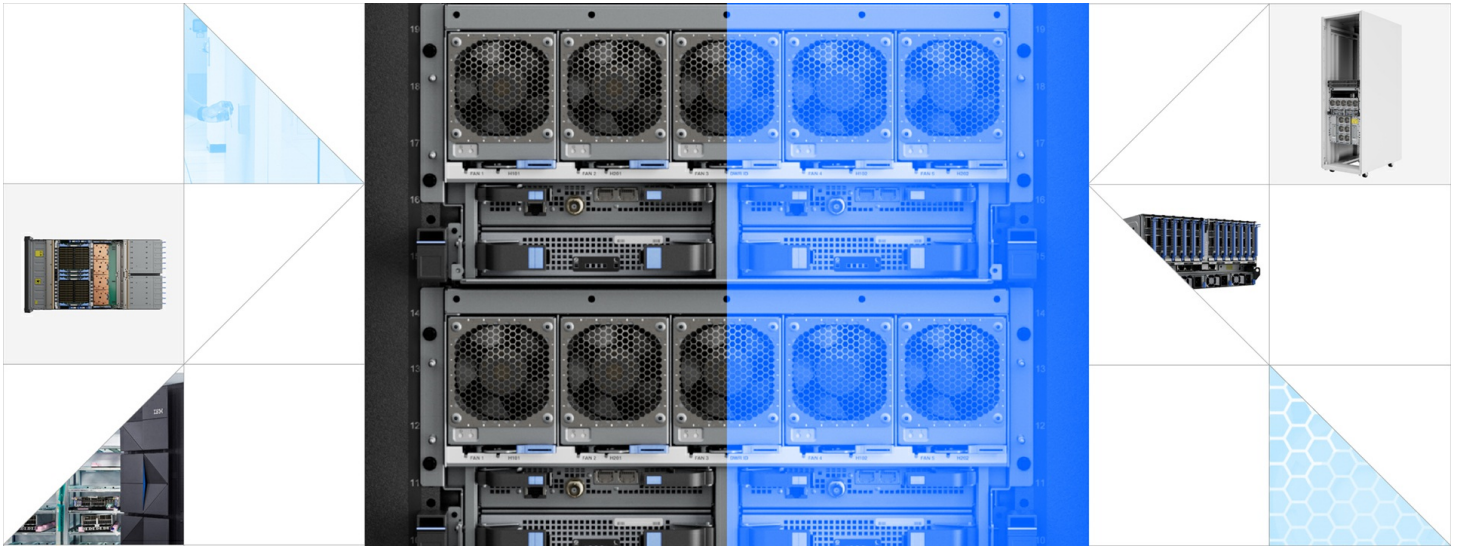# IBM Furthers Flexibility, Sustainability and Security within the Data Center with New IBM z16 and LinuxONE 4 Single Frame and Rack Mount Options

- New IBM z16 and IBM LinuxONE Rockhopper 4 options are designed to provide a modern, flexible hybrid cloud platform to support digital transformation for a range of IT environments

- Consolidating Linux workloads on an IBM LinuxONE Rockhopper 4 instead of running them on compared x86 servers with similar conditions and location can reduce energy consumption by 75% and space by 67% and is designed to help clients reach their sustainability goals (1)

ARMONK, N.Y., April 4, 2023 /PRNewswire/ -- IBM (NYSE: IBM) today unveiled new single frame and rack mount configurations of IBM z16 and IBM LinuxONE 4, expanding their capabilities to a broader range of data center environments. Based on IBM's Telum processor, the new options are designed with sustainability in mind for highly efficient data centers, helping clients adapt to a digitized economy and ongoing global uncertainty.

Introduced in April 2022, the IBM z16 multi frame has helped transform industries with real-time AI inferencing at scale and quantum-safe cryptography. IBM LinuxONE Emperor 4, launched in September 2022, features capabilities that can reduce both energy consumption and data center floor space while delivering the scale, performance and security that clients need. The new single frame and rack mount configurations expand client infrastructure choices and help bring these benefits to data center environments where space, sustainability and standardization are paramount.

Rack Mount in Use

"IBM remains at the forefront of innovation to help clients weather storms generated by an ever-changing market," said Ross Mauri, General Manager, IBM zSystems and LinuxONE. "We're protecting clients' investments in existing infrastructure while helping them to innovate with AI and quantum-safe technologies. These new options let companies of all sizes seamlessly co-locate IBM z16 and LinuxONE Rockhopper 4 with distributed infrastructure, bringing exciting capabilities to those environments."

Designed for today's changing IT environment to enable new use cases

Organizations in every industry are balancing an increasing number of challenges to deliver integrated digital services. According to a recent IBM Transformation Index report, among those surveyed, security, managing complex environments and regulatory compliance were cited as challenges to integrating workloads in a hybrid cloud. These challenges can be compounded by more stringent environmental regulations and continuously rising costs.

"We have seen immense value from utilizing the IBM z16 platform in a hybrid cloud environment," said Bo Gebbie, president, Evolving Solutions. "Leveraging these very secure systems for high volume transactional workloads, combined with cloud-native technologies, has enabled greater levels of agility and cost optimization for both our clients' businesses and our own."

The new IBM z16 and LinuxONE 4 offerings are built for the modern data center to help optimize flexibility and sustainability, with capabilities for partition-level power monitoring and additional environmental metrics. For example, consolidating Linux workloads on an IBM LinuxONE Rockhopper 4 instead of running them on compared x86 servers with similar conditions and location can reduce energy consumption by 75 percent and space by 67 percent.[1] These new configurations are engineered to deliver the same hallmark IBM security and transaction processing at scale.

Designed and tested to the same internal qualifications as the IBM z16 high availability portfolio[2], the new rack-optimized footprint is designed for use with client-owned, standard 19-inch racks and power distribution units. This new footprint opens opportunities to include systems in distributed environments with other servers, storage, SAN and switches in one rack, designed to optimize both co-location and latency for complex computing, such as training AI models.

Installing these configurations in the data center can help create a new class of use cases, including:

- **Sustainable design**: Easier integration into hot or cold aisle thermal management data center configurations with common data center power and cooling
- **Optimizing AI solutions**: With on-chip AI inferencing and the newest IBM z/OS 3.1, whether rack mount, single frame or multi frame configurations, clients can train or deploy AI models very close to where data resides, allowing clients to optimize AI
- **Data privacy**: Support data sovereignty for regulated industries with compliance and governance restrictions on data location, routing local transactions through local data centers with optimized rack mount efficiency
- **Edge computing**: Enable more efficient rack utilization in limited rack space near manufacturing, healthcare devices, or other edge devices

Securing data on the industry's most available systems [3]

For critical industries, like healthcare, financial services, government and insurance, a secure, available IT environment is key to delivering high quality service to customers. IBM z16 and LinuxONE 4 are engineered to provide the highest levels of reliability in the industry, 99.99999% availability to support mission-critical workloads as part of a hybrid cloud strategy. These high availability levels help companies maintain consumer access to bank accounts, medical records and personal data. Emerging threats require protection, and the new configurations offer security capabilities that include confidential computing, centralized key management and quantum-safe cryptography to help thwart bad actors planning to "harvest now, decrypt later."

"IBM z16 and LinuxONE systems are known for security, resiliency and transaction processing at scale," said Matt Eastwood, SVP, WW Research, IDC. "Clients can now access the same security and resiliency standards in new environments with the single frame and rack mount configurations, giving them flexibility in the data center. Importantly, this also opens up more business opportunity for partners who will be able to reach an expanded audience by integrating IBM zSystems and LinuxONE capabilities to their existing footprints."

With the IBM Ecosystem of zSystems ISV partners, IBM is working to address compliance and cybersecurity. For clients that run data serving, core banking and digital assets workloads, an optimal compliance and security posture is key to protecting sensitive personal data and existing technology investments.

IBM Business Partners can learn more about the skills required to install, deploy, service and resell single frame and rack mount configurations in this blog.

Complementary Technology Lifecycle Support Services

With the new IBM LinuxONE Rockhopper 4 servers, IBM will offer IBM LinuxONE Expert Care. IBM Expert Care integrates and prepackages hardware and software support services into a tiered support model, helping organizations to choose the right fit of services. This support for LinuxONE Rockhopper 4 will offer enhanced value to clients with predictable maintenance costs and reduced deployment and operating risk.

The new IBM z16 and LinuxONE 4 single frame and rack mount options, supported by LinuxONE Expert Care, will be generally available globally[4] from IBM and certified business partners beginning on May 17, 2023. To learn more:

- On April 4, at 10 am ET, join IBM clients and partners for behind-the-scenes access to the new IBM z16 single frame and rack mount configurations

- On April 17, at 10 am ET, join IBM clients and partners for a deep dive on industry trends, such as sustainability and cybersecurity during the IBM LinuxONE single frame and rack mount virtual event

- Check out a preview of the newest version of z/OS, which is designed to scale the value of data and drive digital transformation powered by AI and intelligent automation

About IBM

IBM is a leading global hybrid cloud and AI, and business services provider, helping clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. Nearly 3,800 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently, and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and business services deliver open and flexible options to our clients. All of this is backed by IBM's legendary commitment to trust, transparency, responsibility, inclusivity, and service. For more information, visit www.ibm.com

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[1] DISCLAIMER**:** Compared IBM Machine Type 3932 Max 68 model consisting of a CPC drawer and an I/O drawer to support network and external storage with 68 IFLs and 7 TB of memory in 1 frame versus compared 36 x86 servers (2 Skylake Xeon Gold Chips, 40 Cores) with a total of 1440 cores. IBM Machine Type 3932 Max 68 model power consumption was measured on systems and confirmed using the IBM Power estimator for the IBM Machine Type 3932 Max 68 model configuration. x86 power values were based on Feb. 2023 IDC QPI power values and reduced to 55% based on measurements of x86 servers by IBM and observed values in the field. The x86 server compared to uses approximately .6083 KWhr, 55% of IDC QPI system watts value. Savings assumes the Worldwide Data Center Power Utilization Effectiveness (PUE) factor of 1.55 to calculate the additional power needed for cooling. PUE is based on Uptime Institute 2022 Global Data Center Survey (https://uptimeinstitute.com/resources/research-and-reports/uptime-institute-global-data-center-survey-results-2022). x86 system space calculations require 3 racks. Results may vary based on client-specific usage and location.

[2] **DISCLAIMER**: All the IBM z16 Rack Mount components are tested via same process requirements as the IBM z16 traditional Single Frame components. Comprehensive testing includes a wide range of voltage, frequency, temperature testing.

[3] Source: Information Technology Intelligence Consulting Corp. (ITIC). 2022. Global Server Hardware, Server OS Reliability Survey. https://www.ibm.com/downloads/cas/BGARGJRZ

[4] Check local availability for rack mount here.

SOURCE IBM

Additional assets available online: Photos (4)   Video (1)

https://newsroom.ibm.com/2023-04-04-IBM-Furthers-Flexibility,-Sustainability-and-Security-within-the-Data-Center-with-New-IBM-z16-and-LinuxONE-4-Single-Frame-and-Rack-Mount-Options?sf176472983=1