

Power Systems

IBM Systems

Flexible Infrastructure

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with Linux on IBM POWER

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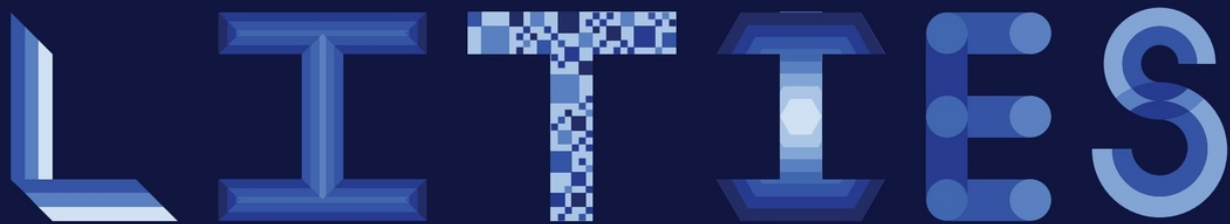
Why you should
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VIOS 3.x

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The Red Hat software stack adds agility for hybrid cloud deployments while seamlessly integrating with IBM Power Systems infrastructure

By Scott McKinney // Illustration by Vasava

The modernization journey in enterprise computing is helping developers get higher quality software in the hands of end users faster. This wave of transformation centers around two change agents: the cloud and containerization. Fundamentally, it's bringing choice and flexibility to the enterprise.

“People started off thinking the cloud was a place, but really it’s a set of capabilities and consumption models. How can I consume resources more effectively, more efficiently? How can I automate across environments?” says Joe Cropper, chief architect, IBM Power Systems™ Hybrid Multicloud Solutions.

Public cloud makes sense in some cases. If you want to spin up workloads for tests, or leverage OPEX pricing, public cloud can be a great model. And every cloud provider has a certain set of advantages.

In other cases, businesses want to retain control of workloads, apps and data in their own infrastructure. Healthcare or financial services firms want sensitive data confined in data centers with proper security policy and guidelines. Different countries’ regulations also constrain where data resides.

“We have a lot of clients running business applications on top of an Oracle® database running on AIX®. These databases have multiple years of mission-critical data, they house the crown jewels,” says Gina King, director of IBM Global Power Ecosystem and Alliances. “Clients love the security, the resiliency, the availability they get running Oracle database on AIX. We’re seeing some of these business applications adopting containerized architecture.”

Inside the Red Hat Stack

Beneath those applications, sits a whole stack of software: app servers, APIs, gateways, a database. That's where IBM's acquisition of Red Hat® comes into play, along with appli-

cations that build on or extend the existing environment clients have.

“Red Hat has roughly 70% of the enterprise Linux® business with Red Hat Enterprise Linux (RHEL), which has been enabled on IBM

POWER® for a long time,” Cropper says. “Now we've enabled Red Hat's strategic Kubernetes-based software stack, Red Hat OpenShift®, to help our customers tackle their most critical business challenges and fuel the next wave of technology innovation and transformation.”

The IBM and Red Hat partnership allows clients to use Red Hat technologies like Red Hat OpenShift and Red Hat Ansible Automation Platform®, while leveraging the IBM Power Systems infrastructure they already have.

3 QUESTIONS ANSWERED ABOUT THE RED HAT PORTFOLIO



IBM clients can explore the Red Hat® portfolio on their own, but in complex situations, IBM's consulting services—including IBM Garage™, IBM Systems pre-sales teams and IBM Systems Lab Services—can help navigate the process.

Benoit Marolleau, pre-sales architect, member of the IBM Montpellier Systems Center for EMEA, answers some of clients' frequently asked questions.

1. What business challenges do clients face around infrastructure modernization and the hybrid cloud?

Many organizations have used open-source applications for years. This brings innovation in areas like cloud computing, AI and analytics, but introduces risks associated with projects with thousands of contributors. Red Hat's solutions are tested, validated, supported and integrated. It helps clients with minimal risk.

2. What challenges do clients face as they roll out the Red Hat portfolio?

The main challenges relate to integrating Red Hat technologies with their existing estate. For complex situations, it's difficult to find experts with a deep knowledge of both business-critical applications and cloud-native environments.

3. What does the process look like from the initial brainstorming phase to turning the keys over to the clients?

The process generally starts with discussing pain points and determining potential enhancements. The next step is where we work together to assess, test, validate and present a solution prototype. The Red Hat and IBM partnership helps modernize and transform your business with innovative services. You can easily get started with a community version. If you have technical, training or solution design questions, you can always reach out to the IBM and Red Hat teams to go further and scale.

Orchestrating Diverse Workloads

Many of the new open-source applications, including SAS Viya and SAP HANA, and open-source databases like MongoDB and PostgreSQL, are built on Linux. These are all VM-based solutions (sometimes called LPARs in the IBM POWER world). This VM approach results in delivery cycles of six to 12 months or longer, because multiple applications have to be tested and developed together.

Hence, many clients are considering containerized architecture, which bundles applications into smaller units that can be developed and deployed more quickly. For example, they're looking to take applications that are running RPG programs on IBM i and surrounding them with new cloud-native software. Or taking an AIX and Oracle database and connecting it with new mobile web front ends or Node.js-based applications.

That's where OpenShift comes in. “When you introduce cloud native or microservices, sometimes called containers, running in OpenShift, you can automate testing right into your software delivery pipeline,” says Cropper. “You can deliver software code fixes and

updates a lot faster, and be assured you're not breaking the rest of the stack, because you're only changing a small piece of it."

The key point is when you run these new workloads on IBM POWER, you're getting the benefits of IBM's deep enterprise heritage plus the advantages of Red Hat's open and innovative technologies that connect with development communities. If you're running OpenShift on the same system your Oracle database or IBM Db2® for i is running on, you get lower latency, faster response times and better security as communication traffic never has to leave the physical server.

"Clients love the security, the resiliency, the availability they get running Oracle database on AIX. We're seeing some of these business applications adopting containerized architecture."

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Automated Maintenance

Another piece of the puzzle addresses the maintenance around an application. Suppose your organization purchases a new system. To get it configured, you'll have

to do initial download and setup, verify that the environment is right, and install patches. Traditionally, systems administration or networking folks did these repetitive, error-prone tasks. That's where

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configuration management tools, such as Red Hat Ansible Automation Platform come in.

“If I have a repeatable set of tasks in what we call a playbook, I can launch Ansible and have it perform the tasks while I do something that’s higher value to the company,” says Paul Finley, senior software developer, IBM Cognitive Systems Software Development. “Or I can set it up to repeat on a schedule, check system configurations, check if there’s software missing. It can do all of the tasks required to keep the system in a consistent state, and that’s what makes it so great.”

One reason Ansible has seen heavy adoption is that it eliminates the need to install software on the system. All a system requires to be Ansible-ready is a consistent SSH connection and Python. Users don’t have to configure Python, as IBM has bootstrapping capabilities to install it.

“Ansible hit it right on the head for a configuration management tool. Other tools such as Puppet and Chef had steam early on, but required client software to be installed to run their agents. Now Ansible has exceeded them in downloads and usage,” Finley says. “From an AIX or Linux system, or any other POWER OS, you give Ansible access through SSH and it’ll do the rest.”

Ansible is useful for system installs and maintaining daily business applications. It’s well-suited for multicloud deployments and on-premise alike. Pricing is based on the number of nodes (i.e., systems, hosts, instances, VMs, containers or devices) that you’re managing. From a software licensing standpoint, you can mix and match Ansible endpoints.

Open and Flexible

IBM and Red Hat opted toward an open and flexible approach

around the open cloud platform. This means that clients can leverage a diverse ecosystem of vendors, hardware platforms and cloud providers to run their businesses. Most POWER clients are running x86 somewhere in their data centers and may even have IBM Z® platform. The open and flexible approach means clients can run apps where they want, when they want.

“Other major cloud vendors want to lock you in on a single-vendor cloud stack that only supports a single compute architecture,” says Cropper. “That’s the opposite of open and flexible.”

A Helpful Hand

With technology moving at such a fast pace and a wealth of options available, clients can often find it difficult to know where to start—but IBM and Red Hat can help. They have an extensive portfolio of consulting services available—ranging from initial solution exploration to complete solution deployment and everything in between. This includes Red Hat OpenShift, Red Hat Ansible and much more.

“Our IBM Systems Lab Services, as well as IBM Garage™, can sit down with clients, explore the business challenges they’re having, then work to map these journeys out end-to-end,” says Cropper. “We can do all the consulting and roll these technologies out, then turn the keys over.” 🚗

GET MORE VALUE FROM RED HAT ANSIBLE

Red Hat® Ansible® allows clients to automate systems management and configuration. IBM has added Ansible support for IBM Power Systems™ including AIX® and IBM i.

Red Hat OpenShift® takes the industry-leading open-source container orchestration platform, Kubernetes, and packages it with a wealth of additional value-add services—all with full enterprise support. Clients don’t have to become expert Kubernetes users. They can use OpenShift as a means to focusing on what’s important to them—driving additional value to their business and getting code to market quicker with higher quality.