INTRODUCTION

Digital transformation is fast becoming a prerequisite for competing in today’s business landscape. The speed of innovation and rising consumer expectations put pressure on enterprise businesses to deliver exceptional user experiences. To keep up with the demand, many organizations are implementing next generation architectures and “systems of intelligence” applications. In this new world, software-defined and hybrid models are driving more efficient, more agile IT.

But implementing modern IT capabilities requires an evolution in the underlying infrastructure. IDC Research finds that investment in regular server hardware refreshes has the potential to increase performance, agility and efficiency. Time required to run batch processes goes down. IT staff spend less time on routine operations and more on delivering new applications and capabilities. Business application workloads require a smaller physical infrastructure footprint.

Meanwhile, the cost in IT effort, operational downtime and post-warranty repairs associated with aging legacy servers often exceed that of a refresh. The business case is clear.

IBM POWER SYSTEMS AND POWER9

IBM Power Systems is designed to help organizations run the data-intensive workloads driving intelligent applications. IBM POWER9 processors are built with enhanced core and chip architecture to and meet the highest computing demands. Its leading I/O subsystem technology includes next generation NVIDIA NVLink, PCIe Gen4 and OpenCAPI.

Through Open Stack-based management, IBM Power Systems servers also provide a range of options to suit your business application workloads and desired outcomes. In this guide, we’ll explore the key variations of IBM Power Systems and how enterprise organizations have leveraged them to drive their digital transformations.

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Choosing to build your infrastructure on IBM Power Systems is the first step. Organizations adopting POWER9 servers to meet advanced performance and resiliency needs have a few options. Whether you intend to run your business-critical application workloads in the cloud, on-premise or using a hybrid model, the platform supports an operating system (OS) to suit your environment and desired outcomes.

**PART I: CHOOSE YOUR OPERATING SYSTEM**

**IBM AIX**
- UNIX OS built on decades of IBM technology
- High performance, resiliency and security based on UNIX open standards
- Best-suited to organizations seeking high security without compromising performance

**IBM i**
- Turnkey, open source OS driven by continuous innovation
- Access to the latest features and capabilities with minimal administration
- Ideal for organizations that prefer to focus on business transformation

**Enterprise Linux on IBM Power Systems**
- Industry-standard Linux OS from open-source technology leaders like Red Hat and SUSE
- Choice, flexibility and scale to meet emerging challenges
- Built for organizations looking to fine-tune infrastructure to specific challenges

READ ON TO DISCOVER HOW IBM POWER SYSTEMS CUSTOMERS TRANSFORMED THEIR BUSINESS...
IBM AIX FOR IBM POWER SYSTEMS: SECURITY. AVAILABILITY. PERFORMANCE.

The IBM AIX operating system was designed to run on IBM Power Systems to fully exploit the new technologies introduced with each generation. Its purpose is to deliver outstanding scalability, reliability, and manageability while protecting infrastructure investments with world-class security standards.

The leading UNIX-based operating system, IBM AIX supports vital workloads for major enterprise organizations across the globe.

GLOBAL PAYMENT SERVICES (GPS)

Business Challenge:
This leader in Middle Eastern financial markets needed to overhaul its data center environment to keep pace with a period of explosive growth. The organization also needed a secure, high availability response to disruptive innovations in cryptocurrency and fintech.

Technology Solution:
• IBM Power System S294 servers featuring POWER9 hardware
• Unique, encapsulated IBM AIX v7.2 OS instances using IBM PowerVM

Results:
• Increased capacity to meet rising demands
• 50% reduction in database licensing costs
• Segregated data processing via IBM AIX virtualization to meet compliance requirements

Read the full case study.
ANGLIAN WATER SERVICES

Business Challenge:
The UK’s largest water recycling service provider needed to replace critical legacy back-office infrastructure as it approached end-of-life. The organization also sought to improve SLAs for its SAP Business Suite solutions supporting millions of households across England and Wales.

Technology Solution:
• IBM Power Systems E850 and S822 servers
• IBM AIX running the IBM Db2 database platform

Results:
• 66% reduction in Anglian Water Services’ server footprint
• 40% reduction in batch processing times to meet strict SLAs
• Improved customer service and operational performance

Read the full case study.

CElero

Business Challenge:
This IT solutions provider serving the Canadian financial services sector needed to deliver always-on availability and fast response times for a demanding customer base. To better meet expectations, they sought to power Oracle solutions with the latest IBM Power Systems hardware.

Technology Solution:
• IBM Power S822 servers with storage powered by IBM FlashSystem 840 with IBM XIV
• IBM AIX OS with virtualization via IBM PowerVM

Results:
• 30% reduction in IT leasing costs per month
• 10x improvement in Oracle database response times
• 25% to 30% improvement in customer-level transaction processing times

Read the full case study.
IBM i: FUTURE-PROOFED FOR INNOVATION

The IBM i operating system is intended to serve as a platform for ongoing innovation, allowing organizations to take advantage of continuous updates and new capabilities. As a turnkey OS, it allows for streamlined deployment and maintenance. The result is a reduced need for IT administration, enabling a greater focus on service/application delivery and business transformation initiatives.

Emerging and mid-sized organizations worldwide use IBM Power Systems and IBM i to run modern application workloads with efficiency and reliability.

CROSSKEY

Business Challenge:
This Finnish solutions provider needed an infrastructure platform capable of making them an invaluable innovation partner to the banking industry. They also required server and storage systems that could handle current transaction volumes and scale to meet future demands.

Technology Solution:
- IBM Power Systems E870 servers running IBM i
- Storage based on IBM Spectrum Virtualize, IBM FlashSystem 900 and IBM Storwize v5000

Results:
- 400% increase in server performance and response times
- 99% saving on backup times and zero downtime for system changes
- Innovation roadmap through 2026 on IBM i

Read the full case study.
COMPUTER MERCHANTS

Business Challenge:
This leading Australian IT equipment seller wanted to launch a new offering to automate manual, non-value-added maintenance activities. They also aimed to enhance customer service by adding by integrating systems of engagement into legacy systems of record applications.

Technology Solution:
• IBM Power Systems running IBM i
  • IBM Watson Analytics

Results:
• 40 hours of IT admin time saved per month through automation
• 90% accuracy in anticipation of maintenance tickets via Watson Analytics AI
• Opportunity to expand operations beyond Australia to international markets

Read the full case study.

CSM BVBA

Business Challenge:
This Belgian software company needed to scale its customs declaration platform to handle higher volumes without compromising responsiveness. They also required a solution that could guarantee 24/7 availability to its global small-to-medium enterprise (SME) customers.

Technology Solution:
• IBM Power Systems S814 and 8202-E4B servers running IBM i

Results:
• 50% improvement in customs declarations processed
• 50% growth in the customer base without impact to SLAs
• 100% increase in platform availability

Read the full case study.
LINUX ON IBM POWER SYSTEMS:
OPEN SOURCE BUILT FOR THE ENTERPRISE

Running IBM Power Systems servers on Enterprise Linux yields the inherent advantages of an industry-standard open operating system. Its open, scalable architecture provides enterprises with an open, scalable infrastructure tailored to specific data-intensive application workloads. Organizations building on a Linux architecture benefit from the choice of leading Linux on Power distributors.

Some of the biggest global enterprise organizations have tapped Enterprise Linux on Power Systems to run their mission-critical workloads.

CENTURYLINK

**Business Challenge:** This US-based global telecommunications firm needed to add performance and capacity to support its migration to SAP S4/HANA. They also required the scalability to enable rapid migration of new organizations onto their platform following mergers and acquisitions.

**Technology Solution:**
- IBM Power System E880 servers running IBM AIX and SUSE Linux Enterprise Server for SAP
- IBM FlashSystem V9000 enterprise storage

**Results:**
- 64x improvement in financial transaction completion time
- 1.57x faster cost allocation during month-end close
- 60% reduction in SAP database size for accelerated backup and recovery

[Read the full case study.](#)
CHRISMI CLOUD CONSULTANCY

Business Challenge:
This Australian startup required a modern infrastructure to support its sandbox test environment for cloud and AI applications. To gain an opening in a crowded market, they also needed the efficiency and economy of scale to offer competitive rates for their services.

Technology Solution:
• IBM Power Systems S821LC servers running Ubuntu Linux on IBM Power Systems

Results:
• Growth in customer base through the offer of upskilling in high-demand capabilities
• Shorter time-to-market through high-density computing and open standards
• Competitive pricing via cost-effective infrastructure

Read the full case study.
PART II: WHAT’S YOUR WORKLOAD?

IBM Power Systems sets the foundation for the next generation of business capabilities. Organizations seeking to move to the cloud, adopt AI or leverage high-performance computing (HPC) can look to IBM Power Systems to provide the supporting infrastructure.

ELINAR

Business Challenge: This Finland-based content management specialist needed the right infrastructure in place to drive its disruptive, AI-driven strategy. To this end, they required enough processing power to support compute-intensive and resource-hungry neural networks.

Technology Solutions:
• IBM Power Systems AC922
• Watson Machine Learning Accelerator

Results:
• 2x performance improvement over the legacy x86 platform
• Reduced development costs via automation and machine learning
• Accelerated time-to-market for new solutions

Read the full case study.
UNIVERSITY OF MICHIGAN

Business Challenge:
This US research university wanted to extend its capacity to support cutting edge research and engineering projects. To do so, they needed server and storage infrastructure capable of supporting high compute workloads combining nonlinear modeling with real-time machine learning.

Technology Solution:
- IBM Power System S822LC for Big Data
- IBM Elastic Storage Server GSxS models – Power HW component and IBM Spectrum Scale
- IBM Watson Machine Learning Accelerator

Results:
- Performance to support large-scale scientific computing and machine learning
- 2.5x greater CPU:GPU bandwidth than alternative solutions
- Capacity to handle 10 TB to 20 TB of data per simulation

Read the full case study.

NIMBIX

Business Challenge:
This solution provider specializing in cloud computing, AI and HPC wanted to democratize high performance computing by pushing its innovative cloud platform to the next level. To achieve this, they needed to base their solution on a state-of-the-art infrastructure.

Technology Solution:
- IBM Power Systems AC922 platform
- IBM Watson Machine Learning Accelerator

Results:
- 2.5x increase in speed over commodity cloud solutions
- 4:1 consolidation ration compared with commodity cloud options
- 99% customer satisfaction rating

Read the full case study.
IBM Cloud combines the best of the IBM Power Systems platform and POWER9 hardware into a flexible infrastructure-as-a-service (IaaS) environment. This enables IBM Power Systems users to extend existing on-premise AIX and IBM i workloads to the cloud. The results are greater flexibility to scale workloads with demand and run applications on- or off-premises as needed.

Find out how these organizations used IBM Cloud on IBM Power Systems to drive hybrid and multicloud strategies with performance and capabilities unavailable through other cloud infrastructure options.

CIPHERHEALTH

Business Challenges:  
This US healthcare technology company needed to scale its infrastructure in support of a mandate to improve patient outcomes. They also required a solution to enable them to diversify their product mix and expand their customer base without a dramatic increase in costs.

Technology Solution:  
- IBM Power Systems S822LC for Commercial Computing  
- IBM Power Systems S824L running Enterprise Linux on Power Systems

Results:  
- 50% reduction in monthly infrastructure costs  
- 88% drop in time required for ETL processes  
- 0% deviations in performance variability

Read the full case study.
SOLETRADER SHOES

Business Challenge:
This premium footwear retailer needed to drive up customer satisfaction by ensuring a first-rate customer experience 24/7, 365. To this end, they sought a modern infrastructure capable of optimizing its mission-critical inventory management and stock maintenance workloads.

Technology Solution:
• IBM Power on Cloud running IBM i

Results:
• 50x faster core systems and increased employee productivity
• Optimized stock levels across retail locations
• Continuous availability and uptime through cloud-hosted infrastructure

Read the full case study.

CAIXA GERAL DE DEPÓSITOS FRANCE

Business Challenge:
This European banking organization needed to replace its slow, inefficient paper-based credit scoring process. To do this, they aimed to deliver a hybrid-cloud credit scoring application leveraging compute-intensive machine learning to determine client creditworthiness.

Technology Solution:
• IBM Power Systems running IBM i
• SPSS Modeler
• Watson Machine Learning

Results:
• Enhanced customer satisfaction through accelerated credit scoring
• Flexible, robust and secure infrastructure through a hybrid cloud
• Reduced costs through accelerated application development

Read the full case study.
In the era of digital disruption, there is a strong case for organizations to upgrade their server infrastructure at a regular cadence. IBM Power Systems and POWER9 hardware offer the performance, capacity and reliability to drive this new generation of competitive business application workloads.

**Softchoice** delivers best-in-class technology combined with a data-driven approach designed to meet your unique business requirements. Work with Softchoice to deliver hybrid IT to your environment. With guidance from our experts, you’ll determine the best locations for your business-critical application workloads and ensure your data center transformation succeeds.

**WANT TO DIVE DEEPER ON IBM POWER SYSTEMS?**
Get the latest from Softchoice and IBM in our partner showcase.

**READY TO START YOUR DATA CENTER TRANSFORMATION?**
Contact a **Softchoice Expert** today.