

# IBM launches bid to increase demand for Linux on Power

As Linux on x86 systems was gaining the predominant share of the market, IBM's Linux on Power experienced respectable but moderate success. Today, Linux is the fastest growing OS in the world that alone makes the Linux marketplace a much more interesting and substantial opportunity.

In response, IBM developed an ambitious plan to tackle key market segments. After first validating the plan with key customers, IBM launched its new effort on April 24. This commentary discusses IBM's strategy and plan to win market share.

As a general comment, IBM's announcement strikes us as the most well thought out and comprehensive move that we have seen in a long time. It offers benefits to customers, ISVs, Systems Integrators, and IBM channel partners.

As with virtually any announcement, marketing claims are plentiful in the discussion of IBM's plans and offerings. However, unlike many other announcements, these claims are backed with abundant documentation. The strategy makes sense to us. Even better, understanding the strategy which clearly describes the focus of IBM's offerings will help customers make the right platform choice. Let's begin with more reasons the customer benefits.

First, an IBM Power 7 can run either Red Hat and Suse Linux as a stand-alone server, or as a compute node that attaches to IBM's impressive, recently announced integrated expert PureSystems<sup>1</sup>. (See our more detailed discussion of PureSystems [here](#)<sup>2</sup>.) Next, the pricing of a Power (7R2) matches that of an equivalent x86 server from either HP or Dell.<sup>3</sup>

There is one major difference. The Power 7 outperforms the equivalent Intel chip<sup>4</sup> and Power VM is both cheaper and scales better than the equivalent VMware solution. Putting these together, the result is a Power Linux solution with as much as a 33% lower TCA (Total Cost of Acquisition) over 3 years because fewer Power Linux servers with Power VM



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<sup>1</sup> We are not going to repeat here the added values of the PureSystems. Please see IBM's description of the systems here: <http://www.ibm.com/ibm/puresystems/us/en/index.html#tab:overview/subtab:default>

<sup>2</sup> <http://ptaknoel.com/ibm-puresystems-whats-all-the-fuss-about/> ; <http://ptaknoel.com/ibm-pureflex-system-the-future-of-datacenter-management/>

<sup>3</sup> In the past Red Hat Linux was more expensive on Power than on X86. IBM negotiated an equivalent price for Power as on x86. Note that the Red Hat or Suse code is identical on Power and on x86. It only needs to be recompiled.

<sup>4</sup> We only summarize the benefits here. You can get more details about Power Linux on the IBM website at: <http://www-03.ibm.com/systems/power/software/linux/index.html>.

achieve the same performance as more X86 servers running VMware. For example, the University of Hamburg needed only 4 Power Linux servers<sup>5</sup> to match the performance of 5 X86 servers. The Power Linux performance advantage must be determined for your environment. As we mentioned above, IBM has been installing Power Linux systems in a number of accounts. Thus, they have real customer experience that substantiates their performance claims. Let's turn to the four areas where IBM efforts are focused

First is Big Data Analytics. These are applications built on Hadoop and designed to handle very large data sets. For example, IBM's Watson built on Power Linux falls into this category. There are many other potential applications in this area in research, finance, healthcare, etc. IBM has committed serious resources to tuning a range of such applications for Power.

Second, is a focus on porting and tuning specific applications for Power Linux. SAP is the most well-known app in this category today. In addition, MySQL, php, WebSphere, DB2, and select Tivoli products have been tuned for Power Linux. IBM is working with their ISVs to expand the list even further.

A third area of focus for IBM is the Open Source infrastructure applications included in Red Hat and Suse distributions. These include Web Serving, Email, File & Print, Networking and Security. Virtualized versions of all have been tuned for Power Linux.

The final area of focus is customer written applications that run on Linux on X86 servers. IBM hopes to leverage customer investment in these applications by running them on Power Linux at a lower cost. Customer written apps written in Java should run as is using a JVM highly tuned for Power Linux. Applications written in C/C++ will have to be recompiled. However, that should not be difficult. IBM examined 1,000 programs and found only 4 needed code changes. IBM also has a full toolkit of programs to help in case code changes are needed<sup>6</sup>. In more difficult cases, IBM Migration Factory services are available.<sup>7</sup>

We must note that the safest course when moving any program or application from X86 to Power is to subject it to the normal stress tests used on any new app. This is likely less necessary when a new version of the code is provided by IBM or another vendor. They normally would do such testing. It is reasonable to request an explanation of the testing performed. Anyone moving their own apps will determine the appropriate testing plan.

Identifying IBM's focus areas is quite valuable because it allows customers to easily determine if their apps fit within the IBM offering. For example, at announcement, the latest

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<sup>5</sup> See the write-up on the University of Hamburg for customer performance data on Power Linux at the referenced URL above.

<sup>6</sup> See the IBM Chiphopper program. [https://www-304.ibm.com/partnerworld/wps/servlet/ContentHandler/isv\\_com\\_dvm\\_techval\\_chiphopper](https://www-304.ibm.com/partnerworld/wps/servlet/ContentHandler/isv_com_dvm_techval_chiphopper)

<sup>7</sup> For a fee of course.

version of Oracle (11g) is not supported on Power Linux. That may change in the future but for now you can only use DB2. Therefore, if Oracle 11g is required the only choice is Linux on X86. Other, not specifically supported apps will require X86. We do not recommend trying to move apps you are not intimately familiar with to Power Linux. That app might be one of the unlucky four in the thousand that requires code changes!

### **The Final Word**

We believe IBM's Power Linux offering has every chance of succeeding in the marketplace. Linux customers generally are looking for choices, and providing them the option of a platform other than X86 is an excellent strategy. Customers whose apps fall into the areas of IBM focus should definitely plan to evaluate Power Linux. The benefits financial (lower costs), tangible (performance) and intangible (Security and better RAS) promise to be substantial.

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