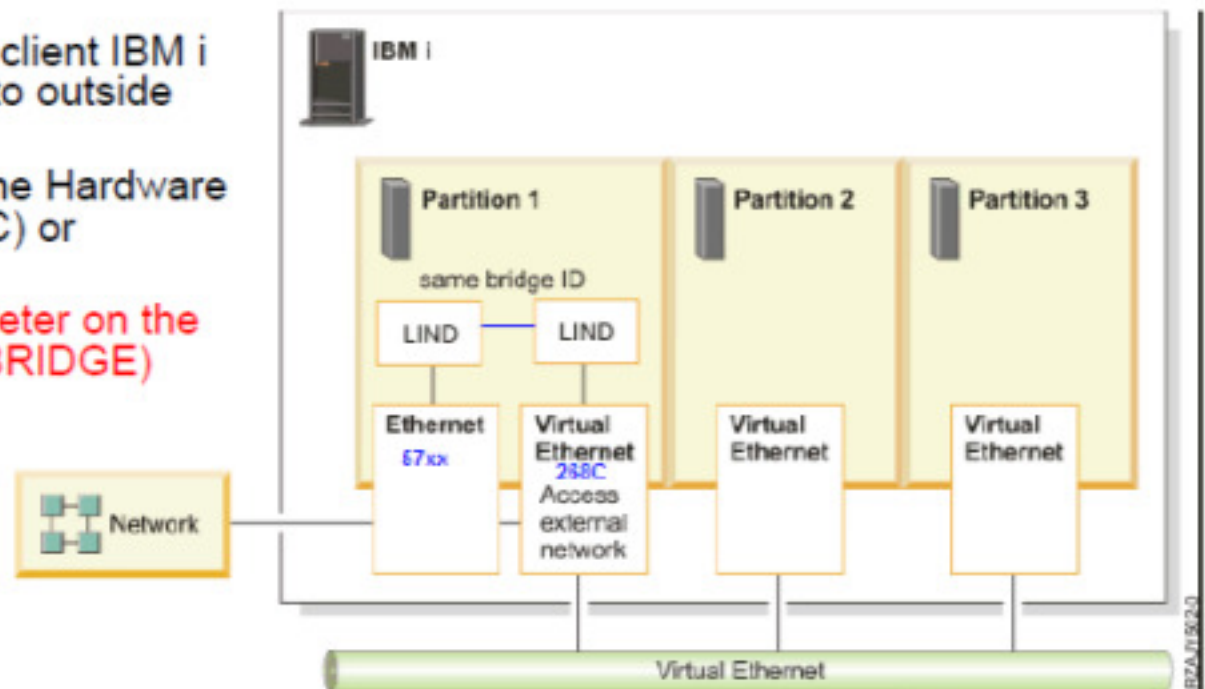
- TS2240 HH-LTO4 SAS
- TS2340 LTO4 SAS
- FC 5746 HH-LTO4 SAS
- TS2250 HH-LTO5 SAS
- TS2350 LTO5 SAS
- TS2260 HH-LTO6 SAS
- TS2360 LTO6 SAS
- FC 5638 HH-LTO5 SAS
- FC EU11 HH-LTO6 SAS
- TS2900 in sequential mode with LTO4, LTO5, or LTO6 SAS drives
- TS3100 in sequential mode with LTO3 Fibre Channel drives
- TS3100 in sequential mode with LTO4, LTO5 or LTO6 SAS / Fibre Channel drives
- TS3200 in sequential mode with LTO3 Fibre Channel drives.
- TS3200 in sequential mode with LTO4, LTO5 or LTO6 SAS / Fibre Channel drives
- FC 5907 DAT72 SAS
- FC 5619 DAT160 SAS
- FC 5661 DAT320 SAS
- 7206 Model 336 external SCSI DAT72 drive.
- TS2230 HH-LTO3 SCSI drive
- TS7620 (ProtecTIER) - see note 1
- TS7650 (ProtecTIER) - see note 1

Additional devices supported with client partitions running release V7R1 (IBM i 7.1) or later:

- TS2270 LTO-7 SAS HH Stand Alone Tape drive
- HH LTO-7 6.0TB SAS, 7226 w/FC8441
- FC 8446 HH LTO-7 Fibre Channel in 7226 enclosure
- 3572 (TS2900) in sequential mode with SAS LTO-7 drives.
- 3573 (TS3100, TS3200) in sequential mode with SAS and Fibre Channel LTO-7 drives

Network Virtualization with an IBM i Bridged Ethernet Adapter

- IBM i now provides the capability to share a physical network adapter by creating a Layer-2 Virtual Ethernet bridge
 - Bridges an internal VLAN switched managed by the POWER Hypervisor to the external LAN through a physical Ethernet adapter.
- Virtual Ethernet adapters in client IBM i partitions get direct access to outside network.
- Done though an option on the Hardware Management Console (HMC) or automatically via VPM
- **Plus configuring new parameter on the Ethernet line descriptions (BRIDGE)**
- Note: HEA is not supported





Steps to create client partition

- Highlevel steps:
 1. Ensure sufficient free resources – processor, memory, disk space
 2. Create lpar (container) via HMC/VPM
 3. Create network server description (NWSD)
 4. Create virtual storage (storage space / virtual disk)
 5. Install IBM i



Using VPM to create partitions



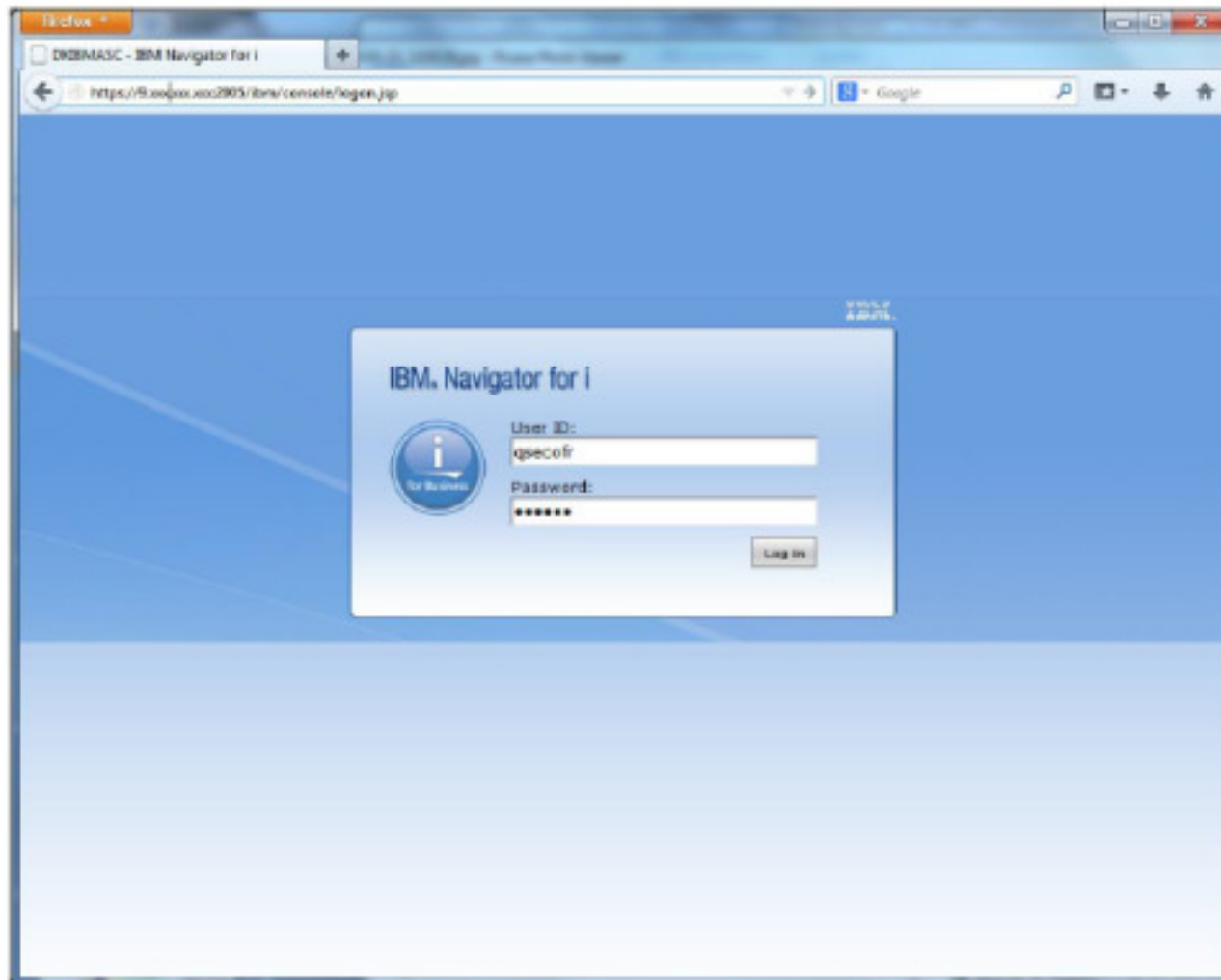
Virtual Partition Manager (VPM)

- Virtual Partition Manager (VPM) is a partition management tool that supports the creation of partitions that use *only virtual I/O* and does not require the HMC or IVM.
- In addition to being able to manage Linux guest partitions, the VPM now supports creation and management of IBM i client partitions.
- VPM function is available on POWER Systems Servers that do not have an external management console (nor requires one).
- Requirement IBM i 7.1 TR3 in host lpar for 5250
- Requirement IBM i 7.1 **TR6** in host lpar for **GUI**
- **LAN Console! IBM i 7.3 requires IBM Access Client Solution (ACS) LAN Console**
 - the old IBM i Access 7.1 for Windows LAN Console will not work after initial D-IPL



Using VPM GUI to create partitions

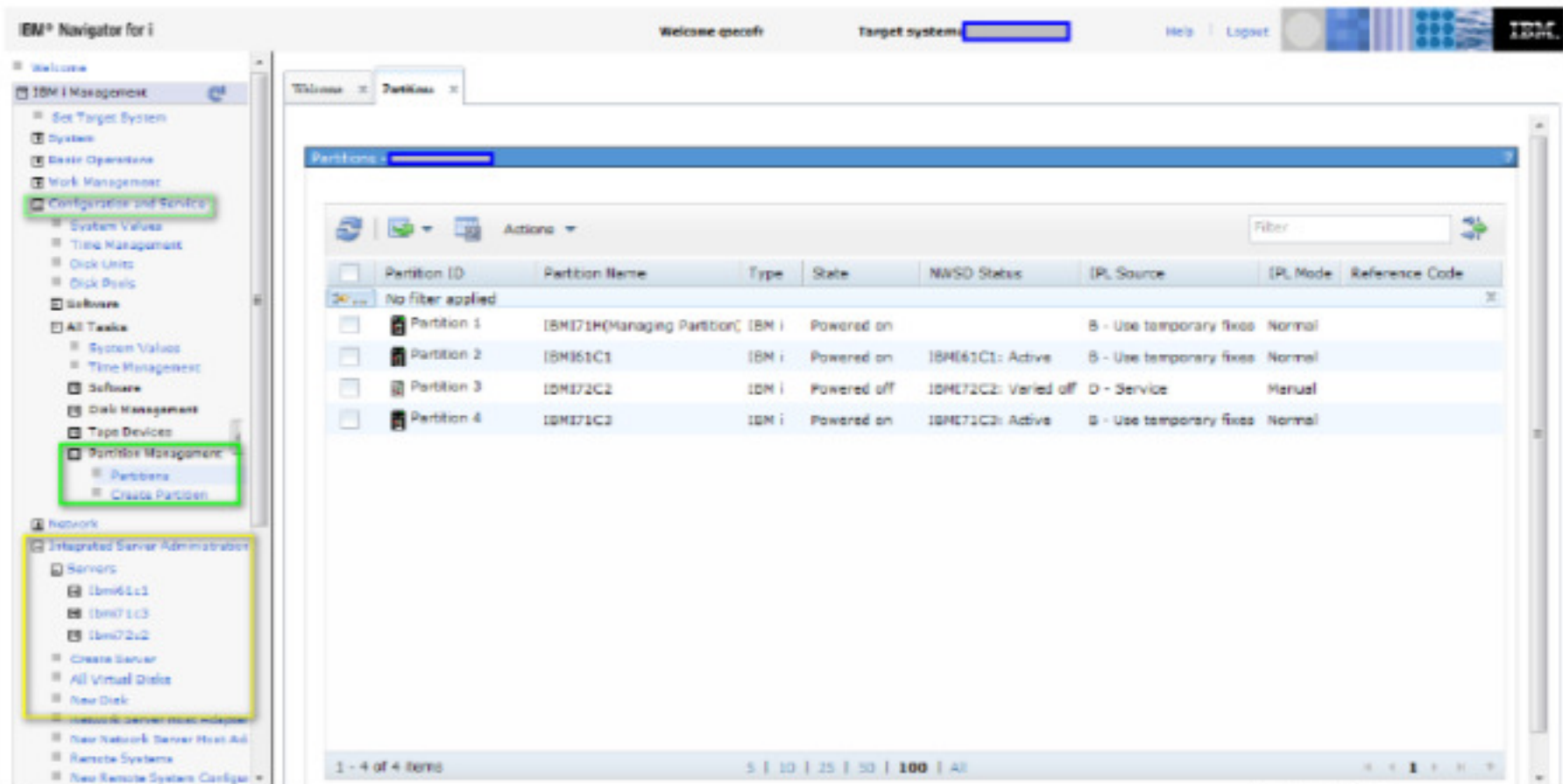
VPM Navigator for i – interface (IBM i 7.1 TR6 and later)



To access the VPM GUI open in a browser: <https://<HOST-IP>:2005/ibm/console/logon.jsp>

VPM Navigator for i – interface (IBM i 7.1 TR6 and later)

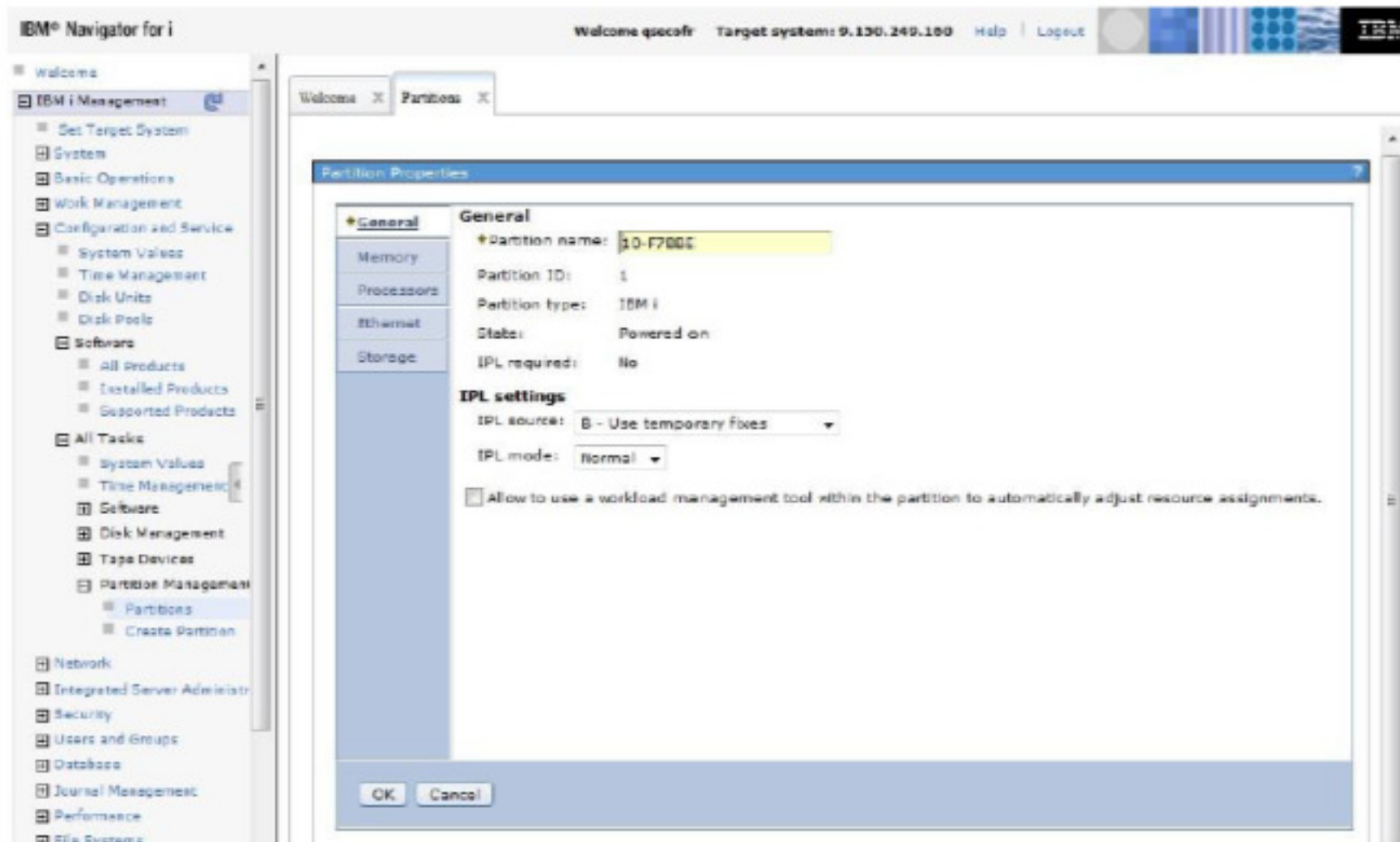
Virtual Partition Manager (VPM) Navigator for i interface is found under:
Configuration and Services => All Tasks => Partition Management



The screenshot shows the IBM Navigator for i interface. The left-hand navigation pane is expanded to show the 'Partition Management' section under 'All Tasks'. The main content area displays a table of partitions.

Partition ID	Partition Name	Type	State	NWSD Status	IPL Source	IPL Mode	Reference Code
Partition 1	IBM171H(Managing Partition)	IBM i	Powered on		B - Use temporary fixes	Normal	
Partition 2	IBM651C1	IBM i	Powered on	IBM651C1: Active	B - Use temporary fixes	Normal	
Partition 3	IBM172C2	IBM i	Powered off	IBM172C2: Varied off	D - Service	Manual	
Partition 4	IBM171C2	IBM i	Powered on	IBM171C2: Active	B - Use temporary fixes	Normal	

Free some CPU and Memory from host Ipar

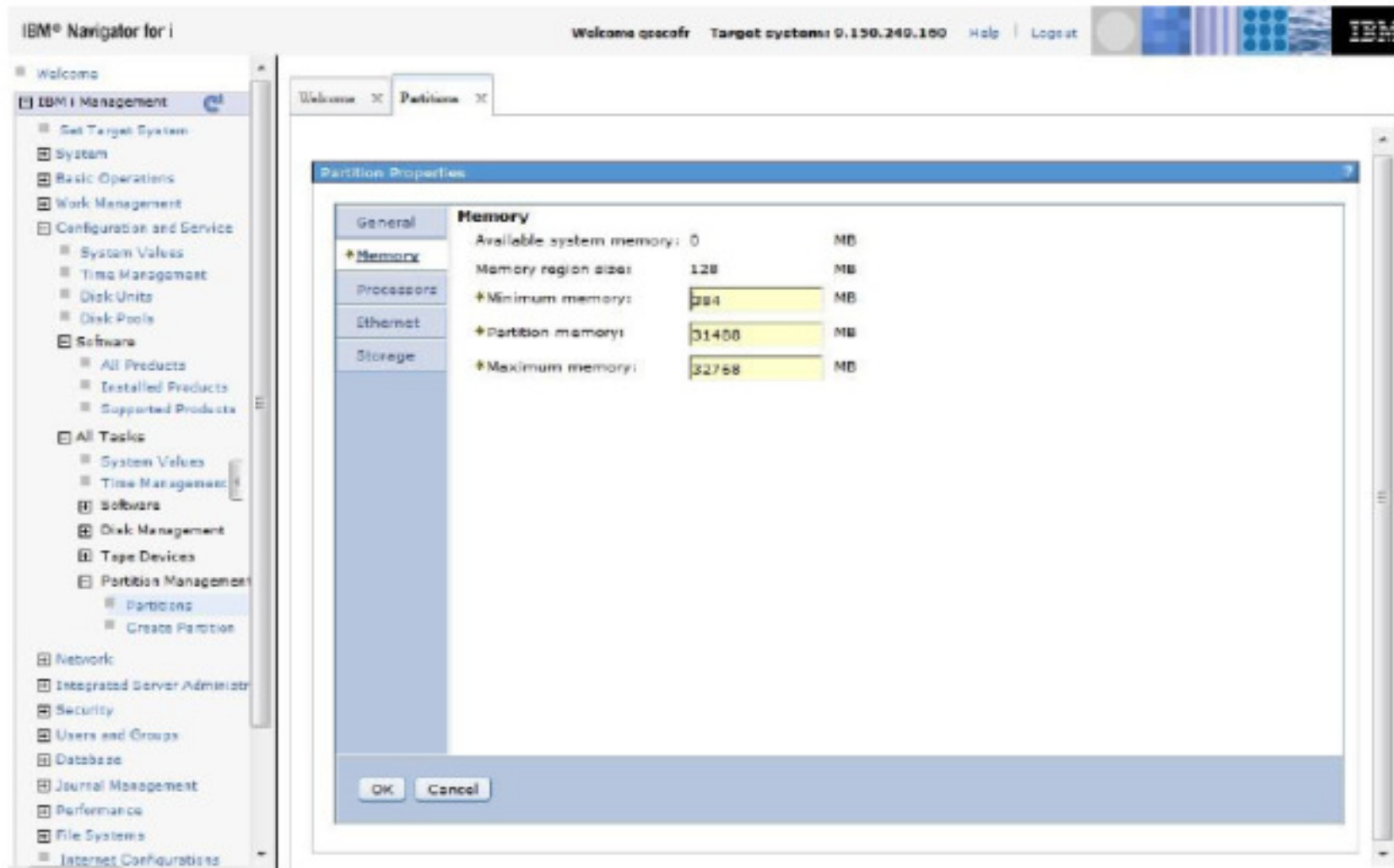


The screenshot shows the IBM Navigator for i interface. The left-hand navigation pane is expanded to 'Partition Management' > 'Partitions'. The main window displays the 'Partition Properties' dialog box for partition '10-F7005'. The 'General' tab is selected, showing the following details:

- General**
 - Partition name: 10-F7005
 - Partition ID: 1
 - Partition type: IBM i
 - State: Powered on
 - IPL required: No
- IPL settings**
 - IPL source: B - Use temporary fixes
 - IPL mode: Normal
 - Allow to use a workload management tool within the partition to automatically adjust resource assignments.

At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

Free some CPU and Memory from host Ipar



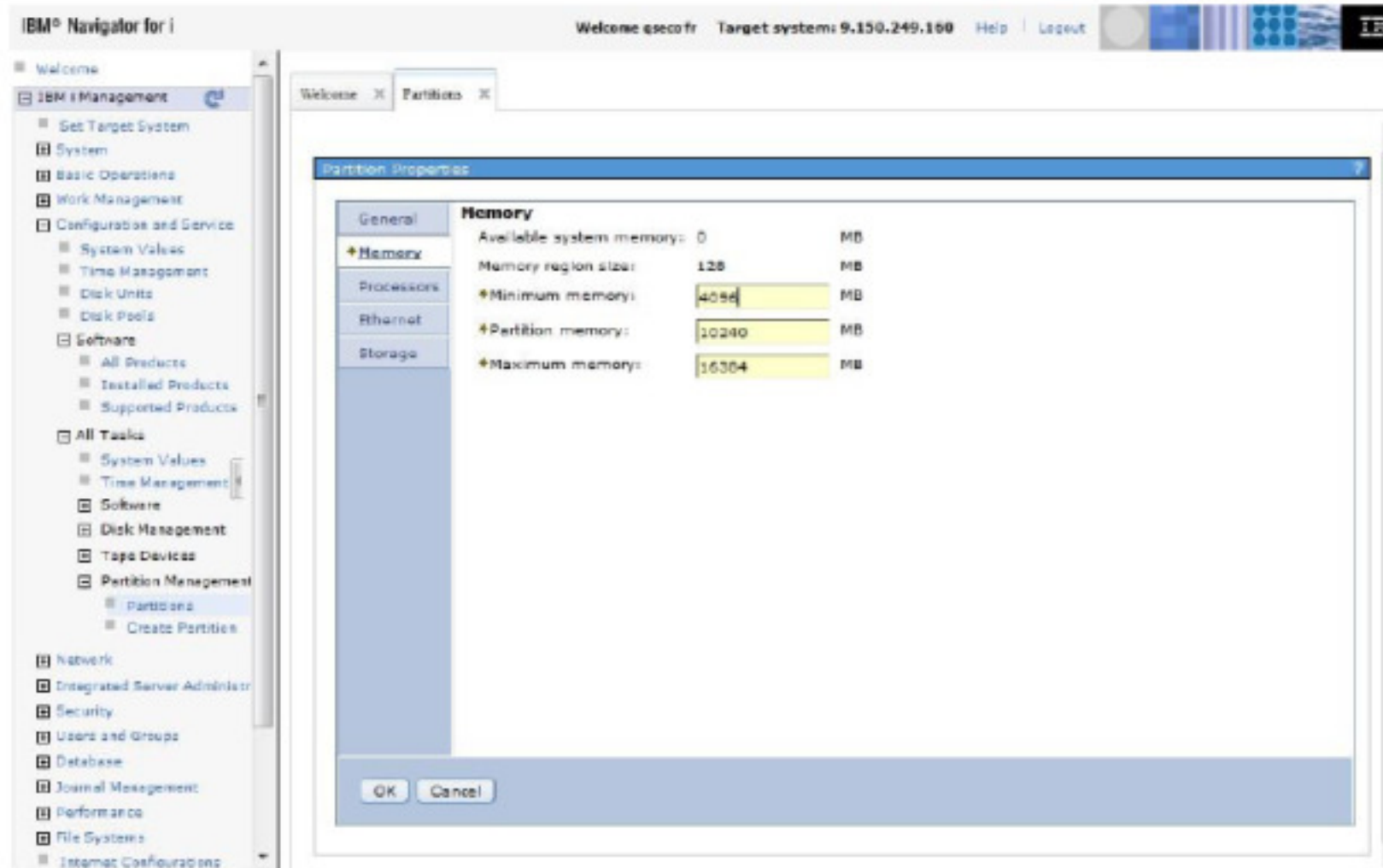
The screenshot shows the IBM Navigator for i interface. The left-hand navigation pane is expanded to 'Partition Management' > 'Partitions'. The main window displays the 'Partition Properties' dialog box for a partition named 'qosacr'. The 'Memory' tab is selected, showing the following configuration:

Property	Value	Unit
Available system memory:	0	MB
Memory region size:	128	MB
Minimum memory:	384	MB
partition memory:	31400	MB
Maximum memory:	32768	MB

The 'OK' and 'Cancel' buttons are visible at the bottom of the dialog box.



Free some CPU and Memory from host Ipar



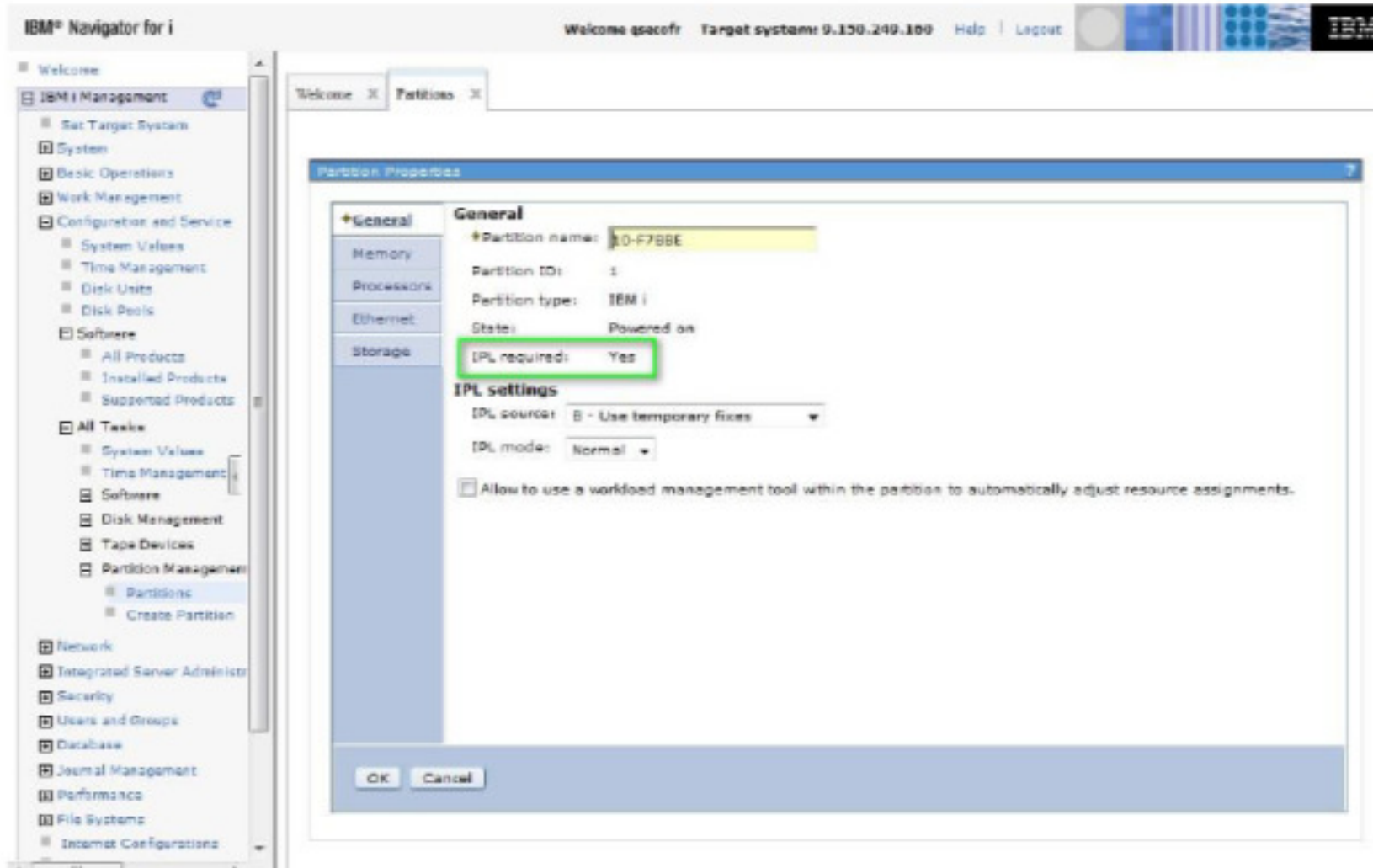
The screenshot shows the IBM Navigator for i interface. The left sidebar contains a navigation tree with categories like 'IBM i Management', 'System', 'Basic Operations', 'Work Management', 'Configurations and Service', 'Software', 'All Tasks', 'Network', 'Integrated Server Administration', 'Security', 'Users and Groups', 'Database', 'Journal Management', 'Performance', 'File Systems', and 'Internet Configurations'. The 'Partitions' option under 'Partition Management' is selected.

The main window displays the 'Partition Properties' dialog box. The 'Memory' tab is active, showing the following settings:

Property	Value	Unit
Available system memory:	0	MB
Memory region size:	128	MB
Minimum memory:	4096	MB
Partition memory:	10240	MB
Maximum memory:	16384	MB

At the bottom of the dialog box, there are 'OK' and 'Cancel' buttons.

Free some CPU and Memory from host Ipar



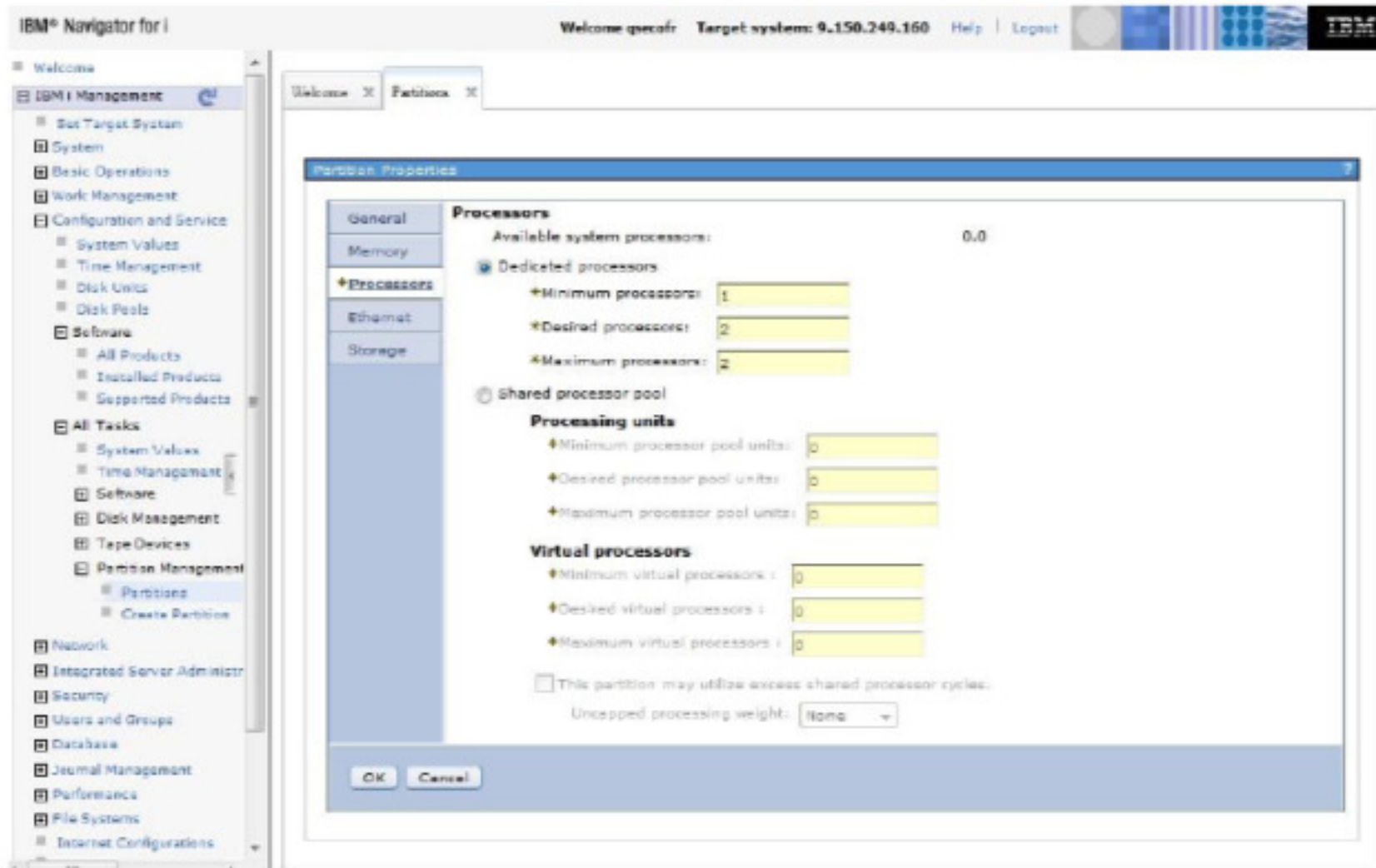
The screenshot shows the IBM Navigator for i interface. The left sidebar contains a navigation tree with categories like 'Welcome', 'IBM i Management', 'System', 'Basic Operations', 'Work Management', 'Configuration and Service', 'Software', 'All Tasks', 'Network', 'Integrated Server Administration', 'Security', 'Users and Groups', 'Database', 'Journal Management', 'Performance', 'File Systems', and 'Internet Configurations'. The 'Partitions' option under 'Partition Management' is selected.

The main window displays the 'Partition Properties' dialog box for partition '0-F78BE'. The 'General' tab is active, showing the following settings:

- Partition name: 0-F78BE
- Partition IDs: 1
- Partition type: IBM i
- State: Powered on
- IPL required: Yes (highlighted with a green box)
- IPL settings:
 - IPL source: B - Use temporary fixes
 - IPL mode: Normal
 - Allow to use a workload management tool within the partition to automatically adjust resource assignments.

At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

Free some CPU and Memory from host Ipar

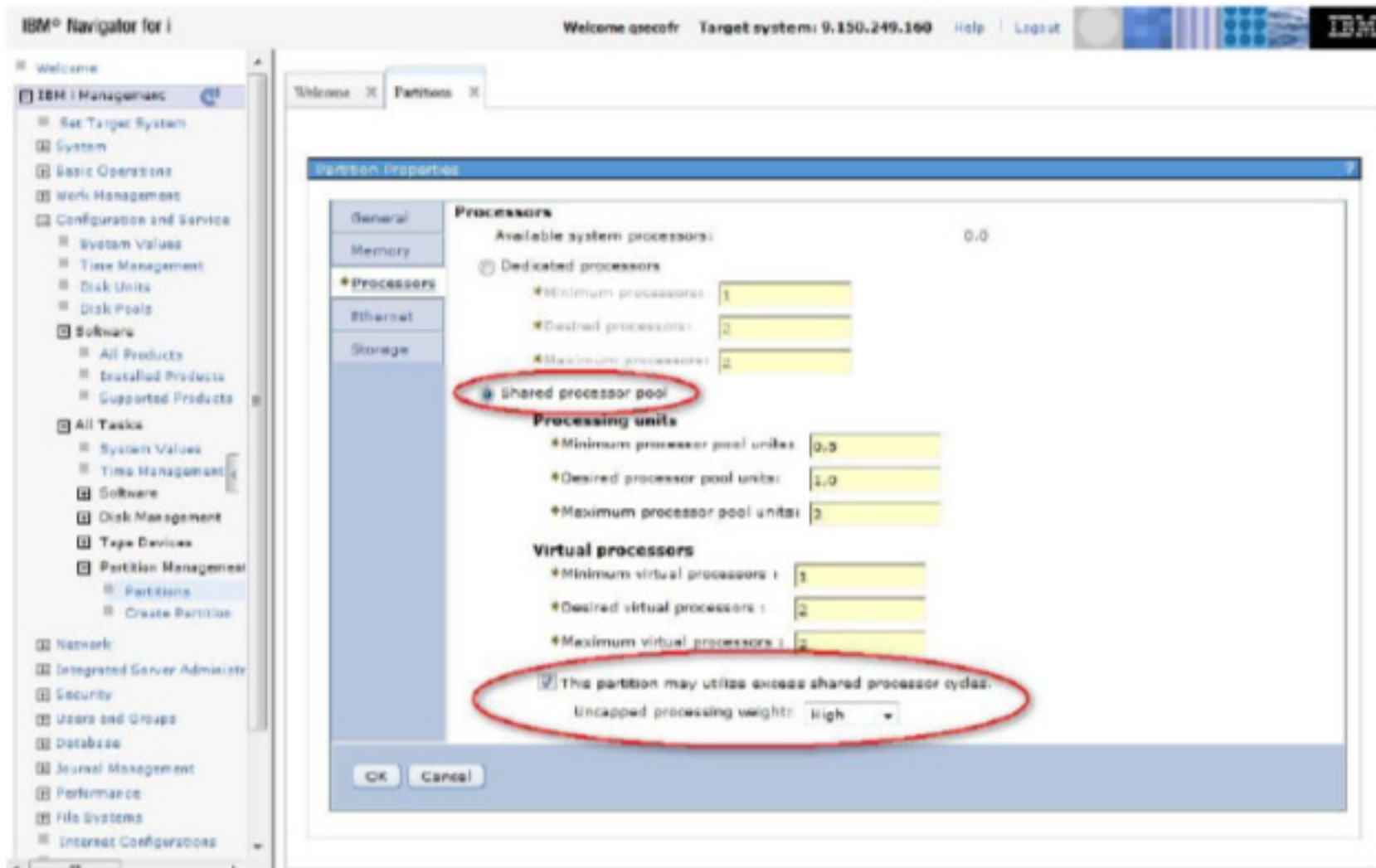


The screenshot shows the IBM Navigator for i interface. The left-hand navigation pane is expanded to 'Partition Management' > 'Partitions' > 'Create Partition'. The main window displays the 'Partition Properties' dialog box for a partition named 'Part0000'. The 'Processors' tab is selected, showing the following configuration:

- Available system processors:** 0.0
- Dedicated processors:** (Selected)
 - Minimum processors: 1
 - Desired processors: 2
 - Maximum processors: 2
- Shared processor pool:** (Not selected)
 - Processing units:
 - Minimum processor pool units: 0
 - Desired processor pool units: 0
 - Maximum processor pool units: 0
 - Virtual processors:
 - Minimum virtual processors: 0
 - Desired virtual processors: 0
 - Maximum virtual processors: 0
- This partition may utilize excess shared processor cycles.
 - Unapped processing weight: None

Buttons for 'OK' and 'Cancel' are visible at the bottom of the dialog box.

Free some CPU and Memory from host Ipar



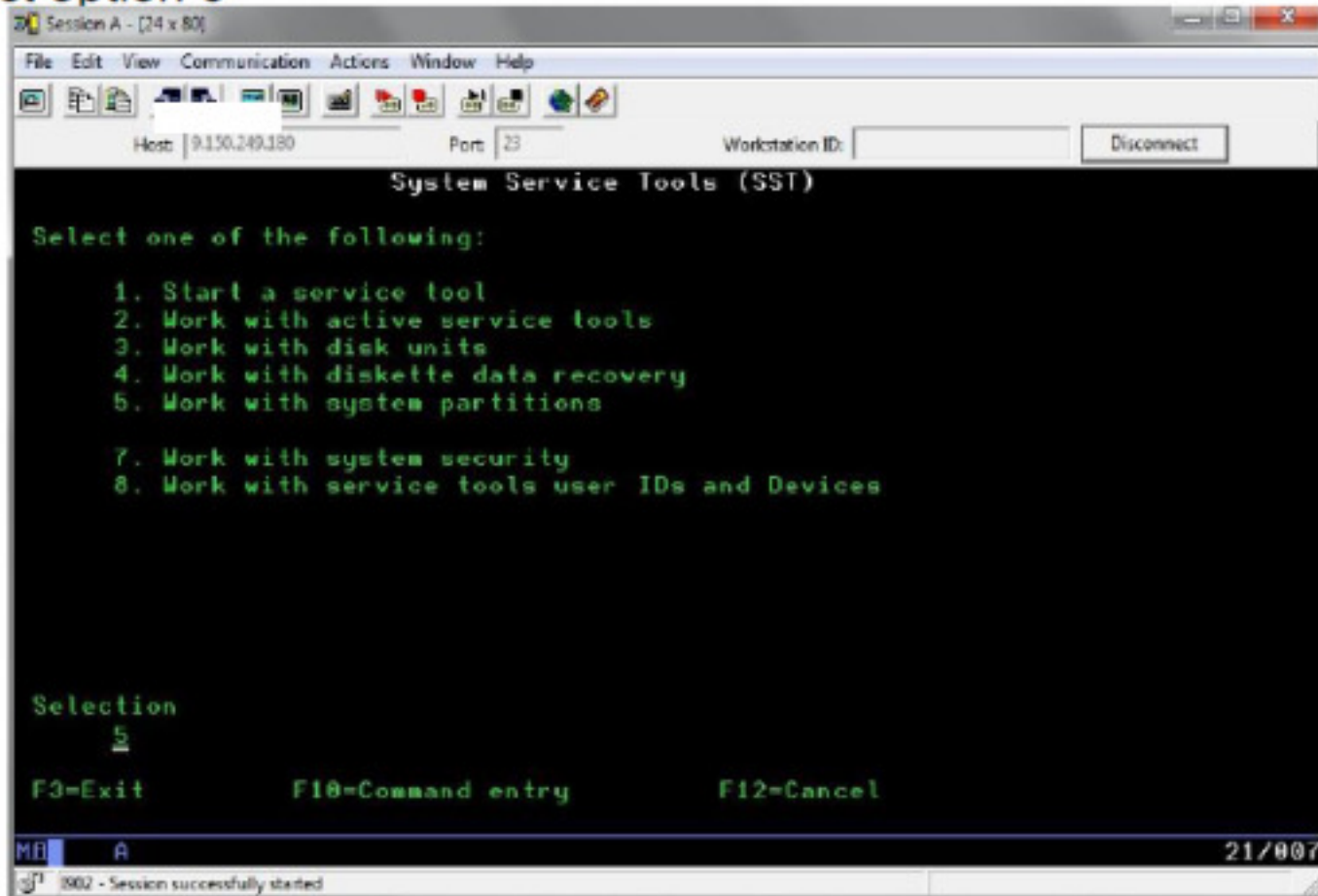
The screenshot shows the 'Partition Properties' dialog box in IBM Navigator for i. The 'Processors' tab is selected, and the 'Shared processor pool' option is chosen. The 'Processing units' section shows 'Minimum processor pool units' set to 0.5, 'Desired processor pool units' set to 1.0, and 'Maximum processor pool units' set to 2. The 'Virtual processors' section shows 'Minimum virtual processors' set to 1, 'Desired virtual processors' set to 2, and 'Maximum virtual processors' set to 2. A checkbox labeled 'This partition may utilize excess shared processor cycles' is checked, and the 'Uncapped processing weight' is set to 'High'. The 'Available system processors' is shown as 0.0. The 'General' tab is also visible on the left side of the dialog box.



Using VPM 5250 SST/DST to create partitions

Partitioning - Getting Started

- Logon to DST or SST (strsst)
- Select option 5



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Host 9.150.249.180 Port 23 Workstation ID: Disconnect
System Service Tools (SST)

Select one of the following:

1. Start a service tool
2. Work with active service tools
3. Work with disk units
4. Work with diskette data recovery
5. Work with system partitions

7. Work with system security
8. Work with service tools user IDs and Devices

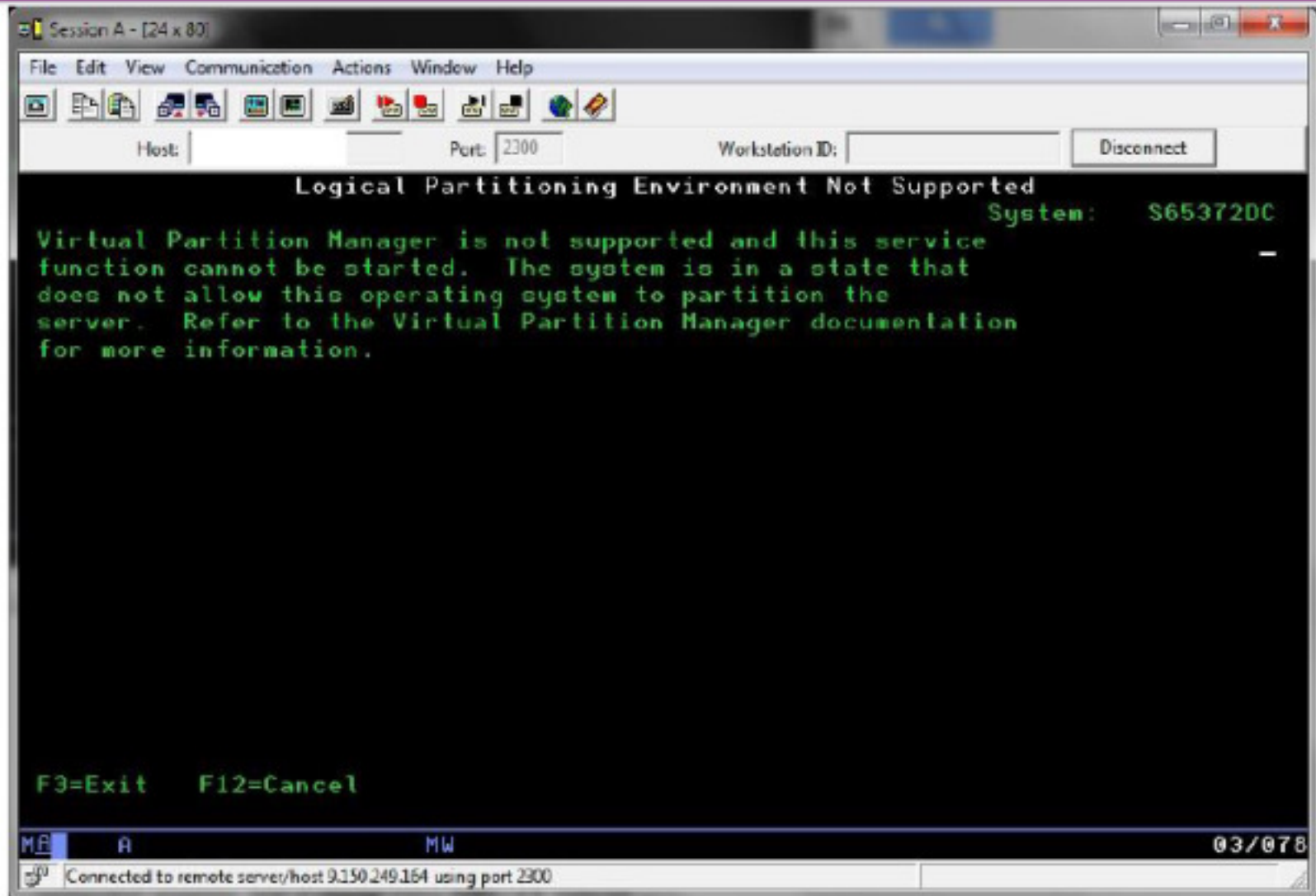
Selection
 5

F3=Exit      F10=Command entry      F12=Cancel

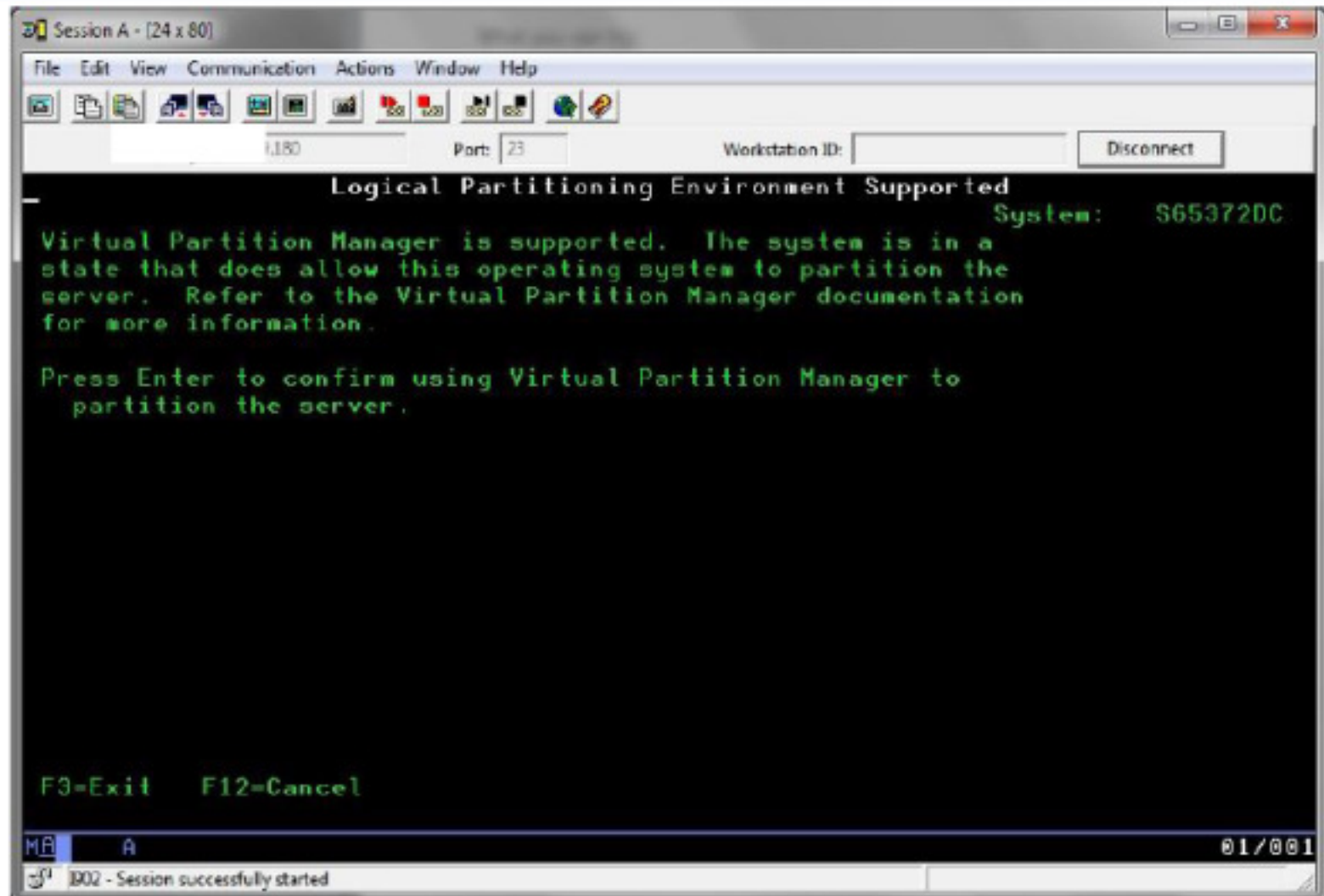
ME A 21/007
IBM 0902 - Session successfully started
```



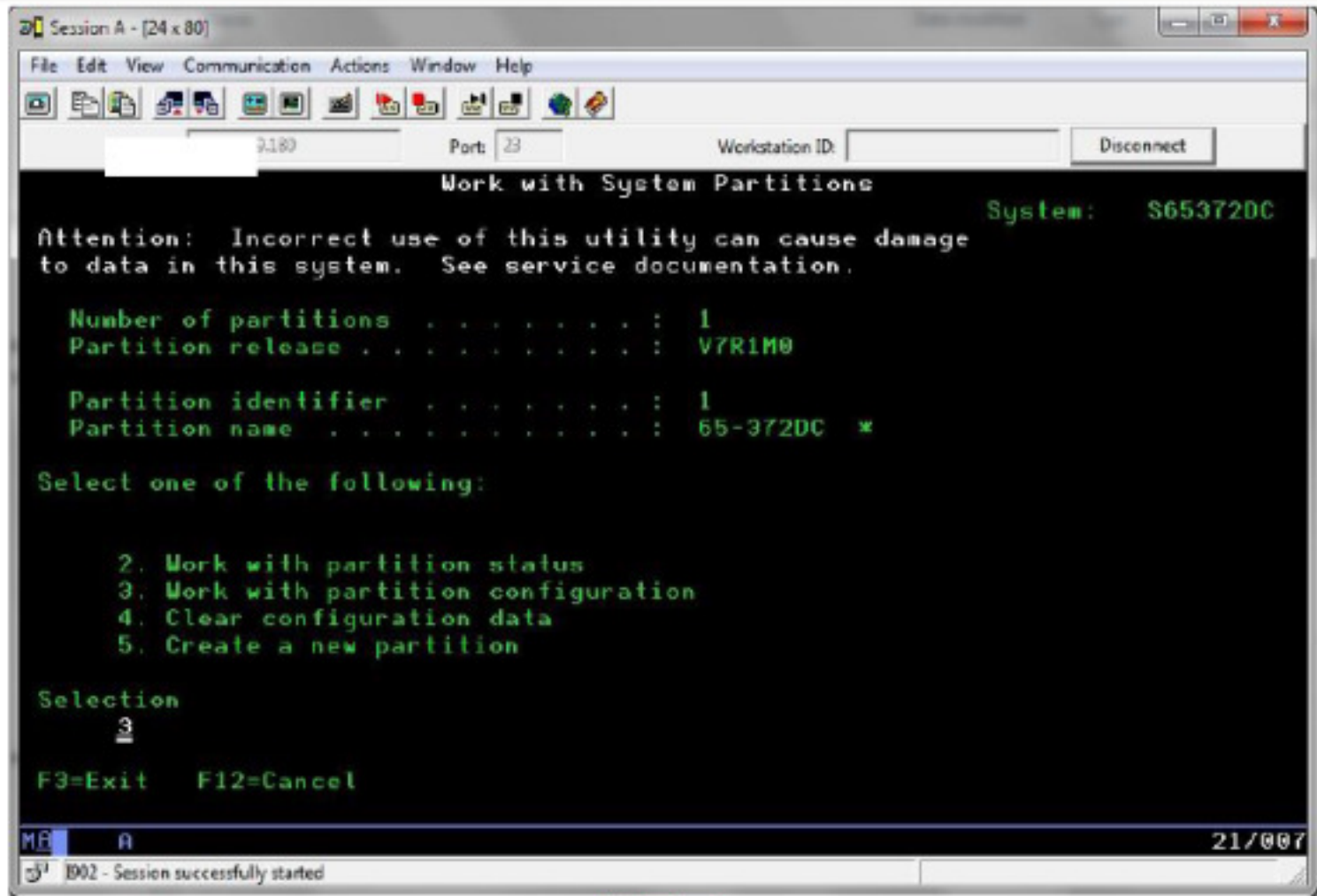
Is the System Ready? Ups – HMC controlled...



Is the System Ready? YES – not HMC.



Free some CPU and Memory - Option 3 Work with partition configuration



```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
9.180 Port: 23 Workstation ID: Disconnect
Work with System Partitions
System: S653720C
Attention: Incorrect use of this utility can cause damage
to data in this system. See service documentation.

Number of partitions . . . . . : 1
Partition release . . . . . : V7R1M0

Partition identifier . . . . . : 1
Partition name . . . . . : 65-372DC *

Select one of the following:

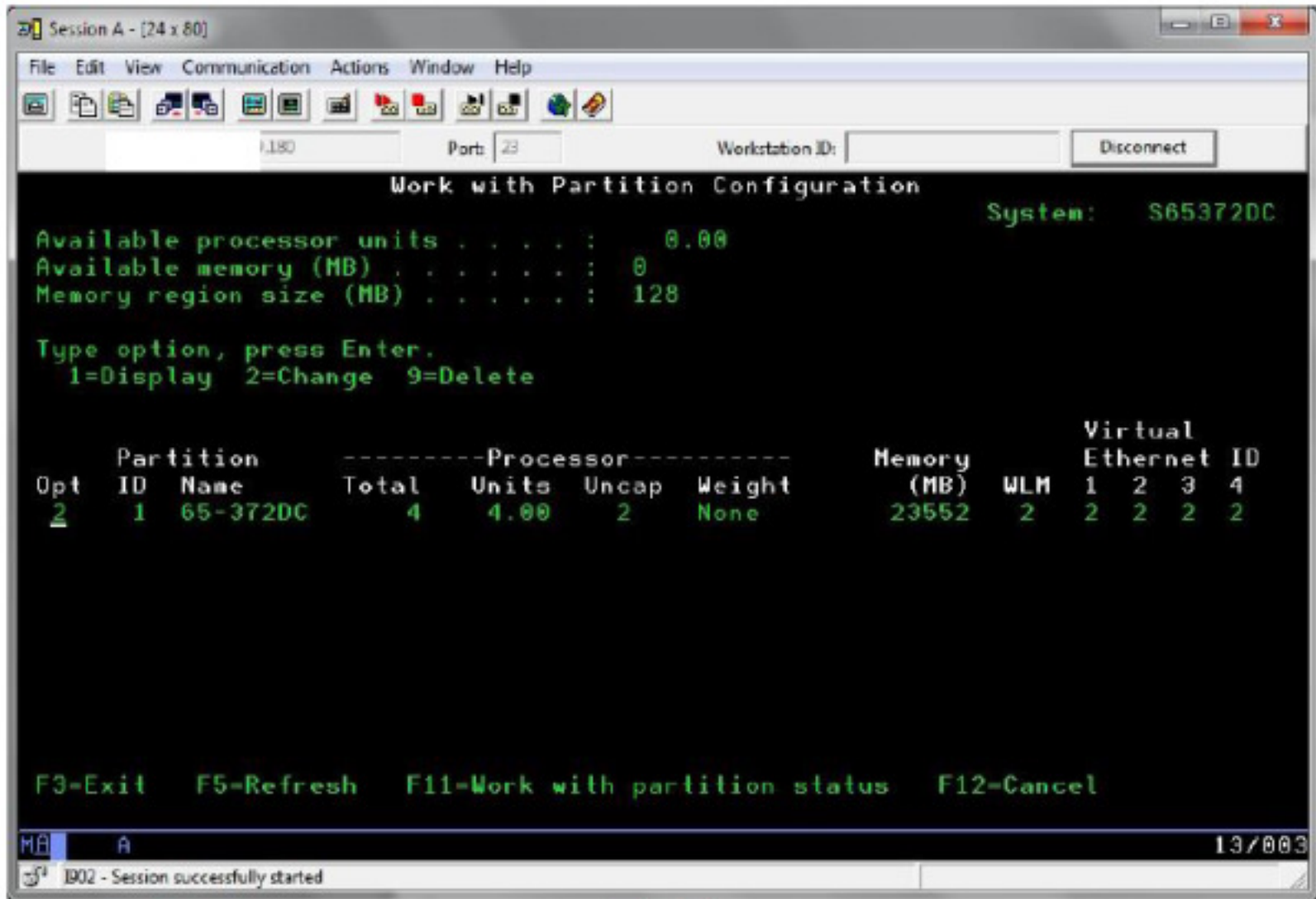
2. Work with partition status
3. Work with partition configuration
4. Clear configuration data
5. Create a new partition

Selection
3
F3=Exit F12=Cancel

ME A 21/007
1002 - Session successfully started
    
```



Free some CPU and Memory



Session A - [24 x 80]

File Edit View Communication Actions Window Help

1180 Port: 23 Workstation ID: Disconnect

Work with Partition Configuration System: S65372DC

Available processor units : 0.00
 Available memory (MB) : 0
 Memory region size (MB) : 128

Type option, press Enter.
 1=Display 2=Change 9=Delete

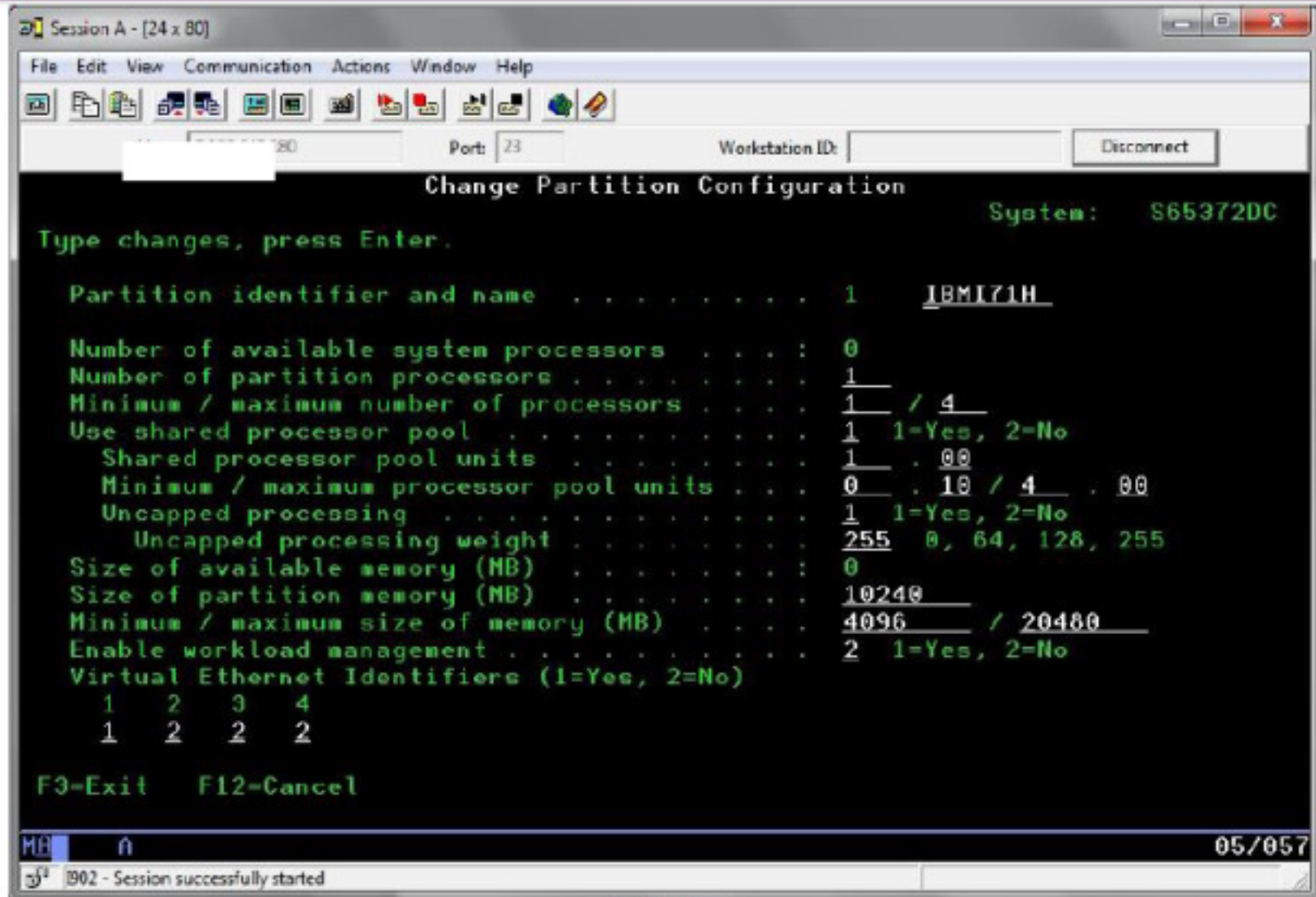
Opt	Partition		-----Processor-----				Memory (MB)	WLM	Virtual Ethernet ID			
	ID	Name	Total	Units	Uncap	Weight			1	2	3	4
<u>2</u>	1	65-372DC	4	4.00	2	None	23552	2	2	2	2	2

F3=Exit F5=Refresh F11=Work with partition status F12=Cancel

MA A 13/003

1002 - Session successfully started

Free some CPU and Memory



Session A - [24 x 80]

File Edit View Communication Actions Window Help

Port: 23 Workstation ID: Disconnect

Change Partition Configuration System: S65372DC

Type changes, press Enter.

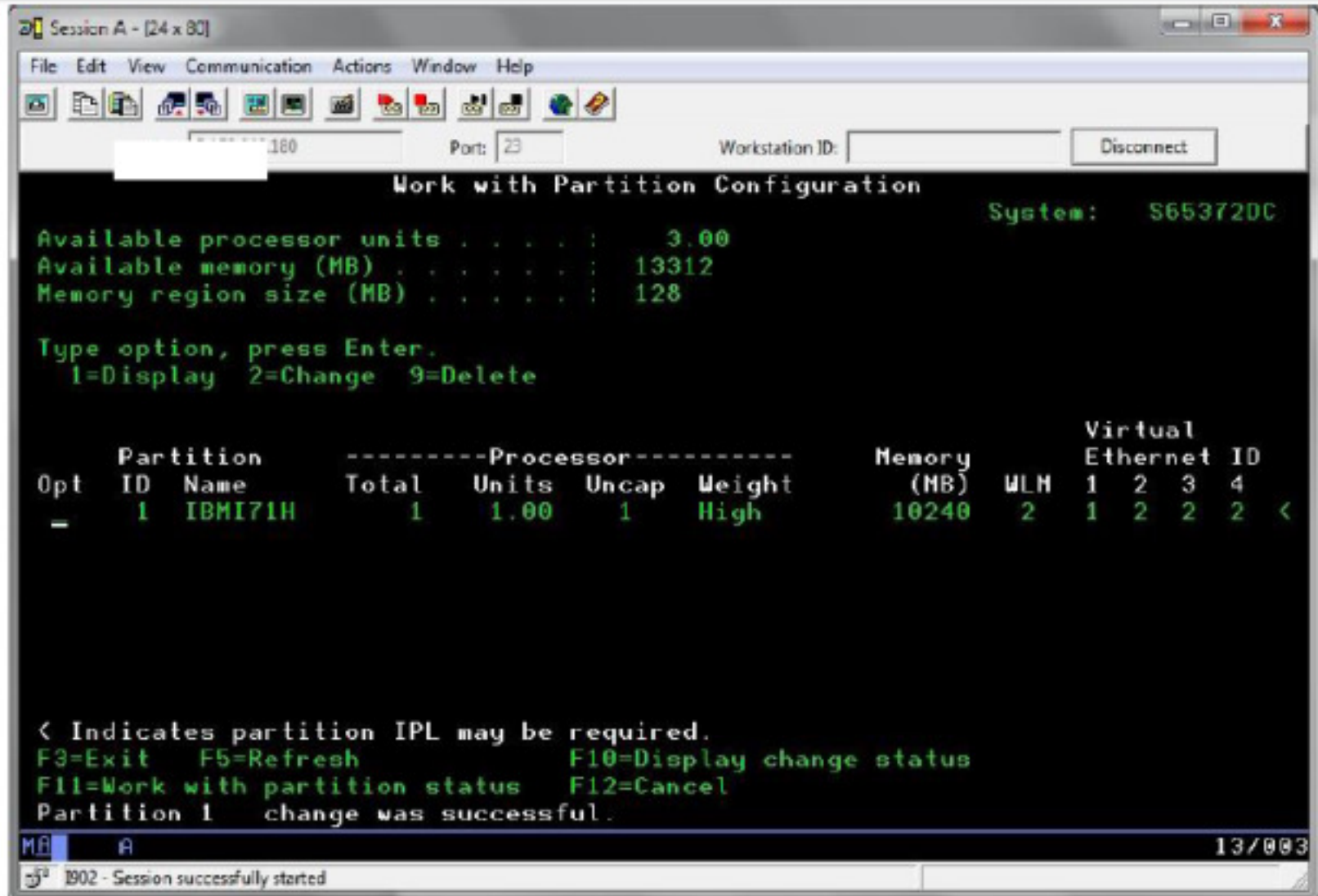
Partition identifier and name	1	IBM171H
Number of available system processors	:	0
Number of partition processors	:	1
Minimum / maximum number of processors	:	1 / 4
Use shared processor pool	:	1 1=Yes, 2=No
Shared processor pool units	:	1 . 00
Minimum / maximum processor pool units	:	0 . 10 / 4 . 00
Uncapped processing	:	1 1=Yes, 2=No
Uncapped processing weight	:	255 0, 64, 128, 255
Size of available memory (MB)	:	0
Size of partition memory (MB)	:	10240
Minimum / maximum size of memory (MB)	:	4096 / 20480
Enable workload management	:	2 1=Yes, 2=No
Virtual Ethernet Identifiers (1=Yes, 2=No)		
1 2 3 4		
1 2 2 2		

F3=Exit F12=Cancel

ME 05/057

0902 - Session successfully started

Free some CPU and Memory



Session A - [24 x 80]

File Edit View Communication Actions Window Help

.....160 Port: 23 Workstation ID: Disconnect

Work with Partition Configuration System: S65372DC

Available processor units 3.00
 Available memory (MB) 13312
 Memory region size (MB) 128

Type option, press Enter.
 1=Display 2=Change 9=Delete

Opt	Partition		-----Processor-----				Memory (MB)	WLM	Virtual Ethernet ID				
	ID	Name	Total	Units	Uncap	Weight			1	2	3	4	
1	1	IBMI71H	1	1.00	1	High	10240	2	1	2	2	2	<

< Indicates partition IPL may be required.
 F3=Exit F5=Refresh F10=Display change status
 F11=Work with partition status F12=Cancel
 Partition 1 change was successful.

MA A 13/003

1902 - Session successfully started



Free some CPU and Memory

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
9.180 Port: 23 Workstation ID: Disconnect
Work with System Partitions
System: S65372DC
Attention: Incorrect use of this utility can cause damage
to data in this system. See service documentation.

Number of partitions . . . . . : 1
Partition release . . . . . : V7R1M0

Partition identifier . . . . . : 1
Partition name . . . . . : IBMI71H *

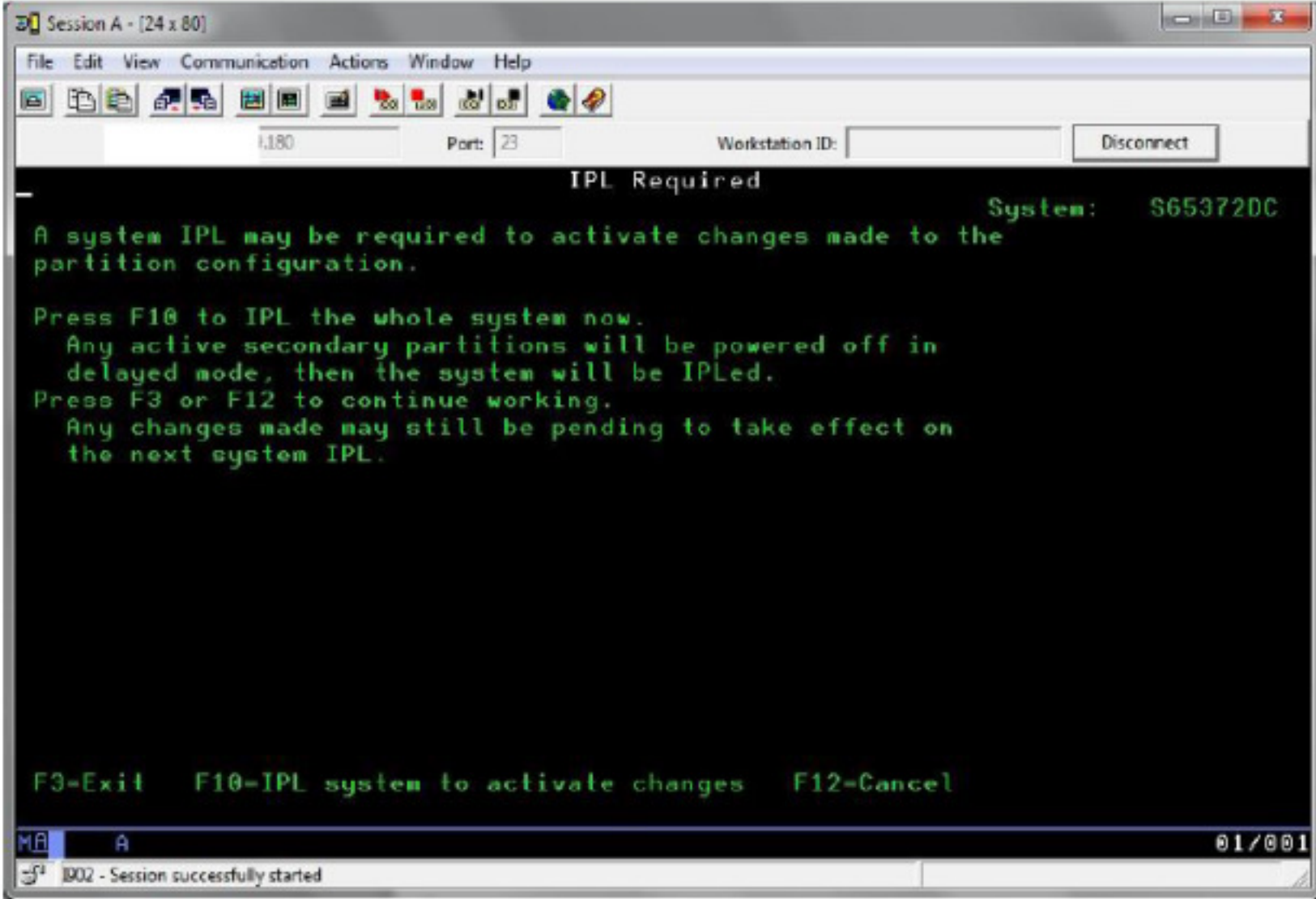
Select one of the following:

2. Work with partition status
3. Work with partition configuration
4. Clear configuration data
5. Create a new partition

Selection
-

F3=Exit F10=IPL system to activate changes F12=Cancel
System IPL may be required to activate changes.
MA A 21/007
BX2 - Session successfully started
    
```

Free some CPU and Memory – IPL but take care



The screenshot shows a terminal window titled "Session A - [24 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The main area of the terminal displays the following text:

```
IPL Required                                     System:  S65372DC

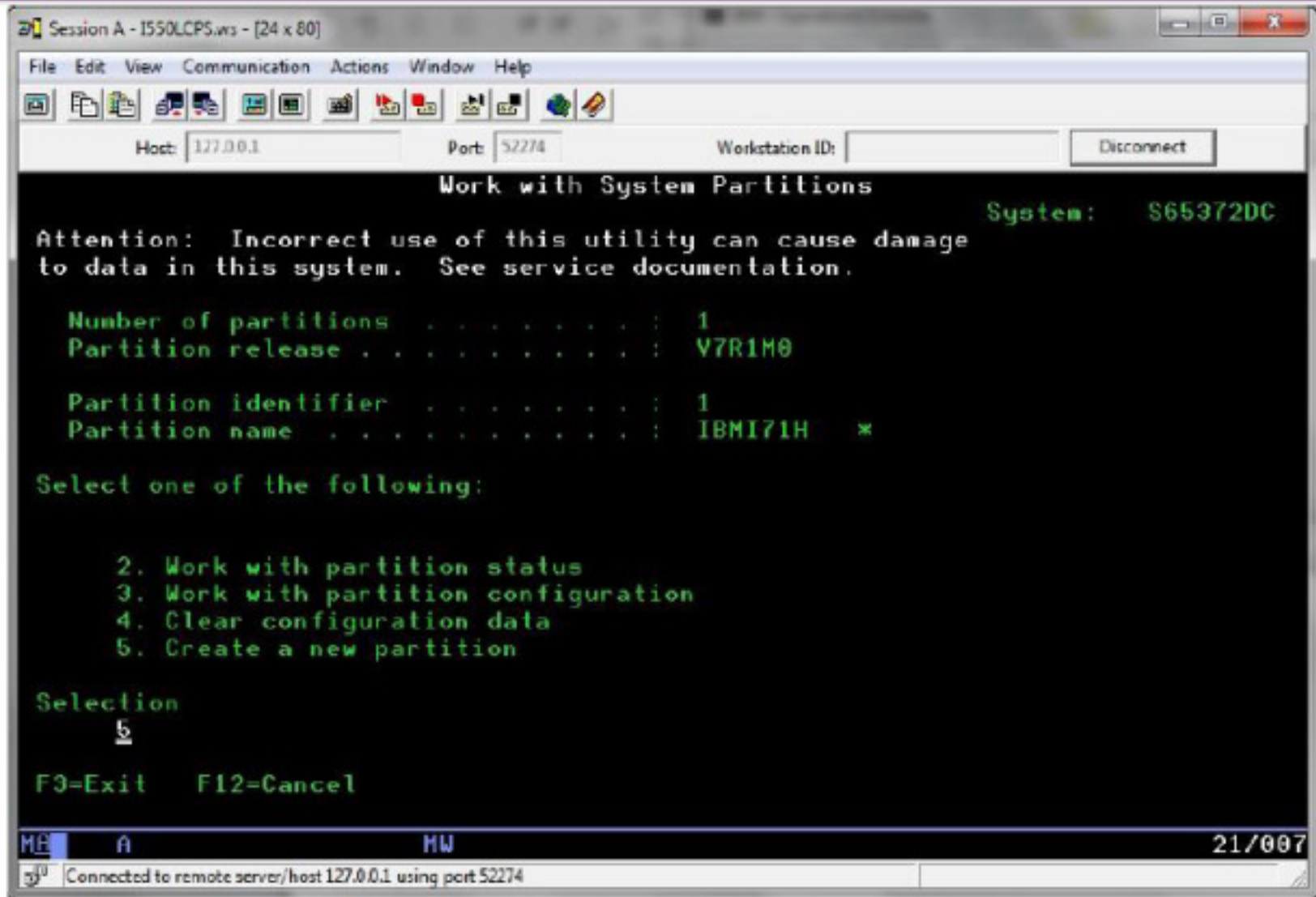
A system IPL may be required to activate changes made to the
partition configuration.

Press F10 to IPL the whole system now.
Any active secondary partitions will be powered off in
delayed mode, then the system will be IPLed.
Press F3 or F12 to continue working.
Any changes made may still be pending to take effect on
the next system IPL.

F3-Exit   F10-IPL system to activate changes   F12-Cancel
```

At the bottom of the terminal, there is a status bar showing "MA A" on the left and "01/001" on the right. Below the terminal window, a status bar indicates "1902 - Session successfully started".

Creating an IBM i Client partition => STRSST again



```

Session A - I550LCPS.wsz - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 52274 Workstation ID: Disconnect
Work with System Partitions
System: S65372DC
Attention: Incorrect use of this utility can cause damage
to data in this system. See service documentation.

Number of partitions . . . . . : 1
Partition release . . . . . : V7R1M0

Partition identifier . . . . . : 1
Partition name . . . . . : IBMI71H *

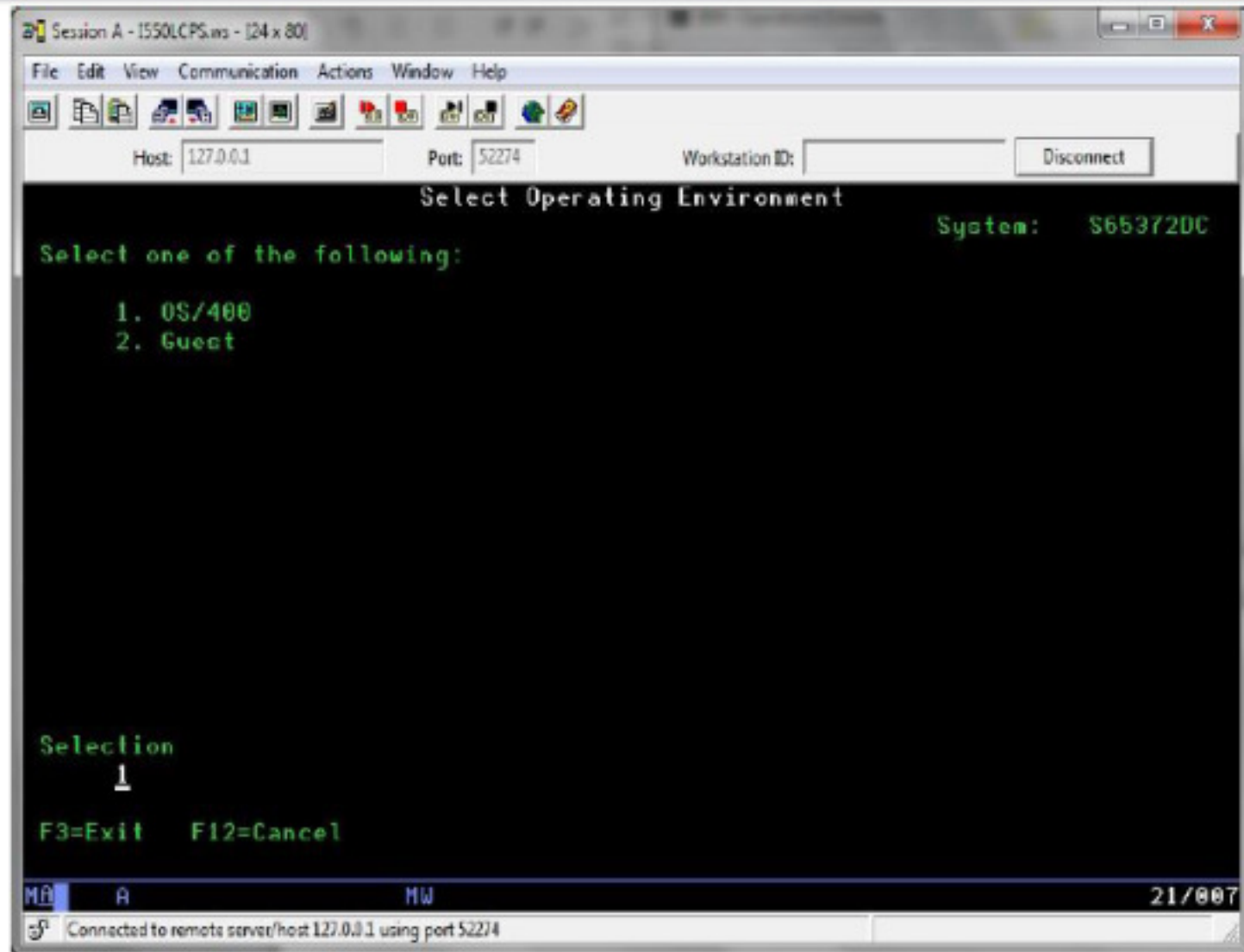
Select one of the following:

2. Work with partition status
3. Work with partition configuration
4. Clear configuration data
5. Create a new partition

Selection
5

F3=Exit F12=Cancel
MA A MW 21/007
Connected to remote server/host 127.0.0.1 using port 52274
    
```


Creating an IBM i Client partition – Select Operating Environment



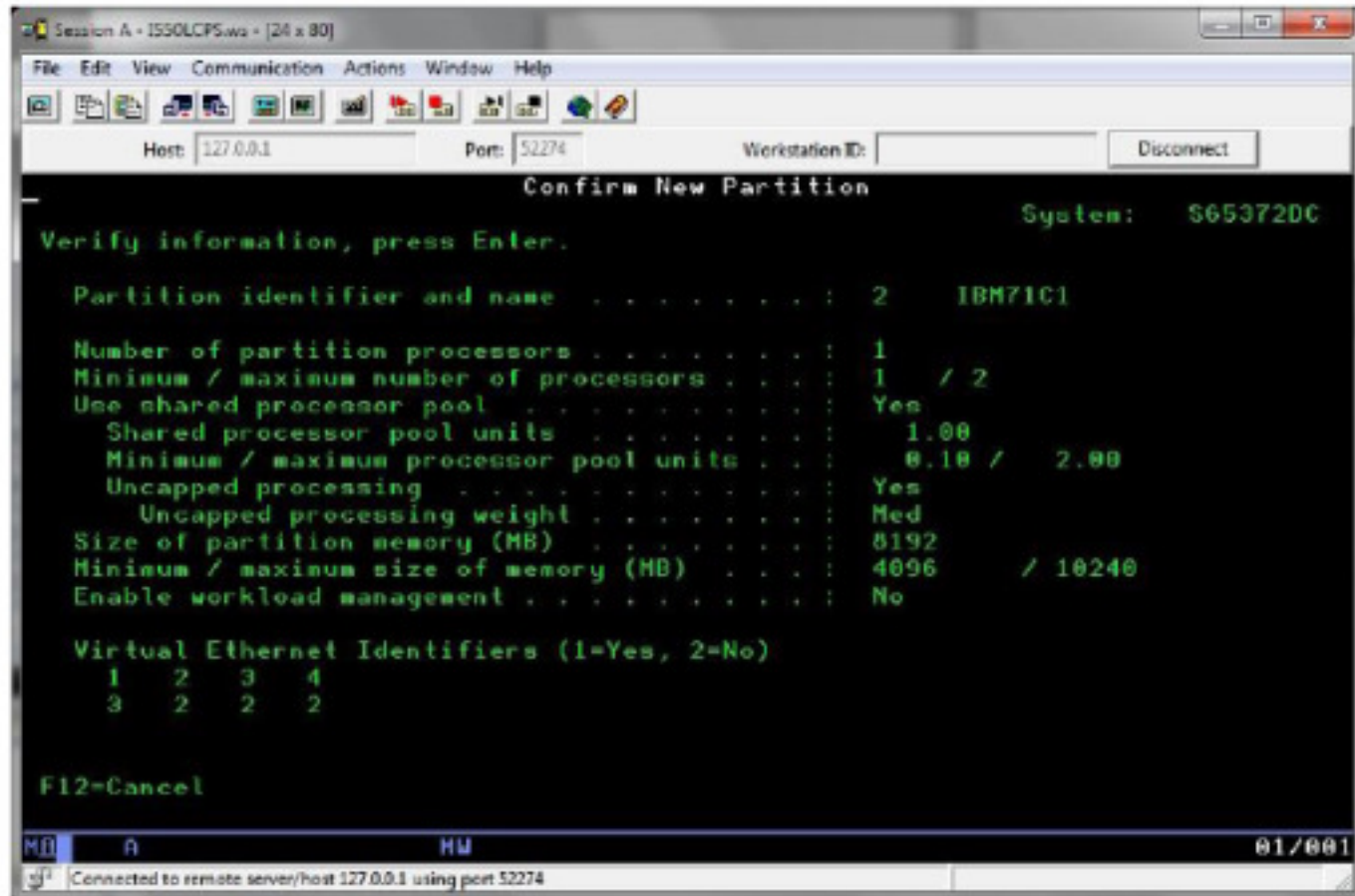


Creating an IBM i Client partition – Create New Partition

```

Session A - 1550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 52274 Workstation ID: Disconnect
Create New Partition System: S653720C
Complete blanks, press Enter.
Partition identifier and name . . . . . 2
Number of available system processors . . . : 3
Number of partition processors . . . . .
Minimum / maximum number of processors . . . /
Use shared processor pool . . . . . 1 1=Yes, 2=No
Shared processor pool units . . . . .
Minimum / maximum processor pool units . . . /
Uncapped processing . . . . . 1 1=Yes, 2=No
Uncapped processing weight . . . . . 128 0, 64, 128, 255
Size of available memory (MB) . . . . . 13568
Size of partition memory (MB) . . . . .
Minimum / maximum size of memory (MB) . . . /
Enable workload management . . . . . 2 1=Yes, 2=No
Virtual Ethernet Identifiers (1=Yes, 2=No)
  1 2 3 4
  2 2 2 2
F3=Exit F12=Cancel
MA A MW 05/052
Connected to remote server/host 127.0.0.1 using port 52274
    
```

Creating an IBM i Client partition - confirm



```

Session A - ISSOLCPS.wm - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 52274 Workstation ID: Disconnect
Confirm New Partition System: S65372DC
Verify information, press Enter.
Partition identifier and name : 2 IBM71C1
Number of partition processors : 1
Minimum / maximum number of processors : 1 / 2
Use shared processor pool : Yes
Shared processor pool units : 1.00
Minimum / maximum processor pool units : 0.10 / 2.00
Uncapped processing : Yes
Uncapped processing weight : Med
Size of partition memory (MB) : 8192
Minimum / maximum size of memory (MB) : 4096 / 10240
Enable workload management : No
Virtual Ethernet Identifiers (1=Yes, 2=No)
  1  2  3  4
  3  2  2  2
F12=Cancel
M0 A HM 01/001
Connected to remote server/host 127.0.0.1 using port 52274
    
```

In order to select Virtual Ethernet as the console device you have to set a Virtual Ethernet Identifier to '3', Instead of '1'.

Creating an IBM i Client partition – IPL required ‘<’

```

Session A - ISSOLCPS.wsv - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 52274 Workstation ID: Disconnect
Work with Partition Configuration System: S65372DC

Available processor units . . . . . : 1.00
Available memory (MB) . . . . . : 1024
Memory region size (MB) . . . . . : 128

Type option, press Enter.
  1=Display 2=Change 9=Delete

-----Processor-----
Opt  ID  Name  Total  Units  Uncap  Weight  Memory  WLM  Virtual
----- (MB) ----- Ethernet ID
-    1  IBMI71H  1     1.00   1     High   10240  2    1  2  2  2  <
-    2  IBMI71C  1     1.00   1     Med    8192   2    3  2  2  2  <
-    3  LINUX    1     1.00   1     Med    4096   2    1  2  2  2  <

< Indicates partition IPL may be required.
F3=Exit  F5=Refresh  F10=Display change status
F11=Work with partition status  F12=Cancel
Partition 2 change was successful.

HE A MU 14/003
Connected to remote server/host 127.0.0.1 using port 52274
    
```



Identify virtual SCSI resource – Look for "290B" with location ending Cx30

```

Session A - 1550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 52356 Workstation ID: Disconnect

Packaging Hardware Resources
Unit ID: U9406.550.65372DC
Type options, press Enter.
2=Change detail 3=Concurrent maintenance 4=Remove 5=Display detail
8=Associated logical resource(s) 9=Hardware contained within package

Opt Description Type- Resource Location
- Virtual Comm IOA 290B-001 P61 V1-C5
- Virtual Comm IOA 6804-001 P59 V1-C6
- Virtual Comm Port 6804-001 P60 V1-C6-T1
8 Virtual Comm IOA 290B-001 P64 V1-C230
- Virtual Comm IOA 290B-001 P62 V1-C231
- Virtual Comm IOA 290B-001 P63 V1-C232

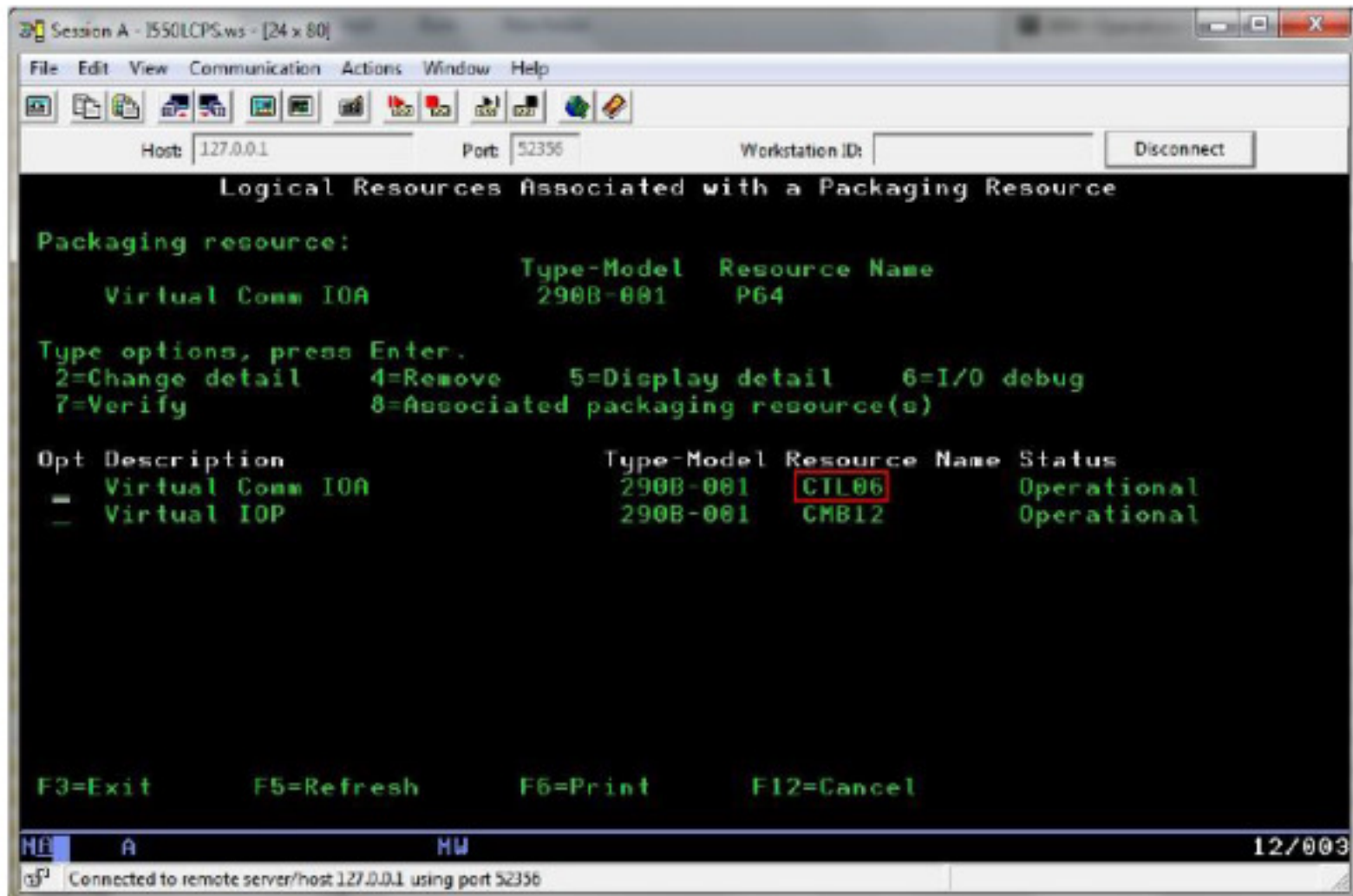
Bottom

F3=Exit F5=Refresh F6=Print F7=Include empty positions and not owned positions
F8=Exclude non-reporting resources F10=Non-reporting resources
F12=Cancel F13=Unresolved locations

HW A MW 13/002
Connected to remote server/host 127.0.0.1 using port 52356
    
```



Identify virtual SCSI resource



Session A - J550LCPS.ws - [24 x 80]

File Edit View Communication Actions Window Help

Host: 127.0.0.1 Port: 52356 Workstation ID: Disconnect

Logical Resources Associated with a Packaging Resource

Packaging resource:

	Type-Model	Resource Name
Virtual Comm IOA	290B-001	P64

Type options, press Enter.
 2=Change detail 4=Remove 5=Display detail 6=I/O debug
 7=Verify 8=Associated packaging resource(s)

Opt	Description	Type-Model	Resource Name	Status
-	Virtual Comm IOA	290B-001	CTL06	Operational
-	Virtual IOP	290B-001	CMB12	Operational

F3=Exit F5=Refresh F6=Print F12=Cancel

HE A HW 12/003

Connected to remote server/host 127.0.0.1 using port 52356



Common setup tasks (regardless of VPM 5250 or HMC)



Setting up IBM i Virtual I/O Resources

- **Create Network Server Description (NWSD) ***
 - **Create Network Storage Space (aka Virtual Disk) ***
 - **Linking the virtual disks to the NWSD ***
 - **Optionally create a Virtual Image Catalog**
-
- *** All done in one step by the IBM i Navigator VPM partition create wizard!**



Network Server Description: CRTNWSD

```

Session A - I550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 61602 Workstation ID: Disconnect
Create Network Server Desc (CRTNWSD)

Type choices, press Enter.

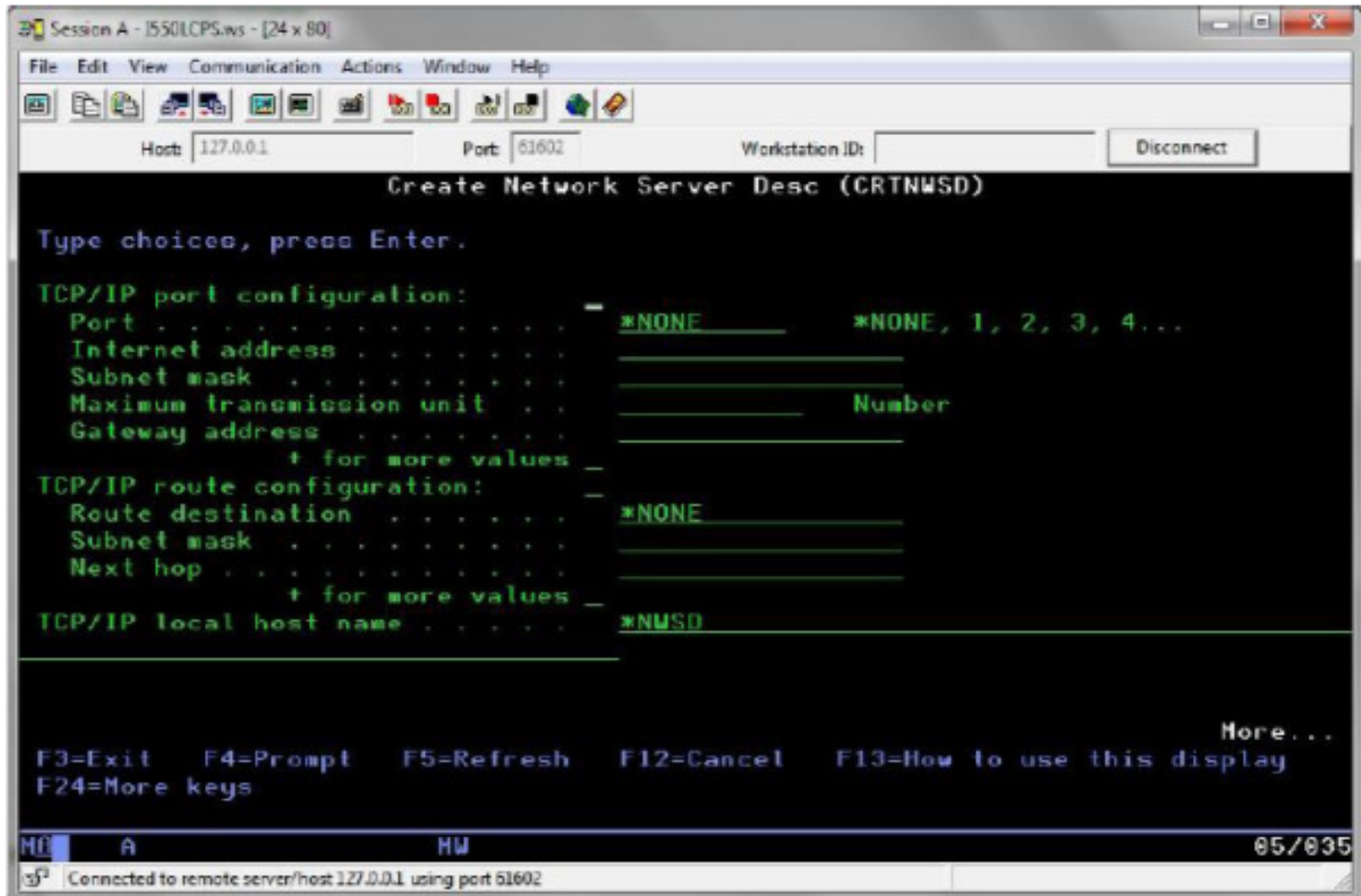
Network server description . . . > IBM71C1      Name
Resource name . . . . . > CTL06           Name, *NONE, *AUTO
Network server type:
  Server connection . . . . . > *GUEST       *IXSVR, *ISCSI, *GUEST...
  Server operating system . . . > *opsys      *WIN32, *AIXPPC, *ESX...
Online at IPL . . . . . > *yes        *YES, *NO
Vary on wait . . . . . > *NOWAIT     *NOWAIT, 1-15 minutes
Shutdown timeout . . . . . > *IYPE       2-45 minutes
Partition . . . . . > *NONE

-----
Partition number . . . . . > 2          1-65535, *NONE
Code page . . . . . > *LNGVER     *LNGVER, 437, 850, 852, 857...
Server message queue . . . . . > *JOBLOG     Name, *JOBLOG, *NONE
  Library . . . . . > _____ Name, *LIBL, *CURLIB
Pool identifier . . . . . > *BASE       *BASE, *SHRPOOL1...

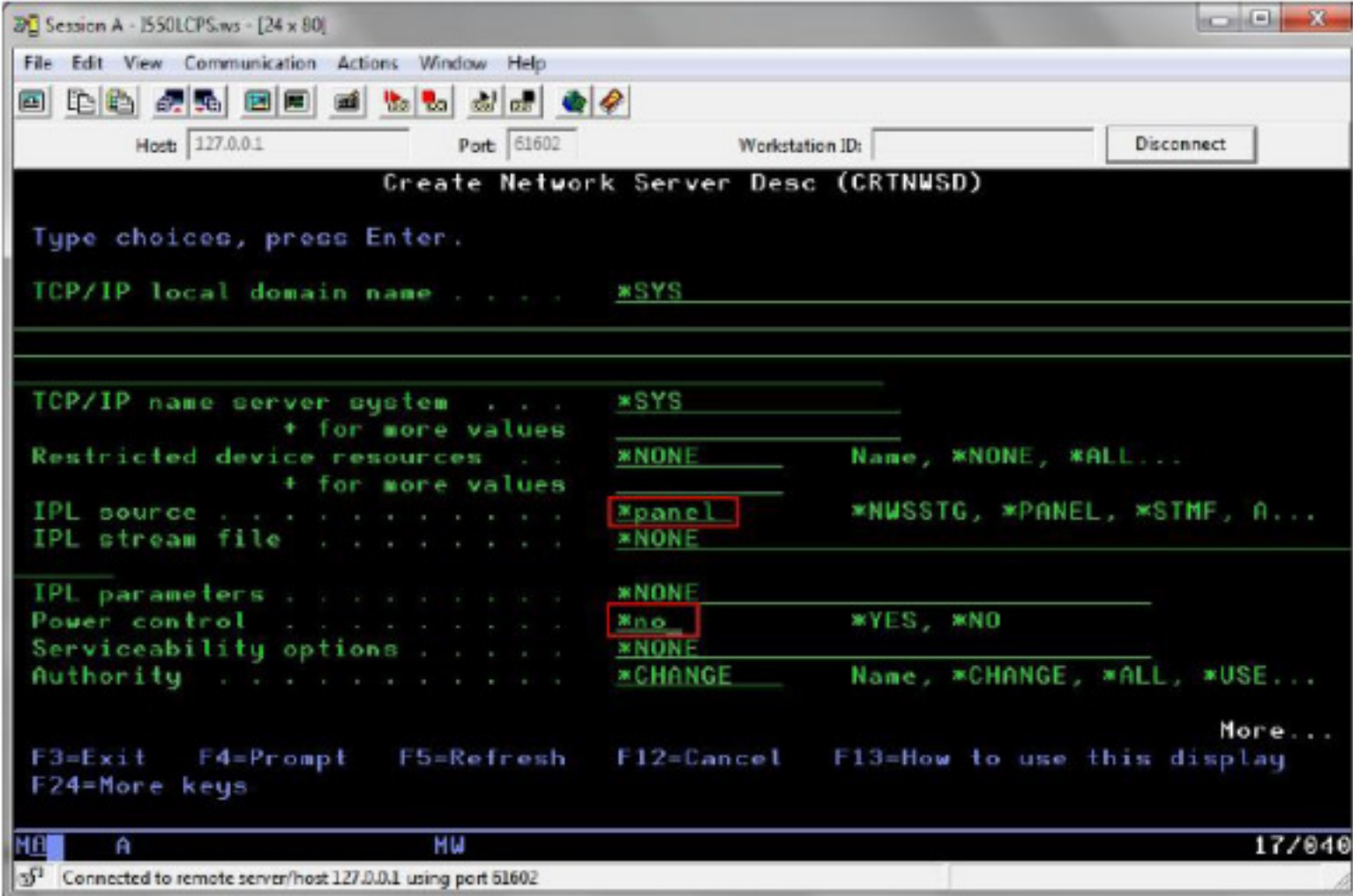
More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

MB A HW 14/043
Connected to remote server/host 127.0.0.1 using port 61602
  
```

Network Server Description: CRTNWS D page 2



Network Server Description: CRTNWS D page 3

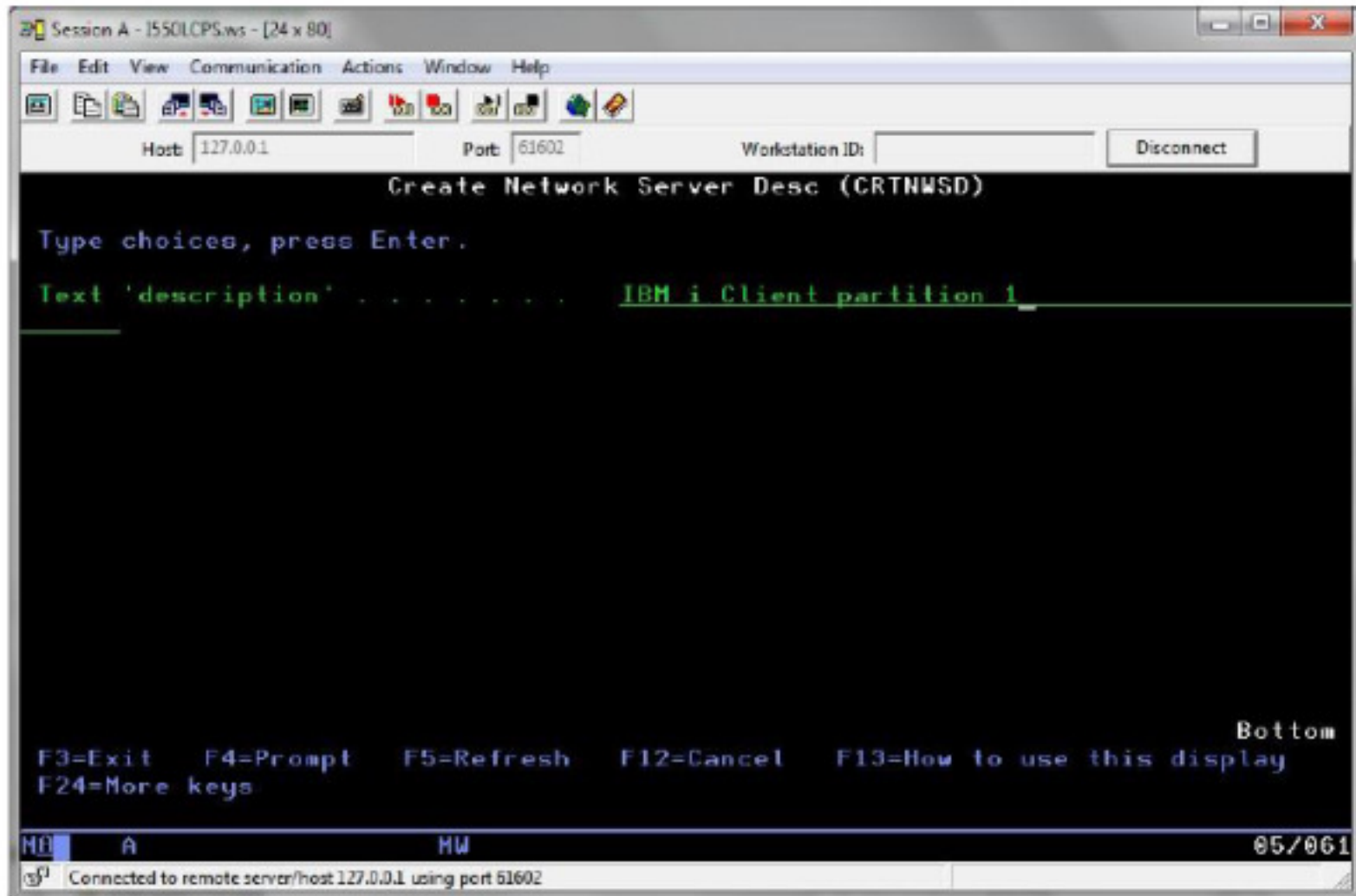


```

Session A - ISSOLCPS.rws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 61602 Workstation ID: Disconnect
Create Network Server Desc (CRTNWS D)
Type choices, press Enter.
TCP/IP local domain name . . . . . *SYS
-----
TCP/IP name server system . . . . . *SYS
      + for more values
Restricted device resources . . . . . *NONE      Name, *NONE, *ALL...
      + for more values
IPL source . . . . . *panel      *NWSSTG, *PANEL, *STMF, A...
IPL stream file . . . . . *NONE
-----
IPL parameters . . . . . *NONE
Power control . . . . . *no      *YES, *NO
Serviceability options . . . . . *NONE
Authority . . . . . *CHANGE      Name, *CHANGE, *ALL, *USE...
More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
HE A HW 17/040
Connected to remote server/host 127.0.0.1 using port 61602
    
```



Network Server Description: CRTNWS D page 4





Network Server Description: WRKNWSD

```

Session A - [550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 61602 Workstation ID: Disconnect
Work with Network Server Descriptions System: S65372DC
Type options, press Enter.
  1=Create  2=Change  3=Copy  4=Delete  5=Display  6=Print
  9=Retrieve Source...

Opt  Network Server  Text
---  ---
  1  IBM71C1          IBM i Client partition 1

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F17=Position to
F23=More options  F24=More keys

MI  A  HW  09/002
Connected to remote server/host 127.0.0.1 using port 61602
    
```



Network Storage Space: CRTNWSSTG

```

Session A - 1550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Host: 127.0.0.1 Port: 61602 Workstation ID: Disconnect
Create NWS Storage Space (CRTNWSSTG)

Type choices, press Enter.

Network server storage space . . . > IBM71C1D01 Name
Size . . . . . > 30000 *CALC, 1-1024000 megabytes
From storage space . . . . . *NONE Name, *NONE
Format . . . . . > *OPEN *NTFS, *FAT, *FAT32, *OPEN...
Data offset . . . . . *FORMAT *FORMAT, *ALIGNLGLPTN...
Auxiliary storage pool ID . . . . . 1 1-255
ASP device . . . . . Name
Text 'description' . . . . . IBM71C1 Virtual disk 1

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

HE A HW 06/038
Connected to remote server/host 127.0.0.1 using port 61602
    
```



Network Storage Space: ADDNWSSTGL

```

Session A - I550LCPS.wt - [24 x 80]
File Edit View Communication Actions Window Help
Add Server Storage Link (ADDNWSSTGL)

Type choices, press Enter.

Network server storage space . . . > IBM71C1D01      Name
Network server description . . . > IBM71C1          Name
Dynamic storage link . . . . . *NO                *NO, *YES
Access . . . . . *UPDATE            *UPDATE, *READ, *SHRUPD
Drive sequence number . . . . . *CALC            1-64, *CALC, *QR
Storage path number . . . . . *DFTSTGPTH        1-4, *DFTSTGPTH, *MLTPTHGRP

                                          Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

MA  A  MW  10/037
Connected to remote server/host 127.0.0.1 using port 61602
    
```

Network Storage Space: WRKNWSSTG

```

Session A - [550]CPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Work with Network Server Storage Spaces
System: S65372DC
Type options, press Enter.
 1=Create  2=Change  3=Copy  4=Delete  5=Display  6=Print  10=Add link
11=Remove link

Opt  Name          Server      Seq  Link  Access  Stg
---  ---          ---        ---  ---   ---     ---
    IBM71C1D01  IBM71C1    1    *DYN  *UPDATE

Parameters or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F6=Print list  F9=Retrieve
F11=Display disk status  F12=Cancel  F17=Position to
Network server storage space link added.
MA  A  MW  21/007
Connected to remote server/host 127.0.0.1 using port 61602
    
```




Network Server Description – Vary On

```

Session A - I550LCPS.wvs - [24 x 80]
File Edit View Communication Actions Window Help
Work with Configuration Status                               S65372DC
                                                           06/09/12 19:01:02
Position to _____ Starting characters
Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display node status 13=Work with APPN status...

Opt  Description      Status      -----Job-----
  1_  IBM71C1          VARIED OFF

Parameters or command
===>
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys

MH  A  MW  10/003
Connected to remote server/host 127.0.0.1 using port 61602
    
```



Network Server Description – Vary On

```

Session A - I550LCPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Work with Configuration Status                               S65372DC
                                                           06/09/12 19:01:02
Position to . . . . . Starting characters
Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display mode status 13=Work with APPN status...

Opt  Description          Status          -----Job-----
--  IBM71C1              VARY ON PENDING

Parameters or command
==>
F3=Exit  F4=Prompt  F12=Cancel  F23=More options  F24=More keys

Vary on completed for network server IBM71C1.
MA  A          MW          10/002
Connected to remote server/host 127.0.0.1 using port 61602
    
```



Network Server Description – Vary On

```

Session A - 15501CPS.ws - [24 x 80]
File Edit View Communication Actions Window Help
Work with Configuration Status S65372DC
                                06/09/12 19:01:42
Position to _____ Starting characters
Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display mode status 13=Work with APPN status...

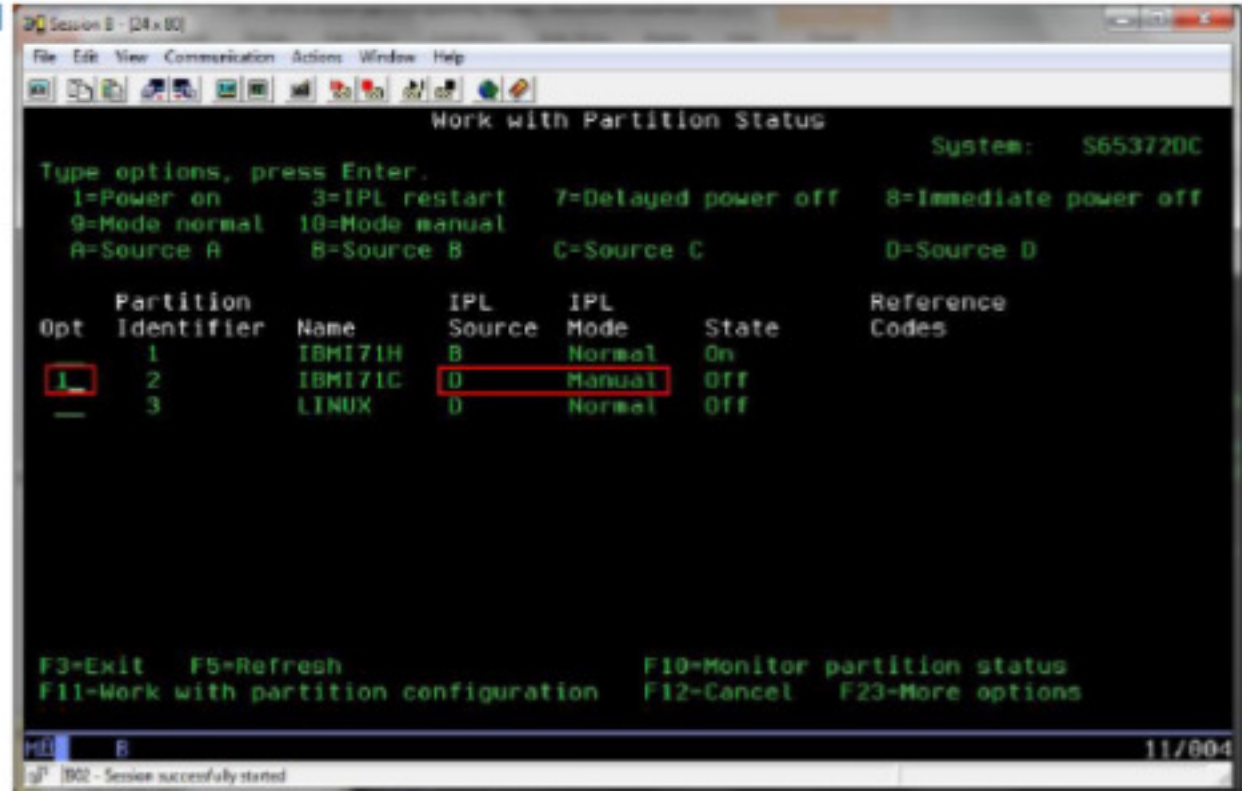
Opt  Description      Status      -----Job-----
--  -
  1  IBM71C1          ACTIVE

Parameters or command
===>
F3=Exit   F4=Prompt   F12=Cancel  F23=More options  F24=More keys

MR  A                               MW                               10/002
Connected to remote server/host 127.0.0.1 using port 61602
    
```

Next you need to activate the partition

- From the SST go to VPM:
 - 5. Work with system partitions
 - 2. Work with partition status
 - Verify IPL source: D
 - Verify IPL Mode: Manual
 - Option 1 to activate



```

Session B - [24x80]
File Edit View Communication Actions Window Help
Work with Partition Status
System: S653720C
Type options, press Enter.
1=Power on      3=IPL restart  7=Delayed power off  8=Immediate power off
9=Mode normal  10=Mode manual
A=Source A     B=Source B    C=Source C          D=Source D

Opt  Partition  Name      IPL  IPL  State  Reference
   Identifier Name      Source Mode  State Codes
  1      1      IBMI71H  B    Normal  On
  2      2      IBMI71C  D    Manual  Off
  3      3      LINUX    D    Normal  Off

F3=Exit  F5=Refresh      F10=Monitor partition status
F11=Work with partition configuration  F12=Cancel  F23=More options

HLL  B  11/004
IBM - Session successfully started
    
```



Next you need to activate the partition (2)

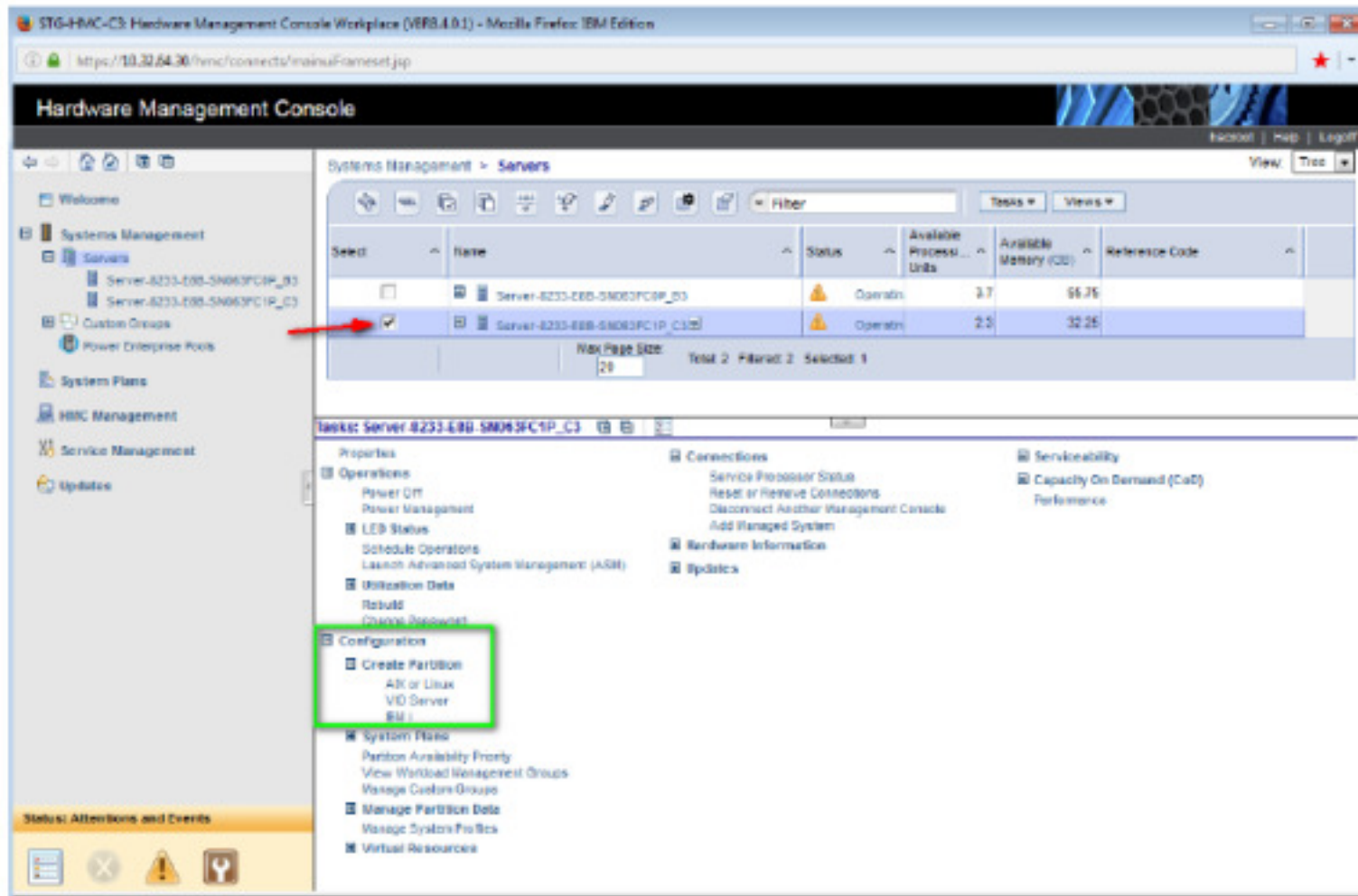
- The partition will begin initialization. The hosting partition will present the virtual optical device or devices and if a real optical drive is assigned to the hosting partition it will be presented as well.
- The client partition will locate a valid install or bootable media from any of the optical devices it finds on the VSCSI connection.
- The rest of the install proceeds as normal, client partition will prompt for 'next media'. Go to the host partition and 'mount' the next media or virtual media image.
- Start your Operations Console LAN and connect to the IBM i Client LPAR.
(Note: When configuring LAN console, the Target partition value reflects the Partition Identifier value.)
- **IBM i 7.3 requires IBM Access Client Solution (ACS) LAN Console**
 - the old IBM i Access 7.1 for Windows LAN Console will not work after initial D-IPL



HMC Partition Creation (Classic GUI)

HMC Partition Creation Wizard

-Select System - Click Configuration and Create Logical Partition



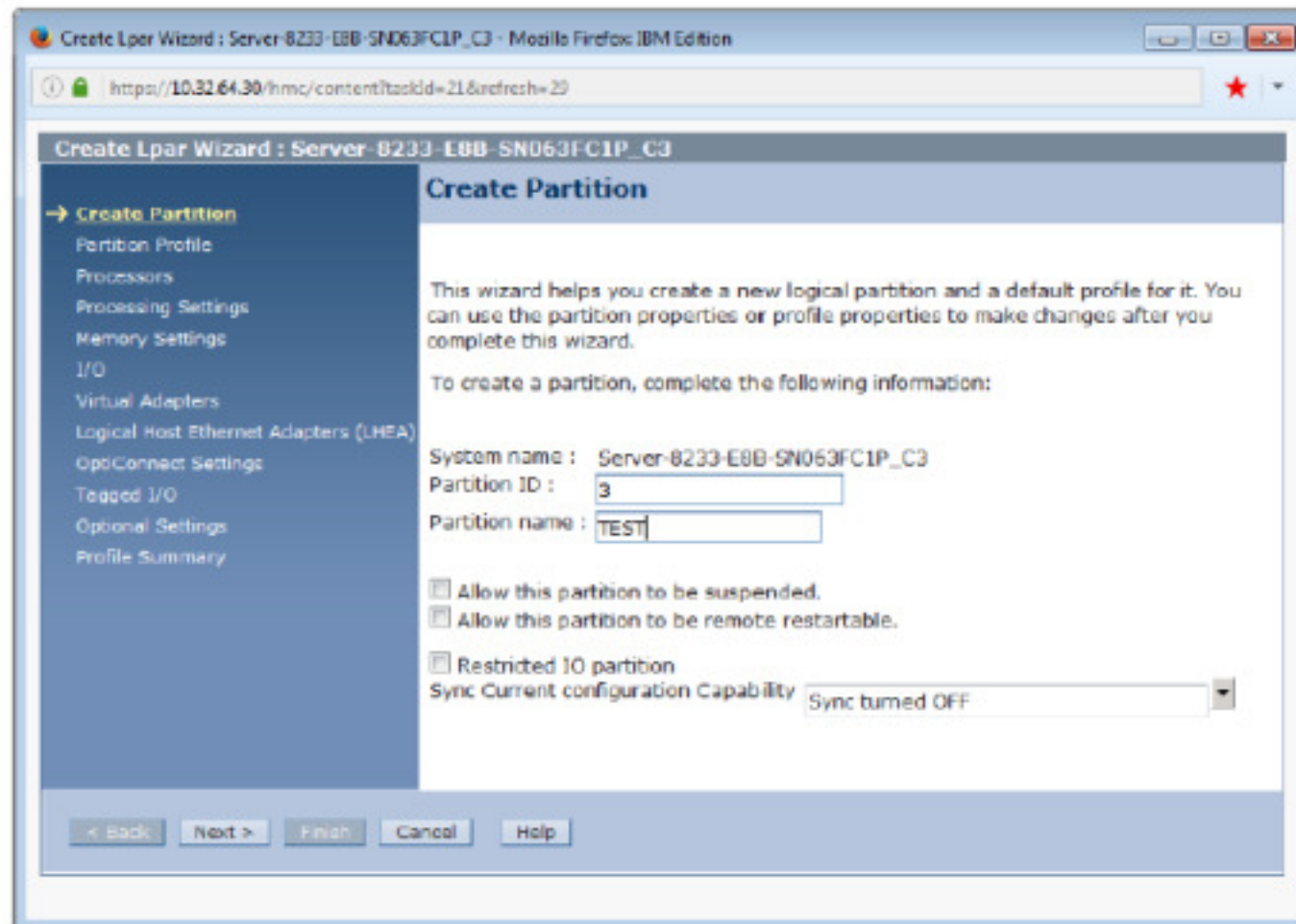
The screenshot shows the Hardware Management Console (HMC) interface. The main window displays a table of servers under the 'Systems Management > Servers' view. A red arrow points to the checkbox in the 'Select' column for the server 'Server-8233-EB8-SM063PC1P_C3'. Below the table, the 'task: Server-8233-EB8-SM063PC1P_C3' is selected, and the 'Configuration' menu is expanded, with 'Create Partition' highlighted in a green box. The 'Create Partition' menu includes options for 'AIX or Linux', 'VIO Server', and 'RMU'.

Select	Name	Status	Available Process Units	Available Memory (GB)	Reference Code
<input type="checkbox"/>	Server-8233-EB8-SM063PC1P_B3	Operatn	3.7	66.75	
<input checked="" type="checkbox"/>	Server-8233-EB8-SM063PC1P_C3	Operatn	2.0	32.25	

- Configuration
 - Create Partition
 - AIX or Linux
 - VIO Server
 - RMU

HMC Partition Creation Wizard

-Select System - Click Configuration and Create Logical Partition



Create Lpar Wizard : Server-8233-E8B-SN063FC1P_C3

https://10.32.64.30/hmc/content/taskId=21&refresh=20

Create Lpar Wizard : Server-8233-E8B-SN063FC1P_C3

→ Create Partition

- Partition Profile
- Processors
- Processing Settings
- Memory Settings
- I/O
- Virtual Adapters
- Logical Host Ethernet Adapters (LHEA)
- OpdConnect Settings
- Teased I/O
- Optional Settings
- Profile Summary

Create Partition

This wizard helps you create a new logical partition and a default profile for it. You can use the partition properties or profile properties to make changes after you complete this wizard.

To create a partition, complete the following information:

System name : Server-8233-E8B-SN063FC1P_C3

Partition ID :

Partition name :

Allow this partition to be suspended.

Allow this partition to be remote restartable.

Restricted IO partition

Sync Current configuration Capability

< Back Next > Finish Cancel Help



HMC Partition Creation Wizard - Partition Profile

Create Lpar Wizard : Server-8233-EBB-SN063FC1P_C3

https://10.32.64.30/hmc/wcd/T5ec

Create Lpar Wizard : Server-8233-EBB-SN063FC1P_C3

✓ Create Partition
→ Partition Profile
Processors
Processing Settings
Memory Settings
I/O
Virtual Adapters
Logical Host Ethernet Adapters (LHEA)
OptiConnect Settings
Tapped I/O
Optional Settings
Profile Summary

Partition Profile

A profile specifies how many processors, how much memory, and which I/O devices and slots are to be allocated to the partition.

Every partition needs a default profile. To create the default profile, specify the following information :

System name: Server-8233-EBB-SN063FC1P_C3

Partition name: TEST

Partition ID: 3

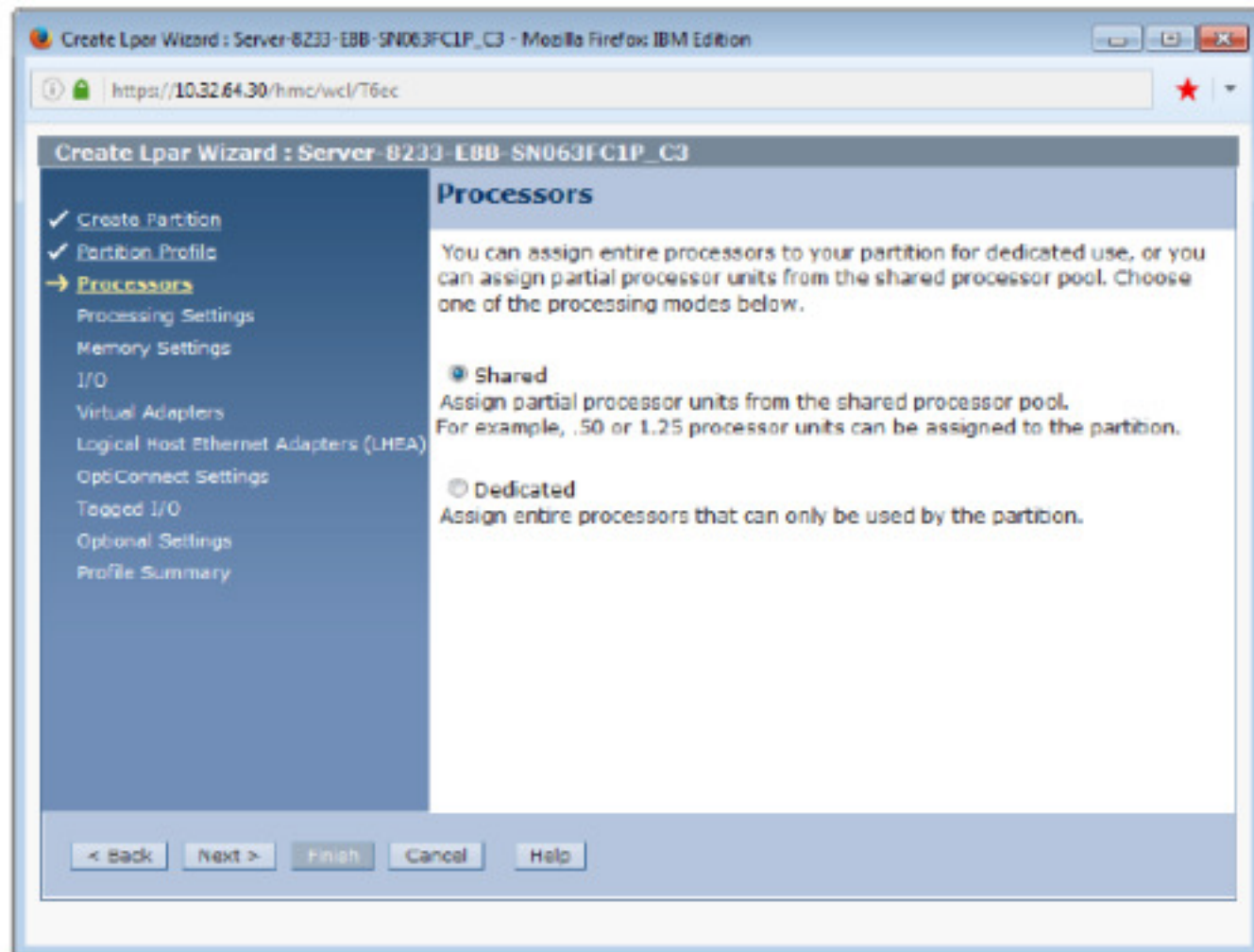
Profile name: Default

This profile can assign specific resources to the partition or all resources to the partition. Click Next if you want to specify the resources used in the partition. Select the option below and then click Next if you want the partition to have all the resources in the system.

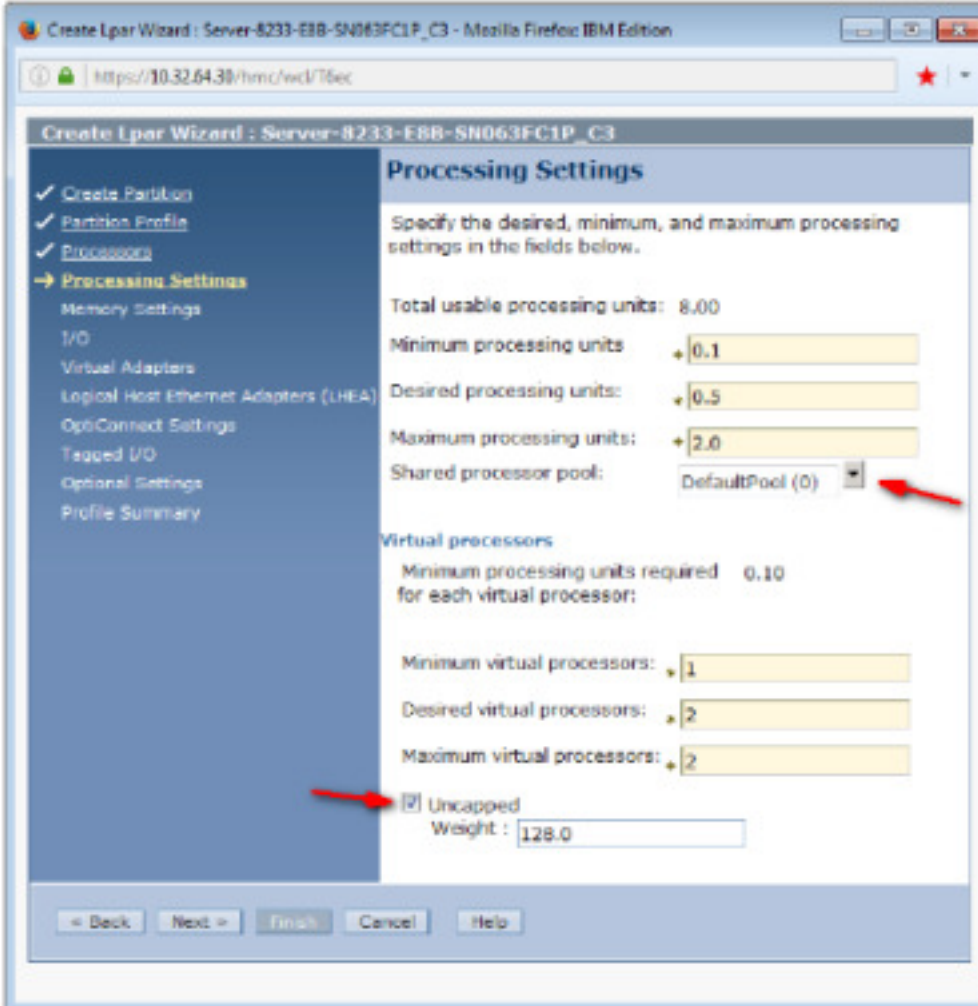
Use all the resources in the system.

< Back Next > Finish Cancel Help

HMC Partition Creation Wizard - Processors



HMC Partition Creation Wizard - Processing Settings



Processing Settings

Specify the desired, minimum, and maximum processing settings in the fields below.

Total usable processing units: 8.00

Minimum processing units: 0.1

Desired processing units: 0.5

Maximum processing units: 2.0

Shared processor pool: DefaultPool (0)

Virtual processors

Minimum processing units required for each virtual processor: 0.10

Minimum virtual processors: 1

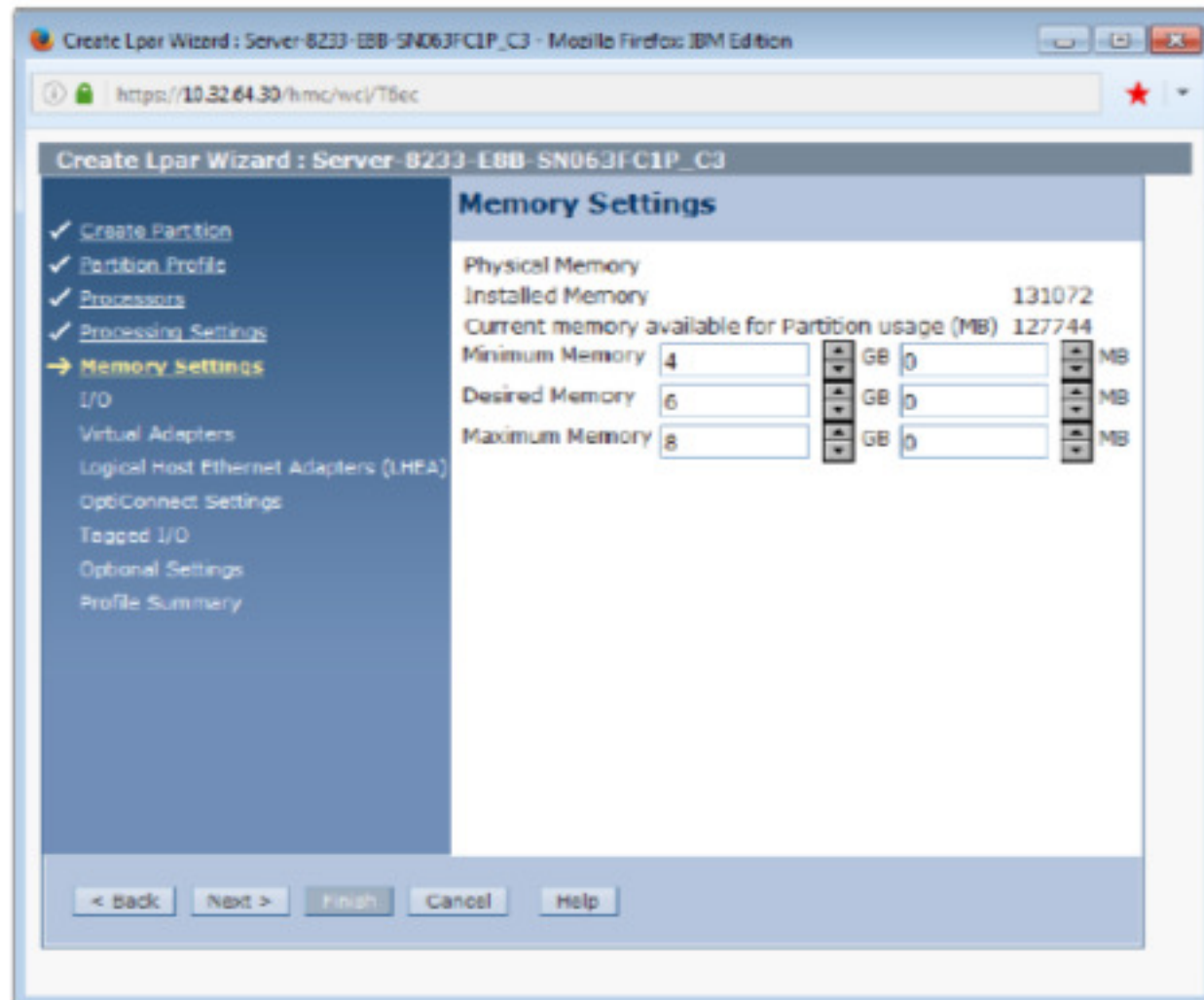
Desired virtual processors: 2

Maximum virtual processors: 2

Uncapped
Weight: 128.0

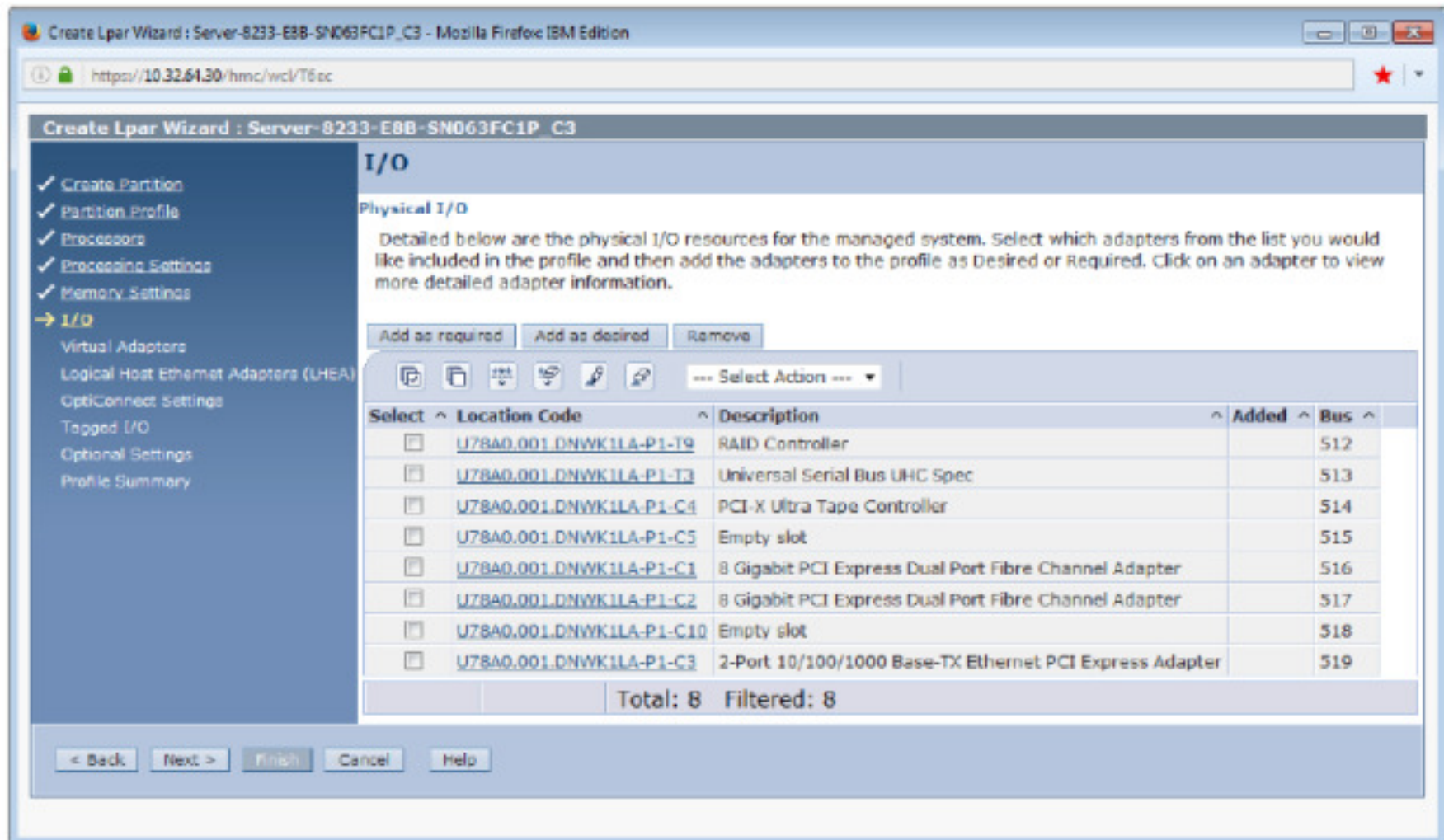
Navigation: Back, Next, Finish, Cancel, Help

HMC Partition Creation Wizard - Memory Settings



HMC Partition Creation Wizard

- I/O



Create Lpar Wizard : Server-8233-E8B-SN063FC1P_C3

I/O

Physical I/O

Detailed below are the physical I/O resources for the managed system. Select which adapters from the list you would like included in the profile and then add the adapters to the profile as Desired or Required. Click on an adapter to view more detailed adapter information.

Add as required Add as desired Remove

Select	Location Code	Description	Added	Bus
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-T9	RAID Controller		512
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-T3	Universal Serial Bus UHC Spec		513
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C4	PCI-X Ultra Tape Controller		514
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C5	Empty slot		515
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C1	8 Gigabit PCI Express Dual Port Fibre Channel Adapter		516
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C2	8 Gigabit PCI Express Dual Port Fibre Channel Adapter		517
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C10	Empty slot		518
<input type="checkbox"/>	U78A0.001.DNWK1LA-P1-C3	2-Port 10/100/1000 Base-TX Ethernet PCI Express Adapter		519

Total: 8 Filtered: 8

< Back Next > Finish Cancel Help

HMC Partition Creation Wizard

Create Lpar Wizard : Server-8233-EBB-SN063FC1P_C3 - Mozilla Firefox IBM Edition

https://10.32.64.30/hmc/wcl/T6ec

Create Lpar Wizard : Server-8233-EBB-SN063FC1P_C3

- ✓ Create Partition
- ✓ Partition Profile
- ✓ Processors
- ✓ Processing Settings
- ✓ Memory Settings
- ✓ I/O
- **Virtual Adapters**
- Logical Host Ethernet Adapters (LHEA)
- Opti/Connect Settings
- Tagged I/O
- Optional Settings
- Profile Summary

Virtual Adapters

Actions ▾

Virtual resources allow for the sharing of physical hardware between logical partitions. The current virtual adapter settings are listed below.

Maximum virtual adapters : * 20

Number of virtual adapters : 2

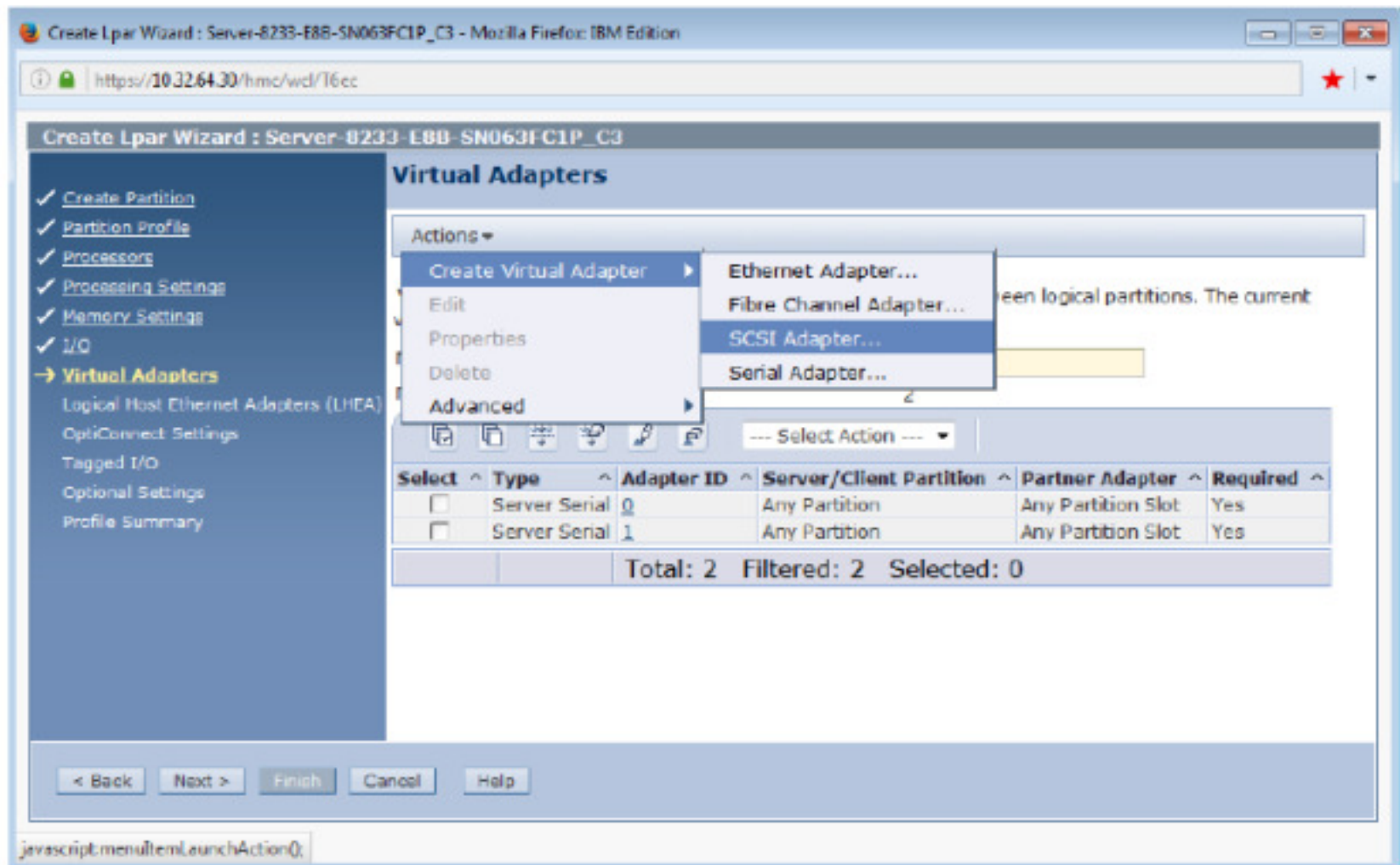
--- Select Action --- ▾

Select ^	Type ^	Adapter ID ^	Server/Client Partition ^	Partner Adapter ^	Required ^
<input type="checkbox"/>	Server Serial	0	Any Partition	Any Partition Slot	Yes
<input type="checkbox"/>	Server Serial	1	Any Partition	Any Partition Slot	Yes

Total: 2 Filtered: 2 Selected: 0

< Back Next > Finish Cancel Help

HMC Partition Creation Wizard - Virtual Adapters



Virtual Adapters

Actions ▾

- Create Virtual Adapter ▸
 - Ethernet Adapter...
 - Fibre Channel Adapter...
 - SCSI Adapter...
 - Serial Adapter...
- Edit
- Properties
- Delete
- Advanced ▾

--- Select Action --- ▾

Select	Type	Adapter ID	Server/Client Partition	Partner Adapter	Required
<input type="checkbox"/>	Server Serial	0	Any Partition	Any Partition Slot	Yes
<input type="checkbox"/>	Server Serial	1	Any Partition	Any Partition Slot	Yes

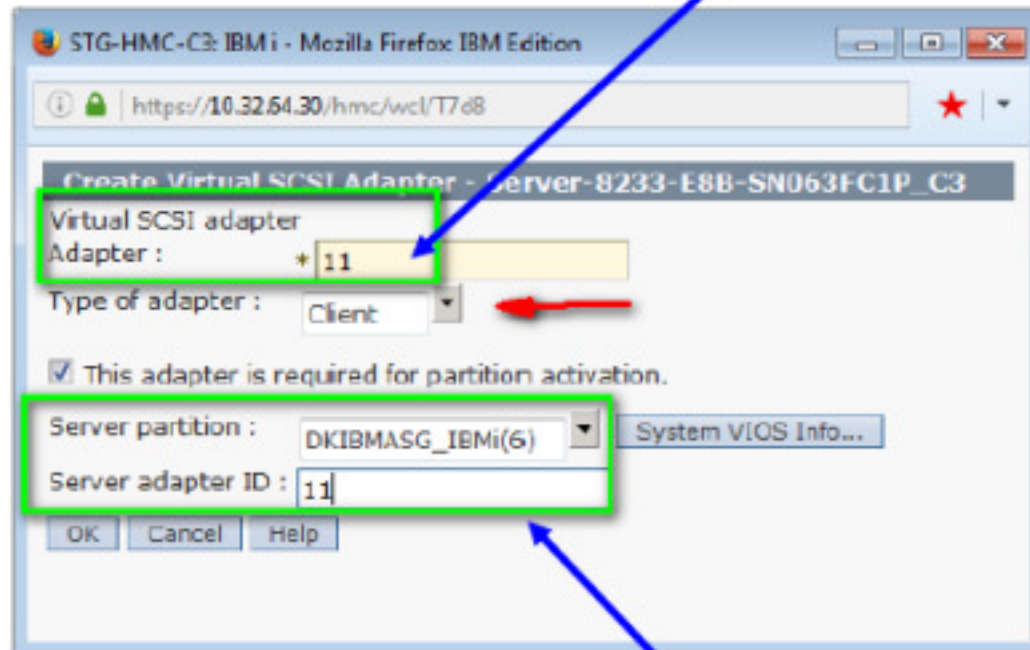
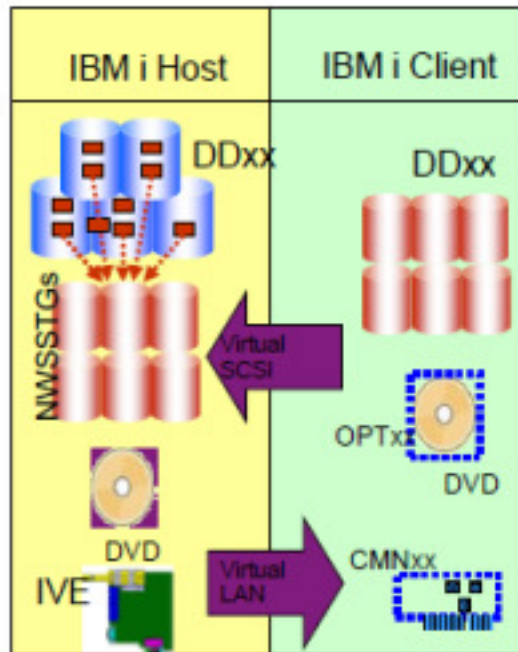
Total: 2 Filtered: 2 Selected: 0

< Back Next > Finish Cancel Help

javascript:menuItemLaunchAction();

HMC Partition Creation Wizard - Virtual Adapters

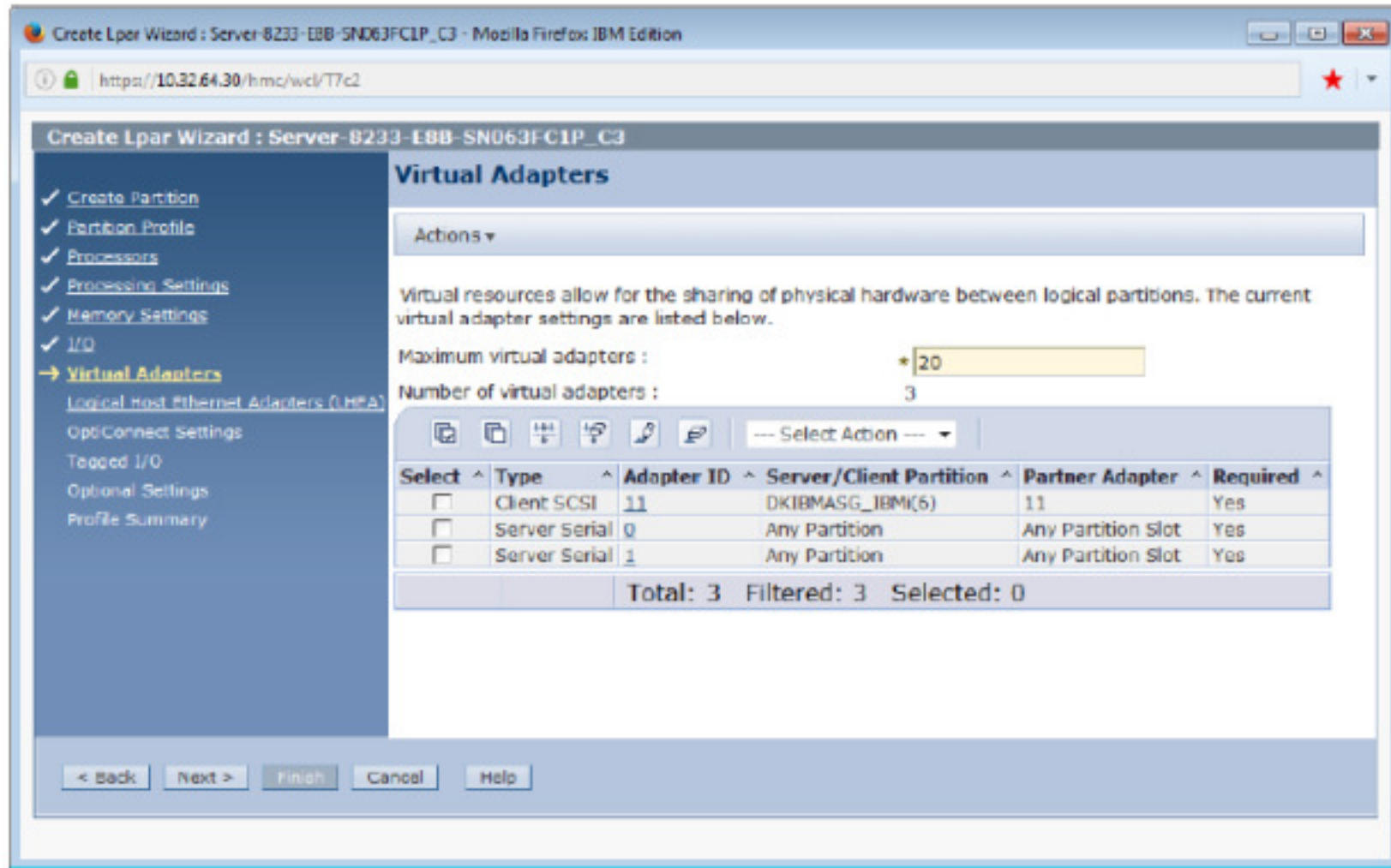
Must match the number configured for the Server SCSI Adapter in the Host Ipar pointing to the Client adapter



Must match the number of the Hosting Server SCSI Adapter

HMC Partition Creation Wizard

- Virtual Adapters – inclusive new adapter



Create Lpar Wizard : Server-8233-EBB-SN063FC1P_C3
 https://10.32.64.30/hmc/wcl/T7c2

Virtual Adapters
 Actions ▾

Virtual resources allow for the sharing of physical hardware between logical partitions. The current virtual adapter settings are listed below.

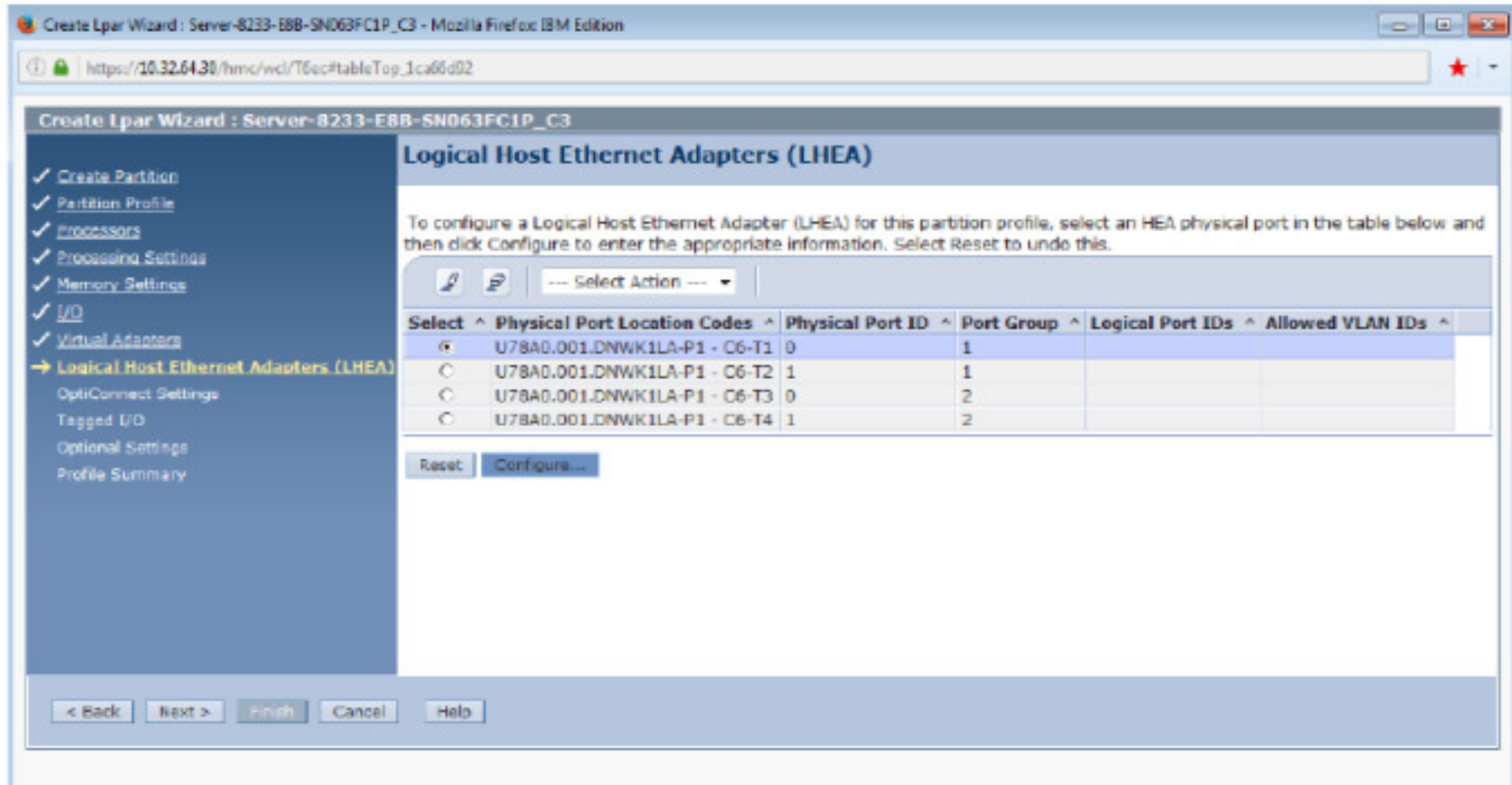
Maximum virtual adapters : * 20
 Number of virtual adapters : 3

--- Select Action --- ▾

Select ^	Type ^	Adapter ID ^	Server/Client Partition ^	Partner Adapter ^	Required ^
<input type="checkbox"/>	Client SCSI	11	DKIBMASG_IBM(6)	11	Yes
<input type="checkbox"/>	Server Serial	0	Any Partition	Any Partition Slot	Yes
<input type="checkbox"/>	Server Serial	1	Any Partition	Any Partition Slot	Yes
Total: 3 Filtered: 3 Selected: 0					

< Back Next > Finish Cancel Help

HMC Partition Creation Wizard - Logical Host Ethernet adapter



The screenshot shows the 'Logical Host Ethernet Adapters (LHEA)' configuration step in the HMC Partition Creation Wizard. The left sidebar contains a navigation menu with the following items: Create Partition, Partition Profile, Processors, Processing Settings, Memory Settings, I/O, Virtual Adapters, Logical Host Ethernet Adapters (LHEA) (highlighted), OptiConnect Settings, Tagged I/O, Optional Settings, and Profile Summary.

The main content area is titled 'Logical Host Ethernet Adapters (LHEA)'. It includes the following text: 'To configure a Logical Host Ethernet Adapter (LHEA) for this partition profile, select an HEA physical port in the table below and then click Configure to enter the appropriate information. Select Reset to undo this.'

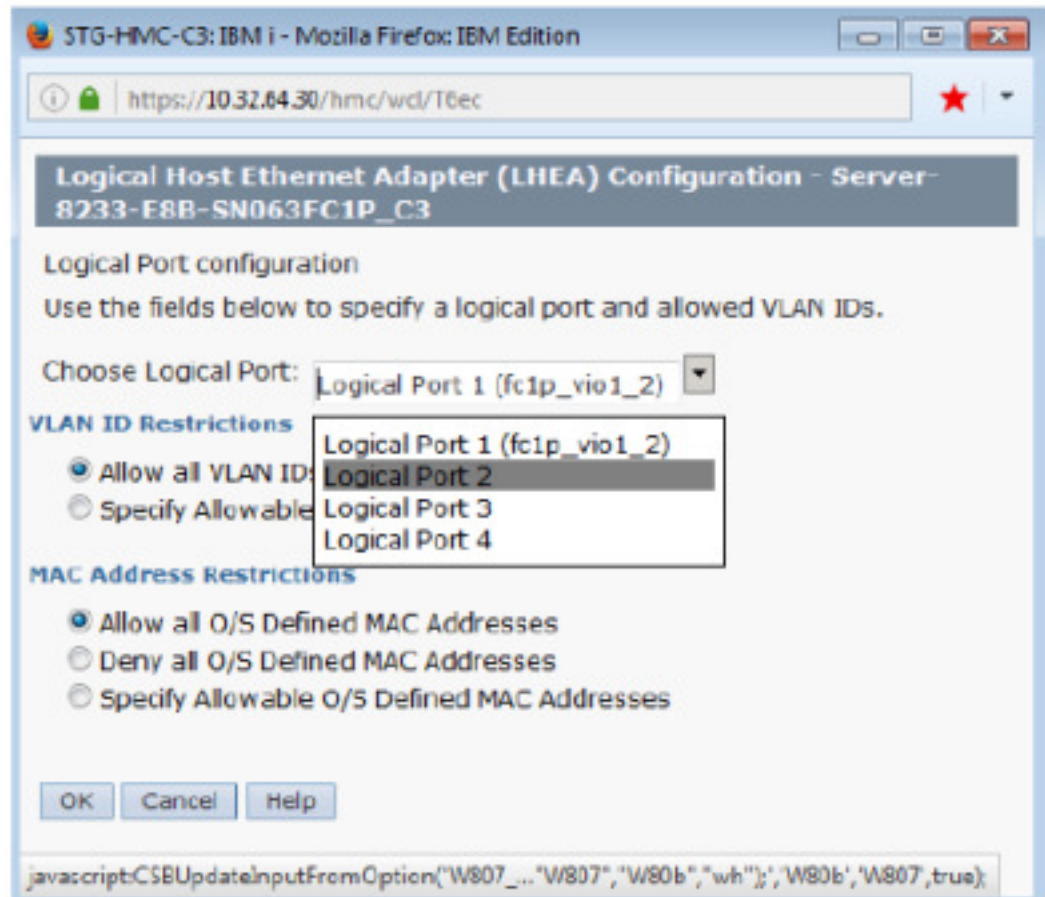
Below the text is a table with the following columns: Select, Physical Port Location Codes, Physical Port ID, Port Group, Logical Port IDs, and Allowed VLAN IDs. The table contains four rows of data:

Select	Physical Port Location Codes	Physical Port ID	Port Group	Logical Port IDs	Allowed VLAN IDs
<input checked="" type="radio"/>	U78A0.001.DNWK1LA-P1 - C6-T1	0	1		
<input type="radio"/>	U78A0.001.DNWK1LA-P1 - C6-T2	1	1		
<input type="radio"/>	U78A0.001.DNWK1LA-P1 - C6-T3	0	2		
<input type="radio"/>	U78A0.001.DNWK1LA-P1 - C6-T4	1	2		

Below the table are two buttons: 'Reset' and 'Configure...'. At the bottom of the wizard window, there are navigation buttons: '< Back', 'Next >', 'Finish', 'Cancel', and 'Help'.

IBM i client partition creation – LHEA config

- Select available logical port
- 1 LHEA per physical HEA per LPAR is allowed
- Additional LHEAs per physical port can be enabled in the managed system's properties



STG-HMC-C3: IBM i - Mozilla Firefox: IBM Edition

https://10.32.64.30/hmc/wd/T6ec

Logical Host Ethernet Adapter (LHEA) Configuration - Server-8233-F8B-SN063FC1P_C3

Logical Port configuration

Use the fields below to specify a logical port and allowed VLAN IDs.

Choose Logical Port: Logical Port 1 (fc1p_vio1_2)

VLAN ID Restrictions

Allow all VLAN IDs

Specify Allowable

MAC Address Restrictions

Allow all O/S Defined MAC Addresses

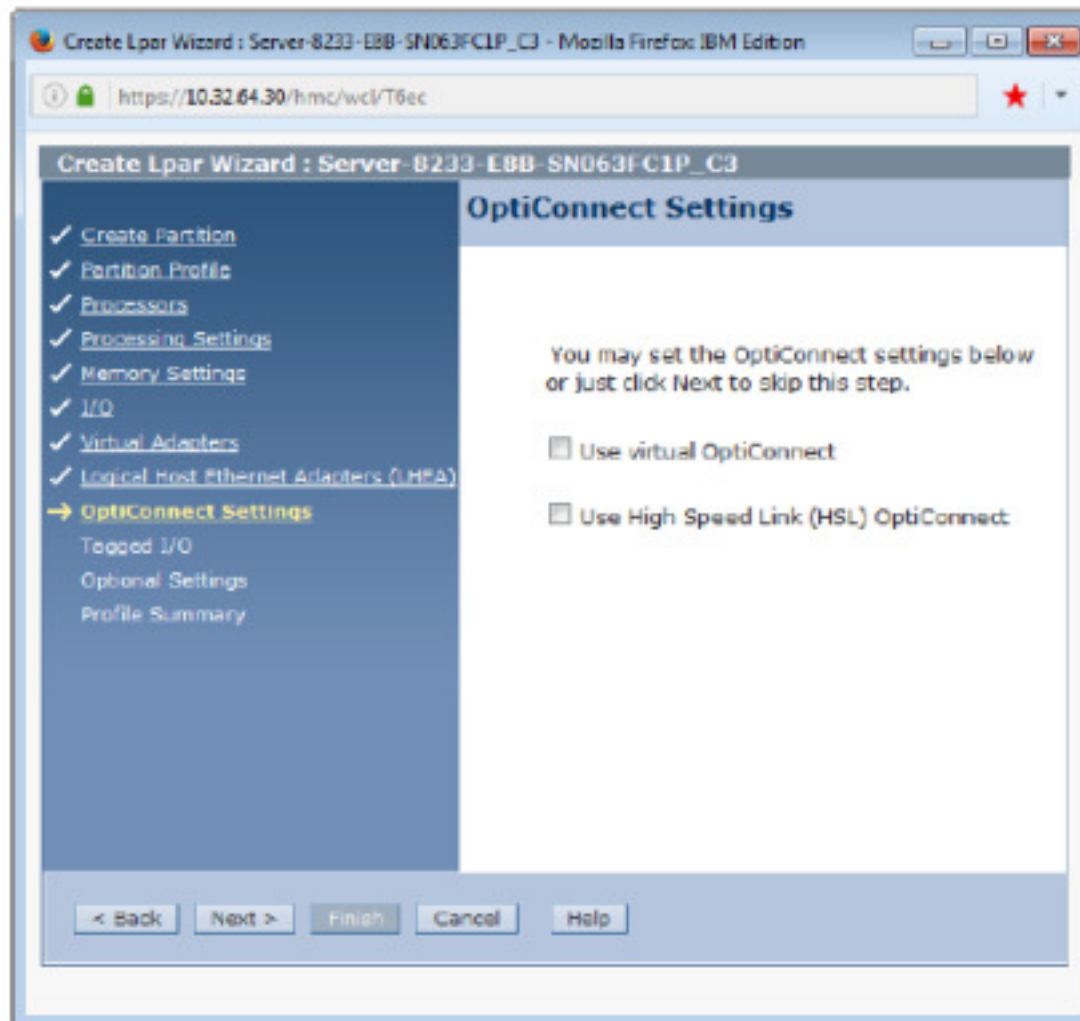
Deny all O/S Defined MAC Addresses

Specify Allowable O/S Defined MAC Addresses

OK Cancel Help

javascript:CSBUpdateInputFromOption('W807_... 'W807', 'W80b', 'wh'); 'W80b', 'W807', true);

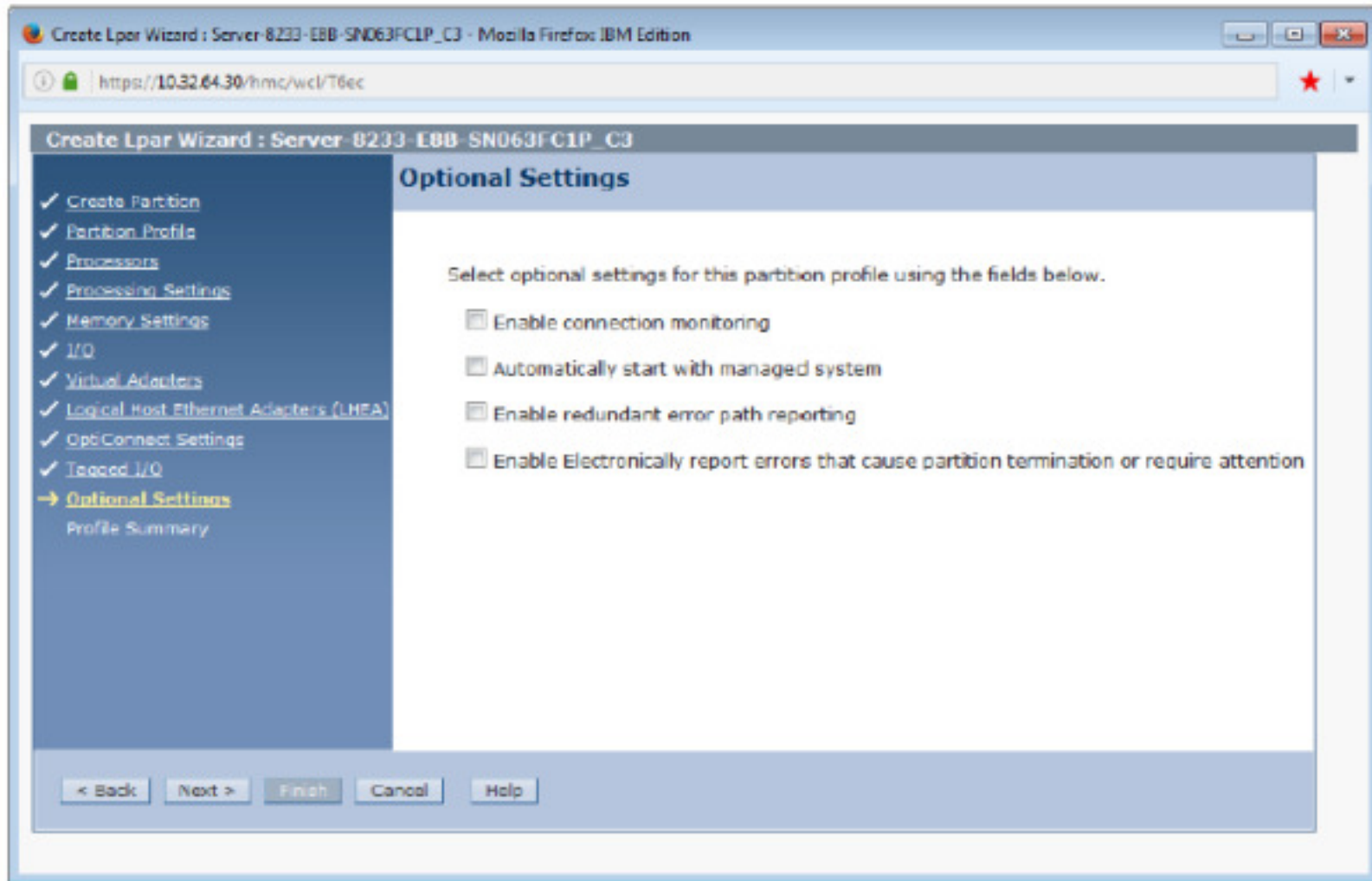
HMC Partition Creation Wizard - Opticonnect Settings



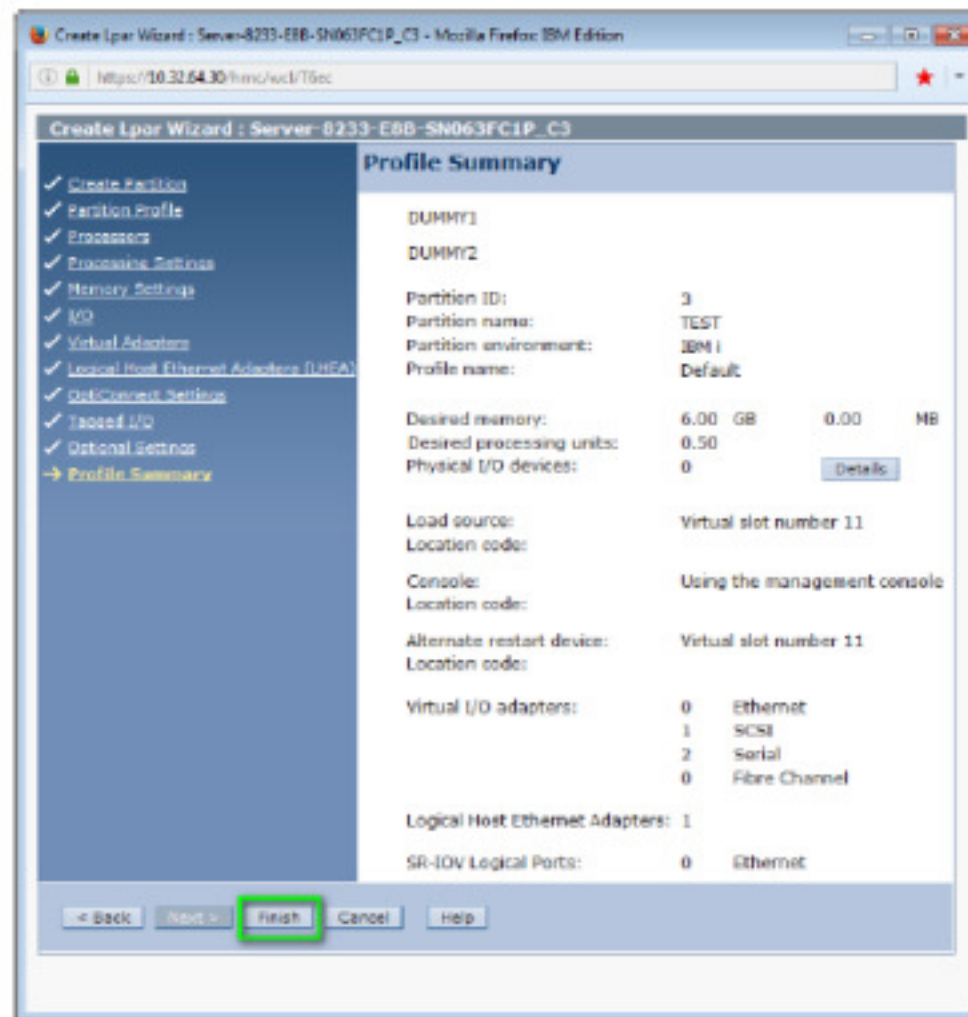
HMC Partition Creation Wizard - Tagged I/O



HMC Partition Creation Wizard - Tagged I/O



HMC Partition Creation Wizard - Profile Summary



Profile Summary

DUMMY1

DUMMY2

Partition ID: 3

Partition name: TEST

Partition environment: IBM i

Profile name: Default

Desired memory: 6.00 GB 0.00 MB

Desired processing units: 0.50

Physical I/O devices: 0 [Details](#)

Load source: Virtual slot number 11

Location code:

Console: Using the management console

Location code:

Alternate restart device: Virtual slot number 11

Location code:

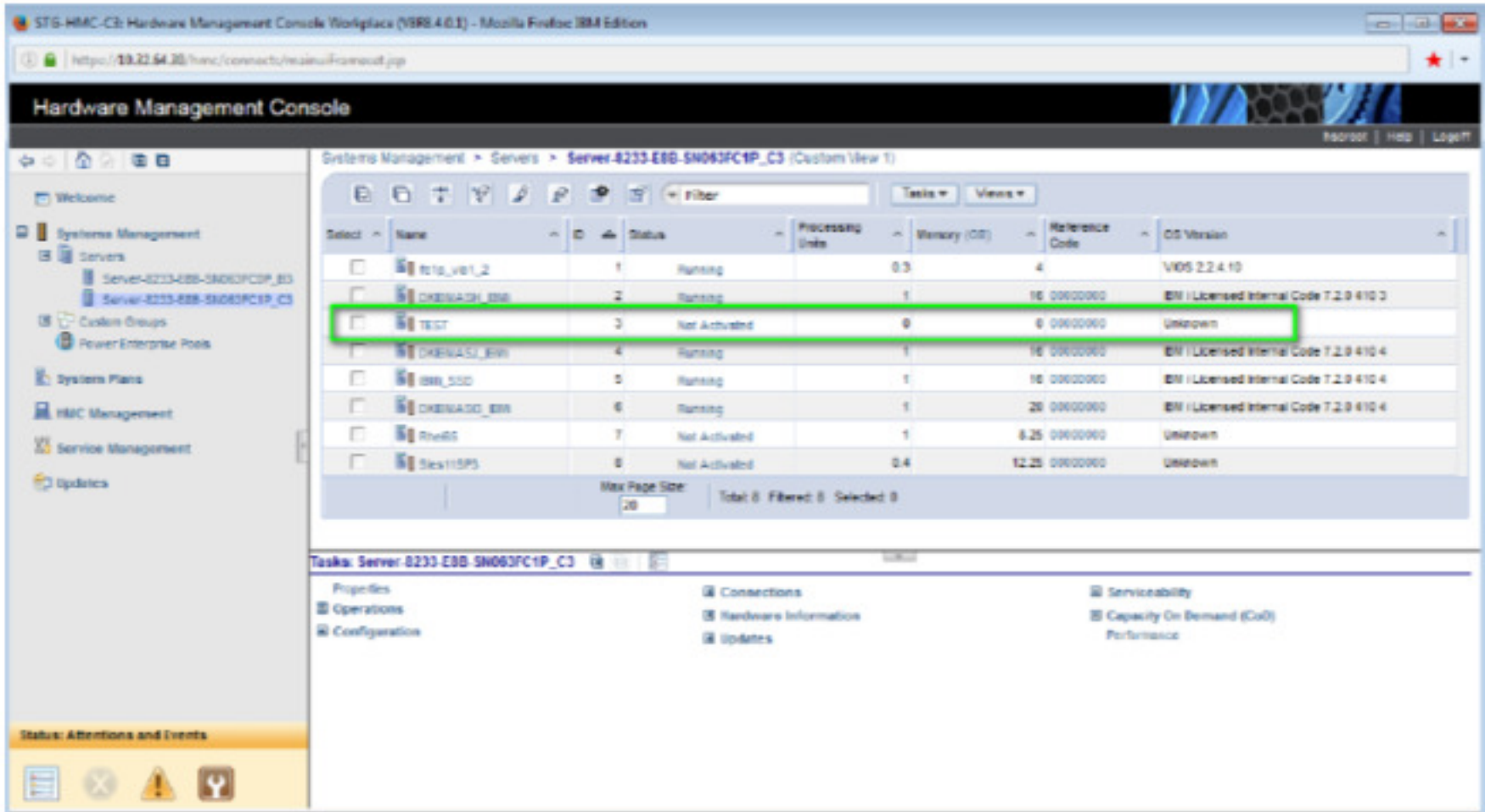
Virtual I/O adapters: 0 Ethernet
1 SCSI
2 Serial
0 Fibre Channel

Logical Host Ethernet Adapters: 1

SR-IOV Logical Ports: 0 Ethernet

< Back Next > **Finish** Cancel Help

HMC Partition Creation - Result



The screenshot shows the Hardware Management Console interface. The main content area displays a table of partitions for the server 'Server-8233-E8B-SN063FC1P_C3'. The 'TEST' partition is highlighted with a green box. Below the table, there are tabs for 'Tasks: Server-8233-E8B-SN063FC1P_C3' and various configuration options.

Select	Name	ID	Status	Processing Units	Memory (GB)	Reference Code	OS Version
<input type="checkbox"/>	h10_v01_2	1	Running		0.3	4	VIOS 2.2.4.10
<input type="checkbox"/>	CHKINAGD_E8B	2	Running		1	16 0000000	IBM Licensed Internal Code 7.2.0 410 3
<input type="checkbox"/>	TEST	3	Not Activated		0	0 0000000	Unknown
<input type="checkbox"/>	CHKINAGD_E8B	4	Running		1	16 0000000	IBM Licensed Internal Code 7.2.0 410 4
<input type="checkbox"/>	IBM_SSD	5	Running		1	16 0000000	IBM Licensed Internal Code 7.2.0 410 4
<input type="checkbox"/>	CHKINAGD_E8B	6	Running		1	20 0000000	IBM Licensed Internal Code 7.2.0 410 4
<input type="checkbox"/>	RheOS	7	Not Activated		1	8.25 0000000	Unknown
<input type="checkbox"/>	Slex110P5	8	Not Activated		0.4	12.25 0000000	Unknown

Max Page Size: 20 | Total: 8 | Filtered: 0 | Selected: 0

Tasks: Server-8233-E8B-SN063FC1P_C3

- Profiles
- Operations
- Configuration
- Connections
- Hardware Information
- Updates
- Serviceability
- Capacity On Demand (CoD)
- Performance

Status: Attention and Events



STG-HMC-C Hardware Management Console Workplace (898.4.0.1) - Mozilla Firefox (34 Edition)

https://20.52.54.30/hmc/console/main/homeat.jsp

Hardware Management Console

System Management > Servers > Server-8233-898-SM63PC1P_C3 (Custom View 1)

Select	Name	ID	Status	Processing units	Memory (GiB)	Reference Code	OS Version
<input type="checkbox"/>	PLU_v01_2	1	Running	0.3	4		W00 2.2.4.10
<input type="checkbox"/>	OSMASH_BW	2	Running	1	16	01031000	8W Licensed Internal Code 7.2.3.410.3
<input type="checkbox"/>	TEST	3	Not Activated	0	0	01031000	UNKNOWN
<input checked="" type="checkbox"/>	OSMASH_BW		Running	1	16	01031000	8W Licensed Internal Code 7.2.3.410.4
<input type="checkbox"/>	EM_000		Running	1	16	01031000	8W Licensed Internal Code 7.2.3.410.4
<input type="checkbox"/>	OSMASH_OW		Running	1	20	01031000	8W Licensed Internal Code 7.2.3.410.4
<input type="checkbox"/>	OSMG		Not Activated	1	8.25	01031000	UNKNOWN
<input type="checkbox"/>	OS115P0			0.4	12.25	01031000	UNKNOWN

- Properties
- Change Default Profile
- Operations
- Configuration
- Hardware Information
- Dynamic partitioning
- Serviceability
- Processor
- Memory
- Physical Adapters
- Virtual Adapters
- Host Shared

Tasks: OPERASJ IBM

Properties
Change Default Profile
Operations

Configuration
Hardware Information

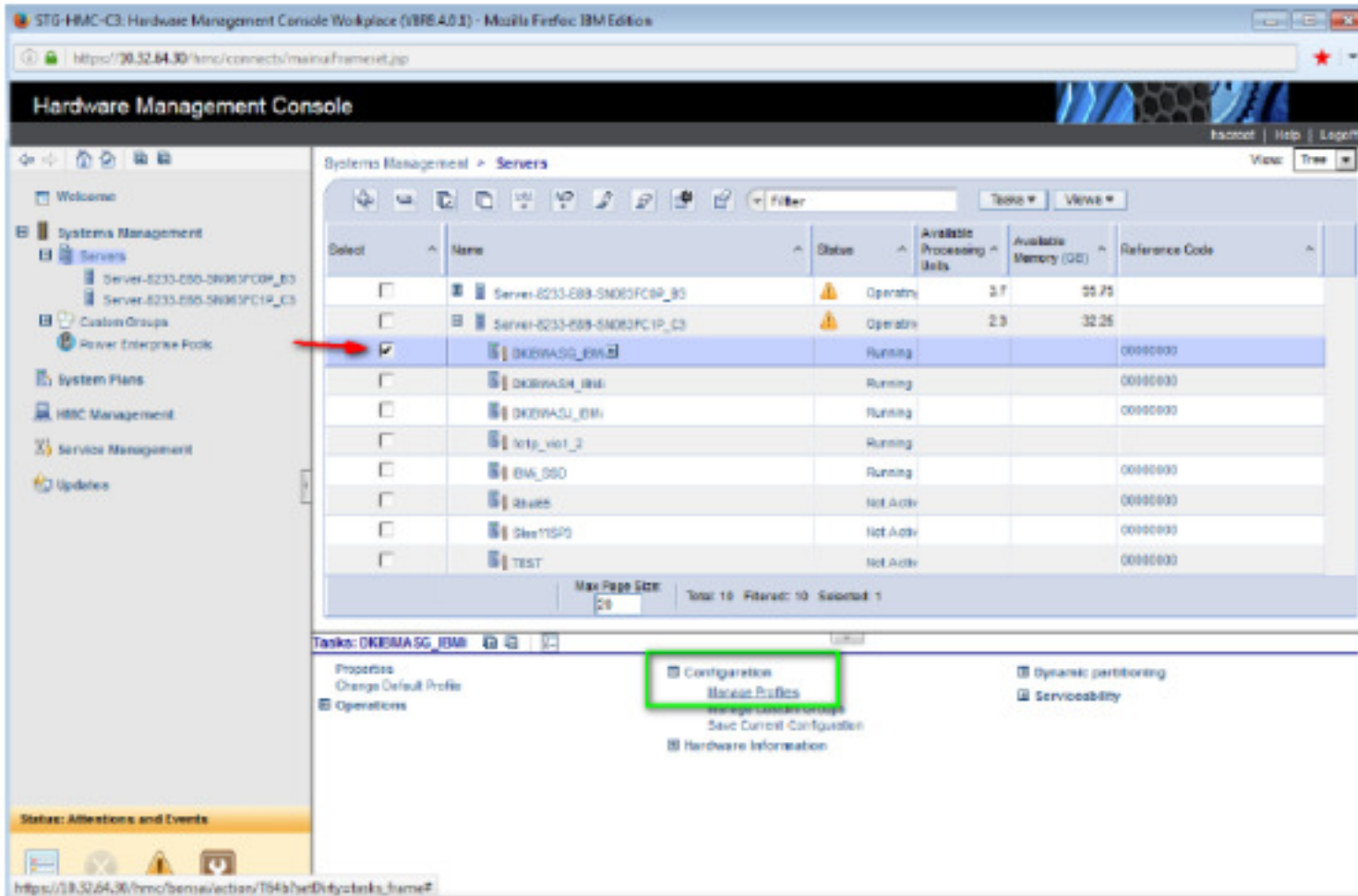
Dynamic partitioning
Serviceability

Status: Attention and Events

jsrcscript:mainpanelLaunchAction()

HMC Partition Creation

– edit host lpar to add vscsi server adapter to the profile



The screenshot shows the Hardware Management Console (HMC) interface. The main window displays a table of servers under the 'Systems Management > Servers' view. A red arrow points to the 'DKESMSG_IDM1' server, which is highlighted in blue. Below the table, the 'Configuration' tab is selected and highlighted with a green box.

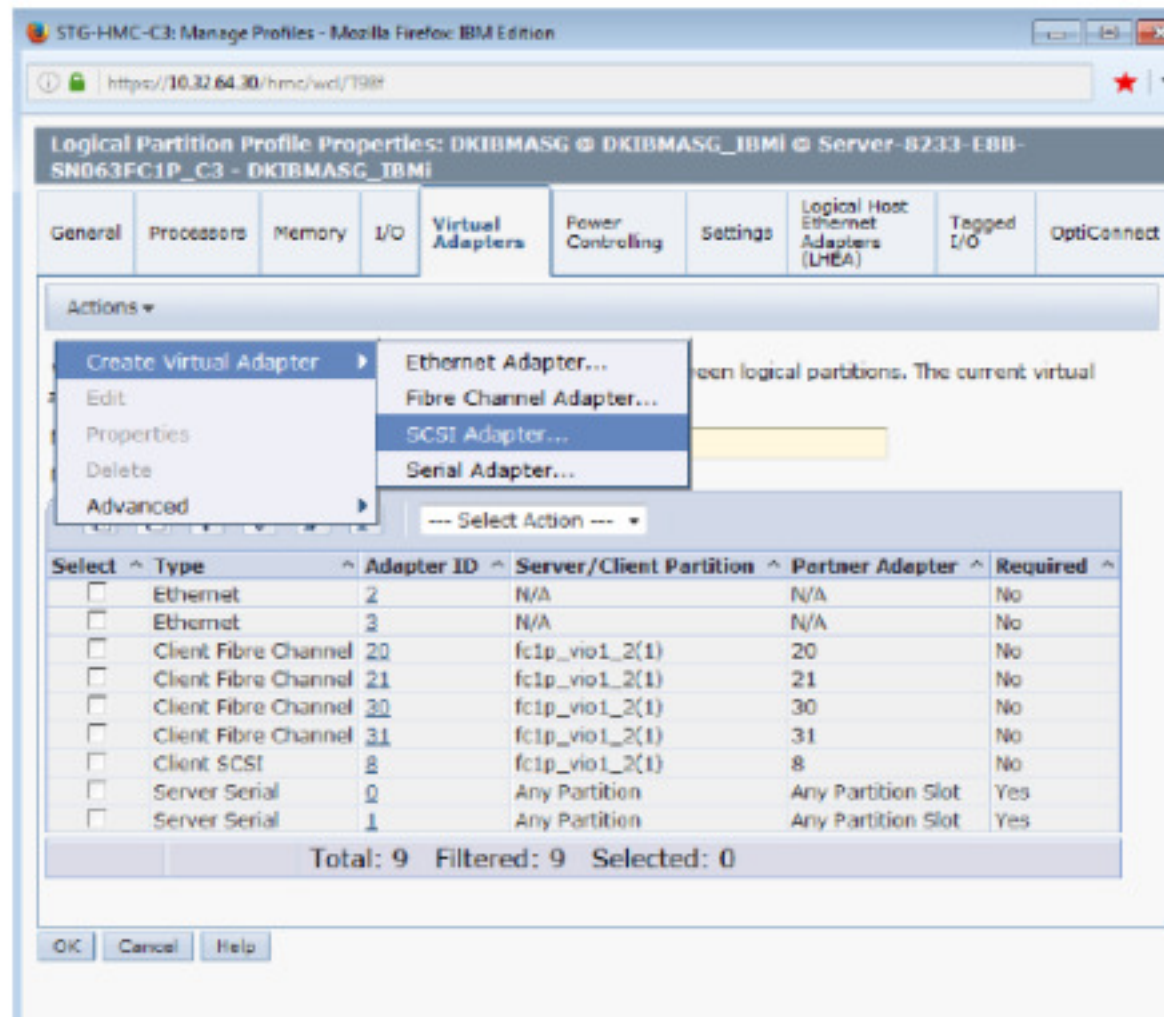
Select	Name	Status	Available Processing Units	Available Memory (GB)	Reference Code
<input type="checkbox"/>	Server-8233-888-SN083PC0P_B3	Operatn	3.7	35.75	
<input type="checkbox"/>	Server-8233-888-SN083PC1P_C3	Operatn	2.3	32.25	
<input checked="" type="checkbox"/>	DKESMSG_IDM1	Running			0090000
<input type="checkbox"/>	DKESWASH_IDM1	Running			0090000
<input type="checkbox"/>	DKESWASU_IDM1	Running			0090000
<input type="checkbox"/>	lotp_vo1_2	Running			
<input type="checkbox"/>	EML_BSD	Running			0090000
<input type="checkbox"/>	ibmss	Not Actv			0090000
<input type="checkbox"/>	Slcr1SP0	Not Actv			0090000
<input type="checkbox"/>	TEST	Not Actv			0090000

Tasks: DKESMSG_IDM1

- Configuration
- Dynamic partitioning
- Serviceability
- Hardware Information



HMC Partition Creation - Virtual SCSI for the Host Partition



STG-HMC-C3: Manage Profiles - Mozilla Firefox: IBM Edition
 https://10.32.64.30/hmc/wci/T98f

Logical Partition Profile Properties: DKIBMASG @ DKIBMASG_IBMI @ Server-8233-EBB-SND63FC1P_C3 - DKIBMASG_IBMI

General Processors Memory I/O **Virtual Adapters** Power Controlling Settings Logical Host Ethernet Adapters (LHEA) Tagged I/O OptiConnect

Actions

- Create Virtual Adapter
 - Ethernet Adapter...
 - Fibre Channel Adapter...
 - SCSI Adapter...**
 - Serial Adapter...
- Edit
- Properties
- Delete
- Advanced

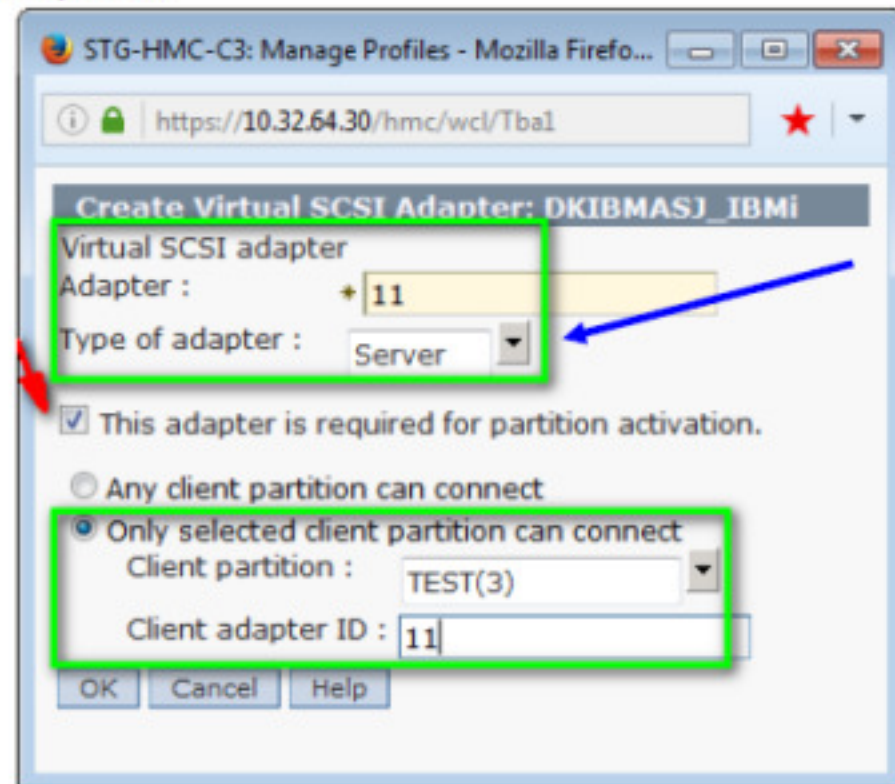
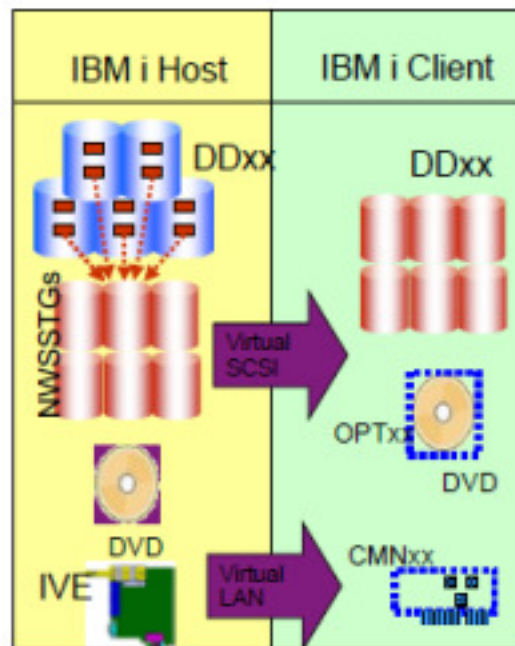
Select	Type	Adapter ID	Server/Client Partition	Partner Adapter	Required
<input type="checkbox"/>	Ethernet	2	N/A	N/A	No
<input type="checkbox"/>	Ethernet	3	N/A	N/A	No
<input type="checkbox"/>	Client Fibre Channel	20	fc1p_vio1_2(1)	20	No
<input type="checkbox"/>	Client Fibre Channel	21	fc1p_vio1_2(1)	21	No
<input type="checkbox"/>	Client Fibre Channel	30	fc1p_vio1_2(1)	30	No
<input type="checkbox"/>	Client Fibre Channel	31	fc1p_vio1_2(1)	31	No
<input type="checkbox"/>	Client SCSI	8	fc1p_vio1_2(1)	8	No
<input type="checkbox"/>	Server Serial	0	Any Partition	Any Partition Slot	Yes
<input type="checkbox"/>	Server Serial	1	Any Partition	Any Partition Slot	Yes

Total: 9 Filtered: 9 Selected: 0

OK Cancel Help

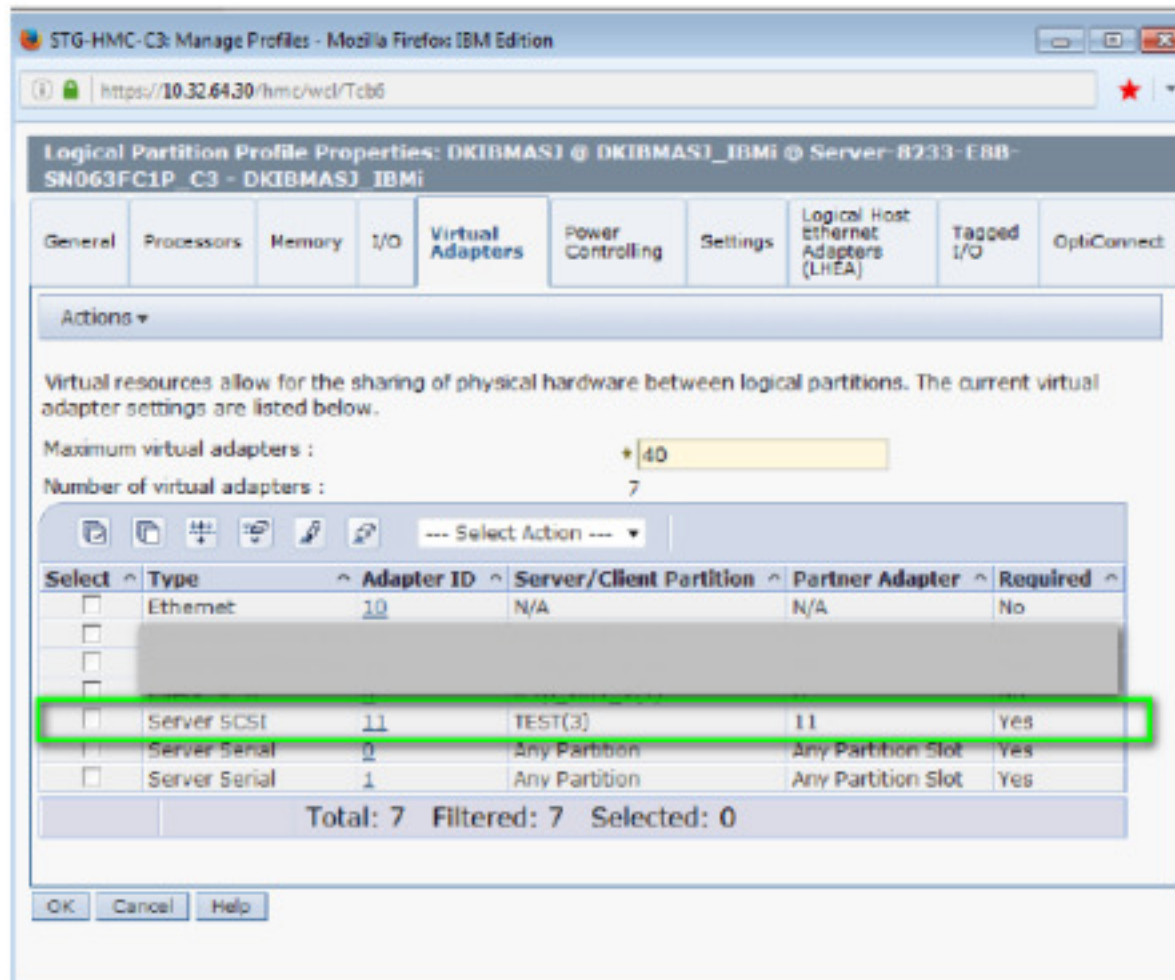
Using a HMC to create your virtual environment Virtual Server SCSI

- Navigate to Systems Management – Servers
- Select the IBM i Host partition.
- Select Configuration – Manage profiles – Edit the profile and click Virtual Adapters tab
- Select Actions – Create – SCSI Adapter...



Using a HMC to create your virtual environment

Add Virtual SCSI Server adapter to partition profile to stay permanent



STG-HMC-C3: Manage Profiles - Mozilla Firefox IBM Edition

https://10.32.64.30/hmc/wd/Tcb6

Logical Partition Profile Properties: DKIBMAS1 @ DKIBMAS1_IBMi @ Server-B233-EBB-SN063FC1P_C3 - DKIBMAS1_IBMi

General Processors Memory I/O **Virtual Adapters** Power Controlling Settings Logical Host Ethernet Adapters (LHEA) Tagged I/O OptiConnect

Actions ▾

Virtual resources allow for the sharing of physical hardware between logical partitions. The current virtual adapter settings are listed below.

Maximum virtual adapters : + 40

Number of virtual adapters : 7

Select	Type	Adapter ID	Server/Client Partition	Partner Adapter	Required
<input type="checkbox"/>	Ethernet	10	N/A	N/A	No
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>	Server SCSI	11	TEST(3)	11	Yes
<input type="checkbox"/>	Server Serial	0	Any Partition	Any Partition Slot	Yes
<input type="checkbox"/>	Server Serial	1	Any Partition	Any Partition Slot	Yes

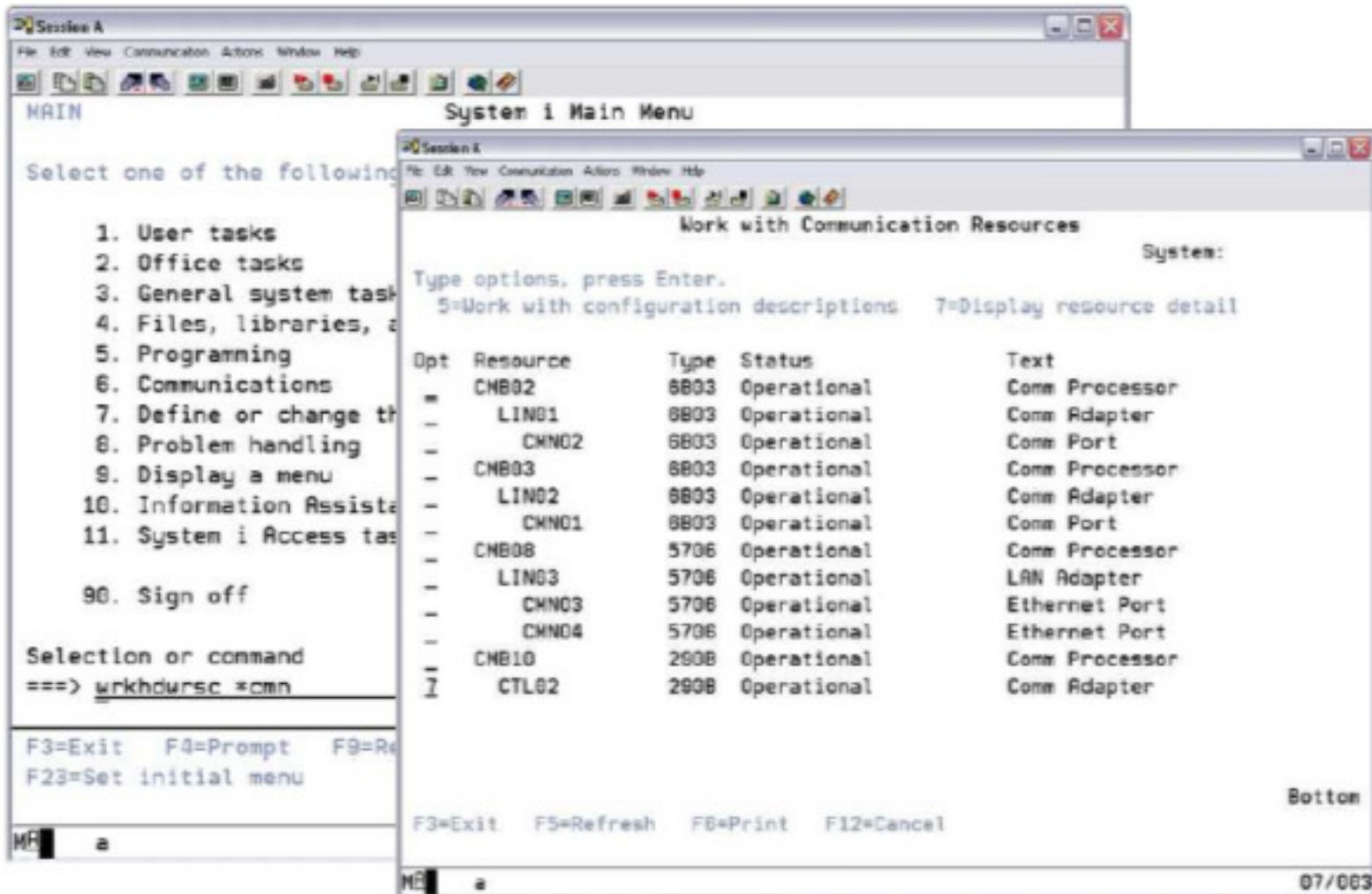
Total: 7 Filtered: 7 Selected: 0

OK Cancel Help



Using a HMC to create your virtual environment

WRKHDWRSC *CMN



The image shows two overlapping terminal windows from an HMC. The background window is titled 'System 1 Main Menu' and displays a list of options for user tasks, office tasks, general system tasks, files, programming, communications, and problem handling. The foreground window is titled 'Work with Communication Resources' and shows a table of communication resources with columns for Opt, Resource, Type, Status, and Text. The table lists resources like CMB02, LINO1, CMNO2, CMB03, LINO2, CMNO1, CMB08, LINO3, CMNO3, CMNO4, CMB10, and CTL02, all with 'Operational' status. The foreground window also shows a command prompt with 'wrkhdwrsc *cmn' entered and a date '07/003' at the bottom right.

System 1 Main Menu

Select one of the following

1. User tasks
2. Office tasks
3. General system tasks
4. Files, libraries, and data
5. Programming
6. Communications
7. Define or change the system
6. Problem handling
9. Display a menu
10. Information Assistance
11. System i Access tasks

90. Sign off

Selection or command
==> wrkhdwrsc *cmn

F3=Exit F4=Prompt F9=Refresh
F23=Set initial menu

MF a

Work with Communication Resources

Type options, press Enter.
5=Work with configuration descriptions 7=Display resource detail

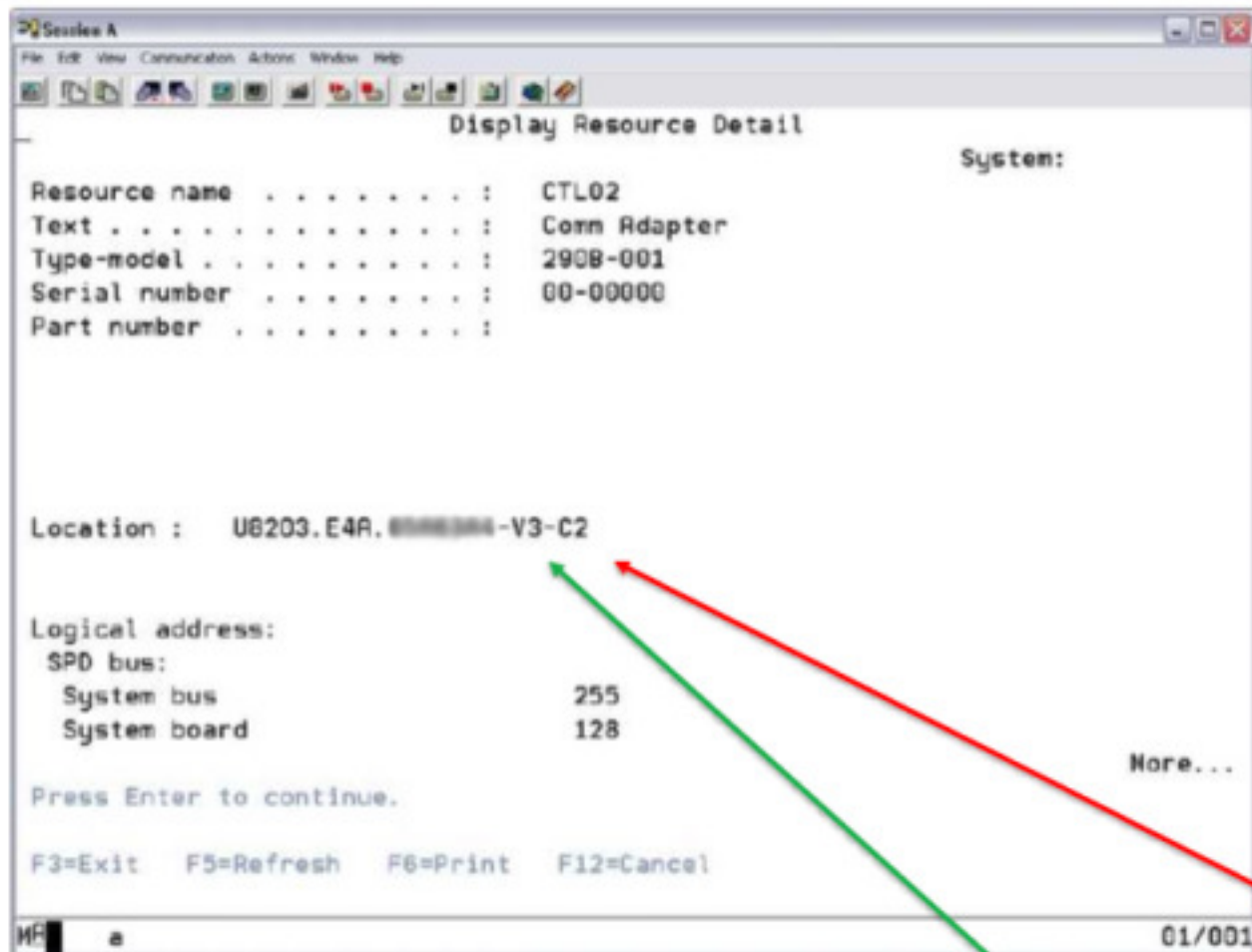
Opt	Resource	Type	Status	Text
=	CMB02	8803	Operational	Comm Processor
-	LINO1	8803	Operational	Comm Adapter
-	CMNO2	8803	Operational	Comm Port
-	CMB03	8803	Operational	Comm Processor
-	LINO2	8803	Operational	Comm Adapter
-	CMNO1	8803	Operational	Comm Port
-	CMB08	5706	Operational	Comm Processor
-	LINO3	5706	Operational	LAN Adapter
-	CMNO3	5706	Operational	Ethernet Port
-	CMNO4	5706	Operational	Ethernet Port
-	CMB10	290B	Operational	Comm Processor
7	CTL02	290B	Operational	Comm Adapter

F3=Exit F5=Refresh F6=Print F12=Cancel

Bottom

MF a 07/003

Using a HMC to create your virtual environment WRKDHWRSC – Resource Detail



In this example we have added a vscsi adapter to lpar with id 3 (V3) in virtual slot 2 (C2)

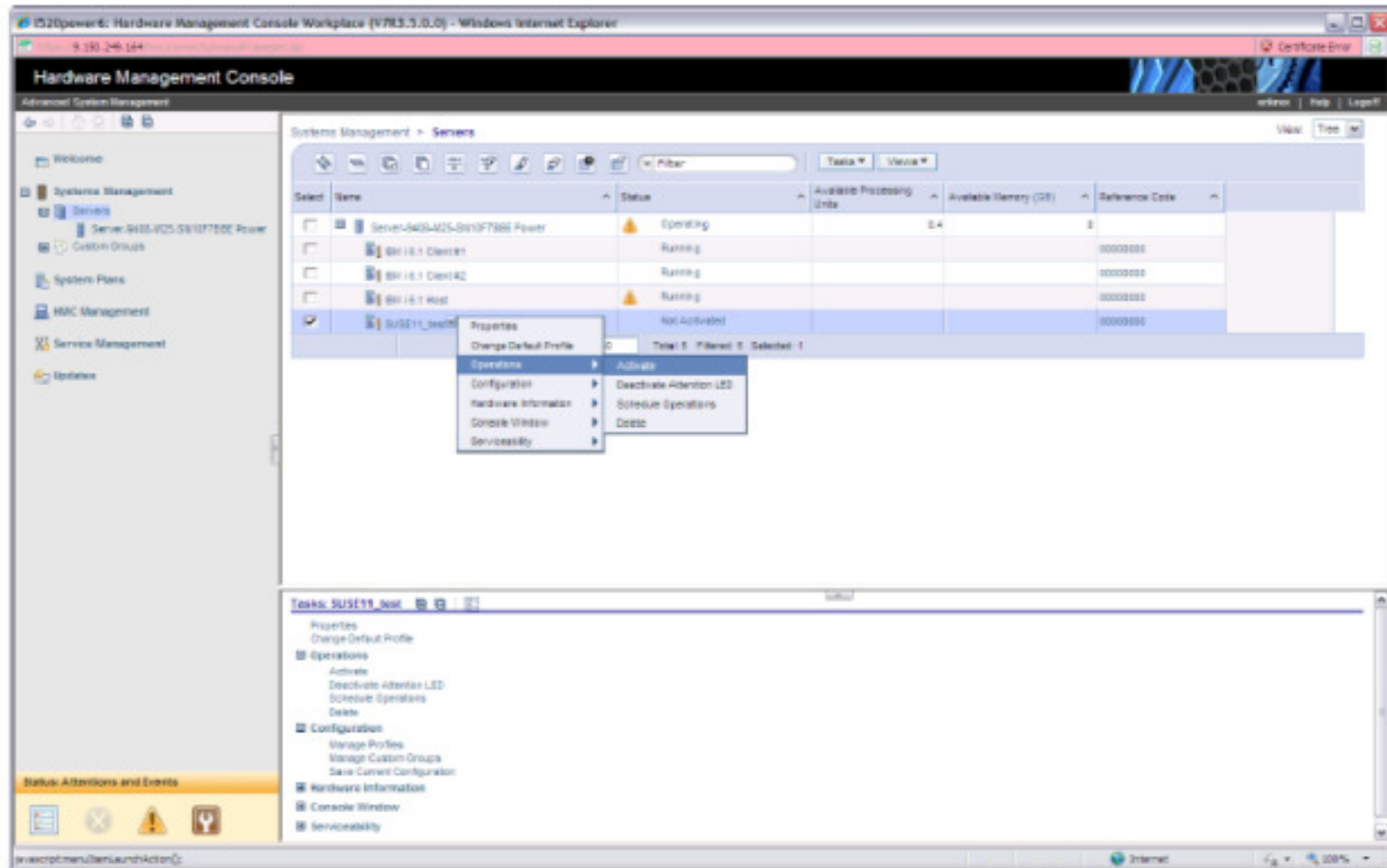


Next you need to activate the partition

- From the HMC – Server management tab
 - Select Activate
 - Select Advanced Options
 - Set IPL source to – D
 - Set IPL Mode to Manual
 - The partition will begin initialization. The hosting partition will present the virtual optical device or devices and if a real optical drive is assigned to the hosting partition it will be presented as well.
 - The client partition will locate a valid install or bootable media from any of the optical devices it finds on the VSCSI connection.
 - The rest of the install proceeds as normal, client partition will prompt for 'next media'. Go to the host partition and 'mount' the next media or virtual media image.



HMC Partition - Start



The screenshot shows the IBM Hardware Management Console (HMC) interface. The main window displays a table of servers under the 'Systems Management > Servers' view. The table has columns for 'Name', 'Status', 'Available Processing Units', 'Available Memory (GB)', and 'Reference Code'. The 'SUSE11_Boot' partition is selected, and a context menu is open over it, showing options like 'Properties', 'Operations', 'Configuration', 'Hardware Information', 'Console Window', and 'Serviceability'. The 'Operations' menu is expanded, showing 'Activate', 'Deactivate Attention LED', 'Schedule Operations', and 'Delete'. Below the table, there is a 'Tasks: SUSE11_Boot' section with a tree view of the same options.

Select	Name	Status	Available Processing Units	Available Memory (GB)	Reference Code
<input type="checkbox"/>	Server-0405425-04107886 Power	Operating		64	0
<input type="checkbox"/>	BI 1.1 Client1	Running			0000000
<input type="checkbox"/>	BI 1.1 Client2	Running			0000000
<input type="checkbox"/>	BI 1.1 Host	Running			0000000
<input checked="" type="checkbox"/>	SUSE11_Boot	Not Activated			0000000



Install IBM i using virtual optical or real media

- The client partition will see all optical devices presented by the server partition.
- This includes any physical or virtual optical devices owned by the IBM i server partition.
- The client will not see any difference between virtual or physical.

Optionally - Create optical virtual image catalog

- Cannot use iNav or IBM System Director Navigator for IBM i
- Install media can be virtualized

```

                                Create Image Catalog (CRTIMGCLG)
Type choices, press Enter.
Image catalog . . . . . > V6R1INSTAL      Name
Directory . . . . . >  '/Voptical/V6R1Instal'
-----
Image catalog type . . . . . *OPT          *OPT, *TAP
Create directory . . . . . *YES           *YES, *NO
Import image catalog . . . . . *NO         *NO, *YES
Catalog ASP threshold . . . . . *CALC      1-99, *CALC, *MAX
Add virtual volumes . . . . . *NONE       1-256, *NONE

                                Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys
    
```



Backups for IBM i Clients

- For full-system backup, the client storage spaces can be saved on the host IBM i partition
 - Similar to AIX, Linux client partitions and iSCSI integrated servers with Windows or Vmware => ideal for disaster recovery
 - File-level backup is not supported
 - Storage spaces can be restored on another IBM i host
 - Storage spaces can be located in IASP, Flash Copy can be used on IASP

You can use the following command to save a specific NWSSTG-obj:

```
SAV DEV('/QSYS.LIB/TAP0x.DEVD')  
OBJ('/QFPNWSSTG/virtual_disk_name')
```

The accompanying restore command to restore a specific NWSSTG-obj is:

```
RST DEV('/QSYS.LIB/TAP0x.DEVD')  
OBJ('/QFPNWSSTG/virtual_disk_name')
```



Things to consider (HMC based)

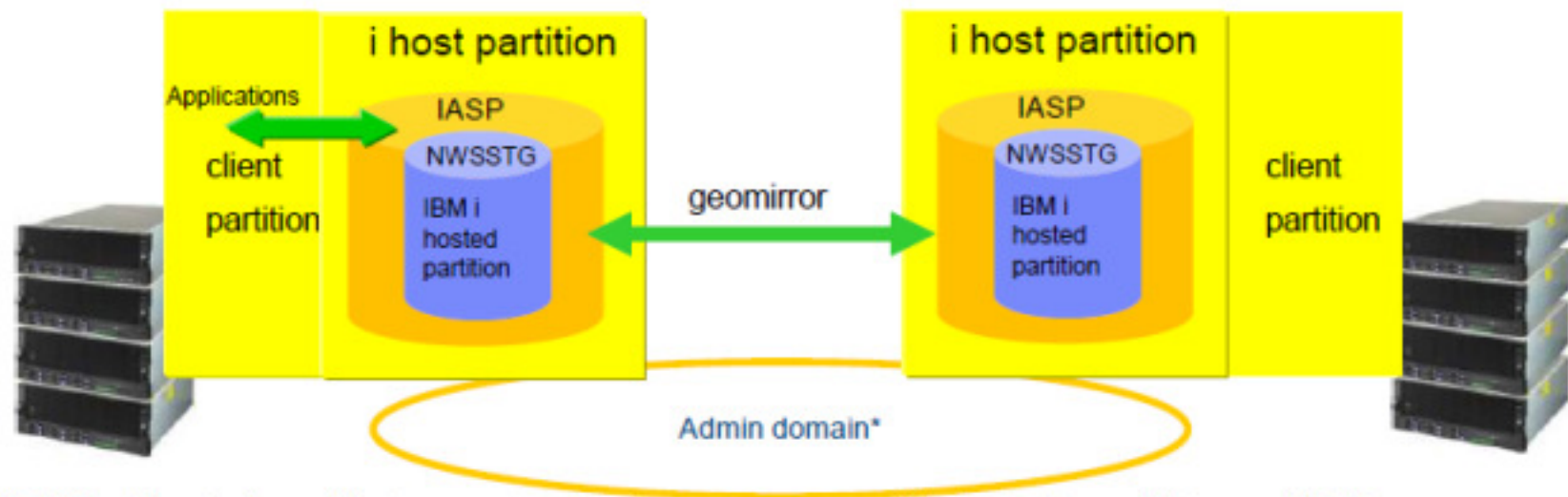
- Recommend to use IBM i 7.2 or 7.3 in host lpar, with latest PTF level.
- Client Virtual Tape
 - Tape library drives can only be virtualized when configured as a stand-alone device, they are not supported while in library mode
- Considerations on number of storage spaces (virtual disks)
 - An *even* number, minimum 6, but leaving room for growth up to:
 - 16 with 6.1 & 7.1 up to TR7
 - 32 with 7.1 TR8, 7.2 & 7.3
 - Storage spaces should be *same size* for performance reasons
- Considerations on single or multiple virtual SCSI adapter pairs
 - Needed if more the 16 / 32 virtual disks
- Considerations on single or multiple disk pools (ASPs) in host lpars
 - Multiple diskpools if many IO intensive IBM i client lpars
- IBM i host vs. VIOS:
 - External storage (other than IBM DS8x00 and IBM Storwize)
 - Skills!
 - Advanced virtualization functions like:
 - Active Memory Sharing, Suspend/Resume, Live Partition Mobility



Additional things to consider with VPM based.

- VPM limitations vs. HMC
 - Only virtual IO
 - No dynamic movement of resources
 - **Processor can run in uncapped mode.**
 - Maximum 4 client lpar
- If later switch to HMC – recreation of the lpar definitions are required!
However NO reinstall of the OS are req. The virtual disks are unchanged.
- Remember to keep HTTP group PTF up to date if using VPM GUI.

PowerHA – geomirroring – i hosting i remote partition restart for DR



- **IBM i client** placed into a network storage space which is placed into an IASP
- Guest and host partition must be shut down before remote host and client can be restarted
- Benefit: easy to set up (in production world wide today, Express Edition not required)
- Limitation: no heart beating, can't do concurrent OS upgrades
- Unplanned failover requires an abnormal IPL of target

* Admin Domain on host is optional

Where Do I Start with Installing IBM i hosting clients on Power system?

- HMC based



IBM i Virtualization and Open Storage
(read-me first)

Mike Schambureck and Keith Zblewski
(schambur@us.ibm.com and zblewski@us.ibm.com)

IBM Lab Services – IBM Power Systems, Rochester, MN

March, 2013



This "read-me first" paper provides detailed instructions on using IBM i 6.5/7.1 virtualization and connecting open storage to IBM i. It provides information on the prerequisites, supported hardware and software, planning considerations, install and post-install tasks such as backups. The paper also contains links to many additional information sources.

I want to thank our reviewers for their assistance: Wayne Holm, Collin Dewilbik, Jyoti Doshi, Janus Hertz, Peter Cross, Dave Murray, Vess Natchev and Tom Grigoleit

Same guide
Describes VIOS
hosting IBM i clients

- Latest version at:

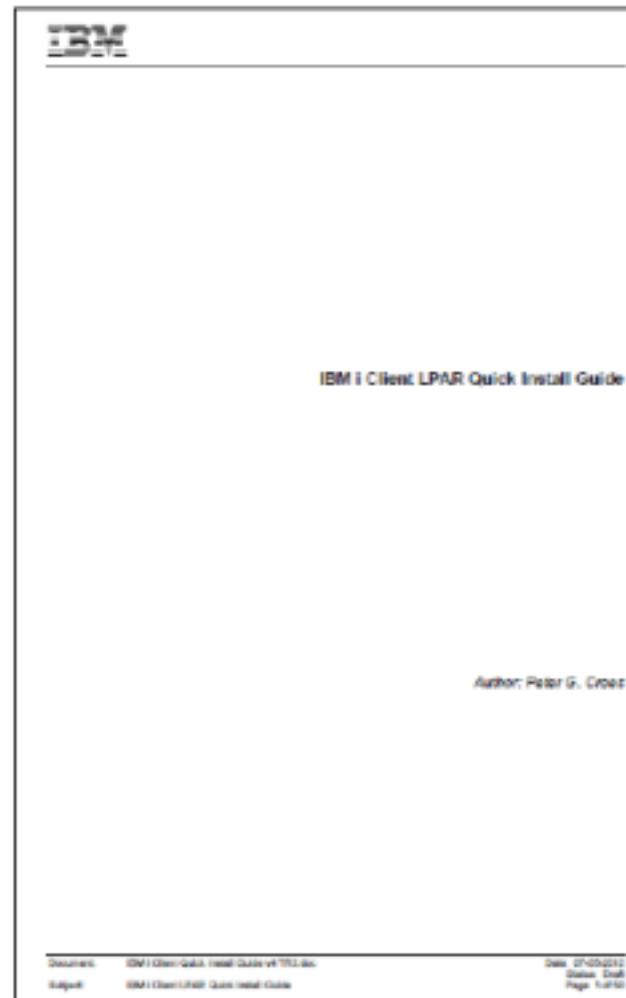
http://www.ibm.com/systems/resources/systems_i_Virtualization_Open_Storage.pdf



IBM i Client LPAR Quick Install Guide

Cover both VPM
& HMC based
Setups.

To get copy send
email to Peter
Croes



Author:
Peter G. Croes
IBM Nederland
peter_g_croes@nl.ibm.com

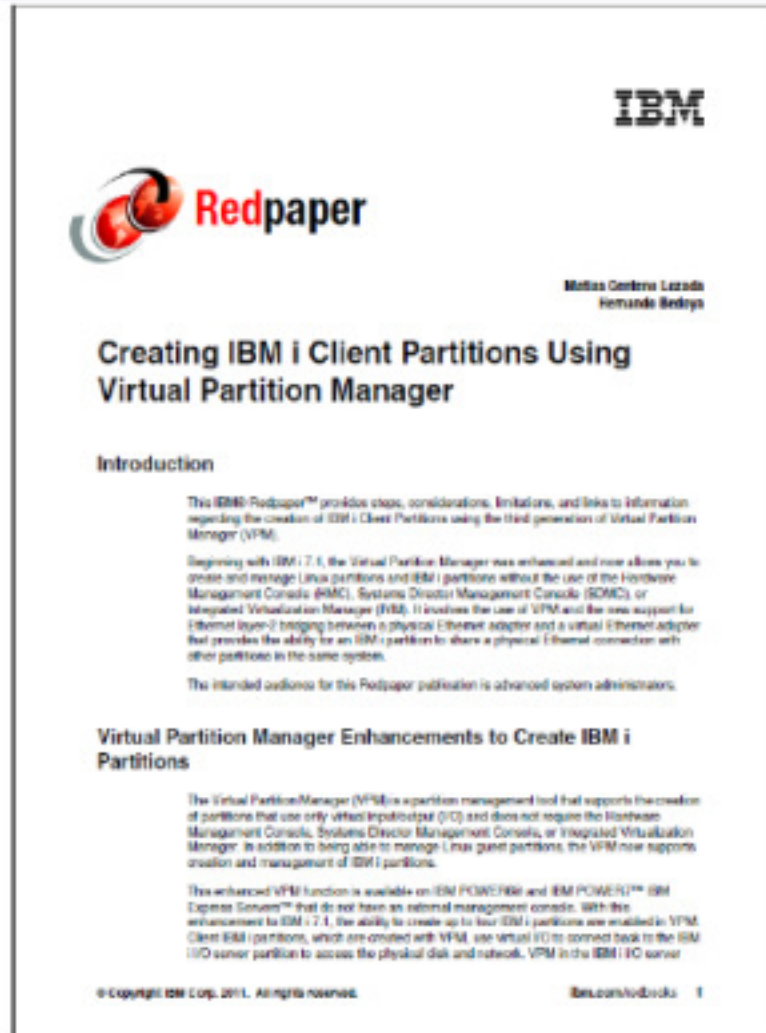


More information – IBM i

- IBM i Information Center - IBM i client partition considerations
 - http://www-01.ibm.com/support/knowledgecenter/ssw_ibm_i_71/rzahc/rzahcblade5osvirtualpartitionsoverview.htm
- Technote: Cross-Referencing (Device Mapping) IBM i Disks with VIOS Disks:
 - <http://www-01.ibm.com/support/docview.wss?uid=nas8N1013791>
- Technote: Creating IBM i Client Partitions Using Virtual Partition Manager (VPM 5250):
 - <http://www-01.ibm.com/support/docview.wss?uid=nas8N1011358>

Where Do I Start with Installing IBM I hosting clients on Power system?

VPM based



The image shows the cover of an IBM Redpaper document. At the top left is the IBM logo. Below it is the Redpaper logo, which consists of two overlapping red circles. To the right of the Redpaper logo is the text 'Redpaper'. Below the Redpaper logo is the author's name: 'Méliss Carrière-Lézards' and 'Fernando Redryns'. The main title of the document is 'Creating IBM i Client Partitions Using Virtual Partition Manager'. Below the title is the word 'Introduction'. The text of the introduction is as follows: 'This IBM Redpaper™ provides steps, considerations, limitations, and links to information regarding the creation of IBM i Client Partitions using the third generation of Virtual Partition Manager (VPM). Beginning with IBM i 7.1, the Virtual Partition Manager was enhanced and now allows you to create and manage Linux partitions and IBM i partitions without the use of the Hardware Management Console (HMC), Systems Director Management Console (SDMC), or Integrated Virtualization Manager (IVM). It involves the use of VPM and the new support for Ethernet layer-2 bridging between a physical Ethernet adapter and a virtual Ethernet adapter that provides the ability for an IBM i partition to share a physical Ethernet connection with other partitions in the same system. The intended audience for this Redpaper publication is advanced system administrators.' Below the introduction is the section header 'Virtual Partition Manager Enhancements to Create IBM i Partitions'. The text of this section is as follows: 'The Virtual Partition Manager (VPM) is a partition management tool that supports the creation of partitions that use only virtual input/output (I/O) and does not require the Hardware Management Console, Systems Director Management Console, or Integrated Virtualization Manager. In addition to being able to manage Linux guest partitions, the VPM now supports creation and management of IBM i partitions. This enhanced VPM function is available on IBM POWER® and IBM POWER™ IBM Express Servers™ that do not have an external management console. With this enhancement to IBM i 7.1, the ability to create up to four IBM i partitions are enabled in VPM. Client IBM i partitions, which are created with VPM, use virtual I/O to connect back to the IBM i I/O server partition to access the physical disk and network. VPM in the IBM i I/O server'.

© Copyright IBM Corp. 2011. All rights reserved. ibm.com/redbooks 1

<http://www.redbooks.ibm.com/redpieces/abstracts/redp4806.html?Open>