RED HAT ENTERPRISE LINUX FOR IBM SYSTEM Z

DATASHEET

"The choice to invest in Red Hat was largely based on its commitment to the ongoing development of the platform and its strong support capabilities, particularly in reference to supporting Red Hat Enterprise Linux on the mainframe.

LYLE JOHNSTON
INFRASTRUCTURE ARCHITECT FOR BANK OF NEW ZEALAND

THE BEST OF TWO POWERFUL ENVIRONMENTS

IBM® System z® is universally recognized for its robustness, power, and capabilities. Red Hat® Enterprise Linux® adds flexibility and a wide array of solutions to the mix. Taking advantage of this powerful combination allows you to extend System z as a platform for more applications and workloads.

REDUCE TCO BY CONSOLIDATING INFRASTRUCTURE

One System z mainframe can typically replace hundreds of physical RISC and x86 servers. In addition to cutting costs associated with purchasing machines, there are other savings that result from:

- Reducing system management overhead
- Streamlining software acquisition for packages with per-processor, per-server pricing
- Eliminating significant amounts of networking hardware, bandwidth, and administration that connected the hundreds of servers

Banco Pastor's selection of Red Hat Enterprise Linux on IBM System z reflects their need for one of the most sophisticated business servers, with the equivalent capacity of nearly 1,500 x86 servers, an 85% smaller physical footprint, and up to 85% lower energy costs.

Implementing Red Hat Enterprise for Linux for System z allows you to use less expensive processors for the Linux workloads, which reduces the total cost of the mainframe and better utilizes available computing resources.

INCREASE FLEXIBILITY THROUGH VIRTUALIZATION

System z is the industry's original virtualization platform. Its architecture accommodates logical partitions (LPAR) for setting up micro-environments to support multi-tenancy or solve other deployment challenges. In addition to the physical consolidation of servers afforded by System z, virtualization allows you to increase significantly the number and types of workloads running on a single system.

Red Hat Enterprise Linux fully supports instances running on bare metal and virtualized guests over z/VM. Running Red Hat Enterprise Linux on top of z/VM allows the creation of virtual environments that can dynamically allocate computing resources as-needed to new or fluctuating workloads.

The Bank of New Zealand's (BNZ) virtualized platform boosted the speed of new deployments—which now take minutes instead of days. With only one administrator needed per 100 virtual servers, BNZ saves on resources traditionally used to just manage the platform, freeing them up to work on new, innovative projects.

EXTEND SYSTEM Z PROCESSING POWER TO THOUSANDS OF ENTERPRISE APPLICATIONS

When you run Red Hat Enterprise Linux on System z, you can run any application in the Red Hat ecosystem—ranging from industry-leading applications to competitive, niche solutions—on your mainframe. Your in-house development teams have access to the upstream open source Fedora community as well as the developer toolkit and developer program designed to support the latest languages and frameworks and speed time-to-market.

GAIN FLEXIBILITY, CUT COSTS

IBM System z gives you two ways to consolidate on Red Hat Enterprise Linux. Figure 1 shows bare metal and virtualized installations of a Red Hat Enterprise Linux configuration on a single mainframe system. Note that Red Hat Enterprise Linux runs on less expensive Integrated Facility for Linux (IFL) processors, lowering the cost of a standard mainframe.

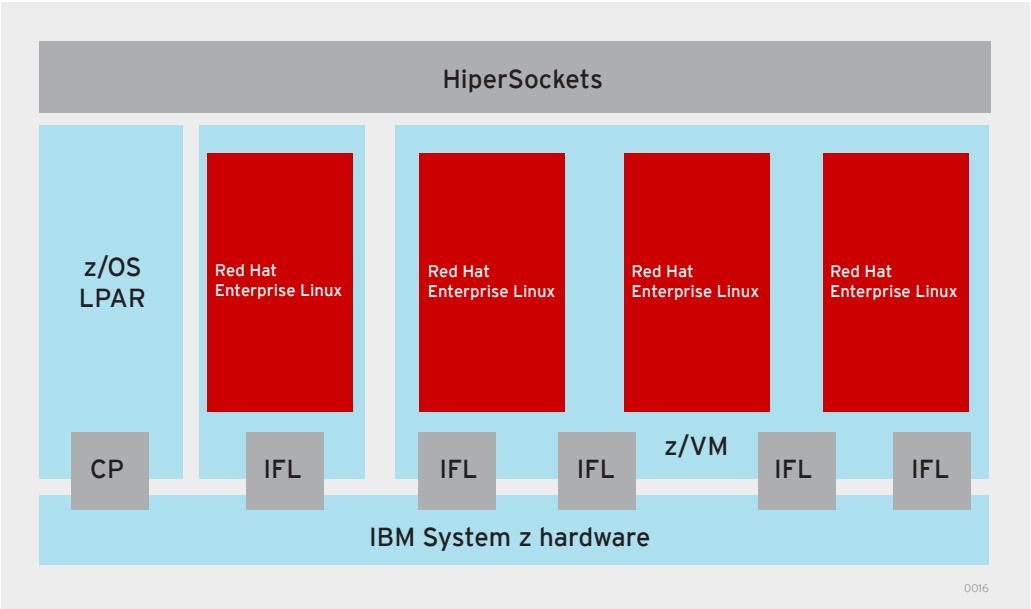


Figure 1. Red Hat Enterprise Linux on IBM System z Architecture

"We were very interested in Linux on the mainframe for the enhanced utilization, flexibility, workload consolidation, and management capabilities.

KEVIN MASARYK
SENIOR LINUX/UNIX ADMINISTRATOR
AT SALT RIVER PROJECT, ARIZONA

IBM zEnterprise System extends the System z Quality of Service (QoS) to general-purpose IBM x86 and IBM Power blades running Red Hat Enterprise Linux. The unified system allows you to achieve the same efficiency as a single mainframe with consolidated x86 workloads and a single supported Linux build using a zEnterprise BladeCenter Extension (zBx) with x86 blades and IBM Power blades. The zEnterprise System includes the zEnterprise Unified Resource Manager which manages the x86 and Power blades as a single system.

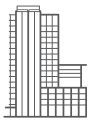
The blended system is highly secure and meets very high levels of security accreditation—a benefit that comes from using Security-Enhanced Linux (SELinux). SELinux—developed in conjunction with the U.S. National Security Agency (NSA)—helps Red Hat solutions avoid the security vulnerabilities present in most existing virtualization products. Red Hat Enterprise Linux for IBM System z 6.2 has been granted Common Criteria certification, the highest level of assurance for an unmodified commercial operating system available in the United States.

Whether you use an LPAR on the mainframe or a zEnterprise BladeCenter Extension (zBx) with x86 blades, you can use virtualization to benefit from the openness and flexibility of the Red Hat Enterprise Linux operating system.

NEXT STEPS

Visit **www.redhat.com/z** to read our customer case studies. Contact a Red Hat sales representative to start consolidating with Red Hat Enterprise Linux for IBM System z.

IBM System z Mainframe



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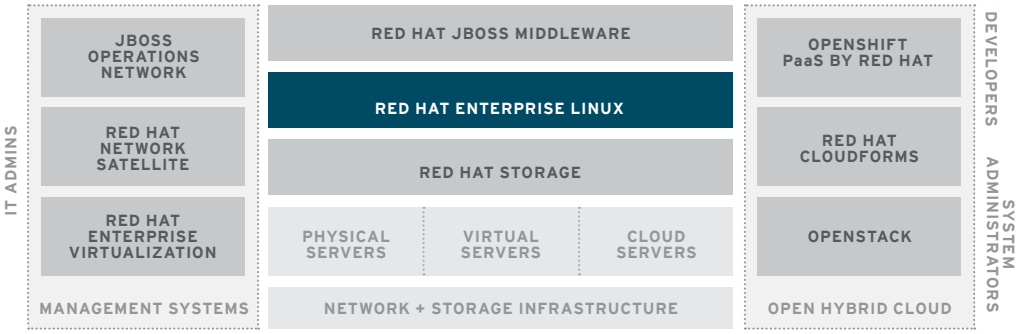
Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services. Red Hat is an S&P company with more than 70 offices spanning the globe, empowering its customers' businesses.

RED HAT SOLUTION STACK *Learn more at* ***redhat.com***



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