

## **Performance Monitoring using PowerVP – What is it and why would I want to use it?**

In recent months IBM has announced a visual performance monitor that leverages the performance data gathering ability of the HMC into a graphical real time tool. The Power Virtualization Performance (PowerVP) for Power Systems is a licensed program product that provides a performance view into the PowerVM virtualized environment. It allows technical support professionals and IT architects a visual way to understand resource distribution among the virtual workloads on the Power platform.

PowerVP will graphically display the utilization of individual cores and their mapping to local partitions on a Power System in real time. System Administrators can use it to diagnose resource contention issues and record and playback the usage of other resources such as disk and network as well.

The product collects performance data directly from the Hypervisor, which offers the most accurate performance information about the running logical partitions. The information is then displayed on a real-time, continuous graphical dashboard and data collection is available for historical review.

Here are the major features for the PowerVP product :

Real-time monitor – collect, update and display partition performance data.

Power Platform Support – PowerVP supports all Power virtualized workloads like AIX, VIOS, IBM I, and Linux.

DVR-like replay – playback of historical data.

Logical Partition view – allows you to drill down and view additional details including Disk transfer rate, Ethernet Adapter transfer rate, and a detailed view of CPU/memory register usage.

The PowerVP architecture comprises components that interact with the PowerVM Hypervisor, Operating System, and a Java GUI interface that runs on Windows, AIX, Linux, MacOSX, and Solaris or any platform that can run Java applications.

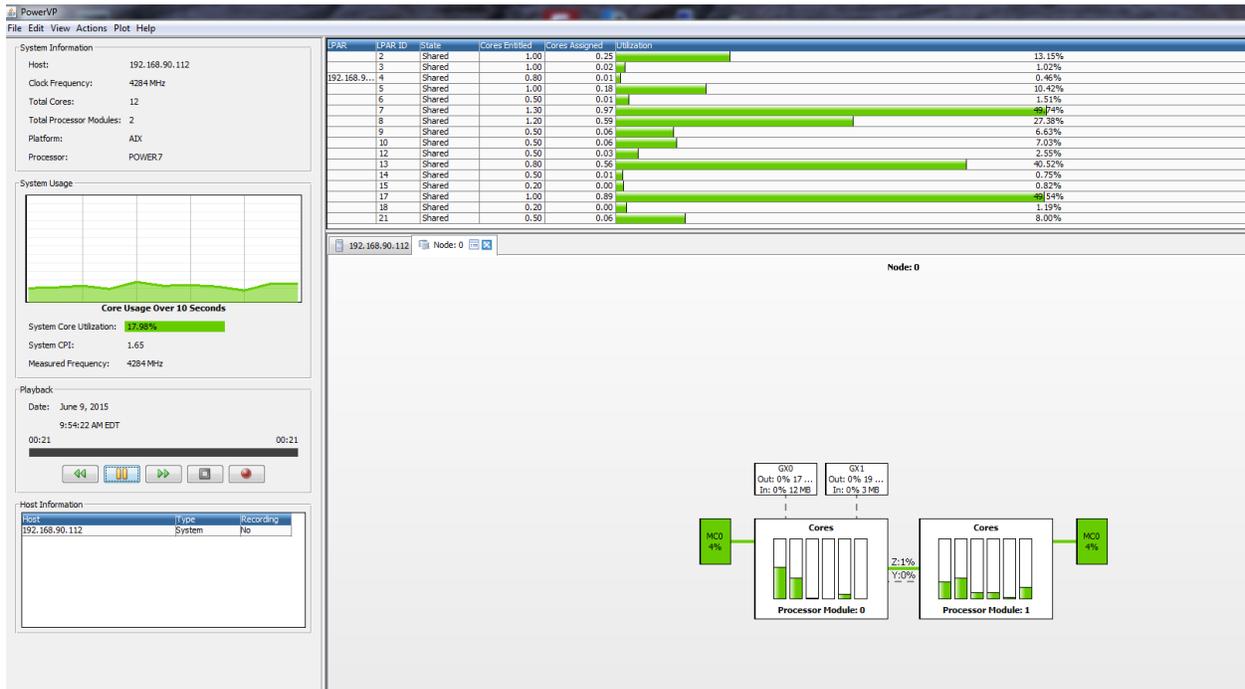
The installation is straightforward and requires a System Level agent to be installed on one of the partitions and Client Level agents on the other partitions. The actual Java program to do the monitoring can be installed on your Windows based system as well as the others mentioned above.

This product is part of the PowerVM Enterprise edition package so if you are already utilizing the PowerVM Enterprise edition you have access to install this product.

The product is best used to complement the existing tools already being used to gather performance data on individual partitions.

Here are some screen shots from one of a Mapsys customer on both the Power8 platform and the Power7+ platform.

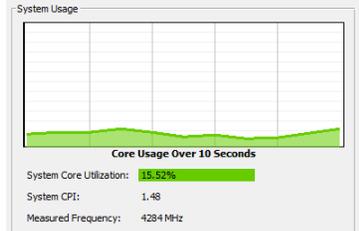
# PowerVP dashboard on a Production Power7+ platform running AIX, VIOS, and IBM i



**System Information**

Host: 192.168.90.113  
 Clock Frequency: 4284 MHz  
 Total Cores: 12  
 Total Processor Modules: 2  
 Platform: AIX  
 Processor: POWER7

LPAR	LPAR ID	State	Cores Entitled	Cores Assigned	Utilization
	2	Shared	1.00	0.08	3.95%
	3	Shared	1.00	0.01	0.64%
	4	Shared	0.80	0.00	0.26%
192.168.9...	5	Shared	1.00	0.12	7.16%
	6	Shared	0.50	0.01	0.97%
	7	Shared	1.30	0.42	21.60%
	8	Shared	1.20	0.66	36.05%
	9	Shared	0.50	0.03	3.56%
	10	Shared	0.50	0.03	3.15%
	12	Shared	0.50	0.06	7.48%



**Playback**

Date: June 9, 2015  
 10:01:22 AM EDT  
 00:35

Control buttons: Stop, Play, Pause, Record, Stop

**Host Information**

Host	Type	Recording
192.168.90.113	System	No
192.168.90.113	LPAR	No

192.168.90.113 Monitor LPAR 192.168.90.113

**LPAR Information**

Name: D822  
 ID: 5  
 Platform: AIX  
 Type: Shared  
 Mode: Donating  
 SMT mode: SMT-4  
 Cores entitled: 1.00  
 Cores assigned: 0.12  
 CPI: 2.662  
 MIPS: 199.455  
 Disk drives: 2  
 Ethernet adapters: 1

CPU	Disk Transfer Rate	Ethernet Adapters	LSU CPI	FXU CPI	GCT CPI
7.09%	0.60 MB/s	1.23 MB/s	27.30%	13.24%	10.59%
			0.720	0.353	0.282

**Detailed View: LSU CPI**

L2 CPI	L3 CPI	Local Memory CPI	L2.1 CPI	L3.1 CPI	Remote L2/L3 CPI	Distant L2/L3 CPI	Remote Memory CPI	Distant Memory CPI
11.90%	41.14%	45.87%	0.21%	0.46%	0.00%	0.00%	0.42%	0.00%
0.086	0.296	0.330	0.002	0.003	0.000	0.000	0.003	0.000

# PowerVP running on a Power8 Platform

