Three core scenarios for extending workloads to IBM Power Systems Virtual Server

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There are strong business cases for users of IBM Power Systems to make the move to the cloud, especially regarding business continuity and disaster recovery provision, testing and development, and application modernisation

There is an increasingly compelling business case for organisations to leverage the public cloud for a hybrid environment. For IBM Power Systems users, that path has become even more attractive since the launch of IBM Power Systems Virtual Server, offering a route to run IBM AIX and IBM i workloads easily in the cloud that is cost effective, efficient and low risk.

When considering why and how to migrate, organisations must look at the opportunities and the practicalities of implementation.

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Erin Jurgens, IBM

Why migrate to IBM Power Systems Virtual Server?

For IBM Power Systems clients that have typically relied on a wholly on-premise infrastructure, IBM Power Systems Virtual Server provides a fast and reliable method for spinning up resources in the public cloud. With a pricing model that avoids capital expenditure, it is easy to scale out rapidly, while paying only for what you use is an attractive proposition for organisations that want to test, develop and flexibly grow infrastructure utilisation without having to buy new equipment.

IBM Power Systems Virtual Servers deliver IBM AIX or IBM i with IBM Power9 processor-based virtual machines on IBM Cloud. The advantages are it is a multi-tenant, self-managed, Power-as-a-service in IBM Cloud with consumption-based operational expenditure pricing.

IBM Power Systems Virtual Server environments deliver full infrastructure-as-a-service capabilities. For IBM Power Systems Virtual Server instances, organisations are billed for hourly metering in a pay-as-you-use subscription model. Clients receive self-service virtual server lifecycle management with a pool of compute, memory, storage and network infrastructure. Organisations access the cloud through client-owned IBM Cloud resources and bring their own operating system (OS) images or leverage available OS images.

A further advantage comes for organisations with limited internal skills and resources looking to explore a top-tier hybrid cloud. IBM Cloud manages and supports all the state-of-the-art infrastructure layers up to the operating system, which gives clients the peace of mind that their data and business continuity are in safe hands.

By examining three of the main use cases driving migration – disaster recovery, software development and testing, and production application hosting – organisations can work with IBM Cloud to employ the latest best practices for a successful project.

IBM Cloud for disaster recovery

One IBM client, a furniture retailer based in Florida, decided to migrate to IBM Power Systems Virtual Server to boost its business continuity and disaster recovery capability.

"The company was being hit more and more by weather events and needed to strengthen disaster recovery," says Erin Jurgens, Offering Manager, IBM Cloud.

By choosing IBM Power Systems Virtual Server, the retailer did not have to purchase an additional datacentre to supplement its on-premise deployment, and gained the agility of a public cloud within the controlled and secure environment of a private cloud.

"This offering was designed in the cloud exactly to the best-practice standards of our clients' on-premise infrastructure," says Jurgens.

The cloud architecture solution was set up with fibre-attached storage, a dual virtual I/O server (VIOS) system for virtual storage redundancy on PowerVM as the hypervisor and DB2 data management products.

"It was super important to have an enterprise solution," says Jurgens.

Provisioning out onto the cloud meant the retailer could scale up and grow an OS image, paying only for what it needs as it grows. The architecture natively leverages Live Partition Mobility to avoid outages, moving AIX and IBM i workloads from one system to another as required, maintaining a highly available solution.

Jurgens highlights how, by taking the required best-practice on-premise architecture and replicating it in the cloud, the retailer was given peace of mind, and the knowledge that all its enterprise software would remain fully supported. "The solution is a cloud-consumable version of the industry best practice for on-premise systems. It is an architecture for production enterprise applications," he says.

The two critical components of the implementation include leveraging PowerVM hypervisor to provide a secure and scalable virtualisation environment for AIX and IBM i workloads; and providing fibre-attached enterprise-scale IBM Cloud storage.

Jurgens points out that network-attached storage is very common in cloud deployments, but it introduced latency, so the retailer required a different solution for enterprise power. The fact that many enterprise software providers make support for their applications conditional on similar direct-attached storage was a huge positive factor for the furniture retailer's implementation.

"Being able to run software in a supported capacity in the cloud is critical. Fibre-attached storage improves performance, and for a lot of software vendors, it is a requirement," he says.

IBM Power Systems users can be assured that mission-critical applications are protected and future-proofed with IBM. Data is copied to the cloud and can be accessed by users around the globe.

"Data can be secured faster and distributed faster. IBM offers resilience and connectivity to the Cloud through IBM Power Systems Virtual Server, and organisations no longer have to add another datacentre in their on-premise environment. They can meet or exceed their investment in recovery time objective and recovery point objective for their disaster recovery plan," says Annu Alexander, Product Marketing, IBM Power Systems Virtual Server.

Disaster recovery might be the initial business case for adopting cloud, but according to Jurgens, it often leads to greater uptake for other uses. "Disaster recovery is often a first step in the journey for a client," he says.
He points to the fact that the retailer's intention is to build out for production

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deployment in the cloud and to link with disaster recovery, becoming a more cloud-focused business.

IBM Power Systems Virtual Server for development and testing

Organisations that want to migrate IBM Power Systems workloads to IBM Power Systems Virtual Server for software development and testing now have an easy route to implementation because they can turn on and switch off resources quickly, which provides flexibility and makes economic sense.

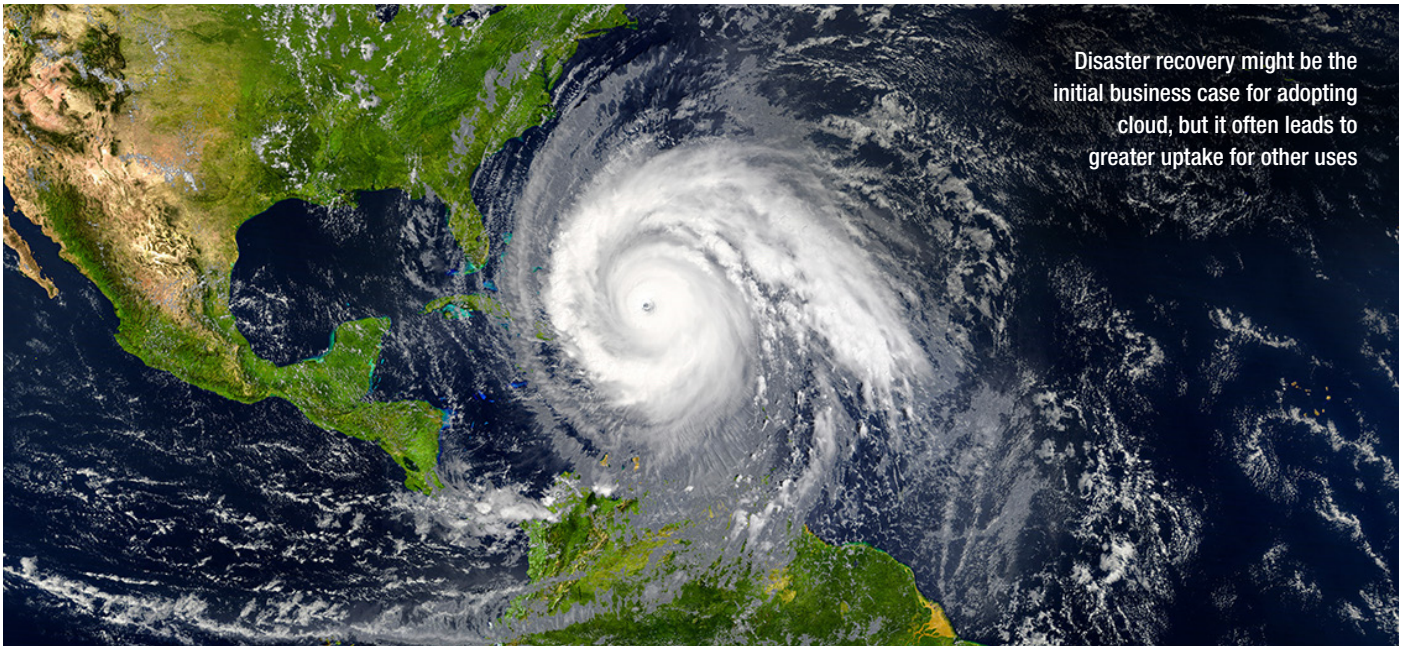
They can gain enterprise systems as a service for fast, low-risk development and test on the latest IBM Power Systems platforms.

“Our offering allows development teams to test new workloads in the cloud. They can provision an instance and turn it off without thinking about nuances and worries. They just spin into the cloud and payment is metered by the hour. It is very affordable testing,” says José Rafael Paez, worldwide offering manager for IBM Systems.

According to Paez, the biggest headache for an organisation around testing in an on-premise environment is caused by the limited capacity available. They will need a certain amount of capacity for development and testing, but often cannot share capacity with the mission-critical workloads that run the business and take priority. For this reason, development and testing are often sectioned off, which comes at a cost.

“Internal management of assets often goes back and forth, with teams trying to achieve just enough capacity for testing,” says Paez. Access to a sandbox environment connected to IBM Cloud to test new software takes these worries away, and also provides links to the IBM Cloud marketplace and applications.

“A common trait of IBM Power Systems clients is that they are risk-averse. They won’t upgrade to the latest version of AIX unless they need to because they don’t want to mess up mission-critical applications. By providing a sandbox testing environment, they can test new versions of OS and new IBM Power Systems boxes in a safe place in the cloud,” says Paez. “They have a separate space for something the company considers risky, which offers a roadmap into an upgrade. They can test new versions of the AIX operating system and the



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MIKE MAREEN/ADOBE

hardware and add new applications from the cloud marketplace in a safe place."

The temporary sandbox environment for testing, and its use as a step towards deploying production applications on IBM Power Systems Virtual Server, meets the needs of risk-averse clients who want a remote environment away from critical workloads to test updates and changes. The flexible consumption model is cost-efficient and a stress-free way to evaluate, plan and test next-generation hardware or a new version of the operating system.

With a dedicated link to on-premise connectivity, and IBM Cloud Object Store providing optional backup and custom image hosting, organisations can have peace of mind that testing and developing on IBM Power Systems Virtual Server is the right move. As well as being able to test hardware before a major refresh, such as Power9, and test complex architecture changes, it also offers an initial step into an organisation's hybrid cloud journey.

IBM Cloud for hosting production applications

Using IBM Cloud for AIX and IBM i production application hosting is the third major use case where organisations can leverage the flexibility of the cloud to deploy core business applications.

Organisations can run an enterprise-level workload connected to IBM Cloud if they want to modernise their IT estate in a risk-averse manner.

"If they run into obstacles over capacity, it can help without having to invest in an on-premise upgrade," says Alexander.

Jurgens says IBM Cloud gives IBM Power Systems users access to the latest hardware, such as Power9 processor-based servers, and allows IBM Cloud to take over datacentre management below the operating system, for which many organisations do not have the skills.

The implementation process gives users the ability to have load-balancing capability as part of the architecture in IBM Cloud and to pursue a hybrid approach to IT. Organisations can burst capacity into IBM Power Systems Virtual Server and not have to worry about management overheads.

"It gives organisations the flexibility between a concrete on-premise infrastructure and a flexible cloud," says Paez.

He says the hybrid connection with the on-premise environment gives organisations a new level of management they may not be accustomed to.

"A positive experience of hybrid cloud with production application hosting pushes a lot of clients to pursue cloud," says Paez.

Organisations can manage applications in whichever environment they want with IBM's multicloud manager.

"A simple demonstration proves that if you have a cloud and on-premise environment, you can move workloads from one environment into the other," says Paez.

By gaining experience of how IBM Power Systems Virtual Server works, any preconceptions about blocks and barriers associated with multiple environments are removed, and organisations are encouraged to expand and develop their hybrid cloud use.
The ability to add additional capacity on the fly is particularly appealing to organisations that need to respond to a volatile and competitive landscape.

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"They want to be able to cope with an influx of usage caused by seasonal spikes, new products, testing a new application and wanting to play around with that application, without the risk of doing it in a real-world scenario," says Alexander.

By increasing their cloud portfolio, clients can modernise legacy workloads and gain the reassurance of being able to access the latest IBM Cloud technologies and skills.

"Many organisations are challenged with skills and resources on-premise, and they are using the cloud more and more," says Jurgens.

IBM Cloud for flexible, transparent pricing

Another business bonus for IBM Power Systems users migrating to IBM Power Systems Virtual Server comes from licence payments decreasing. Jurgens highlights how licensing for the operating system is based on the exact resources you need at the time.

"You are not paying for licences for the whole machine – only what you need at a point in time. Operational expenses are reduced because you are not licensing a machine. It is a virtual machine and you pay based on the processing power you are using," he says.

Billing transparency allows organisations to budget and plan effectively. In the digital economy, where responsiveness is a prerequisite to success, being able to scale out into the cloud and subsequently de-provision instantly can save significant costs.

"Billing transparency lets organisations look and plan ahead. You don't have to plan for all the resources you need today. You can double cores in November for Black Friday, and you don't have to worry about having enough staff on-premise and calling people in during the holiday season," says Jurgens.

A clear path to the IBM Cloud

IBM Power Systems users now have a clear path to the cloud with the introduction of IBM Power Systems Virtual Server. There are strong business cases to make the move, especially for business continuity and disaster recovery provision; testing and development; and application modernisation. These starting points can be used to explore further how an IBM Cloud hybrid focus can strategically help an organisation on its journey to digital transformation.

IBM Cloud's global geo-diversity and expertise, with a guarantee of security and compliance in an end-to-end approach for the enterprise, are reassuring for IBM Power Systems users. Reliable and continuous security are provided for the client's environment, and IBM Cloud provides support, management and delivery across the complete cloud environment, using IBM expertise and proven technology.

Reliability, performance and affordability give peace of mind to enterprises that are considering hybrid cloud. An organisation opting for IBM Power Systems Virtual Server will soon discover how cloud can support its strategic direction towards a digital future. ■

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To read more about IBM Power Systems Virtual Server, visit:
https://www.ibm.com/cloud/power-virtual-server