

Mainframe New Realities: Linux Delivery that Weds the Best of Both Worlds

In a *perfect* IT world, the Lines of Business would routinely volunteer that IT makes their business hum. And data center staff could say that their resources all work effectively: none provides a security risk, all are “Green,” and they do not waste precious real-estate. The IT architects would say that the data center structure can support any application or process that their business requires to compete and win. And the operations people would tout the service levels they could guarantee, at a cost the CFO praises.

Hmm....IBM just announced that getting to their perfect world requires an IT makeover. Those 3900 servers that have been “running” IBM are now shrinking to around 30, all Mainframes, and running Linux® on z/VM®. Virtual Linux servers running on z/VM can scale for small-and-medium sized businesses as well as large enterprises. z/VM’s “gold standard” of virtualization helps enable IT users to derive the most economic value from assets, AND helps ensure efficiencies by autonomically right-sizing resources to workloads. IBM projects exponential savings in footprint, energy use and investment—criteria used by professionals, anywhere, who decide to end sprawl rather than struggle with it.

You are reading this *pitch*—which is exactly what this is—because we hope you consider our mainframe running Linux within our z/VM operating environment. We sense that you have resisted buying a mainframe for reasons that we cannot challenge. The IT world “went distributed” at a time when mainframes were closed, proprietary devices with limited function, thus value. That world has changed.

With the IBM System z™ platform family, we have increasingly embraced and championed what IT professionals have said makes sense: open systems that work well with either specific or de facto industry standards. System z “majors” in Linux and Java™. System z majors in virtualization that helps maximize the utilization of all system resources: CPU, memory, I/O devices, networking, crypto processors, and more. System z works with SCSI devices and tape media from a variety of vendors.

OK, maybe “so what?” to this point. Linux is Linux, whether IBM or HP (or Sun) resells it. Intel® servers, not as expensive (per unit) as Mainframes, can be bought and quickly installed to help cover capacity gaps. Virtualization software like VMware—which we resell with our Intel-based servers—helps improve utilization, even (to a certain degree) provisioning. Have we made a compelling case for System z yet?

Where the mainframe likely captures your interest depends on answers to a few fundamental questions...which, by the way, we asked ourselves before embarking on our own “makeover.”

1. Do you have what could be termed, “sprawl,” and it is sustainable, but becoming less so with each new application or service level requirement?
2. If you are using the abilities of VMware to control some of that sprawl, do you foresee potential security issues? Have you already experienced any/some?
3. Has your virtualization, whether delivered through HP’s VSE, Sun’s methodology, or VMWare created more cycles, absorbed more IT budget/personnel to manage?
4. Does Sun create confidence that their roadmap and your hardware asset requirements coincide? What is your discomfort level moving to ROCK or the next Intel or AMD architecture?
5. Have you recently talked with those holding your budget about the need to trim expenses while delivering better service? Were concerns cost-only, or investment protection, too?
6. For new apps: could you develop, test, and run for production various applications on the same physical machine? How many of each could you do without enlarging footprint?
7. Do you anticipate a time in the next three years where you could run out of space or adequate electrical power?
8. Has one or more lines of business asked you for help with ERP or CRM in terms of better service levels to support a more competitive business?

No doubt, you would answer a few strong “yes’s and no’s,” and some “maybe’s.” So, let’s talk a bit more System z here. What we most want to convey is this: System z is far more affordable than when you last considered a mainframe. Many people wanted “one,” but could not justify either the acquisition or overall ownership costs. Next, System z and Linux provide the rare combination of economics, security and qualities of service for which mainframes are legendary. Next, skills to run mainframes, especially for net-new mainframe customers, are proliferating: IBM’s System z Academic Initiative is generating thousands of University grads, worldwide, equipped to care for System z’s. Our own “migrate to the mainframe” consortium, *Destination z*, announced itself on June 21, already with key members (<http://www-03.ibm.com/systems/z/destinationz/businesspartners/partners/>). This organization affirms our ISV, SI, BP, and Academic “reach.” The *Mainframe Charter* assures that we will continuously improve System z’s relevance, ease of use, applications availability, overall value and economics.

Still not sure a deeper discussion of the technologies is worth your organization's time? Consider these recent case studies where Sun was among the incumbent platforms, and System z became the destination through a risk-managed migration and TCO outcome that justified the switch:

1. Case study example in US: [Erie 1 BOCES builds a powerful portal with IBM WebSphere, System z and Linux](#)
"With WebSphere on the System z platform, Erie 1 BOCES has a highly automated, scalable and cost-effective solution which can support growth and promote development, providing a higher level of service to our customers."—Carol Troskosky, CIO, Erie 1 BOCES. (26 Sep 2006)
2. Case study example in EMEA: [Nexxar Group transfers to IBM System z9™ Business Class for cost savings](#)
"IBM brought together the right people to assist us in introducing an IT Service Management framework, and we are now seeing clear benefits in terms of cost reduction and greater flexibility."—Wim De Ridder, CIO, Nexxar Group, Inc. (13 Nov 2006)
3. Case study example in AP: [Aiming for a speedy, simple integrated system to enable economical use of IT resources, Lawson becomes an On Demand Business](#)
4. Example showing migration to System z from Sun Systems:
<http://w3-01.ibm.com/sales/ssi/cgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6QWKY9&appname=crmd>
Where: a government org consolidated more than 150 Sun Microsystems UNIX® platform-based Oracle database servers onto a single IBM System z9 109 server running the SUSE Linux Enterprise Server (SLES) operating system under the IBM z/VM V5.2. Configured with five Integrated Facilities for Linux (IFLs)—central processors that are dedicated to Linux workloads—and 48 GB of memory

Though IT professionals rarely talk about a product feature or piece of software as "our special ingredient," z/VM is it for IBM System z9's unprecedented Linux value. Yes, Linux can run directly on the real hardware, and as with z/VM, additional operating systems can run without destructive interference, in partitions that all belong to the same system. Where z/VM creates such value is its flexibility and control over the entire environment. Provisioning, security, load-balancing, sequencing, micro-partitioning, tapping reserve resources for sudden spikes....these are a partial listing of z/VM's contributions to Linux on a Mainframe. Additionally: z/VM enables users to achieve very high levels of resource commitment to help reduce costs and maximize operational efficiencies.

At your request, we can provide detailed metrics about the size and number of Linux partitions, and what are documented utilization rates under specific workloads....and what are real-world energy savings from a z/VM environment. We can show an MTBF design of 60 years for our mainframes. We can bring to you proof points and testimonials that vividly show z/VM's impact on consolidation, security, and availability, especially in a Linux environment.

Right now, we want you to consider taking a deeper dive with us, and having more of your technical experts engage with ours around the possibility of transforming your infrastructure to deliver ever-increasing business benefit. Linux and z/VM on System z: arguably the best of both worlds.

For more information on what you have just read, log onto:
<http://www-03.ibm.com/systems/z/os/linux/> and
<http://www.vm.ibm.com/>



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