

Mainframes Cloud computing LinuxONE solutions

IBM unveils new cloud-ready mainframe based on single-frame design

By Ross Mauri | 3 minute read | April 10, 2018



Today, IBM announced its newest cloud-ready mainframes — the IBM z14 Model ZR1 and IBM LinuxONE Rockhopper II, the latest additions to its family of servers

announced in 2017.

The new systems feature a 19-inch industry standard, single-frame design allowing for easy placement into cloud data centers and for private cloud environments.



This will bring the power of the IBM Z to an even broader center of clients seeking robust security with pervasive encryption, cloud capabilities and powerful analytics with machine learning. Not only does this increase security and capability in on-premises and hybrid cloud environments for clients, IBM will also deploy the new systems in IBM public cloud data centers as the company focuses on enhancing security and performance for increasingly intensive data loads.

In the era of digital business, the mainframe remains for many the most stable, secure and mature environment to support IT initiatives including the proliferation of blockchains. For instance, 87 percent of all credit card transactions and nearly \$8 trillion in payments a year are processed on mainframes. Furthermore, the platform manages 29 billion ATM transactions each year, equivalent to nearly \$5 billion per day. If you're traveling by plane you can thank a mainframe, as they are also responsible for processing four billion passenger flights each year.[1]

It's also critical in a world of increasing cybersecurity concerns. According to Gemalto's Breach Level Index, of the nearly 10 billion records breached since 2013, only 4

percent of the stolen data was encrypted and therefore was rendered useless to hackers. Capable of processing over 850 million fully encrypted transactions a day on a single system, the new mainframes do not require special space, cooling or energy, but still provide groundbreaking IBM pervasive encryption and Secure Service Container technology for secure data serving at massive scale.

With the mainframe in high demand and more relevant than ever, IBM used Design Thinking to work closely with more than 80 clients, including managed service providers, online banks and insurance firms, to reinvent the mainframe for a whole new class of users.

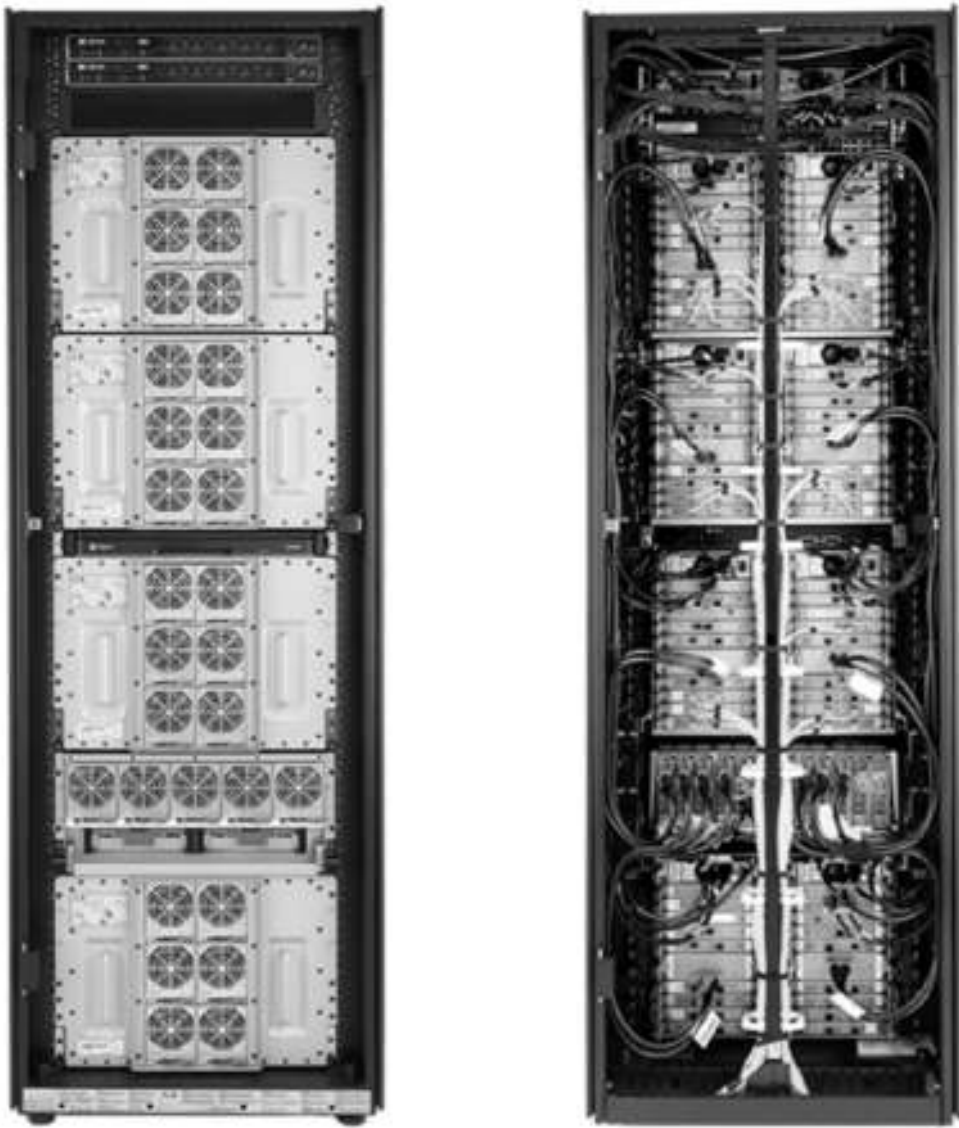
Robust security at massive scale

The new IBM systems are designed to bring industry-leading security for Linux environments with the broad use of IBM Secure Service Container technology. Steps can now be taken to protect data against internal threats at the system level from users with elevated credentials or hackers who obtain a user's credentials, as well as external threats with no application changes. Software developers benefit by not having to create proprietary dependencies in their code to take advantage of these advanced security capabilities. An application only needs to be put into a Docker container to be ready for Secure Service Container Deployment, and the application can be managed using Docker and Kubernetes tools that are used to make Secure Service Container environments easy to consume.

This unique capability provides a secure logical partition and encryption of all data within that partition. CIOs and service providers can provide these environments to their users without risk of compromising the trust they have, while also meeting increasing industry regulations.

Cloud data center in a box

The new IBM Z and IBM LinuxONE offerings also bring significant increases in capacity, performance, memory and cache across nearly all aspects of the system. A complete system redesign delivers this capacity growth in 40 percent less space and is standardized to be deployed in any data center. The z14 ZR1, announced today, can be the foundation for an IBM Cloud Private solution, creating a "data center in a box" by co-locating storage, networking and other elements in the same physical frame as the mainframe server.



The new systems deliver:

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- More than 850 million fully encrypted transactions per day on a single system (z14 ZR1).
Explore products
- 19-inch standard form factor, 50 percent more capacity and 2x (8TB) more memory than previous version (Rockhopper II).
- A Docker-certified infrastructure for Docker EE with integrated management and scale tested up to 330,000 Docker containers –allowing developers to compose high-performance applications and embrace a micro-services architecture without latency or scale constraints (Rockhopper II).

Coupled with this, and to further improve the movement of data, today IBM Storage announced additional enhancements that provide faster performance and simplified cloud connectivity. Today's news also builds on IBM's recent announcement of the first cloud services with mainframe-level data protection. These services allow developers and clients to build, deploy and host applications with robust data protection that encrypts information in memory, in transit and at rest. The IBM Cloud Hyper Protect family includes four new services that are made possible by bringing IBM Z into IBM's global public cloud data centers. Through the IBM Cloud catalog, developers can gain easy access to unique security capabilities to modernize their applications in the IBM Cloud.

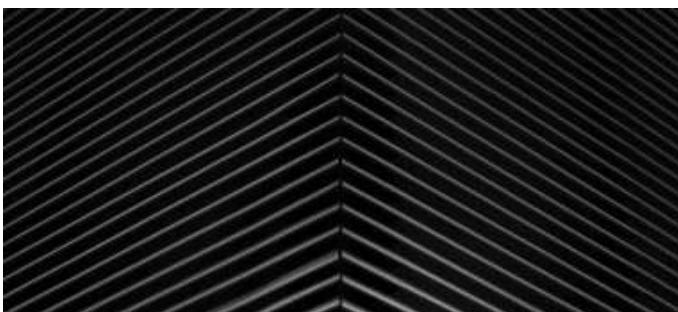
Learn more about the latest IBM Z and LinuxONE!

[1] *IBM Mainframe Ushers in New Era of Data Protection, July 2017*, <https://www-03.ibm.com/press/us/en/pressrelease/52805.wss>



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