

# PowerVM LPM/SRR Automation Tool

TechU

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# Agenda

Live Partition Mobility (LPM) and Simplified Remote Restart (SRR) Overview

Overview of the PowerVM LPM/SRR Automation Tool

Learn the capabilities of the Tool

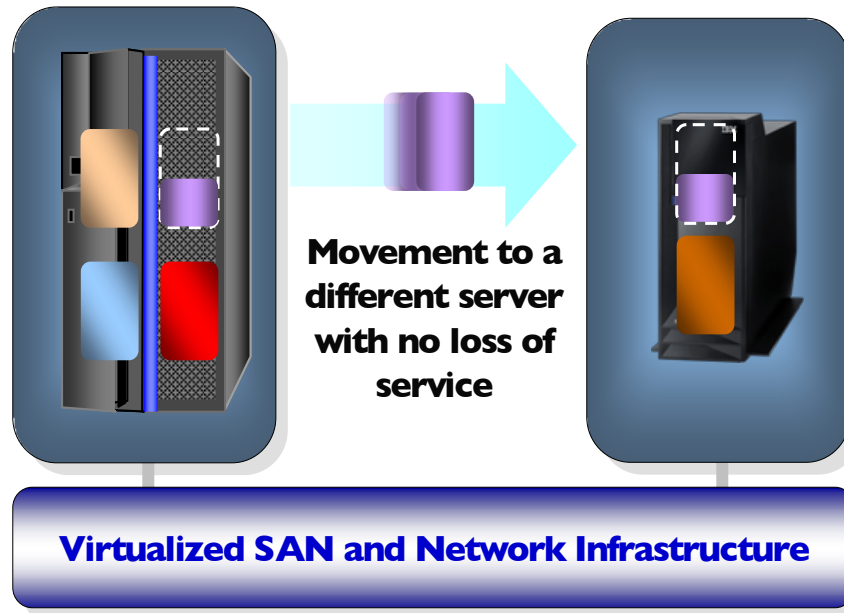
Bonus Slide – how to make your LPM more resilient even without the tool

Online resources for the tool

How to get the tool

# Live Partition Mobility Overview

*Move a running partition from one POWER server to another with no application downtime*



- Reduce planned downtime by moving workloads to another server during system maintenance

- Rebalance processing power across servers when and where you need it

## Live Partition Mobility evolution

Released in Spring 2008 on Power 6 servers (over 10 years)

Has been enhanced continuously since then and supports Power7 and Power8 and Power9

Included with PowerVM Enterprise Edition

Ability to move from an older generation of server to the new generation of servers...i.e. Power6 to/from Power7, Power7 to/from Power8, Power6 to/from Power8, Power 8 to/from Power9, Power7 to/from Power9

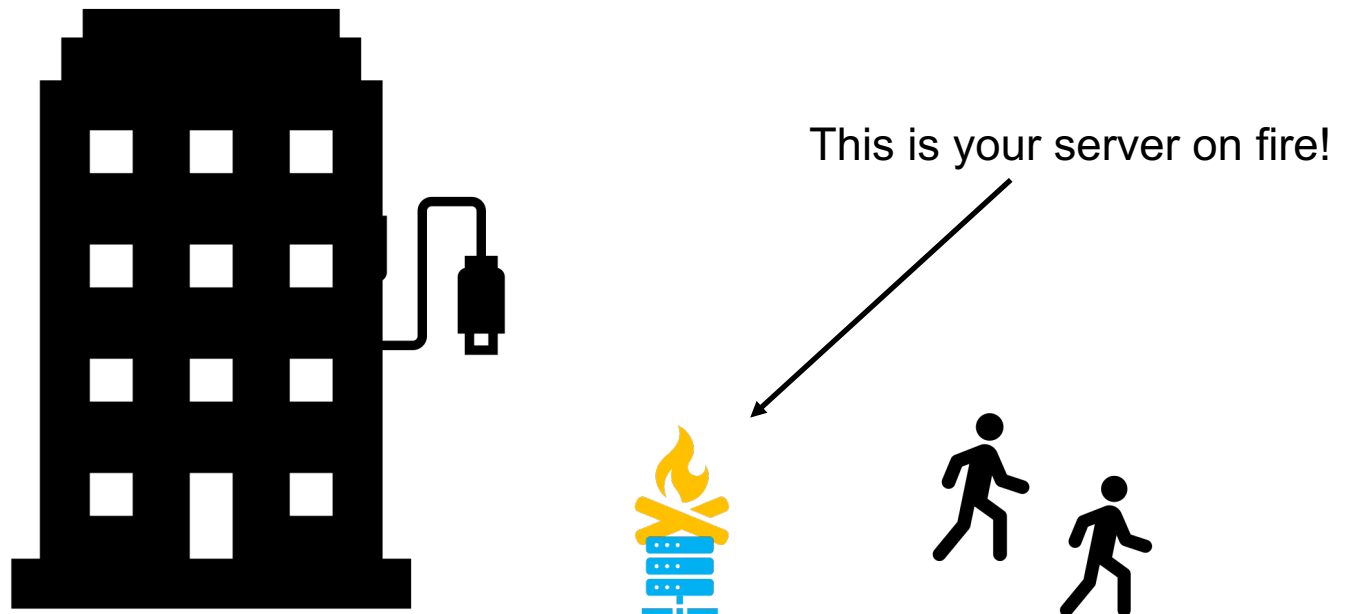
## LPM Polling Questions

- How many people have used LPM in the past 6 months?
- How many people have a version of this tool?

# Simplified Remote Restart (SRR) Overview

*Move partitions from one POWER 8/9 server to another Power 8/9 when the server has crashed (aka unplanned outage)*

*Released in December 2014.*



# Simplified Remote Restart (SRR) Enablement

- If a partition is LPMable, it can be SRR'd if you click the “Simplified Remote Restart” checkbox on each partition’s General Properties

- This checkbox must be clicked before the server crashes!!!!

## Virtualization Capabilities

- Suspend / Resume
- Simplified Remote Restart

State  Remote Restartable  

## SRR Polling Questions

- How many people already knew of SRR before this TechU?
- How many people have Power8 and/or Power9 servers? (keep your hands up)
- How many people have enabled SRR on their P8/P9 servers?



## PowerVM LPM and SRR Tool History

- This tool was released in 4Q2014. Over 350 customers worldwide have already adopted it. There is very high customer satisfaction with this tool.
- There have been 6 releases of the tool with each release supporting the new LPM and SRR features released in the base PowerVM. The tool has also been adding new capabilities to enhance the ease of use, adding advanced features, more automation, etc.
- With the SRR feature of Power8 and Power9 servers, this tool is becoming a must for any customer wanting to use SRR. There is no HMC GUI for SRR!

# PowerVM LPM and SRR Automation

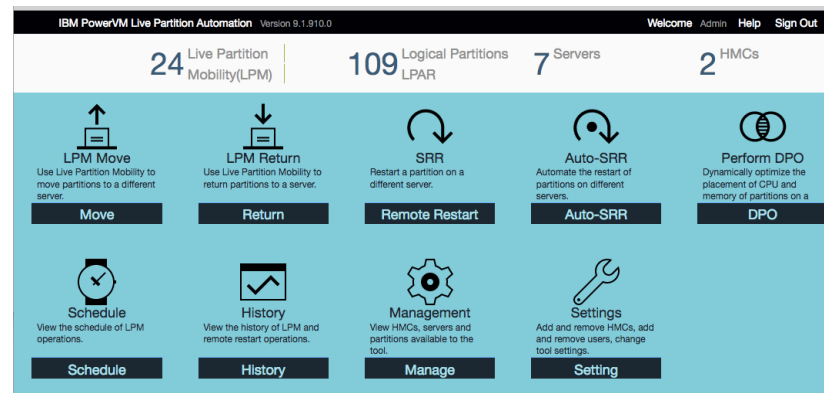
## Design, Automate, Rollback

### Live Partition Mobility (LPM)

- **Design** for maintenance and migration
  - Build a LPM plan for a maintenance window with control over VIO, HBA mappings, etc.
- **Automate** and accelerate mobility action
  - Schedule automated LPM operations or quickly move one or many partitions to another server in as few as 4 clicks with an easy-to-use GUI
- **Rollback** simply to original server
  - Return the partition/s back in a few as 4 clicks to the original server with the original HBA and Virtual slot ID mappings

### Simplified Remote Restart (SRR)

- **Design** for unplanned outages
  - Build a SRR plan ready to execute in the event of an unplanned outage
- **Automate** and accelerate mobility action
  - Use a GUI to quickly SRR many or all the partitions to one or more destination servers
- **Rollback** simply to original server
  - Once the outage has been resolved / repaired, move all the partitions back to the original server with just a few clicks



## LPM/SRR Automation Tool Version 9.1.910.0

- The tool supports Power7 and Power8 and Power9 servers.
- Your HMC must be at level V7R760 or higher.
- The tool can be installed on AIX and Windows and Linux platforms. It is packaged as a zip file and contains all the code/packages needed to run.
- The tool only communicates to the HMCs in your environment via ssh issuing HMC CLI commands. There is no need for agents or access to the VIOS or client partitions. It only needs an HMC userid and its password.
- It only takes minutes to install the tool and connect to the HMCs and start using the tool.

# LPM/SRR Automation Tool Version 9 Sign In

The screenshot shows a web browser window displaying the sign-in page for the LPM/SRR Automation Tool. The browser's address bar contains the URL `https://<tool server ip>:8443/lpm`, which is highlighted in green. The page title is "IBM PowerVM Live Partition Automation Version 9.1.910.0". The sign-in form is centered on a light blue background and consists of a dark blue box with the following elements:

- Header: "Sign in"
- Form fields: "User Name" and "Password", each with a corresponding input box.
- Button: "Sign in" located below the input fields.

Annotations include a green box around the URL in the browser and a white box on the left with the text "URL to connect LPM/SRR Automation Tool". Two white arrows point from this box to the browser's address bar and the sign-in form.

URL to connect  
LPM/SRR Automation Tool

# Home Screen – V9.1.910.0

The screenshot displays the IBM PowerVM Live Partition Automation home screen. At the top, a black navigation bar contains the text "IBM PowerVM Live Partition Automation Version 9.1.910.0" on the left and "Welcome Admin Help Sign Out" on the right. Below the navigation bar is a dashboard with four statistics: "0 Live Partition Mobility (LPM)", "0 Logical Partitions LPAR", "0 Servers", and "0 HMCs".

The main content area features a grid of task cards on a light blue background. Each card includes an icon, a title, a brief description, and a dark blue button. The cards are:

- LPM Move:** Use Live Partition Mobility to move partitions to a different server. Button: Move.
- LPM Return:** Use Live Partition Mobility to return partitions to a server. Button: Return.
- SRR:** Restart a partition on a different server. Button: Remote Restart.
- Auto-SRR:** Automate the restart of partitions on different servers. Button: Auto-SRR.
- Perform DPO:** Dynamically optimize the placement of CPU and memory of partitions on a server. Button: DPO.
- Schedule:** View the schedule of LPM operations. Button: Schedule.
- History:** View the history of LPM and remote restart operations. Button: History.
- Management:** View HMCs, servers and partitions available to the tool. Button: Manage.
- Settings:** Add and remove HMCs, add and remove users, change tool settings. Button: Setting.










Annotations on the image include:

- A box on the left with the text "Click icon or button for tasks." and arrows pointing to the LPM Move and LPM Return cards.
- A box on the right with the text "Current User" and an arrow pointing to the "Admin" link in the top navigation bar.
- A box on the bottom right with the text "Version 9 New Simplified User Interface".

# LPM Move

IBM PowerVM Live Partition Automation Version 9.1.910.0
Welcome Admin Help Sign Out

22 Live Partition Mobility(LPM)
110 Logical Partitions LPAR
7 Servers
2 HMCs

 <b>LPM Move</b> <small>Use Live Partition Mobility to move partitions to a different server.</small>	 <b>LPM Return</b> <small>Use Live Partition Mobility to return partitions to a server.</small>	 <b>SRR</b> <small>Restart a partition on a different server.</small>	 <b>Auto-SRR</b> <small>Automate the restart of partitions on different servers.</small>	 <b>Perform DPO</b> <small>Dynamically optimize the placement of CPU and memory of partitions on a server.</small>
Move	Return	Remote Restart	Auto-SRR	DPO
 <b>Schedule</b> <small>View the schedule of LPM operations.</small>	 <b>History</b> <small>View the history of LPM and remote restart operations.</small>	 <b>Management</b> <small>View HMCs, servers and partitions available to the tool.</small>	 <b>Settings</b> <small>Add and remove HMCs, add and remove users, change tool settings.</small>	
Schedule	History	Manage	Setting	

# LPM Move: One Source & Multiple Destinations

Optionally Import Plan

CPU/MEM of selected lpars – updated as you click

Available CPU/MEM dest frames – updated as you click dest frames

Select an entire frame or multiple lpars in a frame or a single lpar to move

Select one frame or multiple frames as destination

for v-eth adapters

Port & disk for NPIV

# Validation Complete

**Export results as a spreadsheet to laptop**

**Only re-validate those failed**

**Completion Notice**

**Message**

thoradp1\_ha\_lpar\_1 -> jupe4dp1

HSCL8505: The partition cannot use hardware-accelerated encryption on the destination managed system because the destination managed system does not support hardware-accelerated encryption.HSCL8504: The migrating partition cannot use hardware-accelerated Active Memory Expansion on the destination managed system because the destination managed system does not support hardware-accelerated Active Memory Expansion.

Next → Cancel

LPMR Name	Source Server	Dest Server	Validation State	Detail
ha_lpar_1	thoradp1	jupe4dp1	Success	
ha_lpar_1	thoradp1	jupe4dp1	Success	
lpmrdient10	thoradp1	jupe4dp1	Success	message
lpmrdient10	thoradp1	jupe4dp1	Success	message
lpmrdient12	thoradp1	jupe4dp1	Success	message
lpmrdient12	thoradp1	jupe4dp1	Success	message
lpmrdient14	thoradp1	jupe4dp1	Success	message
lpmrdient14	thoradp1	jupe4dp1	Success	message
lpmrdient15	thoradp1	jupe4dp1	Success	message
lpmrdient15	thoradp1	jupe4dp1	Success	message
lpmrdient17	thoradp1	jupe4dp1	Success	message
lpmrdient17	thoradp1	jupe4dp1	Success	message
lpmrdient18	thoradp1	jupe4dp1	Success	message
lpmrdient18	thoradp1	jupe4dp1	Success	message
lpmrdient19	thoradp1	jupe4dp1	Success	message
lpmrdient19	thoradp1	jupe4dp1	Success	message
lpmrdient20	thoradp1	jupe4dp1	Success	message
lpmrdient20	thoradp1	jupe4dp1	Success	message



# LPM Placement Panel

Optionally Export Plan for edit

Drag up / down to change Order

The screenshot shows the 'LPM Away' configuration page in IBM PowerVM Live Partition Automation. It features a table of LPARs with columns for LPAR Name, Cores, Mem, Settings, Source System, and Dest Server. A callout box points to the 'Export Plan' button. Another callout points to the 'Dest Server' dropdown menu, which is currently set to 'jupe4bf1'. A third callout points to the 'Partition placement policy' section, which includes options for 'Packing' and 'Stripping', and a 'Concurrent Count' of 8. A fourth callout points to the 'Other settings' section, which includes checkboxes for 'Retain virtual slots, HBA mapping', 'Retain processor pool mapping', and 'Do not allow LPM return'. A fifth callout points to a detailed configuration window for partition 'lpmclient15', showing fields for Source Vswitch, Source VIOS, Source VIOS IP, Target Vswitch, Target VIOS, Target VIOS IP, Target ProcPool, and Concurrency Level. A sixth callout points to the 'Start Move' and 'Schedule' buttons at the bottom of the page.

Order	Dest Server	Remaining CPU	Remaining MEM
1	jupe4bf1	0.0	1024
2	jupe4bf1	1.15	612

Choose a destination frame OR "None"

Do not move back. e.g. P7 -> P8 migr

Pull down



# LPM Away “In Progress”

IBM PowerVM Live Partition Automation Version 9.1.910.0 Welcome Admin Help Sign Out

**LPM Away** partitions and destinations > Validation Partitions > System Settings > Move Summary










Partition name	Mem	Source Server	LPM ID	Dest Server	Remote LPM	Move status	Time Remaining	Move Progress	Messages
ha_lpm_1	4352	thoradfp1	7	jupe4f6p1	7	442 seconds	2 seconds	<div style="width: 99%;"><div style="width: 99%;"></div></div> 99%	
lpmidant10	3072	thoradfp1	48	jupe4f6p1	48	Success	0	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	
lpmidant12	5376	thoradfp1	46	jupe4f6p1		waiting...		<div style="width: 0%;"><div style="width: 0%;"></div></div> %	
lpmidant14	4352	thoradfp1	20	jupe4f6p1		waiting...		<div style="width: 0%;"><div style="width: 0%;"></div></div> %	
lpmidant15	1280	thoradfp1	45	jupe4f6p1	45	Success	0	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	
lpmidant17	4352	thoradfp1	9	jupe4f6p1		waiting...		<div style="width: 0%;"><div style="width: 0%;"></div></div> %	
lpmidant18	3072	thoradfp1	15	jupe4f6p1	15	Success	0	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	
lpmidant19	4352	thoradfp1	13	jupe4f6p1		waiting...		<div style="width: 0%;"><div style="width: 0%;"></div></div> %	
lpmidant2	3072	thoradfp1	8	jupe4f6p1	8	442 seconds	2 seconds	<div style="width: 99%;"><div style="width: 99%;"></div></div> 99%	
lpmidant20	4352	thoradfp1	16	jupe4f6p1	16	442 seconds	2 seconds	<div style="width: 99%;"><div style="width: 99%;"></div></div> 99%	
lpmidant3	3072	thoradfp1	43	jupe4f6p1	43	33 seconds	168 seconds	<div style="width: 14%;"><div style="width: 14%;"></div></div> 14%	
lpmidant4	3072	thoradfp1	53	jupe4f6p1	53	442 seconds	2 seconds	<div style="width: 99%;"><div style="width: 99%;"></div></div> 99%	
lpmidant5	3072	thoradfp1	30	jupe4f6p1	30	Success	0	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	
lpmidant6	3072	thoradfp1	3	jupe4f6p1	4	131 seconds	2 seconds	<div style="width: 99%;"><div style="width: 99%;"></div></div> 99%	
lpmidant7	3072	thoradfp1	27	jupe4f6p1		8 seconds	191 seconds	<div style="width: 2%;"><div style="width: 2%;"></div></div> 2%	
lpmidant8	5376	thoradfp1	33	jupe4f6p1	33	96 seconds	26 seconds	<div style="width: 81%;"><div style="width: 81%;"></div></div> 81%	
lpmidant9	3072	thoradfp1	4	jupe4f6p1		waiting...		<div style="width: 0%;"><div style="width: 0%;"></div></div> %	

**Some lpm are done; Some are still waiting; 8 concurrent lpm are running.**

# LPM Return

IBM PowerVM Live Partition Automation Version 9.1.910.0 Welcome Admin Help Sign Out

39 Live Partition Mobility(LPM) 110 Logical Partitions LPAR 7 Servers 2 HMCs

 <p><b>LPM Move</b> Use Live Partition Mobility to move partitions to a different server.</p> <p>Move</p>	 <p><b>LPM Return</b> Use Live Partition Mobility to return partitions to a server.</p> <p>Return</p>	 <p><b>SRR</b> Restart a partition on a different server.</p> <p>Remote Restart</p>	 <p><b>Auto-SRR</b> Automate the restart of partitions on different servers.</p> <p>Auto-SRR</p>	 <p><b>Perform DPO</b> Dynamically optimize the placement of CPU and memory of partitions on a server.</p> <p>DPO</p>
 <p><b>Schedule</b> View the schedule of LPM operations.</p> <p>Schedule</p>	 <p><b>History</b> View the history of LPM and remote restart operations.</p> <p>History</p>	 <p><b>Management</b> View HMCs, servers and partitions available to the tool.</p> <p>Manage</p>	 <p><b>Settings</b> Add and remove HMCs, add and remove users, change tool settings.</p> <p>Setting</p>	

# LPM Return Selection

The screenshot shows the IBM PowerVM Live Partition Automation interface. The main heading is "LPM Return" with a sub-heading "Partitions and destinations". On the left, there is a sidebar with an "Import" button and a "Partitions" section showing system details: "Total cores: 7.55 cores" and "Total memory: 61440 MB". The main area is titled "Choose Destination System" and lists several systems: "Bob HMC", "Mike HMC", and "thoradp1". Under "thoradp1", a list of LPARs is shown with checkboxes, many of which are checked. On the right, a "Partition details" table lists LPAR information.

LPAR Name	Source Server	Dest Server	Cores	Memory
lpmclient16	thoradp1	jupe4dtp1	1	1280
lpmclient10	thoradp1	jupe4dtp1	0.5	3072
lpmclient18	thoradp1	jupe4dtp1	0.5	3072
lpmclient5	thoradp1	jupe4dtp1	0.5	3072
lpmclient8	thoradp1	jupe4dtp1	0.35	3072
lpmclient20	thoradp1	jupe4dtp1	1	4352
lpmclient2	thoradp1	jupe4dtp1	0.5	3072
lpmclient4	thoradp1	jupe4dtp1	0.5	3072
ha_lpar_1	thoradp1	jupe4dtp1	1.0	4352
lpmclient8	thoradp1	jupe4dtp1	0.3	5376
lpmclient3	thoradp1	jupe4dtp1	0.3	3072
lpmclient17	thoradp1	jupe4dtp1	0.2	4352
lpmclient7	thoradp1	jupe4dtp1	0.3	3072
lpmclient9	thoradp1	jupe4dtp1	0.3	3072
lpmclient12	thoradp1	jupe4dtp1	0.1	5376
lpmclient19	thoradp1	jupe4dtp1	0.1	4352
lpmclient4	thoradp1	jupe4dtp1	0.1	4352

At the bottom of the interface, there are buttons for "Remove", "LUN Validation" (with a checkbox), "Next ->", and "Perform LPM ->".

Optionally Import Plan

Select a frame. Choose to bring all lpars back at once OR bring back selected lpars at the time.

Perform LPM return immediately without going to validation page. A huge time saver during maintenance window

Go to Validation page

The lpars will be returned to their original settings, lpar id, vscsi mappings, vfc mappings, vnic mappings, etc. **This feature does not exist in any other IBM product!**

# LPM Return Placement Panel

The screenshot displays the 'LPM Return' configuration page in IBM PowerVM Live Partition Automation. The main table lists various LPARs and their target destination servers. A 'Concurrent Count' dropdown menu is set to 8, with a note that some LPARs may be queued. At the bottom, there are buttons for 'Start Move', 'Schedule', and 'Cancel'. The 'Start Move' button is highlighted with a large white arrow.

LPAR Name	Cores	Mem	Settings	Source Systems	Dest Server
ha_bor_1	1.0	4352		jup44dp1	thoradfp1
lpmlent10	0.5	3072		jup44dp1	thoradfp1
lpmlent12	0.1	6376		jup44dp1	thoradfp1
lpmlent14	0.1	4352		jup44dp1	thoradfp1
lpmlent15	1	1280		jup44dp1	thoradfp1
lpmlent17	0.2	4352		jup44dp1	thoradfp1
lpmlent18	0.5	3072		jup44dp1	thoradfp1
lpmlent19	0.1	4352		jup44dp1	thoradfp1
lpmlent2	0.5	3072		jup44dp1	thoradfp1
lpmlent20	1	4352		jup44dp1	thoradfp1
lpmlent3	0.3	3072		jup44dp1	thoradfp1
lpmlent4	0.5	3072		jup44dp1	thoradfp1
lpmlent5	0.5	3072		jup44dp1	thoradfp1
lpmlent8	0.35	3072		jup44dp1	thoradfp1
lpmlent7	0.3	3072		jup44dp1	thoradfp1

Summary Table:

Dest Server	Remaining CPU	Remaining MEM
thoradfp1	2.45	254720

Concurrent Count: 8

Buttons: Start Move, Schedule, Cancel

Optionally  
Export Plan

1, 2, 4, 8

Select the server  
or "None" to skip  
return operation.



# Return Completed: Back To Original Frame and settings

IBM PowerVM Live Partition Automation Version 9.1.9.10.0 Welcome Admin Help Sign Out

**LPM Return** [partitions and destinations >](#) [Validation Partitions >](#) [System Settings >](#) [Move Summary](#)










**Partition move complete** Check the move status column for partitions that did not move successfully Filter

Partition name	Mem	Source Server	LPMR ID	Dest Server	Remote LPA...	Move status	Time Remaining	Move Progress	Messages
ha_lpar_1	4352	jup4-4stp1	7	thoradstp1	7	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient10	3072	jup4-4stp1	48	thoradstp1	48	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient12	5376	jup4-4stp1	46	thoradstp1	46	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient14	4352	jup4-4stp1	20	thoradstp1	20	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient15	1280	jup4-4stp1	45	thoradstp1	45	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient17	4352	jup4-4stp1	9	thoradstp1	9	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient18	3072	jup4-4stp1	15	thoradstp1	15	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient19	4352	jup4-4stp1	13	thoradstp1	13	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient2	3072	jup4-4stp1	8	thoradstp1	8	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient20	4352	jup4-4stp1	16	thoradstp1	16	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient3	3072	jup4-4stp1	43	thoradstp1	43	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient4	3072	jup4-4stp1	53	thoradstp1	53	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient5	3072	jup4-4stp1	30	thoradstp1	30	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient6	3072	jup4-4stp1	4	thoradstp1	3	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient7	3072	jup4-4stp1	27	thoradstp1	27	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient8	5376	jup4-4stp1	33	thoradstp1	33	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	
lpmclient9	3072	jup4-4stp1	7	thoradstp1	4	Success	0	<div style="width: 100%; height: 10px; background-color: #007060;"></div> 100%	

# Simplified Remote Restart (SRR)

IBM PowerVM Live Partition Automation Version 9.1.910.0 Welcome userA Help Sign Out

3 Live Partition Mobility (LPM) | 110 Logical Partitions LPAR | 7 Servers | 2 HMCs

 <p><b>LPM Move</b> Use Live Partition Mobility to move partitions to a different server.</p> <p>Move</p>	 <p><b>LPM Return</b> Use Live Partition Mobility to return partitions to a server.</p> <p>Return</p>	 <p><b>SRR</b> Restart a partition on a different server.</p> <p>Remote Restart</p>	 <p><b>Auto-SRR</b> Automate the restart of partitions on different servers.</p> <p>Auto-SRR</p>	 <p><b>Perform DPO</b> Dynamically optimize the placement of CPU and memory of partitions on a server.</p> <p>DPO</p>
 <p><b>Schedule</b> View the schedule of LPM operations.</p> <p>Schedule</p>	 <p><b>History</b> View the history of LPM and remote restart operations.</p> <p>History</p>	 <p><b>Management</b> View HMCs, servers and partitions available to the tool.</p> <p>Manage</p>	 <p><b>Settings</b> Add and remove HMCs, add and remove users, change tool settings.</p> <p>Setting</p>	

# SRR Panel

Optionally Import SRR Plan

CPU/MEM of selected lpars

Available CPU/MEM on dest frames

Select an entire frame or multiple lpars in a frame or a single lpar for SRR

The screenshot displays the 'Remote Restart' configuration page in the IBM PowerVM Live Partition Automation console. The page is divided into two main sections: 'Partitions to be moved' and 'Choose destination systems'.  
 - **Partitions to be moved:** This section lists partitions under two HMCs: 'Bob Hmc' and 'Mike HMC'. Under 'Bob Hmc', several partitions are listed, including 'bobIP8', 'gb\_client2', 'khhana1', 'gb\_client3', 'mg\_client2', 'mg\_client3', 'vad\_client90', 'thanh\_client04', 'thanh\_client03', 'gsantos\_client2', 'thanh\_client02', 'thanh\_client01', 'aaron\_client2', 'gb\_bcbz2', 'gb\_bcbz1', and 'sles12sp3a'. The 'gb\_client2' partition is selected with a checkmark.  
 - **Choose destination systems:** This section lists destination systems under 'Bob Hmc' and 'Mike HMC'. Under 'Bob Hmc', 'jupe4ftp1' is selected. Under 'Mike HMC', 'kurtkP8' is selected. Other systems listed include 'jupe4ftp1', 'lMap720', 'jupe4dtp1', 'thoradfp1', and 'Server-9117-MMC-SH105C627'.  
 - **Summary and Action:** On the left, summary statistics are shown: 'Total cores: 0.3 cores' and 'Total memory: 6912 MB' for the source partitions. For destination systems, 'Available cores: 0.5 cores' and 'Available memory: 391168 MB' are shown. At the bottom right, there is a 'Next' button and a checked checkbox for 'Allow No Connection'.

Select one frame or multiple frames as destination

Allow SRR when source frame is in "No Connection" state.





# SRR Validation

The screenshot displays the IBM PowerVM Live Partition Automation web interface. The top navigation bar includes the application name "IBM PowerVM Live Partition Automation" with version "9.1.910.0", and user options "Welcome", "Help", and "Sign Out". The main heading is "Remote Restart" with sub-navigation for "Partitions and destinations" and "Validate Partitions".

Below the heading, there are two tabs: "Re-Validate Errors" and "Export Status". A search filter is present with the text "Filter" and a magnifying glass icon. A table lists the validation results:

LPAR Name	Source Server	Dest Server	Validation State	Last Time	Detail
pb_client2	bobP8	kurP8	Success	5 seconds	

To the right of the table, a teal notification box states "Validation complete" and "All selected partitions have been validated". At the bottom right, there are two buttons: "Next" with a right-pointing arrow and "Cancel". A blue arrow points upwards to the "Next" button.

# Start SRR

The screenshot shows the 'Remote Restart' configuration page in IBM PowerVM Live Partition Automation. The page includes a table for 'partitions and destinations', a 'Destination systems' table, and various configuration options.

LPAR Name	CPU	Mem	Dest Server	Options
gp_oflan02	0.3	0912	kurtP8	

Order	Dest Server	Remaining CPU	Remaining MEM
1	kurtP8	0.20	382976

Configuration options include:

- Source Vswitch:** ETHERNET0
- Target Vswitch:** any
- Target ProcPool:** any
- DefaultPool:** gb-pool
- Partition placement policy:** Packing (selected) or Striping
- Concurrent Count:** 8
- Other settings:** Retain virtual slots, HBA mapping, Retain processor pool mapping
- Remote Restart inactive LPARs:**
- Power On LPAR:**

Optionally export a SRR Plan.  
Some of new V9 SRR features are only available when using plan.

Similar to LPM placement panel.

Choose destination virtual switch (V9)

Allow to test SRR when lpar are in active (V9)

Allow to SRR without powering on lpar (V9)

## Exporting/Importing Plans

- The tool is designed so that a customer can create plans, **MODIFY** them outside of the tool, and import those changed plans into the tool.
- The plan is an Excel spreadsheet where many of the fields can be modified and imported back into the tool.
- The LPM plan has both the LPM Away (aka LPM Move) and LPM Return functions.
- The SRR plan has the SRR function.

# Advanced LPM and SRR features via plans

- Designing GUIs for the many advanced features of LPM and SRR would be challenging so the tool uses plans to expose these advanced features to customers.
- **While many customers are happy with just the GUI panels, some customers need a lot of control when performing LPM and SRR. (My attempt at humor would be these are my control freak customers...;<)**
- The spreadsheet is a superset of the GUI capabilities.
- Anything on the GUI can be changed in the spreadsheet.
- Items that are not on the GUI but can be modified in plans are –
  - Vfc mappings (both LPM and SRR)
  - Vscsi mappings (only LPM)
  - SR-IOV VNIC mappings (only LPM)
  - Group IDs (only LPM)

-

## Advantages of LPM Plans

- The customer can build stages of plans. For example, they want to do some moves on Monday (one set of application LPARs) and then Tuesday (another set of application LPARs), etc. They build a plan for each day and can import those plans the following week.
- Many users of plans will build start a plan via the tools “Export” function, make changes to the plan, import it into the tool and Validate the plan.....fix any errors, repeat the process until they have the exact plan they want.
- Then they may hand the plan off to a lesser skilled resource or possibly an offshore team to do the LPMs during off hours.

## Advantages of SRR Plans

- The customer can build an SRR plan in advance of any unplanned outage.
- If an outage occurs, a lower skilled resource can import the plan perform the SRR without advanced skills being available (maybe an off-shore team manages the servers during evening hours).
- You can make changes in the plan with Excel and then import those changes back into the tool.

# LPM Away Excel worksheet

Yellow Columns can be changed and be imported into tool

HMC NAME	COMMAND	CLIENT SLO	CSI VIOS	I/VIOS SLOT	I/O C SLOT	PIV VIOS	IL/IOS	FSC N/IOS	SLOT	I/O C SLOT	PIV VIOS	IL/IOS	FSC N/IOS	SLOT	I/O C SLOT
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	2	fcs1	6	12	2	fcs0	14	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	1	fcs0	38	12	1	fcs1	29	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	2	fcs0	49	12	2	fcs1	4	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	1	fcs0	6	12	1	fcs1	32	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	1	fcs0	61	12	1	fcs1	60	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1\				11	2	fcs0	16	12	2	fcs1	15	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1				11	1	fcs0	88	12	1	fcs1	17	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1\				11	2	fcs0	65	12	2	fcs1	64	21		
Mike HMC	252.213\''',\''''dest_msp_name=jigp0				11	1	fcs0	8	12	1	fcs1	9	21		
Mike HMC	52.212\''',\''''dest_msp_name=vios1\				11	1	fcs1	28	12	1	fcs0	27	21		
Mike HMC	2.213\''',\''''dest_msp_name=jigp02'				11	1	fcs0	15	12	1	fcs1	12	21		
Mike HMC	52.213\''',\''''dest_msp_name=jigp02				11	1	fcs0	7	12	1	fcs1	34	21		
Mike HMC	52.213\''',\''''dest_msp_name=jigp02	50	1	99	11	2	fcs0	25	12	2	fcs1	43	21		
Mike HMC	52.213\''',\''''dest_msp_name=jigp02				11	2	fcs0	26	12	2	fcs1	22	21		
Mike HMC	52.213\''',\''''dest_msp_name=jigp02				11	2	fcs0	36	12	2	fcs1	37	21		
Mike HMC	52.213\''',\''''dest_msp_name=jigp02				11	1	fcs0	46	12	1	fcs1	47	21		
Mike HMC	252.212\''',\''''dest_msp_name=vios				3	2	fcs0	70	4	2	fcs1	71	5		

There are many columns in these worksheets....you can change MSP pairings, Vswitches, Shared Proc Pools, Group IDs, etc

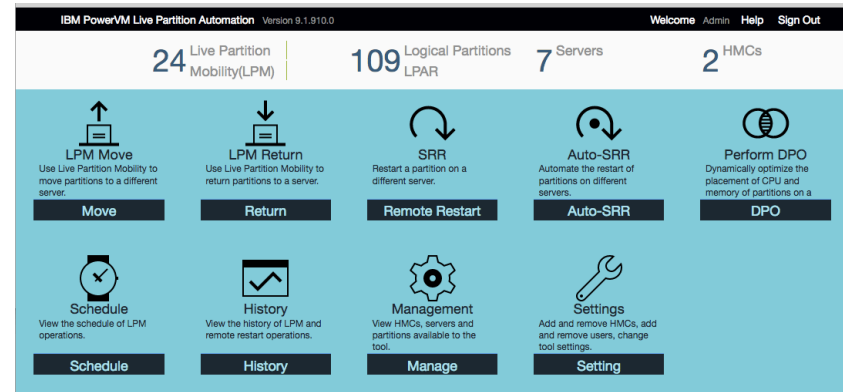
## Plans Polling Questions

- Please raise your hands if you are a current user of the tool?
- Keep your hands raised if you use plans with the tool.
- Are there any features you would like to see added to plans?



# LPM and SRR Automation Version 9 – New features

- **Support for POWER9**
- Support for new LPM and SRR features
- New, simplified user interface
- Automate SRR operations
- Ability to disable PEP operations
- Ability for pre-LPM and post-LPM scripting
- Bypass VLAN issues during validation
- LDAP support
- Automatic plans creation
- Links to online help videos



See [ibm.biz/lpm\\_srr\\_tool](http://ibm.biz/lpm_srr_tool) for lots more detailed information on V9 new features

# Support for new SRR features released in PowerVM

These are the new SRR features added to the tool to exploit the new features of SRR released in PowerVM.

- Ability to remote restart with reduced CPU, Memory on target system.
- Ability to choose a different virtual switch on the target system
- Test option to remote restart a partition when the system is in Operating state
- Ability to remote restart without powering on the partition on target system

# Automate SRR operations

The tool can now automate SRR operations when a server has crashed.

This first release of SRR Automation will check the state of the managed system for Error states and optionally for Power Off states and automatically SRR all the partitions from the failed server to other servers previously chosen in the tool.

The screenshot shows a web interface for creating a new Auto Remote Restart Group. The interface is divided into three main sections:

- Choose source systems:** Select a system or a set of system. It lists two systems: "mike hmc" and "bob hmc", each with a plus icon to its left.
- Choose destination systems:** Select one or more destination systems that can be same with source systems. It lists two systems: "mike hmc" and "bob hmc", each with a plus icon to its left.
- Group Basic Info:** Contains a "Group Name:" input field, a "Start Monitor" checkbox, and a "Partition placement policy" section with two radio buttons: "Packing (Place partitions on a system until it's full)" (which is selected) and "Striping (Place partitions evenly across all Servers)".

## Ability for pre-LPM and post-LPM scripting

Customers have been asking to be able to execute their custom scripts during LPM operations.

This scripting be used to adjust the CPU and Memory of an LPAR which is a frequent request from customers!

- `post_lpm_away_frame.sh` - called once after all LPMs are completed on a frame during LPM Away
- `post_lpm_return_frame.sh` - called once after all LPMs are completed on a frame during LPM Return
- `pre_lpm_away_frame.sh` - called once before any LPMs are started on a frame during LPM Away
- `pre_lpm_return_frame.sh` - called once before any LPMs are started on a frame during LPM Return
- `post_lpm_away_lpar.sh` - called each time an LPM completes during LPM Away
- `post_lpm_return_lpar.sh` called each time an LPM completes during LPM Return

# BONUS SLIDE - Enable this on all your servers that you have LPM setup on – very few customer have set this!!!

The screenshot shows the Hardware Management Console (HMC) interface. The top navigation bar includes 'mgmhc Resources > All Systems ▾ bobfP8 ▾ General Settings ▾'. The main content area is titled 'General Settings' and contains a description: 'View or change the general and advanced settings for the managed system.' Below this, the 'Migration' section is expanded, showing the text: 'View the partition mobility properties and change the migration policy for inactive partitions on the managed system. [Learn More](#) →'. A dropdown menu for 'Inactive Profile Migration Policy' is set to 'Partition Configuration'. The checkbox 'Allow Migration with Inactive Source Storage VIOS' is highlighted with a red circle. Below this, the 'Migration Capabilities' section is partially visible.

This capability allows you to LPM from a server where the VIOS has crashed or is sick. If this IS NOT set before your VIOS gets sick, you will not be able to LPM from this frame and will need to fix the VIOS or shutdown all your partitions.

## Online Resources for the tool

- With the new V9 of the tool, we have started a IBM developer works community to educate customers.
- Customers can ask questions of the tool and LPM and SRR questions.
- There are FAQs, videos, etc.
- This website is [ibm.biz/lpm\\_srr\\_tool](http://ibm.biz/lpm_srr_tool)
  
- We also have videos of the previous versions of the tool. These videos shows various features of the tool. All those features are in the latest version of the tool but the videos haven't been updated yet with the new GUI panels.
- These videos are at [ibm.biz/bobtube](http://ibm.biz/bobtube)

## Upgrade to LPM and SRR Automation Tool V9

- Note that **support for POWER9** in the LPM & SRR Automation Tool will **ONLY** be available via the latest Version 9.
- The LPM and SRR Automation Tool V9 has a new development and support structure, with e-fixes available between release levels.
- Clients who have earlier versions of the LPM Automation Tool (V8.6.1 or earlier) and want to acquire the latest version (V9) will be required to purchase an enterprise license and maintenance agreement to access latest upgrades, fixes and enhancements.
- Clients with the LPM Automation Tool (V8.6.1 and earlier) who choose not to purchase the Version 9 will continue to receive email support until September 2019, but there will be no further updates to Version 8.

# PowerVM LPM and SRR Automation Tool Offering and Contacts

- LPM and SRR Automation Tool is available WW from IBM Systems Lab Services
  - Lab Services Offering Manager: Randy Greenberg [rsg@us.ibm.com](mailto:rsg@us.ibm.com)
  - Lab Services NA Opportunity Manager: Stephen Brandenburg [sbranden@us.ibm.com](mailto:sbranden@us.ibm.com)
  - Lab Services Europe Opportunity Manager: Virginie Cohen [VirginieCohen@fr.ibm.com](mailto:VirginieCohen@fr.ibm.com)
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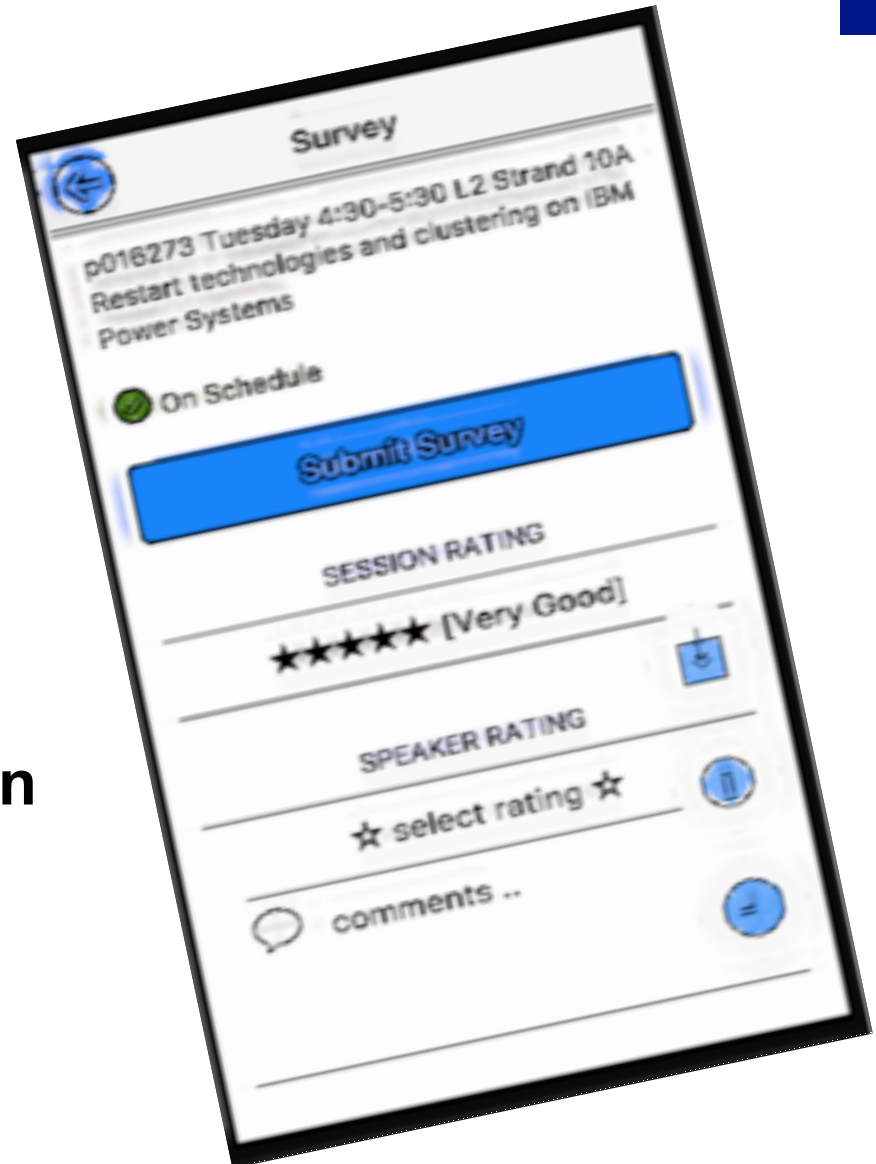
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