2017 z Systems Software Strategy

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The mainframe and enterprise assets are at the center of a digital enterprise

Virtually Limitless Scale
1.3 million CICS transactions are processed every second, every day. In comparison, there are 68,542 Google searches every second globally.

Superior Efficiency
68% of the world’s production workload capacity, only 6.2% of total server spend.

Trusted Computing
The highest level of security certification for commercial server and 5 9s application availability.

Enterprise Data Serving
Over 80% of all corporate structure data.

Blockchain
2X the number of transactions compared to the same software running on Intel.

Open Source runs better
Mongo DB holds 2 billion documents and 1TB of data with no sharding.
Digital Transformation is required to meet the ongoing disruptions facing industry markets

**Banking and Financial Services**
- Changing consumer behaviors and mobile devices
- New rules and regulations such as Instant Payments and PSD2 increase costs and introduce new competitors

**Government**
- Geopolitical instability & terrorism
- Increased proliferation of social media platforms & mobile devices
- Government Transparency

**Healthcare**
- New platforms for sharing health information
- Increasing amounts of data from wearables

**Automotive**
- Telematics is disrupting the Automotive Industry with Self-Driving Automobiles, Vehicle Data, Traffic/Accident/Weather data

**Retailers**
- Change in Retail Store's Role: Inspiration, purchase point, pickup point, return locations
- 20% of sales and shipments to be picked up at retail store
- Stores within Stores
- Seasonal Pop-Up Stores
Addressing the challenge of Digital Transformation

- COGNITIVE DEVOPS
- HYBRID CLOUD
- APPLICATION MODERNIZATION
- COGNITIVE ANALYTICS
Adopters of a connected mainframe strategy can achieve more than 300%+ ROI and breakeven in 10 months.

Adopters average almost $200 million in additional revenue per year.

Adopters save 47% on costs of operations over distributed infrastructure.

Developers are 15% more productive on average.

Data and app growth are generating new development challenges

**Challenge**

- Lack of speed and agility lead to competitive disadvantages
- Lack of skills and innovation prevent companies from addressing business opportunities
- Lack of affordable quality leads to longer development cycles

**How can we solve this problem?**

- Use IBM Application Discovery & Delivery Intelligence to understand & plan Cobol & PL/I app changes, reducing dev effort & testing up to 30% each
- Increase code quality by 50% & empower developers w/ autonomous environment & integrated tools IBM Application Delivery Foundation
- Rapidly create images across subsystems with z/OS Provisioning Toolkit and reduce deployment times up to 99% with Urban Code Deploy
- Plan and manage automation activities in 50% the time with Service Management Suite for z
Unlock secrets of complex applications with Application Discovery

Analyze and visualize relationships between application components, data and jobs

- Understand the structure of your business-critical applications across languages and environments
- Reduce risk and time and increase quality of changes through visual impact analysis integrated with your IDE
- Prioritize changes by understanding operational performance of most frequently used applications
- Synchronize ADDI with latest changes in your source code management systems for a single source of truth

Reduce development change effort by up to 30%*
Reduce project management by up to 50%*

* Based on EZSource client surveys 2013-15, guidance from industry analysts and industry reference frameworks
Major UK Bank

Reduces risk of service interruptions or delays, inspiring customer loyalty

Boosts internal efficiency by 50% through automation

Shortens time to market for new services helping the bank compete

“Without insight into the way that applications in our environment are connected, it was not possible for us to make optimizations or changes easily. To minimize the risk of service interruptions paralyzing our ability to innovate or disrupting the customer experience, we needed deeper visibility, and fast.”

—Managing Director of Application Development, major UK bank

Find out more: http://ibm.biz/ad-reference
Enhances visibility of performance and availability in development landscapes

Accelerates z Systems development, contributing to first-mover advantage for the bank

Simplifies development with 17 different tools within a single pane of glass

“What’s great about ADFz and IBM Developer for z Systems is that almost everything we need to deliver software rapidly is in one interface... a solid mainframe development environment with code coverage, unit testing, and test coverage is a critical element in software production at Danske Bank.”

—Henrik Hartvig Jensen, Senior Development Manager, Danske Bank

Find out more: http://ibm.biz/adfz-reference
Agile development leverages multi-speed IT in an API Economy

Speed and agility to drive innovation and growth

Scaling your institutional knowledge and processes

API’s

LoB Roles

DIGITAL

Accelerated Speed of IT

ENTERPRISE

CIO Roles

Steady Speed of IT
API Economy is quickly emerging, and with it new challenges

**Challenge**
- Integrating disparate/monolithic applications without needing specialized skills and months of effort.
- Maintaining timeliness & consistency of data across channels.
- Difficult to pinpoint where the bottlenecks and problems are for hybrid apps.

**How can we solve this problem?**

- **Understand & Plan**
  - Use IBM Application Discovery to understand applications and design API interactions with confidence.

- **Expose APIs**
  - Open business logic, data & transactions from any z/OS Sub-system with API’s via z/OS Connect Enterprise Edition in minutes.

- **Consume APIs**
  - Automatically discover & publish APIs from z/OS Connect with API Connect.

- **End to End Monitoring**
  - Give application owners end-to-end view with IBM Omegamon for Application Performance Management.
“There's something called z/OS Connect from IBM that allows you to write APIs directly into the new CICS…So an API can be written directly into a core banking platform running on the mainframe in half the time for a fraction of the cost of what it would [sic] require for integration.”

—Scott Collory, CIO, ANZ

IBM’s Blockchain Offering (powered by LinuxONE)

High Security Business Network Plan
Business network running on dedicated high security compute

Key Capabilities:

Dedicated Compute
Four connected peers and a CA in an isolated partition on dedicated compute

Secure Service Container
Protection from horizontal and vertical tampering with all code running in a secure virtual appliance

SecureKey and HSM
On board HSM with tamper resistant cards providing up to FIPS 140-2 Level 4 security

Performance Optimized
Crypto acceleration, high speed network all running on the worlds fastest Linux system
Maersk

**Enables** real time exchange of original supply chain events and documents that cannot be tampered with

**Reduces** the total cost of shipping goods up to 15%

**Provides** all members of the supply chain ecosystem a view of the progress of goods through the supply chain

“As a global integrator of container logistics with the ambition to digitize global trade, we are excited about this cooperation and its potential to bring substantial efficiency and productivity gains to global supply chains, while decreasing fraud and increasing security,”

—Ibrahim Gokcen, Chief Digital Officer, Maersk.

Find out more: http://ibm.biz/blockchain-reference
Java on the mainframe provides new opportunities for simplification

Challenge
- Companies are paralyzed to change due to lack of documentation & understanding of their applications.
- Companies are challenged to reduce CPU consumption.
- New staff don't arrive with the skills to maintain, update or create new COBOL applications.

How can we solve this problem?

1. Use IBM Application Discovery to compartmentalize & plan to replace or augment discrete business logic.
2. Leverage the 14 million Java developers to modernize applications with Java integrated in CICS, IMS, TPF, or batch.
3. Auto-discover and manage all the Java VMs on a system with Omegamon for JVM.
Sparda-Datenverarbeitung e.G.

**Secures** the data with the same policies and mechanisms used on the rest of the platform

**Optimizes** performance by co-locating the Java workload with the systems of record on z Systems

**Simplifies** management of the environment by using the same people, processes and tools for operations

CICS and Liberty: an ideal partnership to unleash z Services securely

Find out more: http://ibm.biz/zos-cics-java-reference
Analytics opportunities and challenges continue to grow

**Challenge**
- Proactively finding & address potential service outages.
- Quickly respond & fix outages to minimize disruption & maintain SLAs.
- Reduce CPU overhead from systems management & analytics solutions.

**How can we solve this problem?**
- Use IBM Common Data Provider to read operational data once from 140 different sources and stream near real-time to multiple targets.
- Prevent service outages with anomaly detection from zAware. Be notified only when an anomaly occurs.
- Get to root cause with IBM Operational Analytics for z Systems up to 98% faster.
- Accelerate operational optimization by 90% with IBM z Operational Insights in the cloud.
Building on top of Spark with IBM Machine Learning for z/OS

Continuous intelligence for the enterprise

- Create better models with the Cognitive Assistant for Data Scientists
- Deploy APIs instantly to expose the model as a service
- Continuously provide feedback to the system for retraining
- Use data securely in place without having to create additional infrastructure or security policies
Reinventing Enterprise IT for Digital Transformation

Increase efficiency application development and agility
• Understand existing systems and have confidence when planning changes
• Accelerate application time to value & quality with automation across the entire enterprise

Expose core z assets securely with API’s
• Transform mission critical applications for the digital world
• Facilitate hybrid cloud application development

Modernize applications with Java
• Securely access data directly from Java in CICS, IMS, or batch
• Co-locate workloads for simplified management and optimal performance

Operationalize real time insights at the point of impact
• Turn Operational Data into insights and actions
• Move from machine learning and building learning machines
Where to get started

Get started with DevOps
https://www.ibm.com/systems/z/solutions/enterprise-devops/

Get started with Hybrid Cloud
https://www.ibm.com/systems/z/solutions/hybrid-cloud/

Get started with Blockchain
https://www.ibm.com/blockchain

Get started with Java

Get started with Operational Analytics
http://www-03.ibm.com/systems/z/solutions/operational-excellence/

Get started with Machine Learning
You’re invited

Client & Partner Round Table
Wednesday (14.3) in Room Bednarz
10:45 – 12:00