

pSeries POWER Post

<http://www.ibm.com/servers/eserver/pseries>

Volume 1, Issue 2

September, 2002



This Issue:

- Check Into IT
- Brand Specials
- Events
- Chip Fabrication
- Free Tutorials
- AIX 5L: Top 10 Reasons
- Redbooks
- Technical Tip

Brand Specials

EC to Order and EC on your Wallet

Act now! Easy-to-order packages of the most popular pSeries entry and mid-range server configurations are available at up to 30% savings! Offer available on the IBM pSeries 610, 620, 630 and 660 line of servers. Contact your IBM representative or IBM Business Partner for more details.

AIX 'cellent Offer

The Enhanced AIX Subscription provides a one or three year, one-time-charge, upgrade price protection alternative and provides you the ability to stay current with the latest technology enhancements found in new versions and releases of AIX. With this special offer, you can save 10% on the IBM Enhanced AIX Operating System Subscription! Contact your IBM Representative or IBM Business Partner for qualifying/eligible products.

IBM Operational Support Services Rebate Offer

Receive a rebate when you acquire at least a one-year contract for IBM Operational Support Services for a pSeries server that is installed at your location as of August 20th and; within 12 calendar months of the services contract start date acquire a new qualifying server for installation at the same location or a model/feature upgrade for the existing server. Contact your IBM Representative or IBM Business Partner for qualifying products and eligible services.



In today's Check Into IT Column, we take a quick look at the new IBM eServer p630 and compare it to its competitors in the same space.

The newly announced IBM p630 brings POWER4 technology to an entry level UNIX® system – and at a very low price point. Configured as a 1-, 2- or 4-way, rack-mounted or desk side SMP with 32 MB L3 cache per processor card and up to 16 GB of RAM per system, the p630 comes standard with four hot-swap disk bays, two media bays, two integrated 10/100 Ethernet adapters as well as two integrated Ultra3 SCSI ports, and 4 64-bit hot-swap PCI-X slots. But how does it stack up against the competition?

p630 compared to the SunFire V480:

Just days before IBM announced the p630, Sun Microsystems announced the Sun Fire V480. The V480 is a 4-way 900 MHz system using Ultra SPARCIII® processors and is part of their workgroup server lineup. When comparing these 2 servers keep in mind these key points:

✓ **p630 Performance Leadership:** After looking at just a sample of benchmarks, you'll see in the table below that the p630 is 20% to 85% faster than the V480. (For details on the systems and configurations compared, visit www.spec.org .)

Benchmark	p630	V480	p630 as % of V480
SPECint2000	624	469	133%
SPECfp2000	843	637	132%
SPECweb99_SSL	1,050	568	185%

✓ **p630 Price Leadership:** The p630 has a lower entry price point than the V480 thanks to the 1-way configurations that are offered by IBM. The list price of an entry- level p630 is \$12,495 for a 1-way, 1 GB of memory, 1 disk @ 18 GB while the entry V480 is 2-way, 4 GB of memory, 2 disks @ 36 GB has a list price of \$22,995. (Sun prices are from the Sun Store (<http://store.sun.com>). IBM prices are U.S. List prices as of September 4,2002; reseller prices may vary.

✓ **p630 Scalability Leadership*:** In addition the p630 minimum memory required is 1GB which makes it very flexible for customers to expand as they grow also the p630 offers 4 internal hot-swap disk bays. *(In contrast, the Sun V480 has a minimum memory requirement of 4GB and limits internal disk to 2. Therefore, if your company initially needs a 1-way system with 2 GB of memory with room to grow, Sun can only offer a V480 with 2 CPUs and 4 GB of memory which is more power and more expensive than may be initially required. Clearly, the p630 can reduce your initial acquisition costs in these tough economic times while providing plenty of room for growth.)*

✓ **p630 RAS Leadership*:** Some of the important eLiza™ technology features on the p630, not included on the V480 are:

- ✓ Dynamic Processor De-allocation (4-way only), designed to configure processors out of normal operation before they fail.

- ✓ Redundant bit steering, designed to replace failing memory bits with spare bits
- ✓ Transparent PCI Bus Parity Error Recovery, designed to retry an error type which brings other servers down
- ✓ First Failure Data Capture, designed to identify a failing component even if the failure is intermittent and is not reproduced when diagnostics are run *(These features are designed to avoid costly, unplanned outages.)*

In short, the p630 has many advantages over Sun's V480 with outstanding flexibility, reliability and availability features and top performance for the price.

* Source: <http://www.sun.com>

p630 Compared to the HP rp5470:

Like the p630 and V480, HP also offers a comparable entry-level server. The HP rp5470 is 1-4 way system that uses either 750 MHz or 875 MHz PA-8700 processors.

✓ **p630 Price Leadership:** The most impressive point of the p630 is its high value at an affordable price. To put it in perspective, a base 2-way rp5470 with 875MHz CPUs and 4 GB of memory has a list price of \$71,380, while a similarly configured p630 averages \$27,745 list price. (HP prices from Ideas International, August 30,2002. All IBM prices are U.S. List prices as of September 4,2002; reseller prices may vary.

✓ **p630 Performance Leadership:** In terms of raw processing performance, the 1 GHz p630 is the winner over the 750 MHz rp5470 in both floating point calculations and integer operations. (For details about the systems and configurations, visit www.spec.org, September 4,2002)

Benchmark	p630	rp5470	p630 as % of V480
SPECint2000	624	517	121%
SPECfp2000	843	462	182%

✓ **p630 Technology Leadership:** With 1GHz POWER4 technology and after the release of upcoming AIX 5L release 5.2, the p630 can be used as four "virtual servers" each partition acting independent of the other running their own version of the operating system. *(Whereas the HP rp5470, does not have partition capabilities and can only be used as one server with one OS image.)*

✓ **p630 Flexibility Leadership:** The p630 offers support for both AIX 5L and Linux™ operating system which allows customers more flexibility in choosing their applications. *(In contrast, HP's new rp5470 only supports HP UX 11i.)*

In conclusion, the capability of a p630 with its mainframe inspired features far exceeds the rp5470. So when you're getting ready to purchase a new server, take a close look at IBM's newest packaged p630.



Get more bang for your buck!! Check Into IT!!

Featured Websites

IBM External Internet Sales Manuals Site: <http://www.ibmink.ibm.com/ussman>

NMON – free tool to analyze pSeries Performance: http://www-1.ibm.com/servers/esdd/articles/analyze_aix/

Download a "Cost of Downtime Calculator": <http://www-1.ibm.com/services/its/us/dtw03.html>

pSeries Support Portal: <http://techsupport.services.ibm.com/server/support?view=pSeries>

IBM Unveils 300mm Chip Fabrication Facility

New York State Governor George Pataki joined IBM President and Chief Executive Officer Sam Palmisano on July 31, 2002 to announce the opening of a new IBM 300 millimeter (mm) semiconductor facility, believed to be the most advanced of its kind.

What does this mean to the IBM customer? This new facility combines IBM's unique array of leading chip-making technologies — such as copper wiring, silicon-on-insulator-based transistors (SOI) and improved insulation (aka "low-k dielectric") — with the economies of scale resulting from production of chips on larger, 300mm diameter silicon wafers.



By producing chips on 300mm wafers as opposed to the existing 200mm wafer technology, chips will be produced more cheaply and in larger quantities than before, helping IBM to transfer its unique chip-making technologies into high-volume production.

The facility is designed to support the creation of chips with circuits smaller than 100 nanometers in size. That's a billionth of a meter! Stepping ahead of current industry manufacturing technology, IBM's 300mm wafer technology can yield up to 2.5 times as many chips as standard 200mm wafers, and will initially produce chips with features as small as 0.13 microns, quickly progressing to 90 nanometers.

The new IBM Center for Nanoelectronics is aimed at both near and far-term objectives. While others are hesitating, IBM is acting and keeping our technical lead so that we can continue to grow our OEM business and keep IBM products ahead of the competition. The cost efficiencies provided by 300mm will bolster those objectives.

This news assures the customer that IBM will continue to be on the forefront of technology and continues to evolve new innovations to bring more power to your POWER products.

IBM Developer Domain: Free Tutorials!

IBM's Developer Domain is offering free online tutorials on a wide variety of subjects. Following are examples of the pSeries sessions available:

- Clustering – a Basic "101" Tutorial
- Deploying SSH on AIX
- Securing AIX Network Services
- Deploying Tripwire on AIX
- Using IPSEC on AIX
- Writing Multithreaded Applications for AIX

A full listing and registration is available @

<http://www-1.ibm.com/servers/esdd/tutorials.html>

AIX 5L: Top 10 Reasons



10. Workload Manager integration with Performance Toolbox, enabling the display of Workload Manager performance statistics.
9. Linux Affinity enabling developers to write an application on Linux and natively compile the source code on AIX 5L.
8. Reduce Paging Space on the fly – even hd6!
7. JFS2
6. Multi-Path Routing and Dead Gateway Detection
5. Virtual IP Addressing, creating a virtual device that is tied to two real devices. The virtual device is configured with the IP address.
4. Full 64-bit Kernel Support
3. AIX 4.3.3 is scheduled to be withdrawn from marketing by the end of 2002, end of support expected by the end of 2003.
2. You'll need to use it if you migrate to a new POWER4 system
1. Over 600 applications are AIX 5L ready – check yours out today!



A Practical Guide for Resource Monitoring and Control (RMC)

<http://www.redbooks.ibm.com/pubs/pdfs/redbooks/sg246615.pdf>

Performance and Tuning Considerations for a p690 in a Cluster 1600

<http://www.redbooks.ibm.com/pubs/pdfs/redbooks/sg246841.pdf>

Configuring Highly Available p690 using HACMP V4.5

<http://www.redbooks.ibm.com/redpapers/pdfs/redp0218.pdf>

p630 Technical Overview and Introduction

<http://www.redbooks.ibm.com/redpapers/pdfs/redp0193.pdf>

IBM Whitepaper: IBM eServer pSeries 690 Availability Best Practices

[1.ibm.com/servers/eserver/pseries/hardware/whitepapers/p690_avail.pdf](http://www-1.ibm.com/servers/eserver/pseries/hardware/whitepapers/p690_avail.pdf)

Scheduled Events:

IBM eServer pSeries and Linux Technical University

Register Now! - October 14 - 18, 2002 in Dallas, TX

<http://www-3.ibm.com/services/learning/conf/us/pseries>

eServer Delivers: High Availability and Business Continuity:

Learn about e-business infrastructures, high availability and business continuity with the framework of IBM eServers. September 10, 2002 in Salt Lake City, UT

<http://www-1.ibm.com/servers/eserver/education/delivers/index.html>

Technical Tip: Toggling AIX images on multiple boot disks with the "bootlist" command

To toggle between bootable AIX images, the AIX "bootlist" command can be used to select the boot disk. This is useful if you want to test different AIX levels on the same system.

The second operating system image can be installed from CD, a "mksysb" tape, or using the AIX "alt_disk_install" capability onto the second disk. Note that both CD installation and mksysb installations require downtime. The "alt_disk_install" command allows you to install the second disk from a mksysb or you can clone your existing OS while the system is running and then alter that image.

For example, assume hdisk0 has AIX 4.3.3 installed and hdisk1 AIX 5.1.0 installed. Use one of the following "bootlist" commands to select which version will come up on the next reboot:

```
# bootlist -m normal hdisk0 # Reboots to AIX433
# bootlist -m normal hdisk1 # Reboots to AIX510
```

To set the boot order with the bootlist command, specify the devices in the order of boot attempt. In this case, hdisk0 is attempted first, hdisk1 if that is unsuccessful, and so on.

```
# bootlist -m normal hdisk0 hdisk1 rmt0 cd0
```

You can select cd0 to boot from CD and use different bootable disks to initiate an installation, specifying your target as a disk such as hdisk2.

Contact Information: pSeries POWER Post Team:

Melissa Bergstrom
Austin, TX
[melissab@us.ibm.com](mailto:mellisab@us.ibm.com)

Joseph Lundy
Denver, CO
joelundy@us.ibm.com

Mrudula Pandit
Beaverton, OR
msupanek@us.ibm.com

Smeeta Vora
Costa Mesa, CA
svora@us.ibm.com

© Copyright IBM Corporation 2002

All Rights Reserved. Distributed with Permission from IBM.

The IBM logo and IBM are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both.

Veritas is a registered trademark of Veritas Corporation in the United States, other countries or both.

All other products or product names are trademarks or registered trademarks of their respective owners.