IBM z16

The platform designed to build the business of tomorrow

Increase decision-making velocity with industry-first integrated on-chip AI acceleration designed for analyzing real-time transactions at scale

Protect and future-proof your data with an industry-first quantum-safe system[1]

Enable cyber resiliency with automated compliance and capacity shift in seconds

Unlock 2.5 times more value at lower TCO than with public cloud alone

Digital transformation is accelerating, creating new opportunities for IT—and new challenges. As they transform, businesses seek ways to leverage the potential of AI across the organization and to proactively address the increase in cyberattacks and unplanned events that can impact business resiliency. Businesses also seek greater agility to capture more value while modernizing and protecting their hybrid cloud investments.

Built to build the future of your business
Innovation is at the heart of the new IBM z16™ platform. Designed with breakthrough technologies built in, IBM z16 can help you realize the untapped potential of your digital transformation. It features the groundbreaking IBM Telum™ processor at its core, with industry-first on-chip integrated accelerators to predict and automate with AI at unprecedented speed and scale—and extremely low latency. This industry-first quantum-safe system proactively protects against "harvest now, decrypt later" schemes on a single system that can process 25 billion secure transactions per day. The cyber resilience at its core extends to innovation in automated compliance that saves time and resources and new flexible capacity options that can proactively avoid disruptions, managing workloads across different sites in seconds. And the platform continues to be a catalyst for digital transformation, with open-standards, flexible-consumption models and easy, rapid integration as part of the hybrid cloud.

Predict and automate for better customer experience

AI is designed to fuel more informed decisions quickly and at scale. By embedding AI directly into enterprise transactional workloads, you can help harvest business insights which can mean the difference between a revenue opportunity and a financial loss from fraudulent activity. This can enable you to intercept fraud before it happens, thereby averting financial loss. IBM z16 features the IBM Telum processor for industry-first integrated on-chip inferencing. This latency-optimized, integrated processor with on-chip AI acceleration delivers insights faster with no impact to SLAs. 300 billion inference operations per day with 1 ms response time[2] means you can score 100% of transactions to achieve better client experiences, reduce fraud, contain operational incident costs and more. You can utilize existing AI models that are used and trained elsewhere, then deploy on the platform.

Data security for today and tomorrow

Proactively protect against harvest-now, decrypt-later schemes and improve resiliency to cyberattacks from bad actors with future access to quantum computing resources. The industry-first system has quantum-safe cryptography embedded in the system and secure boot to protect firmware with no changes required. The system builds on the success of previous innovation—such as pervasive encryption—and the IBM Z Cyber Vault solution, which enables rapid recovery from ransomware attacks with a trusted copy of data using EAL5-certified air-gap separation of compute and storage infrastructure.

Secure with a cyber-resilient system

Continuous availability is critical, particularly when it comes to a company's disaster-recovery strategy. The IBM Z Flexible Capacity for Cyber Resiliency on IBM z16 solution enables clients to transfer capacity within seconds between different data centers for disaster recovery, regulatory compliance, maintenance and other business needs. The IBM Z System Recovery Boost solution further improves availability by accelerating the recovery time from planned and unplanned outages by using all available processor resources during system shutdown and restart. Now this feature has been enhanced to include faster IBM middleware restart and other system components.

IBM z16 contains new capabilities in the IBM Z Security and Compliance Center solution to enable compliance to regulatory guidelines more easily and productively. Audit preparation times can be reduced by as much as 40% and require fewer staff to complete. A user-friendly dashboard enables infrastructure personnel to easily and quickly generate auditor reports and helps to ensure a continuous compliance posture that mitigates the potential for regulatory fines due to noncompliance.
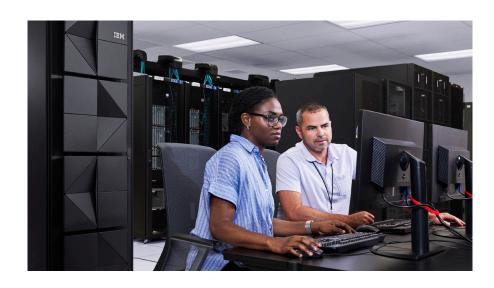
Modernize for hybrid cloud with more value and agility

Now you can gain new efficiencies with the ability to tie cost to value by optimizing deployment across the hybrid cloud. With IBM z16 in the hybrid cloud, you can unlock lower 5-year total cost of ownership (TCO) and up to 2.5 times more value than a public cloud-only approach.[3] With the IBM Z® and Cloud Modernization Stack solution, you gain a flexible and integrated platform to support IBM z/OS® system-based cloud-native development, application and data modernization, and infrastructure automation.

With open and familiar toolsets and enterprise DevOps available consistently across the hybrid cloud, you can unlock new pathways to innovation. Now developers can leverage these tools on prem or on IBM Cloud® with the ability to spin up a z/OS dev or test environment on demand on IBM Cloud in just 6 minutes. What's more, your ability to get to market faster is paramount in the age of digital. With IBM z16, you can modernize at speed with less cost and risk than migrating to public cloud. Integrate efficiently with new services leveraging Red Hat® OpenShift® or other Linux® distributions and colocate with IBM z16 for up to 3.6 times fewer cores than required with x86 remotely connected.

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Why IBM?

Position your business for today—and tomorrow
Success in the digital economy is contingent on making IT a creator of value—internally and externally. Fundamental to this is a flexible infrastructure that positions organizations strategically, leveraging AI and hybrid cloud while protecting existing investments and improving sustainability.

The new IBM z16 platform delivers this with scale, agility, resiliency, performance, a security-rich environment and a lower overall TCO. IBM z16 gives you the confidence to build the future of your business.

For more information
To learn more about the IBM z16 platform, contact your IBM representative or IBM Business Partner, or visit ibm.com/products/z16

Additionally, IBM Global Financing provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit: ibm.com/financing

Footnotes

1. The IBM z16 with the Crypto Express 8S card provides quantum- safe APIs providing access to quantum-safe algorithms which have been selected as finalists during the PQC standardization process conducted by NIST (https://csrc.nist.gov/Projects/post-quantum-cryptography/round-3-submissions). Quantum-safe cryptography refers to efforts to identify algorithms that are resistant to attacks by both classical and quantum computers, to keep information assets secure even after a large-scale quantum computer has been built. Source: https://www.etsi.org/technologies/quantum-safe-cryptography

   These algorithms are used to help ensure the integrity of a number of firmware and boot processes. The IBM z16 is the industry-first system protected by quantum-safe technology across multiple layers of firmware.

2. Performance result is extrapolated from IBM internal tests running local inference operations in an IBM z16 LPAR with 48 IFLs and 128 GB memory on Ubuntu 20.04 (SMT mode) using a synthetic credit card fraud detection model (https://github.com/IBM/ai-on-z-fraud-detection) exploiting the Integrated Accelerator for AI. The benchmark was running with 8 parallel threads, each pinned to the first core of a different chip. The lscpu command was used to identify the core-chip topology. A batch size of 128 inference operations was used. Results were also reproduced using a z/OS V2R4 LPAR with 24 CPs and 256 GB memory on the IBM z16. The same credit card fraud detection model was used. The benchmark was executed with a single thread performing inference operations. A batch size of 128 inference operations was used. Results may vary.

3. The hybrid cloud platform advantage: A guiding star to enterprise transformation (PDF, 340 KB), IBM Institute for Business Value, June 2020.