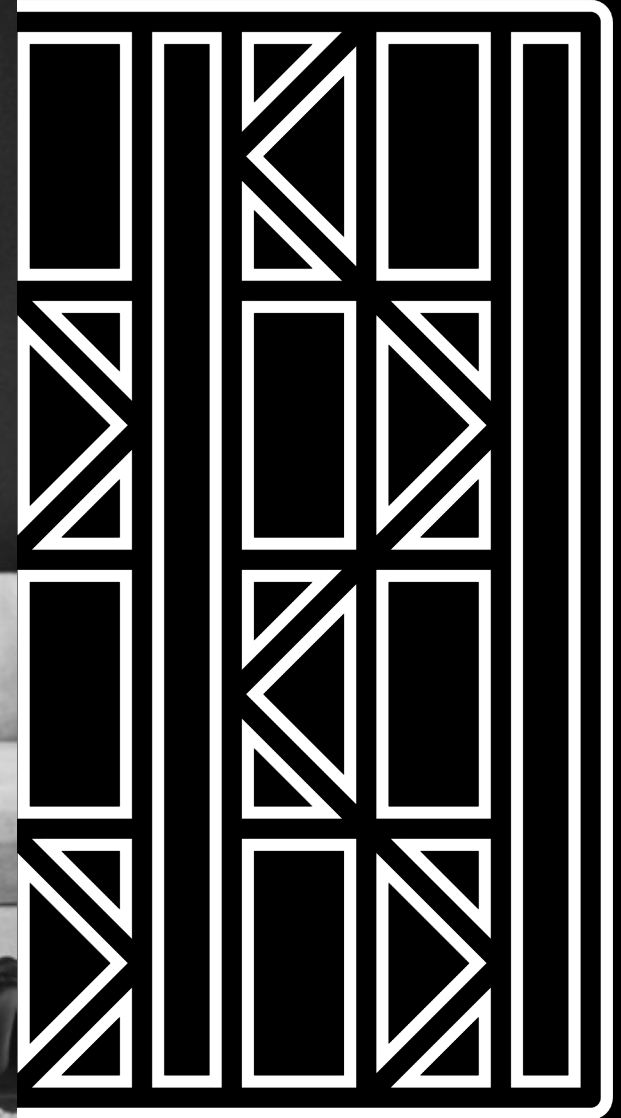


Introduction to Enterprise Computing

Your Name

Your Title

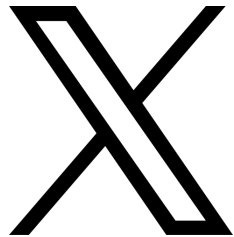
Any Social handles you'd like to share



What happens in one second?



1,200
Instagram
Posts



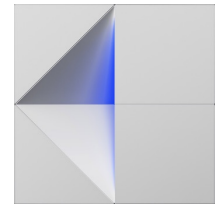
10,000
Tweets



98,000
Videos



106,000
searches



1,157,407
IBM Z
transactions

The backbone of the world's leading businesses



7

**of the top 10
global retailers**



45

**of the top 50
worldwide banks**



4

**out of 5
of the world's
largest airlines**

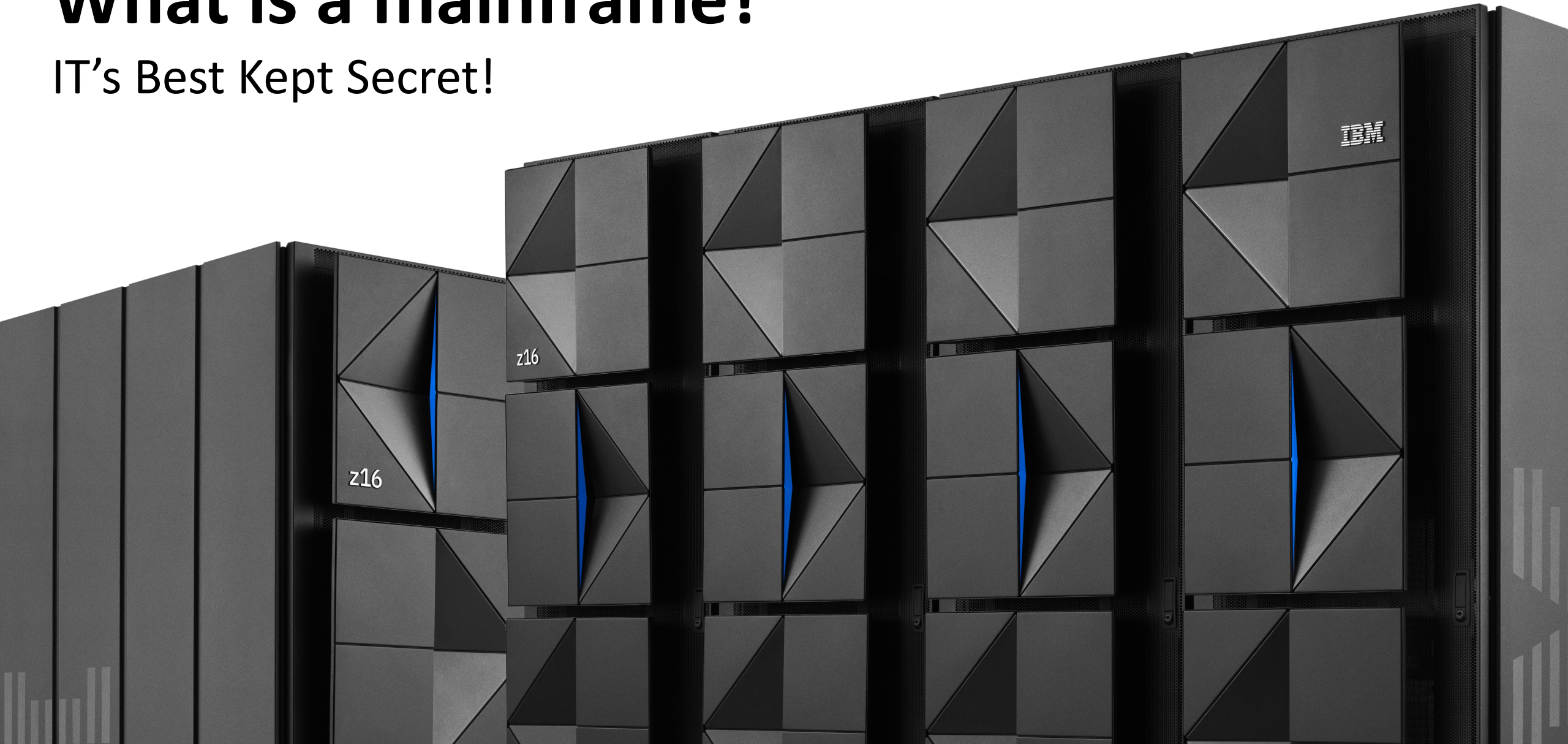


8 out of 10

**of the world's
largest insurers**

What is a mainframe?

IT's Best Kept Secret!

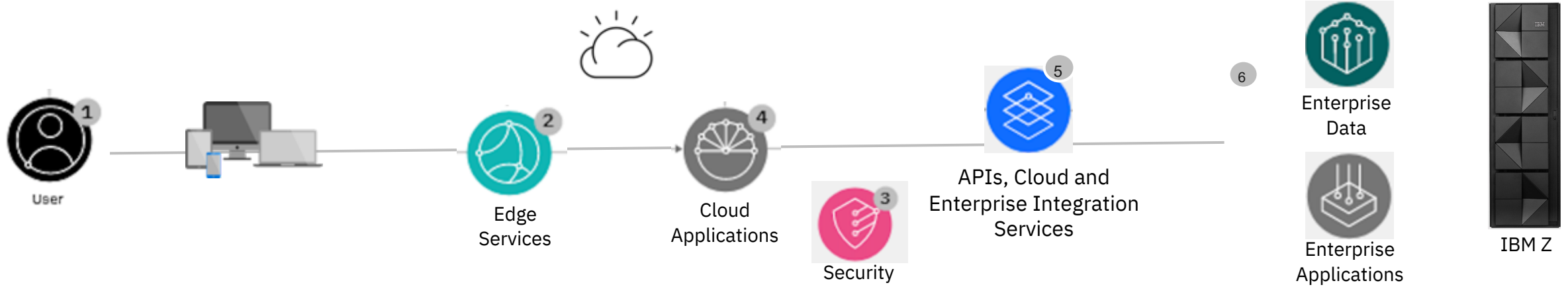




Public Network

Cloud Provider Network

Enterprise Network



Enterprise Computing enables you to work in a wide variety of areas....

Hybrid Cloud



Public clouds like AWS, Azure and IBM Cloud partner perfectly with more secure private cloud options like IBM Z.

Analytics



Insurers are expected to spend approximately \$8.3B, or 8% of their overall spending, with big data and analytics vendors in 2019, growing to \$11.5B in 2022

Artificial Intelligence



AI spending to jump to \$154B in 2023

Internet of Things



The global insurance industry is spent \$27.5B on IoT in 2022, growing to \$168B in 2028.

Growing IBM Z & LinuxONE Open-Source Software Ecosystem

Linux Distributions & Virtualization



Linux Community Versions

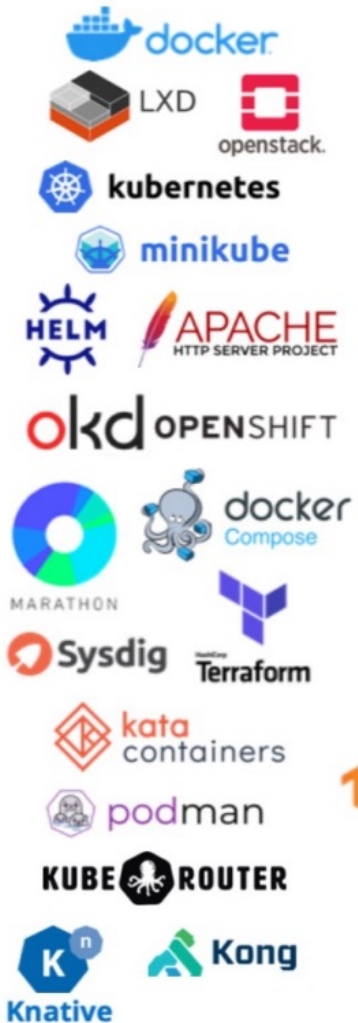


Networking & Monitoring



More: hub.docker.com

Cloud & Container Services

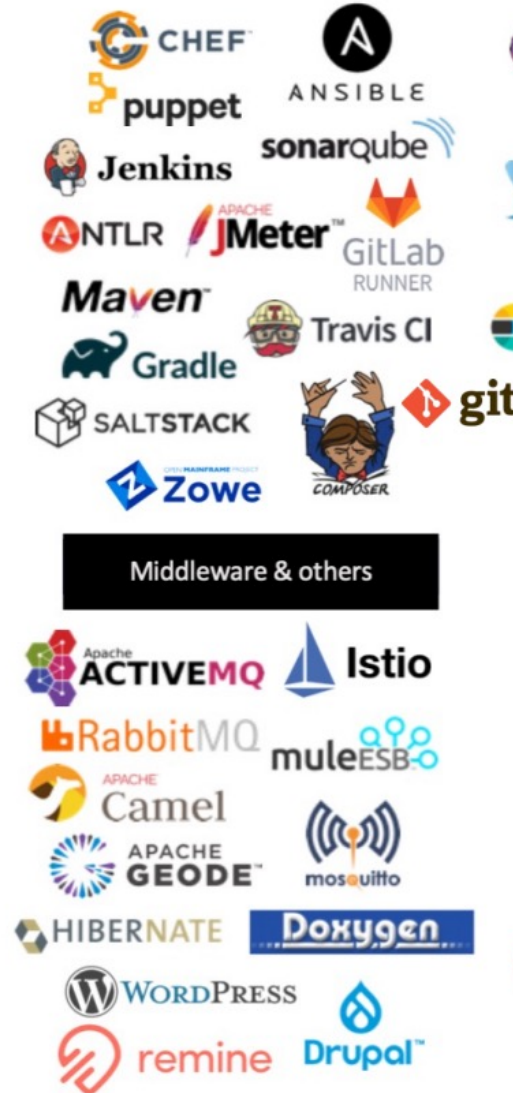


www.ibm.com/community/z/open-source-software/

Languages & Runtimes



DevOps/Automation



Big Data, Observability, Analytics



Databases & Storage



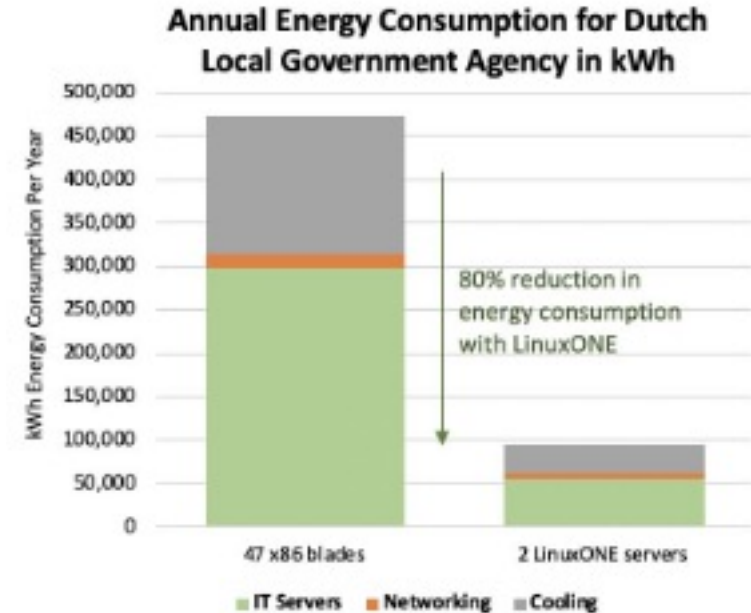
Responsible Computing



“IBM Europe is changing how **European clients** work by leading them on the journey to **hybrid cloud** and becoming a **responsible, cognitive enterprise.**”

Rashik Parmar

IBM Fellow & Vice President Technology



Responsible use of natural resources

Reduce environmental impact of data centers

Responsible Infrastructure

Reduce energy/ computing unit
Reduce precious/ rare metal usage
Recycling of tech

Responsible Code

Efficient coding
Open
Secure

Responsible Data Insights

Privacy
Transparency
Authorized data acquisition
Consent for use

Responsible Systems

Ethical systems
Unbiased
Explainable AI

Responsible Impact

Tech for good
Address societal issues
Social mobility

AI is delivering value in every industry

Banking

Examples

- Compliance Testing: account ID take over and identity theft
- Gaming the system – reward cards and account openings
- Interest rate forecasting
- Loan processing & approval

Finance

Examples

- Enable point-of-sale payment processing with fraud detection
- Financial crimes detection, anti-money laundering (AML)
- Wealth management with predictive models

Trading

Examples

- High frequency trading analytics
- Algorithmic trading
- Clearing & Settlements

Insurance

Examples

- Real-time fraud detection for claims and images
- Claims adjudication
- Pricing & actuarial analysis for better risk assessment

Other

Examples

- Supply Chain
- Payroll processing
- Manufacturing
- Scientific research
- Computer design
- Biosecurity
- Mining
- Healthcare

Home / Innovation / Computing

The first IBM mainframe for AI arrives

The next-generation IBM z16 comes with an IBM Telum processor for real-time AI insights.



NEWS

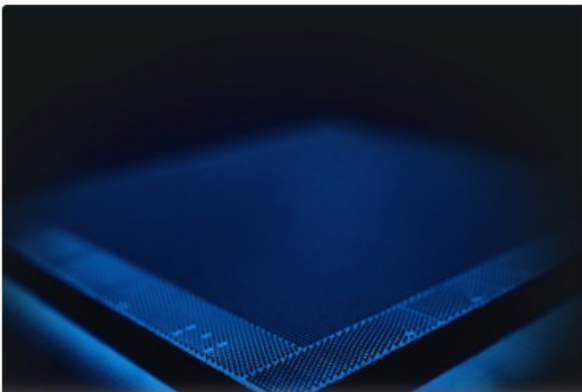
IBM z16 tackles financial fraud and quantum hacks

New addition to Z series mainframe family uses IBM Telum processor to accelerate AI for real-time credit card fraud detection

TOMORROW RUNS

IBM's Upcoming Z Series Chip Gains On-Chip AI Acceleration and New Name: Telum

August 22, 2021 by Todd R. Weiss



In a major refresh of its Z Series chips, IBM is adding on-chip AI acceleration capabilities to allow enterprise customers to perform deep learning inferencing while transactions are taking place to capture business insights and fight fraud in real-time.

IBM is set to unveil the latest Z chip Aug. 23 (Monday) at the

RTI RTInsights

IBM Delivers Real-Time AI for Transaction Processing at Scale

The new IBM z16 offers AI inferencing (delivered via the integrated on-chip AI accelerator IBM Telum Processor) and is designed to analyze...

Apr 7, 2022



PaymentsJournal

Can Quantum Security & Embedded AI Breathe New Life into Mainframes?

Building on IBM technologies like Pervasive Encryption and Confidential Computing, IBM z16 takes cyber resiliency a leap further by protecting...

Apr 12, 2022



CW Computer Weekly

IBM z16 tackles financial fraud and quantum hacks

New addition to Z series mainframe family uses IBM Telum processor to accelerate AI for real-time credit card fraud detection.

Apr 5, 2022



TW Tech Wire Asia

IBM z16: Here's why the cloud won't replace the mainframe

The first IBM mainframe for AI arrived not too long ago and it integrates its Telum processor to analyze real-time transactions for...

May 4, 2022



F Forbes

IBM And MLCommons Show How Pervasive Machine Learning Has Become

With its latest Z-Series mainframe computer, the z16, IBM has added ... include classic computing, AI processing, and quantum computing.

Apr 7, 2022



Client Use Cases In Finance & Banking

FRAUD DETECTION



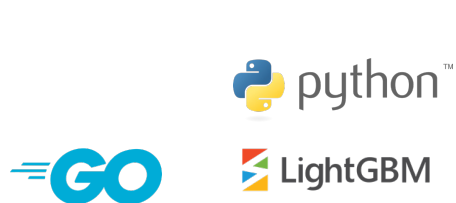
Business Challenge

A large US bank was unable to score all transactions in real-time with an off-platform scoring engine. Causing 80% of transactions to go unscored

Business Impact

100% real-time scoring, saving > \$20M in exposure risk per year

Capabilities Leveraged



CLEARING & SETTLEMENT



Business Challenge

A card processor needed to determine which trades and/or transactions have a high-risk exposure before settlement

Business Impact

Enhancement of rules-based approach with no impact to SLAs

Capabilities Leveraged



LOAN APPROVAL



Business Challenge

A large lender needed to speed up their consumer loan approval process, in order to maintain client satisfaction

Business Impact

Reduction in latency of over 1000X, with corresponding decrease in lender risk and exposure

Capabilities Leveraged



CLAIMS FRAUD



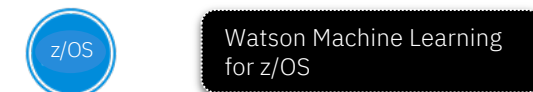
Business Challenge

A state government in the US realized that their process to determine fraudulent claims was manual & intensive and could not scale, taking up to 40 hours per case

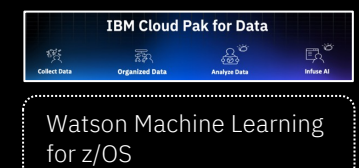
Business Impact

Now able to process claims and detect fraud in under 1 minute per case and allocate resources to higher value tasks

Capabilities Leveraged



IBM z16 Platform AI Stack



Client Use Cases In Other Industries

MEDICAL IMAGES




Business Challenge

A Health Insurer needs to analyze large volumes of medical records, including training computer vision models, while optimizing for energy efficiency

Business Impact

Replace x86 server environments with LinuxONE to reduce energy consumption by x%

Capabilities Leveraged



IBM LinuxONE

Integrated Accelerator for AI

IBM Deep Learning Compiler

ONNX

PyTorch

GEOSPATIAL ANALYSIS & NLP



Business Challenge

A European land registry needs to determine which buildings have been added to, modified, or demolished for land surveys and tax purposes. Also embedding NLP into chat services.

Business Impact

Deploy on IBM z16 to ensure security of data, and optimization of IT and operational costs

Capabilities Leveraged

z/OS

Watson Machine Learning for z/OS

zCX

ONNX

FEDERATED LEARNING



Business Challenge

Organized Retail Crime costs over \$3.5B per year to US retailers, who lack the ability to fully model for the risk as they only have the data for their own business.

Business Impact

Federated learning enables sharing of models, without exposing sensitive data, to catch the bad actors

Capabilities Leveraged

IBM HPVS

Watson Federated Learning

IBM Cloud Pak for Data

Collect Data | Organized Data | Analyze Data | Ingest AI

DATA REDACTION



Business Challenge

Due to banking secrecy laws and slow post-processing performance, a European bank was unable to send diagnostic data to vendors to effectively maintain operational stability for their production environment.

Business Impact

Automatic redaction of PI & SPI, resulted in a 47x performance improvement in post-processing speeds

Capabilities Leveraged

z/OS

Data Privacy for Diagnostics

IBM z16 Platform AI Stack

IBM Telum CPU

IBM Z Integrated Accelerator for AI

SIMD

z/OS

Red Hat

SUSE ubuntu

zCX

python

GO

IBM Deep Learning Compiler

TensorFlow

ONNX

Keras

ANACONDA

APACHE SPARK

IBM Cloud Pak for Data

Watson Machine Learning for z/OS

Demand for IBM Z and Skills

60%

Mainframe
Technology
Specialists
over the age
of 50

71%

IT Leaders
say their
mainframe
team is
understaffed

93%

Say it's
moderately
or extremely
challenging
to find
mainframe
skills

67%

Executives
recognize the
mainframe's
ability to grow
and attract
new workloads

91%

Expanding
their
mainframe
footprints as a
moderate or
critical priority

Students pursuing careers in technology are focused on five primary things in a potential career.

Enterprise Computing outperforms other IT roles

Base: US online adults, 18+; 414 IT professionals involved in software development, IT support, enterprise architecture, enterprise computing systems administration/development, data science, etc.
Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, September 2019



Good salary

● Enterprise computing role ● Other computing role

Trends show starting salaries in mainframe are **~\$8,000** more than in other mixed IT roles



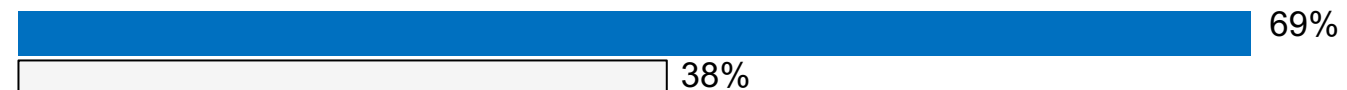
Good work-life balance

A good work-life balance (*% rating 8, 9, or 10 out of 10*)



Ability to make a social impact

Social impact, for example, the ability to contribute to open source, social, or community groups, with your technical skills



Working on something that aligns with primary interests in technology

Opportunity to work with leading-edge tech



Job security/role versatility

Nearly **90%** of professionals in enterprise computing careers agree the job market for their skill set is growing, and **75%** believe there is a shortage (i.e., high demand) for their skill.

A New Learning Experience

- The new learning platform is a year-round interactive learning platform available for anyone to get hands-on experience across a variety of technologies, to develop valuable skills, and to earn industry recognized badges – with **no prior knowledge required!**
 - **You will find:**
 - Hands-on challenges
 - Progressive learning paths
 - Direct access to IBM Z environments
 - User community and leaderboard
 - Digital badging



Fundamentals: Learn about data sets and how to use VS Code. Introduction to coding languages such as JCL, Python, and USS through hands-on challenges.

Concepts: Increased knowledge on security, uptime and enterprise scalability. Take a deeper look into enterprise systems and RACF.

Advanced: Further your hands-on learning around REXX, COBOL, Linux, Db2, and more.

Extended: Develop skills surrounding TSO/ISPF, Node.js, Machine Learning, and more.



Concepts Badge



Advanced Badge

Register today: ibm.biz/ibmzxplora

