

Using PM for Power Systems  
to help understand the impact of an  
IBM Power server on IT operations

*February, 2009*

## **Introduction:**

By now you have likely heard about the IBM Power™ Systems models utilizing POWER6™ processor technology announced across the IBM Power Systems family in April, 2008. Initially announced on only the IBM System p 570 and System i 570 in mid year 2007, POWER6 processor technology is now available from the smallest IBM Power™ 520 Express to the largest IBM Power 595 and all systems in between.

Additionally these announcements represent a ‘unification’ of the former IBM System i™ and the IBM System p™ families...resulting in one hardware platform providing simplicity when making purchase decisions.

The new Power Systems models are also equally adept at running IBM i, AIX® or Linux® applications, either stand alone or concurrently, on the same system using virtualization. Again your decisions are simplified: simply pick the application OS type of your choice and it will run on any of the Power Systems models.

Also announced were new levels of virtualization capabilities through PowerVM™. With PowerVM on Power servers, you have both the power and flexibility to address multiple system requirements in a single machine.

And to round out these announcements, the POWER6 processor technology has been implemented in the IBM BladeCenter® JS12 and JS22 offerings. Supporting i, Linux and AIX, these systems offer a POWER6 processor-based solution for those clients desiring a blade approach to their IT environment.

In summary, these systems offer:

- unprecedented levels of processing power at very attractive pricing
- simplicity when making hardware choice
- more flexibility than ever when making application choices
- new levels of capability for improving utilization of your system

## **So what does it mean to you?**

The big questions that you may be considering are:

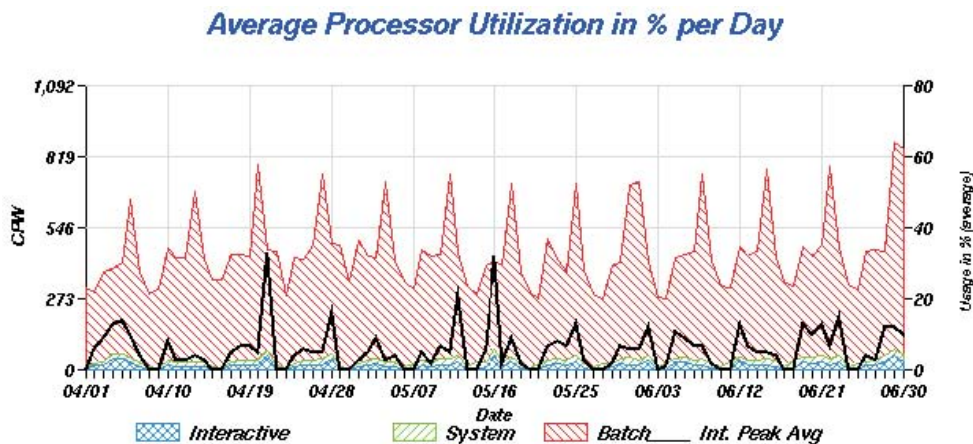
- What can these Power Systems announcements mean to your own IT operation?
- What would your workload look like on one of these new systems?
- If you were to migrate, what other types of applications could you take on?
- Would there be room on a new Power server to consolidate the work from the multiple systems you currently have in production?
- Does it make sense to consolidate your AIX, Linux and i applications onto the same system, at least from a hardware perspective?

The list of questions raised by this announcement are many. They are all great questions that most users of System i and System p servers would like to be able to answer for their environment.

## **So what can you do to help yourself understand the impact of POWER6 processor technology in your organization?**

One of the easiest things to do is take advantage of Performance Management for Power Systems (PM for Power Systems) and the IBM Systems Workload Estimator (WLE).

PM for Power Systems, in conjunction with the WLE, can help you start to answer the questions about the benefits you could potentially receive from a new IBM Power server. PM for Power Systems is an automated capacity planning and performance analysis report and graphs offering that is designed to help you plan for and manage the growth and performance of your system.



Example of a detailed offering graph depicting processor utilization averages over a 90 day time period on a System i

PM for Power Systems offers two different reporting levels: summary and detailed

**Summary level:** The summary level report offering is available for no additional charge. It provides you with summary level measurements on key performance metrics about your system or specific partition being monitored. Also included is a projection, based on your actual data, of your utilization and growth against the capacities of the system or partition. To qualify for the no additional charge option, the system has to be under processor warranty or on an IBM Hardware Maintenance Agreement.

**Detailed level:** For a nominal additional charge, an IBM Global Services fee service provides all of the features of the no charge offering plus additional information. To substantiate the data on the summary graphs, up to 26 additional more detailed reports and graphs are available. These graphs are designed to help you begin to understand the detail behind some of the summary averages. As a client, you also have access to the interactive graphing function of the offering. This allows you to drill down into selected graphs to see the data at an hourly or daily level; and you can scroll backwards in time to see the same graphs for previous months to help create a visual comparison.

**Specify the beginning and ending Graph dates by click on the appropriate dates.**

Beginning Date:  Ending Date:

July, 2006							August, 2006							September, 2006									
wk	Sun	Mon	Tue	Wed	Thu	Fri	Sat	wk	Sun	Mon	Tue	Wed	Thu	Fri	Sat	wk	Sun	Mon	Tue	Wed	Thu	Fri	Sat
26						1	31				1	2	3	4	5	35						1	2
27	2	3	4	5	6	7	8	32	6	7	8	9	10	11	12	36	3	4	5	6	7	8	9
28	9	10	11	12	13	14	15	33	13	14	15	16	17	18	19	37	10	11	12	13	14	15	16
29	16	17	18	19	20	21	22	34	20	21	22	23	24	25	26	38	17	18	19	20	21	22	23
30	23	24	25	26	27	28	29	35	27	28	29	30	31			39	24	25	26	27	28	29	30
31	30	31					36									40							

Select date

Subscribers to the PM detail report offering can select a time frame up to 24 months previous and have the respective graph redrawn by simply scrolling through the calendar and selecting the dates of interest.

For the user of AIX, the detailed reports are available in an offering called Operational Support Services for eServer pSeries performance management. Examples of all the available graphs can be seen at:

<http://www.ibm.com/systems/p/support/pm/>

For the users of IBM i, the detail offering reports for IBM Operational Support Services for Performance Management eServer iSeries can be seen at <http://www.ibm.com/systems/i/suppport/pm/>

PM for Power Systems provides support for current releases of IBM i and AIX and the hardware models they run on until the release goes to the 'End of Program Support' date. (The exception to this is PM for Power Systems does not run on supported releases of IBM i or AIX on IBM Blades, BladeCenter or the Power Model 575.) The entirely automated process involves the collection, summarization and transmission of non-proprietary performance and utilization data from your system to IBM, where your data is stored securely for your subsequent access in the form of reports and graphs.

Visit <http://www.ibm.com/systems/power/support/pm/> to learn more about how this works and to see the Getting Started instructions.

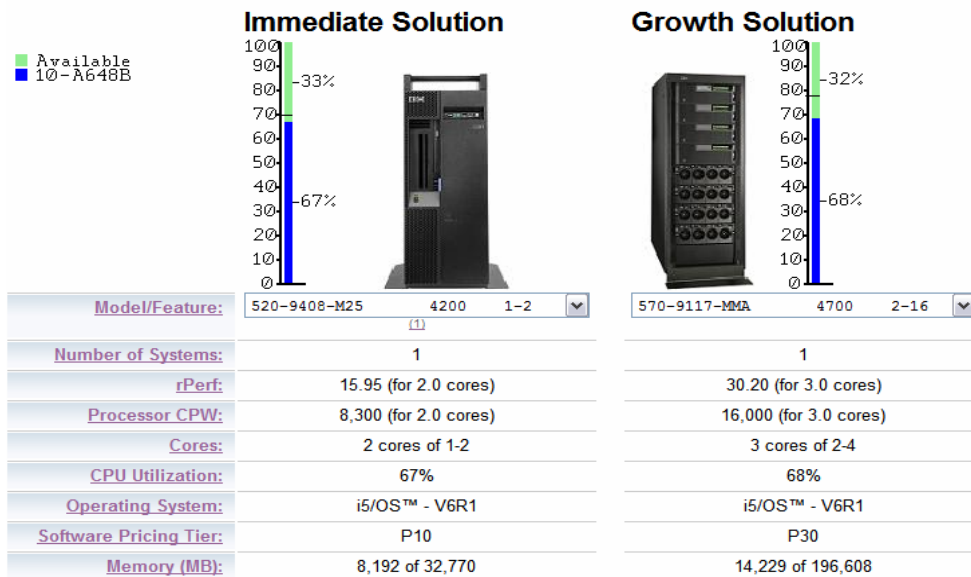
## The Magic

PM for Power Systems, both the summary level and detailed report level options, has the unique ability to 'merge' the historical collected 'PM' data with another server at IBM called the WLE. The WLE is a web-based sizing tool that will assist you in sizing new systems, upgrades, and consolidations for selected IBM products, including the Power Systems models and the IBM BladeCenter. This system is kept up to date with all of IBM's systems performance capabilities and can help you visualize the capabilities of your system of interest.

You can learn more about the Workload Estimator at:

By running PM for Power Systems, you have an accurate reflection of your existing workload and growth for inclusion in the sizing. With a few mouse clicks you can securely initiate the integration of your summarized utilization, growth, performance and configuration information as identified by PM for Power Systems with the WLE. This allows you to minimize the 'guess work' of any manual effort to do the same. This can significantly reduce the effort on your part to quickly and accurately size future system options.

## Selected System



The IBM Systems Workload Estimator projects your existing workload and its growth on a new Power System model.

Specifically you can easily begin to see the impact of one of the new Power Systems models on your IT operations. This can be true in multiple ways:

- You can see your current system's workload with its transaction volume requirements projected onto a new Power Systems model. The WLE will provide you with two Power Systems recommendations (visualizations). One shows the configuration for either the next logical upgrade from your current system if an upgrade path exists; or if no upgrade path exists, the WLE provides the smallest possible Power Systems model to handle your requirements, within utilization guidelines, based on your current volumes. The second recommendation shows the model requirements for a year from now based on your current system's growth rates. This 'growth recommendation' can be set to project the system requirement for up to three years from now.

You also have access to a drop down window that allows you to select any currently available system in IBM's product line and project your workload against that system. (You are not restricted to seeing your work on only the default systems recommended by the WLE.)

- If you have an environment with multiple systems today and are wondering about a server consolidation on a Power server, the 'PM' to WLE capability can help here too. As long as you have 'PM' running on each of the other systems, you can merge the data from multiple systems in the WLE and the WLE will assign each system's workloads to its own partition and size the partition (e.g. make LPAR configuration recommendations) for you.
- As noted previously, the Power servers are designed to run multiple operating system workload types. Therefore if you have systems in your business running AIX workloads and others running IBM i workloads, you can merge the 'PM' data from all those systems into one sizing and the WLE will make a recommendation on a Power Systems model large enough to handle them all...with a partition for each workload type.
- Another question you can answer is the impact a Power server can have on any interest you have in running an IBM middleware application (e.g. Domino) in addition to your current workloads. The WLE allows you to easily select an option to add a Domino requirement to the system. It prompts you for key sizing questions, and then proceeds to make the Power Systems recommendation that will accommodate both workload types.

The WLE has 'templates' representing multiple other IBM middleware workload types to choose from. Additionally, capability is provided to add projected workload types manually. Also, you can add a Linux partition and associated workload and visualize the utilization impact.

The IBM Systems Workload Estimator has very informative tutorials built right in for your personal education on tool use...either on a stand alone basis or with the integration of PM for Power Systems data.

<http://www.ibm.com/systems/support/tools/estimator>

## Summary

The announcement of POWER6 processor technology across the IBM Power Systems family represents whole new opportunities to help maximize the return from your IT systems. A simple way to begin evaluating how this can work for you is to take advantage of PM for Power Systems and the IBM Systems Workload Estimator. Remember most clients can take advantage of these offerings and tools for no additional charge. Step one is to get started with PM for Power Systems. Simply visit the following URL, select your operating system interest and then follow the 'getting started' instructions.

<http://www.ibm.com/systems/power/support/pm/>



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June 2008  
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This equipment is subject to FCC rules. It will comply with the appropriate FCC rules before final delivery to the buyer.

When referring to storage capacity, 1 TB equals total GB divided by 1000; accessible capacity may be less.

The IBM home page on the Internet can be found at: <http://www.ibm.com>.

The IBM Power Systems home page on the Internet can be found at: <http://www.ibm.com/systems/p>.

POW03006-USEN-01