CLABBY ANALYTICS

Research Report

IBM Power Systems: 2020 – The Year of the Clouds

Executive Summary

Clabby Analytics has covered IBM Power Systems for over two decades. And what we have found is that every year the Power platform exploits new technologies to constantly deliver high-performance data processing solutions and alternatives to its customer base.

2020 has been no different than previous years from an innovation perspective. The year started with Power Systems certification in the SAP HANA Enterprise Cloud (see here.) And the year is ending with significant developments in both private cloud on Power as well as Power Systems integration with Red Hat OpenShift.

For IT executives looking to build high-performance, vendor agnostic, open cloud environments that use best-in-class systems and infrastructure to achieve agile and cost-effective results, *this Research Report* may well be worth a read.

During 2020, IBM's Power Systems organization made great progress in transparently integrating Power Systems in both private and hybrid cloud environments.

More Options to Extend Power Workloads to Public and Private Cloud

During 2020, IBM's Power Systems organization made significant progress in integrating Power Systems in both private and hybrid cloud environments.

- Earlier this year, we described why it was so important for Power Systems to achieve SAP HANA Enterprise Cloud certification. SAP certification enables SAP customers to take advantage of the raw computing of Power Systems – the fastest, most scalable SAP HANA in-memory database processors in the industry -- to achieve results more quickly than by using "industry standard" servers. In this cloud, Power Systems run in a private cloud environment architected and controlled by SAP. This gives users access to a well-designed, tuned, managed and secure cloud environment, relieving IT executives from having to deploy and manage their own on-premises Power cloud.
- From a Power Systems cloud perspective, IBM has ended 2020 by focusing on implementing enhancements that simplify the deployment of Power Systems in an enterprise

hybrid cloud. IBM's Power Systems group is highly focused on using OpenShift cloud architecture as a basis to integrate a myriad of systems and cloud architectures (public and private) into a unified hybrid cloud environment. To do this, IBM's Power Systems organization has ensured that its Power Systems AIX, IBM i and Enterprise Linux operating environments as well as various data types can participate in a hybrid cloud environment with other systems and other cloud architectures.

Companywide, IBM is highly focused on using OpenShift cloud architecture as a basis to integrate a myriad of systems and cloud architectures (public and private) into a unified hybrid cloud environment. To do this, IBM's Power Systems organization has ensured that its Power Systems AIX, IBM i and Enterprise Linux operating environments and data can transparently participate in a hybrid cloud environment with other systems and other cloud architectures.

Implementing a Private Power Systems Cloud

To implement a private Power Systems cloud, IBM already offers a strong portfolio of virtual machine s and management solutions (see here,) For building cloud architecture, these offerings include:

- ***IBM Power Systems - Enterprise Cloud Editions*** – a bundle of software that enables smart deployment and management of AIX or Linux Power Systems private clouds
- ***IBM PowerVC infrastructure*** – A virtualization-focused environment built on OpenStack cloud software to take advantage of advanced virtualization and cloud management. This offering enables self-service provisioning, policy-based deployment, dynamic workload balancing, virtual machine capture and more.
- ***Red Hat OpenShift and Cloud Paks on Power Systems*** – A container-focused (defined below) environment that uses Kubernetes (defined below) to helps developers build and deploy containerized applications. Cloud Private also enables administrators to provide high availability, performance and security in an on-premises private cloud.

Also worth mentioning is that IBM offers access to a cloud-based management environment known as ***IBM Cloud Management Console for Power Systems***.

And, from a Power Systems cloud security perspective, IBM offers ***IBM PowerSC***, a security and compliance environment that can be managed centrally and optimized for virtualized environments on Power Systems servers running PowerVM, AIX and Linux.

Making Power Systems a Member of a Hybrid Cloud: The Building Blocks

A "container" is a software environment that contains a complete deployment unit that allows an application to be automated, tracked and rapidly deployed. It differs from a virtual machine by allowing multiple workloads to run on an operating system, rather than running multiple OS instances on underlying virtual machines.) In short, containers are more efficient (less resource intensive); more flexible (from a development/deployment perspective); and more secure than the now "traditional" virtualized resource approach to computing.

Containers can be managed by Kubernetes. The way IBM is containerizing its various systems/storage solutions relies on using Kubernetes (the cloud management environment) as the control plane that provides self-service capabilities while delivering additional scalability, agility and portability.

It is also worth mentioning that Red Hat's Ansible environment provides a set of automation and orchestration modules to help build hybrid clouds.

Summary Observations

Power Systems offer a microprocessor that is distinctly different from z & x86 processors. POWER processors offer extremely fast I/O; they can be closely integrated with graphical processing units (GPUs) to achieve extremely high levels of performance; they offer very tight security; and they have access massive amounts of main memory (see here). These differences mean that there are workloads that Power Systems can process most assuredly better than x86-based servers. IT executives looking for greater efficiency (and accompanying lower computing costs) should learn about these differences in order to choose the most efficient server to process given workloads.

Expect IBM's Power System organization to further focus on containerization, Kubernetes and Ansible throughout 2021 and beyond.

Over the forthcoming year, expect IBM's Power System organization to further focus on containerization, Kubernetes, and Ansible – because containerization and hybrid clouds deliver greater agility, flexibility, and more straightforward automation across private and public clouds. IBM's Power Systems marketing organization has already done much to allow for flexible pricing – expect Power Systems to continue to be aggressive with its Power Systems cloud pricing. And don't forget that IBM has invested heavily in meshing AI with advanced analytics – meaning that systems can take on analytics tasks that have required too much human intervention and analysis in the past.

For enterprise executives interested in using the right tool for the right job in order to reduce computing costs while improving service, IT executives should consider using Power Systems to drive-down costs in a hybrid cloud environment that processes data-intensive applications.

CLABBY ANALYTICS

Clabby Analytics LLC
http://www.clabbyanalytics.com
Telephone: 001 (843) 297-5150