



# SAP Applications Empower Business with Linux on IBM z14

## The SAP landscape

As enterprises undergo digital transformation, it is becoming more difficult to meet IT demands.

*“Like many leading utilities, we rely on SAP solutions to manage our end-to-end business processes. As the number of transactions on our books increased, the load on the SAP applications rose. This reduced response times for business users, harming our operational efficiency and threatening overall service quality.”* –Spokesperson Major utility organization<sup>1</sup>

Many enterprises using SAP with hundreds of servers have similar experiences. Often these SAP landscapes require high efforts to get managed and maintained, resulting in:

- High operational efforts, increasing software licenses, growing energy and floor space consumption.
- Inadequate flexibility to scale up/out quickly, missing capabilities to redirect or add resources on demand.
- Unacceptable down time due to poor availability and disruptive upgrades.
- Lack of robust data governance, compliance and disaster recovery.

It is obviously, the infrastructure matters, but what makes the difference?

## Utilize the advantages of an efficient and secure infrastructure with IBM Z

Designed as the infrastructure to trust in the digital economy, IBM Z<sup>®</sup> servers deliver capabilities to meet evolving IT demands, while securing the growing amounts of data and complying with increasingly intricate regulations.

Especially the IBM z14™ (z14) – all models: M01, M02, M03, M04, M05, ZR1 – with its pervasive encryption enablement, its design for EAL5+ certification for security of logical partitions (LPAR), its impressive I/O bandwidth, allows for an efficient and highly securable infrastructure.

Furthermore, with Linux<sup>®</sup> running on IBM Z servers, not only SAP applications can benefit from the IBM Z strengths, as well, Linux opens the door to also benefit from the open source community.

SAP environments on IBM Z servers can take advantage of a fully virtualized environment provided by z/VM<sup>®</sup> or KVM<sup>2</sup>. Both hypervisors offer outstanding virtual server density, z/VM virtualization that is integrated into the IBM Z stack, making it possible to deploy up to thousands of virtual Linux servers on a single IBM Z footprint.

Enabling pervasive encryption with z14 meets a most demanding need, but z14 allows for much more. z14 is connected and open, it handles massive workloads at high volume and low cost, and it is highly performant with up to 170 cores running at 5.2 GHz, with large caches, and with enhanced I/O features.

The innovative technologies allow enterprises to transform their infrastructure, paving the way for efficient and trustful software hosting, including SAP databases and applications.

## SAP applications on IBM Z

SAP offers a comprehensive range of applications – all built on the SAP NetWeaver<sup>®</sup> platform – for a wide range of business operations. SAP applications provide the functionality to optimize your operations and support resources to extend best practices to your entire value chain.

SAP applications can run with Linux in a LPAR or as a virtualized instance under z/VM or KVM, while the SAP database server is co-located on Db2<sup>®</sup> for z/OS<sup>®</sup> in the same or on another IBM Z server.

The co-location of SAP applications and the SAP database offers efficient data serving with minimal latency, elimination of network handling, and to operate the environment with an all-encompassing management solution – including backup and disaster recovery.

<sup>1</sup> <https://ibm.co/2pc1wCC>

<sup>2</sup> KVM on IBM Z is offered by Linux distribution partners

It's the architecture, efficiency, manageability, and performance of IBM Z servers that can generate an impressive cost benefit.

### **SAP applications on Linux co-located with Db2 on IBM Z are most beneficial if you ...**

- *Grow or consolidate your SAP environment*  
Less operational management efforts, high administrator productivity supported by flexible resource management and unique arrangements for operation.
- *Need business resiliency*  
Ultra-high availability for data and services; unpredictable spikes in demand are handled reliably, resources are assigned dynamically where they are needed.
- *Best-of-Breed Data Serving*  
Handle high volumes of databases and transactions with ease; deliver fabulous throughout.
- *Integration and utilization*  
Integrate SAP applications with corporate data and applications; utilize existing skills and resources and extend them to your SAP solutions.

IBM Z, z/OS and Linux can help transforming the economics of your SAP environment to become more integrated, efficient and secure.

### **Clients use SAP with IBM Z, z/OS and Linux**

To solve the challenge, a major utility company decided to upgrade its SAP solutions – used by thousands of employees across the business – to the latest versions. The organization selected IBM Z virtualized with z/VM, running the z/OS and Linux operating systems. *“To meet the system requirements of the new SAP applications, we sought an IT platform with higher performance, greater scalability and availability. Initially, we considered renewing our distributed server and storage environment. However, when we heard the IBM Z proposal, we realized it had the potential to deliver far greater value to the business and reduce the total cost of ownership for our IT infrastructure.”* –Spokesperson Major utility organization<sup>1</sup>

A US manufacturing company runs its SAP application servers in virtual Linux environments on the IBM z13® (z13), using z/VM virtualization technology, while supporting IBM Db2® for z/OS databases in z/OS partitions. *“IBM and SAP have formed an integral part of our business strategy for many years. By running SAP applications on the mainframe, we have been able to drive down costs, raise our production efficiency, and enhance our customer service.”* –Spokesperson Manufacturing company<sup>3</sup>

gkd-el deliver excellent performance to its clients using the IBM Z platform. The company needs to run only a single SAP application server to provide access to its 2,000 users, with up to 800 of them working on the SAP applications in parallel. *“Because we run everything on an IBM Z mainframe server, including SAP applications on Linux, we can easily take on additional workload and scale up as needed without an increase in complexity.”* –Karl Große Vogelsang, Head of Data Center Operations, gkd-el<sup>4</sup>

### **Summary**

IBM Z - especially the z14 models - enables business flexibility and gives the power to reduce complexities and extends IT investments. Co-locating applications and databases provides the unique opportunity to tightly connect ‘systems of record’ and ‘systems of interaction’, benefiting in performance and operational efficiency.

*“Without a doubt, our SAP and IBM solutions provide the headroom we need to accommodate significant business growth.”*<sup>1</sup>

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<sup>3</sup> <https://ibm.co/2pc1wCC>

<sup>4</sup> <https://ibm.co/2mTenby>