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IBM Continues Linux Push With Streamlined OpenPower and S/W Solutions

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Management Summary

Continuing with the momentum established with their September 2004 announcement of the *eServer OpenPower 720* with the Linux operating environment, IBM has now announced a new, entry-level model for the OpenPower family. **The new model, the *eServer OpenPower 710*, is positioned to fulfill the requirements of the largest segment of the small and medium business (SMB) space, smaller businesses looking for an inexpensive, open infrastructure server capable of executing mission-critical applications within a Linux environment.**

Small businesses, not unlike their enterprise brethren, are constantly on the lookout for a low-cost server that can solve their primary application processing needs, consolidate their file/print/ telecommunications services, and allow them to operate in an on-demand environment. These businesses are looking for a flexible solution that will enable them to implement a cost-conscious solution to meet today's needs while, at the same time, providing them with an expandable platform that has the headroom to increase performance levels as the needs of the Information Technology (IT) staff grow and the demands upon the business expand. This means the kind of technological solution that the enterprise-tier has long been able to procure. Keeping cost under control, however, means more than just acquiring an inexpensive platform. It also implies a low-cost operating system, expansion slots for the flexibility to eliminate external peripherals, and open system interfaces to take advantage of mass-produced storage devices and readily available application software. It means a multi-processor platform with performance and virtualization capabilities to rival more expensive servers. It means a platform with a long warranty and access to 7x24 maintenance service. It means ensuring that the Total Cost of Ownership (TCO) is kept to the lowest level possible.

With the introduction of the OpenPower 710, IBM has made this exact environment available to any business, large or small, with infrastructure or mission-critical business problems to solve. With the availability of *OpenPower Consolidation Express*, any business with a need to control the costs caused by indiscriminate proliferation of infrastructure servers can do so. With the availability of SAP *R/3 Enterprise Server*, any business can afford to implement an ERP solution. With the porting of Sybase's *Adaptive Server Enterprise* (A.S.E.), any business can have access to a powerful data management platform for high performance business applications. To learn more of how IBM's OpenPower and partner solutions can solve your business problems, please read on.

The Not So Silent Majority

As any regular visitor to these bulletins is aware, no term has been more overused and misused than *SMB*[1]. The smaller the business, the greater the need for the flexibility to respond to changes in the day-to-day operation of the business and changes to the overall business environment. The smallest businesses have the greatest urgency to control the TCO in order to project a positive bottom line and keep the smaller enterprise in operation. We refer to this class of business as Small-Scale Operations (SSO)

Differing definitions of size creates an overlapping image of the SSO. By combining both small and medium sized businesses within the same category, industry pundits and marketing managers can confuse the reader and obfuscate the information to the extent that businesses without a dedicated IT staff to translate the parameters can be left to wander the decision-making desert for the proverbial 40 years. In fact, these are the very businesses that can gain the most by implementing an open-systems solution for their IT needs. When discussing an open system, the primary topic on the lips of the SSO is *Linux*, with a growing target audience, a maturing product, and accessibility to a wide range of server options. Today, the Linux market is a $4B target with growth expected to reach almost $9B by 2007, primarily from migrations from other operating environments, most notably *Windows* and *UNIX*. The largest segment of growth is expected for 2-Way servers priced <$10K. Within the IBM family of open servers, Linux is available on *pSeries*, *iSeries*, *xSeries*, *BladeCenter*, *OpenPower*, and *zSeries* platforms.

There are literally tens of thousands, perhaps hundreds of thousands, of smaller businesses with less than 10 servers or fewer than 100 employees, who are suffering

<table>
<tr><td colspan="2">**Exhibit 1 –
OpenPower 720 - 1.65MHz 4-Way
Performance Characteristics**</td></tr>
<tr><td>**Benchmark**</td><td>**Rating**</td></tr>
<tr><td>SPECjbb2000</td><td>136,167</td></tr>
<tr><td>SPECompM2001</td><td>10,522</td></tr>
<tr><td>SAP SD 2-Tier</td><td>864</td></tr>
<tr><td>NetBench – 4-Way</td><td>2,911</td></tr>
<tr><td>SPECsfs97_R1.v3</td><td>67,347</td></tr>
<tr><td colspan="2">*Source: IBM*</td></tr>
</table>

today from the inefficient use of their resources. This also includes the thousands of remote offices of enterprises who have a need to standardize on application server requirements, but have been reluctant to because of the inordinate cost to do so.

With IBM's introduction last September of low-cost POWER servers tuned to a Linux environment, IBM attempted to address this very set of needs[2]. Unfortunately, for many of these smaller businesses, a $10-20K price tag for a configured OpenPower 720 was still a little too steep, even if they were getting a p5-based platform. The OpenPower 720, with a Number 1 ranking in many multi-processor benchmarks (see Exhibit 1, above), in fact is a quad-processor Linux server with significantly more performance capability than other comparable Linux servers and more performance than required by many small business,. In fact, a 2-Way OpenPower 720 has a NetBench rating of 1,563, significantly faster than any other 2-Way Linux server and over 50% of the rating for the 4-Way OpenPower 720. (The HP ProLiant DL380 G3 leads the rest of the 2-Way parade at a rating of 936.) With these performance numbers in mind, IBM has now streamlined the design of the OpenPower 720, restricted its upgradeability, and reduced its price in order to introduce the OpenPower 710 and

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[1] See *The Clipper Group Captain's Log* dated December 14, 2004, entitled *Why "SMB" is a Meaningless Acronym - Trying to Define the "Middle"* and available at http://www.clipper.com/research/TCG2004096.pdf.

[2] See **The Clipper Group Navigator** dated October 29, 2004, entitled *The Odd Couple Gets Engaged – IBM Walks the Walk with Linux for SMBs* at http://www.clipper.com/research/TCG2004089.pdf

go after the ever-broadening Linux opportunity. While businesses running on UNIX servers looking for high-performance business processing or decision support may elect to remain with a 720 class of server, the small IT department running Windows and looking for application development, collaboration, or infrastructure for IT and/or the Web, now may opt for a streamlined model.

eServer OpenPower 710

On January 24, 2005, IBM introduced the OpenPower 710 to a Linux community just waiting for the dramatically lowered pricing for the dual-processor Linux solution. With a pair of p5 processors running at 1.65 GHz within a compact 2U rack-mount chassis, an entry model 710 is priced starting at under $4,000 and poised to fill the gaps left by competitive products. Configured with a single p5 processor, the OpenPower 710 is priced starting at under $3,500. A comparable configuration of the OpenPower 720 would be priced at $5,000 for a mono-processor and around $8,500 for a dual-CPU model, without options. While referred to as an entry-level model, the OpenPower 710 is far from a stripped-down model. It is available with a full set of enterprise-level hardware options (see Exhibit 2, above) and your choice of the most popular versions of Linux from Red Hat and Novell. It also comes with optional support for IBM's *Advanced OpenPower Virtualization* and a Hardware Management Console for centralizing system management. Enterprise-level options such as redundant power and virtualization provide IBM with an edge over competitively priced models without these features. It is also available with your choice of IBM integrated software solutions, *OpenPower Consolidation Express* and *SAP R/3 Enterprise Server*, or a catalog of over 900 Linux applications, including the *Sybase Adaptive Server Enterprise (A.S.E.)*. All of these software solutions are also available on the OpenPower 720.

From a competitive standpoint, IBM's preliminary performance results for the OpenPower 710 compare favorably to other

> **Exhibit 2 – OpenPower 710 Features**
> - Simultaneous Multi-Threading
> - Up to 32GB Memory
> - 3 PCI-X Slots
> - Service Processor
> - 4 Disk Bays
> - Redundant Power and Cooling
> - DVD ROM
> - Dual 10/100/1000 Ethernet
> - 3-Year Warranty

open systems solutions. A dual-processor Model 710 running at 1.65MHz has been measured for SPECfp_rate at 40.2. The 710 dual is also rated at 5280 under the SPECompM2001 benchmark, second only to the *eServer p5 520*. Both of these numbers show linear scalability to the quad-processor Model 720. The SPECfp_rate value compares well with a dual-*Xeon* server from Dell at 3.6GHz measured at 24.9, while the SPECompM2001 rating compares very well with the Sun *v40Z* dual Opteron measured at 5000 or the HP *Integrity rx2600* (Itanium-2 @ 1.0GHz) measured at 2637.

OpenPower Linux Solutions

Coincident with the introduction of the OpenPower 710, IBM has also announced the availability of a series of key software solutions, some integrated by IBM and some ported to the Open Linux platform by IBM partners. These solutions cover the range of problems from infrastructure services to specific business pain points. Let's take a look at three of these solutions: O*penPower Consolidation Express*, *R/3 Enterprise Server* from SAP, and the *Adaptive Server Enterprise* from Sybase.

OpenPower Consolidation Express

One of the biggest challenges facing IT departments across the board is the need to improve utilization of corporate resources. Almost without exception, application servers are underutilized, with IT taking advantage of about only 30% of their CPU capacity, or less. In other cases, servers

have been implemented without enough memory or disk resources to adequately support forecasted demand. Both of these conditions add significant workload on systems administration as the staff tries to adjust resources between different physical environments. Using the advanced virtualization features of the OpenPower platform, the IT staff can use the 710, or the 720, as a base for consolidation, with both SUSE Linux and Red Hat Linux operating in a shared environment to run the infrastructure with services such as File and Print, establishing a Linux Firewall as well as authentication privileges, and providing Web and Mail services.

With this reference architecture prepared for you by IBM, the IT staff can use recommended configurations, installation scripts, and sizing guides to roll out a solution tailored to address the specific pains of the business. Furthermore, they can do so with confidence knowing that these workloads have been stress-tested to ensure a smooth transition.

SAP R/3 Enterprise Server

The mere thought of implementing an Enterprise Resource Planning (ERP) solution for any enterprise is enough to send the bravest of IT staffs scampering to update their resumes. The OpenPower SAP R/3 solution for open system servers takes a complex series of applications, at best, and evolves it into a turnkey solution to meet growing business demands, reduce the high infrastructure costs of running on old servers, to improve the ROI, and to improve both reliability and performance.

SAP is a world leader in business solutions, offering comprehensive software and services that can address the unique needs of any business. By combining the unique attributes of the SAP application suite with the performance and ease-of-use of the 64-bit OpenPower p5 platform with Linux, this solution provides end-to-end functionality for business analytics, financials, human capital management, operations, and corporate services - and allows you to upgrade to the full range of SAP solutions.

### *Sybase Adaptive Server Enterprise*

The Sybase Adaptive Server Enterprise (ASE) is a powerful data management platform for high performance business applications. With OpenPower and Linux, it is even easier to deploy and maintain with enhanced operational scalability to support more complex workloads with fewer resources, lowering costs for acquisition, operations, and deployment. ASE provides better security integration, advanced Web services, and support for enterprise-class applications in a 64-bit Linux environment.

Conclusion

Following up immediately on the heels of the successful introduction of the Open-Power 720, IBM has reduced the scalability of the OpenPower platform with the introduction of the OpenPower 710, but they have also entered into a territory previously unaddressed for Linux servers - **an entry-level platform in terms of price, but with enterprise-level functionality**.

By limiting the configurability of the 710 to a mono- or dual-processor, IBM has removed enough cost from the procurement process to enable the bulk of the SSO space to be able to afford one. By retaining the enterprise-level options from the 720 such as the advanced virtualization and redundant components, they have provided customers with the performance and security they have needed but were reluctant to procure.

The OpenPower 710 would seem to have the best of both worlds – reliability and performance at a low cost. No matter where your enterprise fits within the SMB framework, you need to see how this platform can reduce your operational cost and improve your profitability.
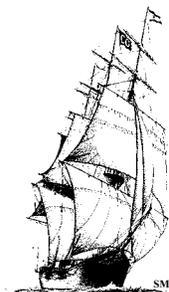
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