IBM MobileFirst – Solutions & Integration with z Systems

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What about the mainframe?

The mainframe…

- Home to business critical applications and data

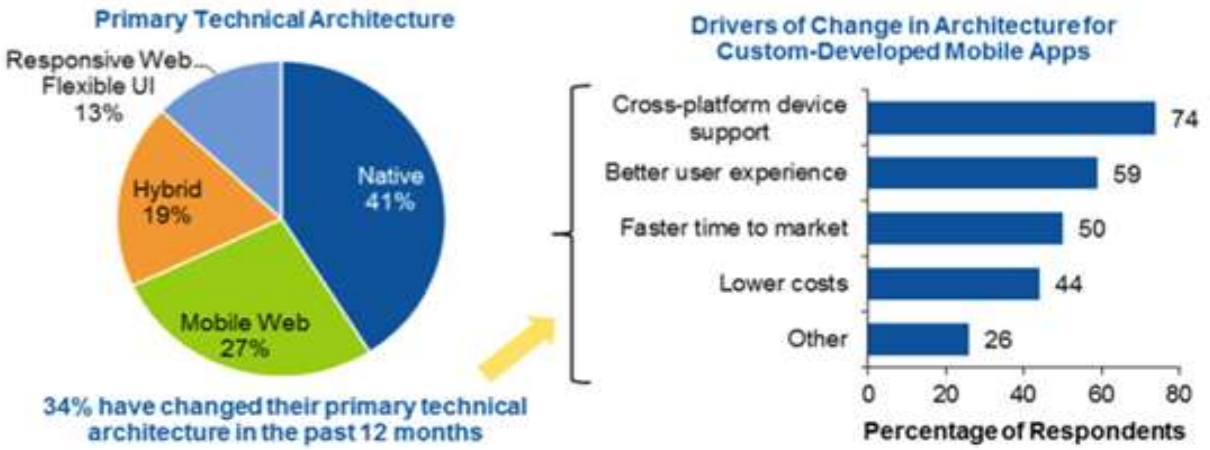
- How do we bridge the gap?

Business Models are changing…

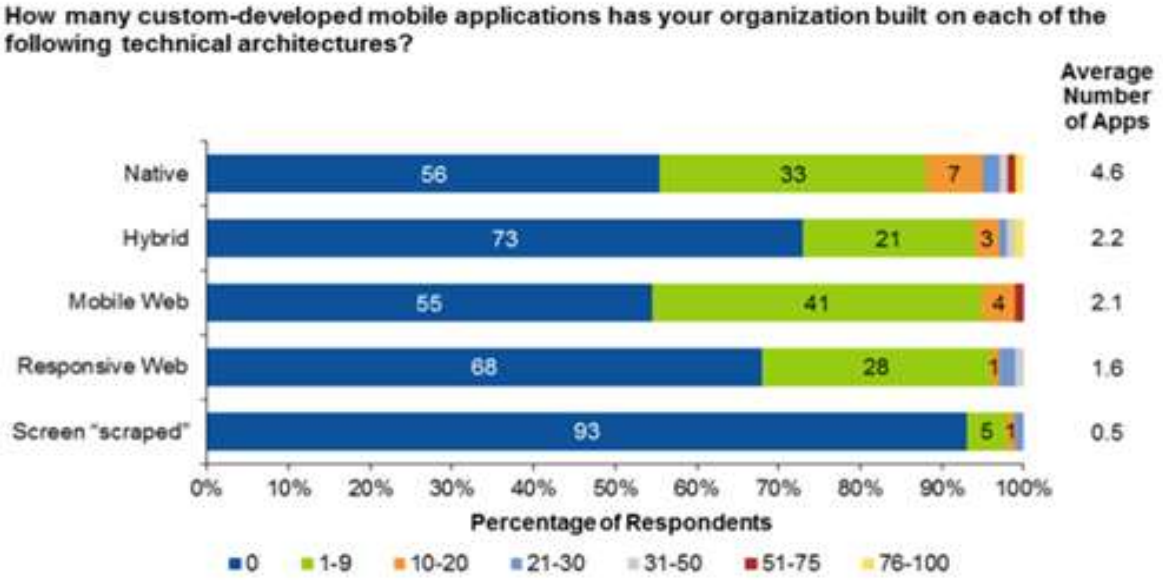
…a new computing era is here

Mobile adoption in the enterprise market is still immature

Most organizations are still experimenting with their technology infrastructure



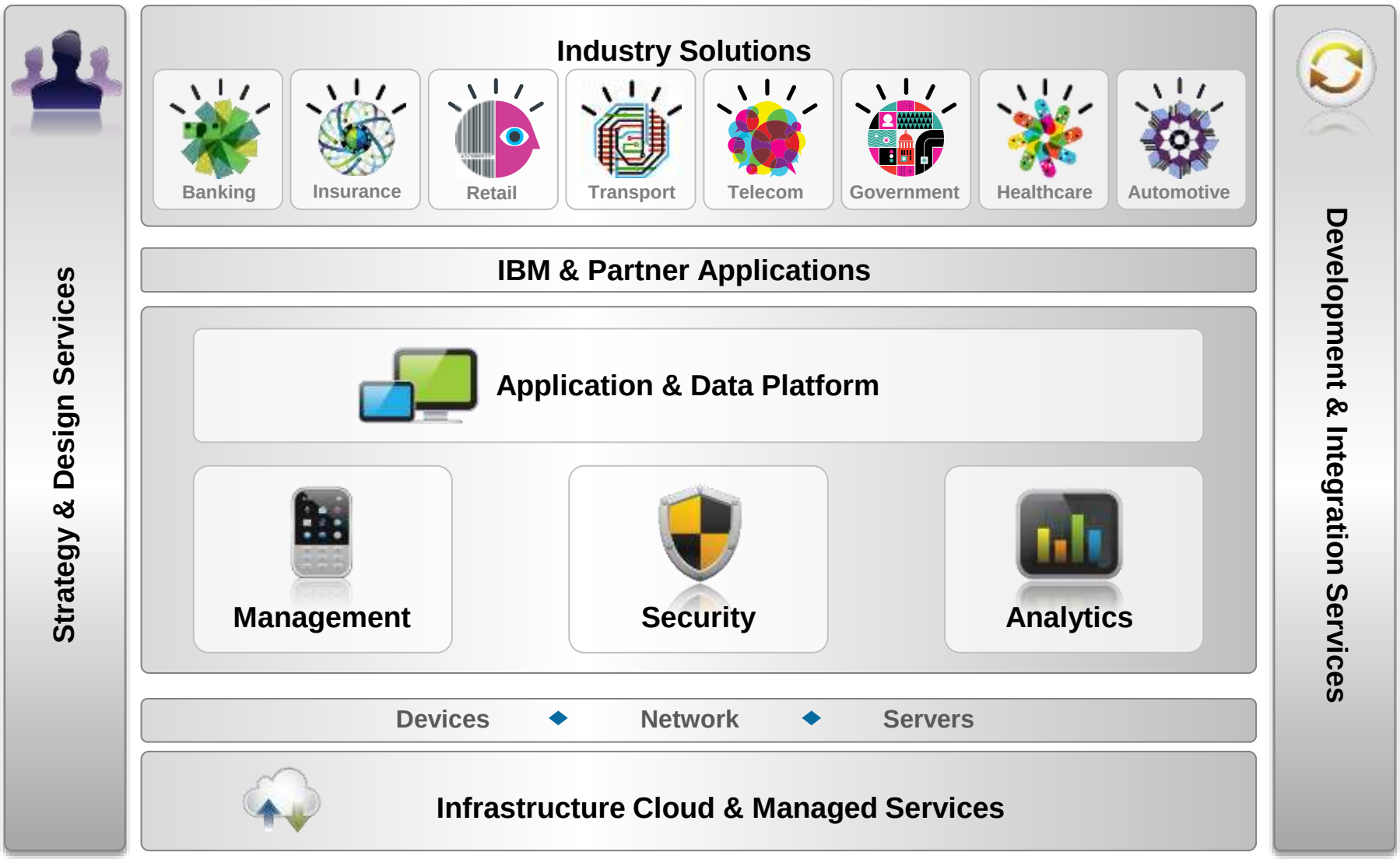
Many organizations have not yet started and most have few apps



Source: Gartner (October 2014)

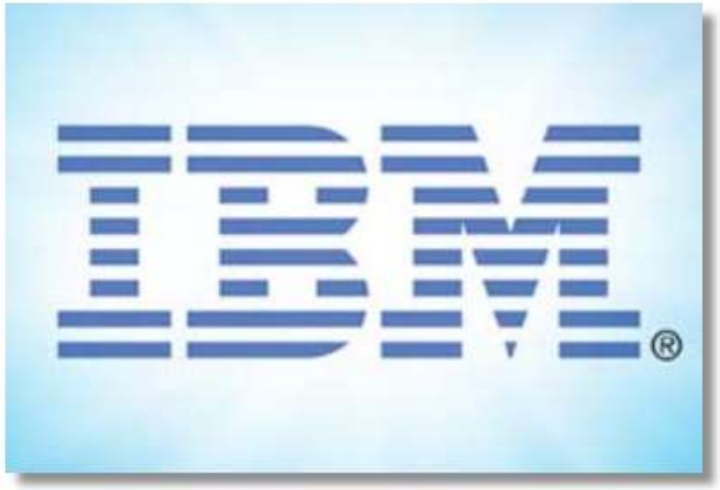
IBM positioning to solve the Mobilizing challenges

MobileFirst Platform – An Enterprise Blueprint



IBM, China Telecom Push MobileFirst for iOS

By Darryl K. Taft | Posted 2015-04-03 Print



IBM strikes a deal with China Telecom to help Chinese enterprises beef up their mobility efforts with IBM MobileFirst for iOS apps.

IBM and China Telecom announced a partnership to accelerate enterprise mobility in Chinese businesses by tapping the IBM MobileFirst Platform for iOS.

Big Blue said joint IBM/China Telecom customers will benefit from the IBM MobileFirst Platform for iOS to build, integrate and secure made-for-business enterprise apps that will be hosted on China Telecom's cloud. The partnership builds upon China Telecom and IBM's work to help businesses implement secure, cost-effective and scalable cloud-based applications.

Together, IBM and China Telecom will provide secure native mobile solutions to Chinese organizations, from traditional enterprises to startups. As the biggest cloud computing service provider in China, China Telecom hosts more than 70 percent of the domestic Internet content and services. China Telecom is deploying nationwide assets consisting of "8 (regions) + 2 (ultra-large data centers) + x (edge nodes)," which back up each other, IBM said. The nodes are interconnected via high-speed networks to provide more reliable services that address customer requirements such as cloud IT infrastructure construction, application migration and disaster recovery.

"China Telecom and IBM will jointly promote the mobile transformation of Chinese enterprises," said Gao Tongqing, executive vice president of China Telecom, in a statement. "With the rapid development of mobile

http://www.eweek.com/mobile/ibm-china-telecom-push-mobilefirst-for-ios.html

IBM develops Apple Watch banking app for Nationwide

Nationwide claims to be the first high street finance firm to offer an Apple Watch app

Nationwide collaborated with IBM's digital arm in the UK, known as IBM Interactive Experience, to develop the Apple Watch app. According to IBM senior managing consultant Elizabeth Thornewill, the digital agency "uses data to create transformative experiences that fuse the physical and digital worlds".

http://www.computerweekly.com/news/4500247893/Nationwide-quick-off-the-mark-with-Apple-Watch-banking-app

News room > News releases >

Tata Sky Turns to IBM to Launch New Mobile Solutions that Accelerate Business Growth

Indian broadcast satellite provider launches new app to improve customer service and expand into untapped markets

Select a topic or year

News release

Contact(s) information

Related XML feeds

ARMONK, NY and BENGALURU, India - 01 Jun 2015: Tata Sky, the leading broadcast satellite television provider in India, has selected IBM (NYSE: IBM) to launch new mobile solutions that enable it to reach new markets, and improve customer service and responsiveness for its 14 million subscribers across the country.

With the IBM MobileFirst Platform, Tata Sky can securely integrate customer and enterprise data and launch new apps to spur growth, especially in rural markets. For example, the new mSales app helps dealers and distributors quickly respond to customer inquiries, track existing accounts and onboard new subscribers. Access to mobile capabilities that enable more efficient customer service is especially important in rural areas where there is often limited access to laptops or reliable Internet connectivity.

According to a market study by Hong Kong-based research firm Media Partners Asia, the direct-to-home active subscriber base in India will increase from 37 million in 2013 to 60 million by 2018 and 70 million by 2023. By launching innovative mobile solutions for its 300,000 dealers, Tata Sky will be better able to add subscribers and gain market share.

With more than 50,000 downloads since its launch, the mSales app creates new cost efficiencies by decreasing help desk calls to manage existing customer needs, and streamlines processes for

http://www.ibm.com/press/us/en/pressrelease/46980.wss

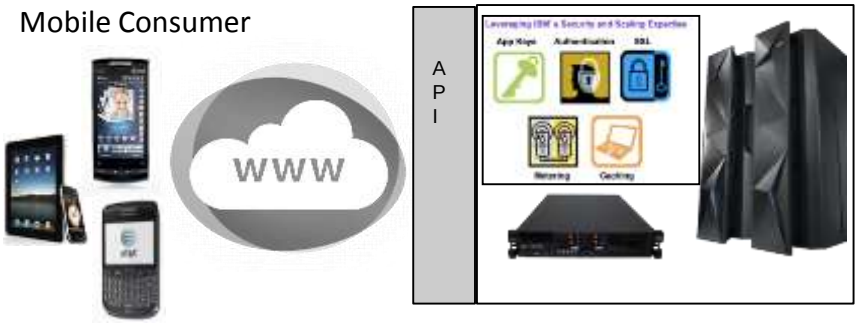
IBM MobileFirst Platform on z Systems

Infrastructure matters: Scaling to meet mobile, Availability and Reliability

Integrating Mobile:
What's old gets new, enhanced interface

Security:
Mobile is different
End-to-end security for every transaction

Public Exposure:
Introducing your new services and a new business model



System z - Bridge Systems of Record and Systems of Engagement

Systems of Engagement

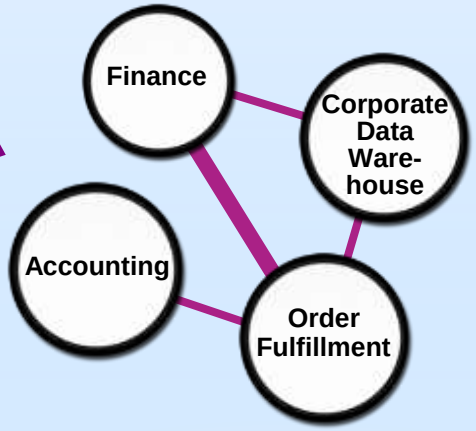
Systems of Engagement are cloud-based, decentralized, support rapid app development

Systems of Record

Systems of Record are well integrated, trusted repositories

Existing Web Apps

Mobile Apps



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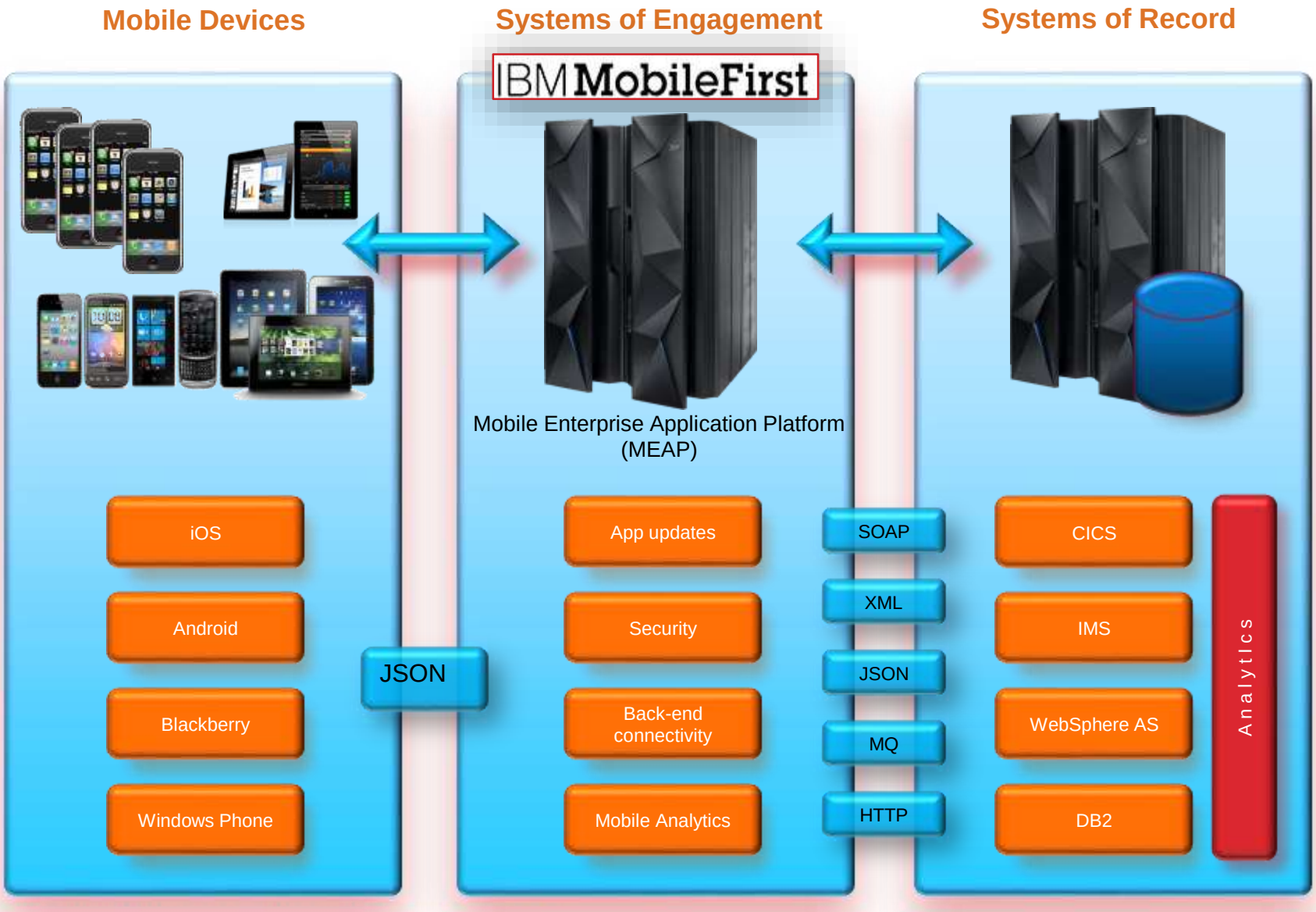
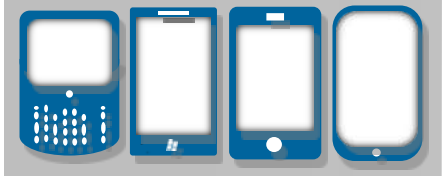
Enterprise Modernization: Deliver at the speed of mobile



IBM MobileFirst Platform Foundation overview

IBM MobileFirst Studio
The most complete, extensible environment with maximum code reuse and per-device optimization

IBM MobileFirst Server
Unified notifications, runtime skins, version management, security, integration and delivery



IBM MobileFirst Device Runtime Components
Extensive libraries and client APIs that expose and interface with native device functionality

IBM MobileFirst Application Center
The MobileFirst Application Center can function as an enterprise application storage to deploy mobile applications across mobile platforms.

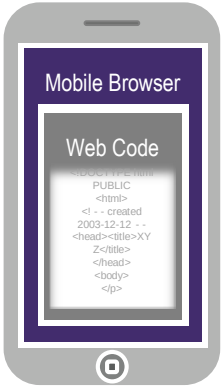
IBM MobileFirst Console
A web-based console for real-time analytics and control of your mobile apps and infrastructure

IBM MobileFirst Foundation – Support for Different Mobile Application Styles

•Simplifies the development of mobile applications across multiple mobile platforms - iOS, Android, BlackBerry, and Windows® Phone

Web

- HTML, JavaScript, CSS
- Accessed from a mobile web browser
- No device-specific capabilities



Mobile Web

- HTML, JavaScript, CSS
- Accessed from a mobile web browser; mobile-optimized UI
- Limited access to lower-level device capabilities

Hybrid Mobile

- HTML, JavaScript, CSS, with optional native code
- Installed and run like a native mobile app; mobile-optimized UI
- Access to lower-level device capabilities

Native

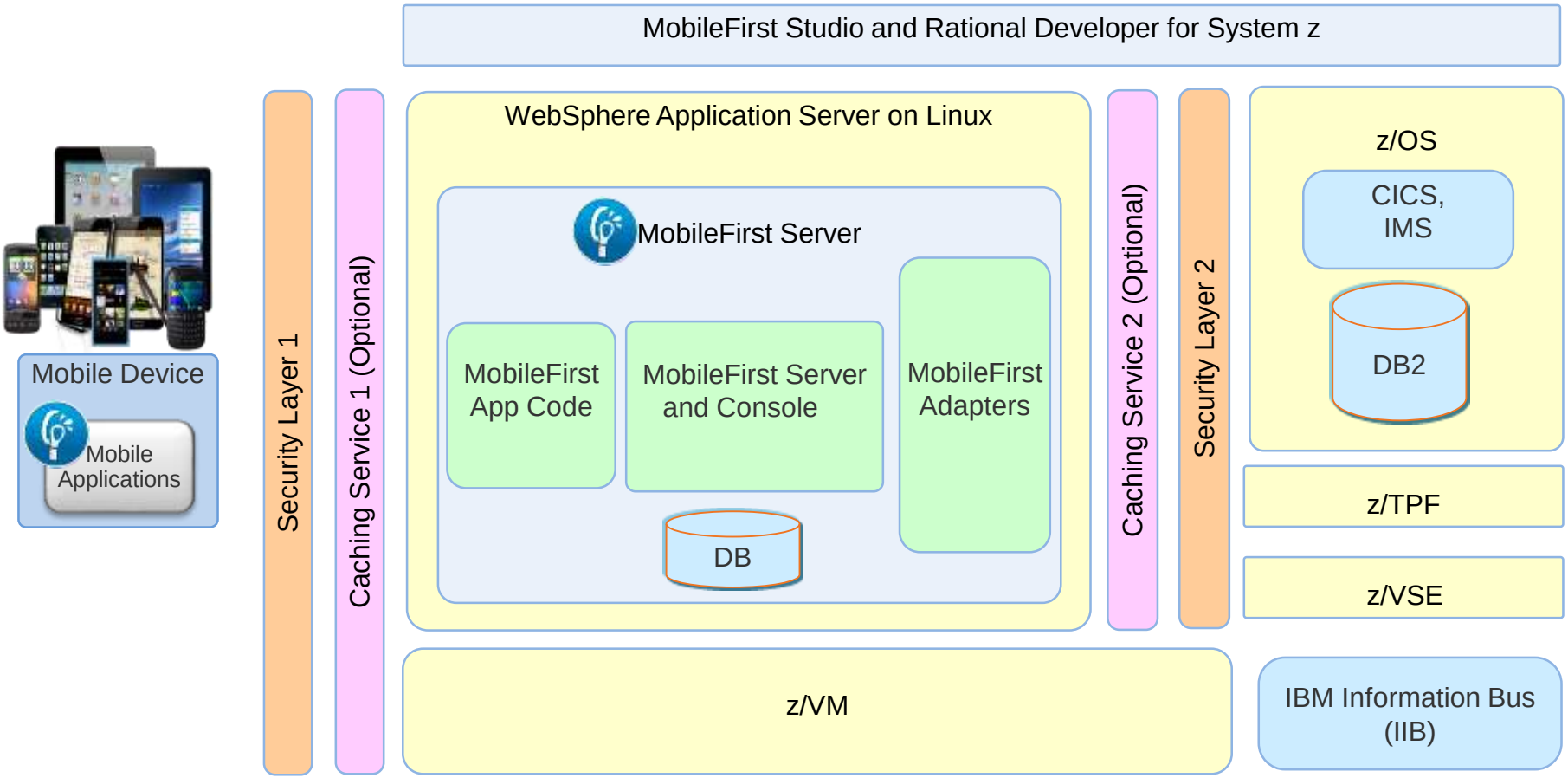
- Native code
- Access to full set of lower-level device capabilities

IBM MobileFirst Platform - Advantages

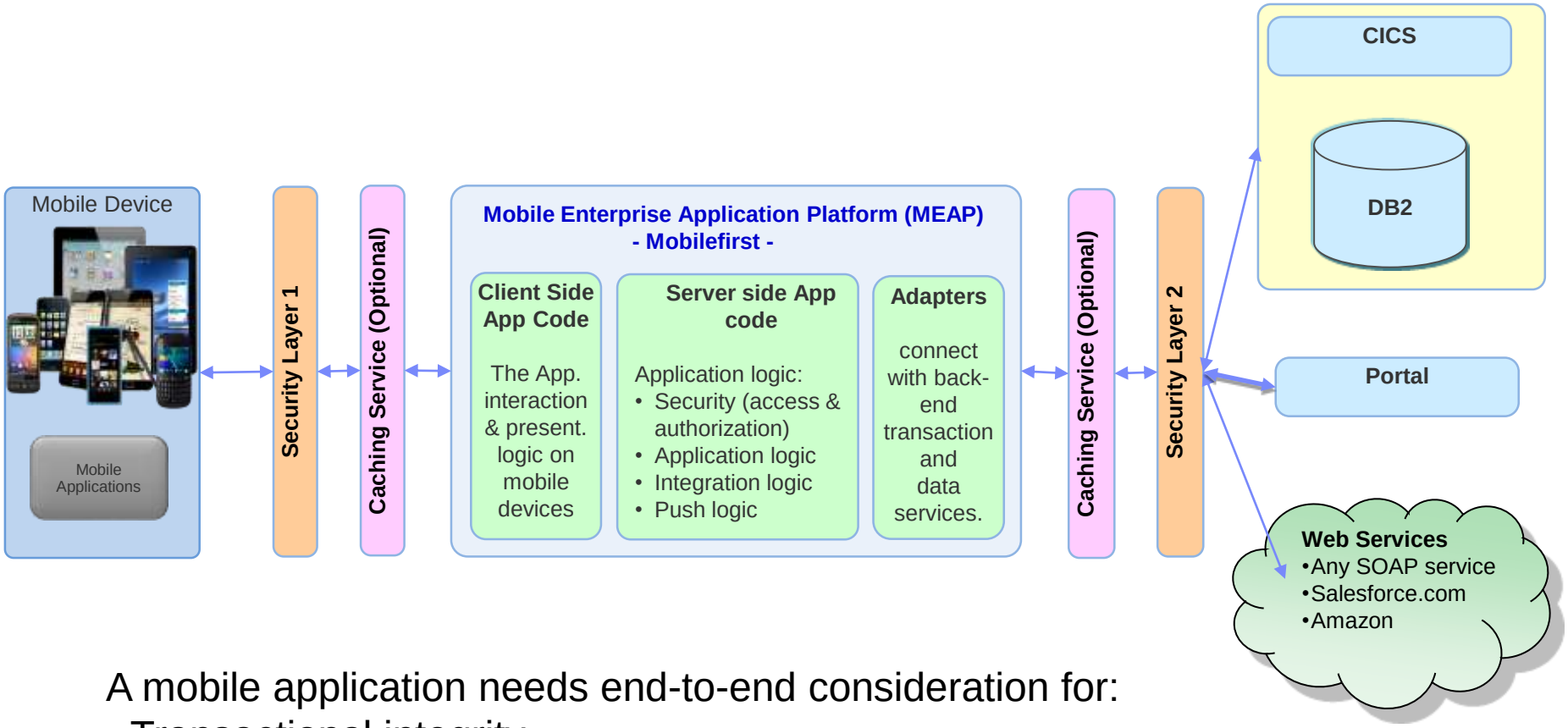
- **Mobile App development**
  - Cross Mobile Platform development tools
  - Security assurance during development

- **Mobile App Control Point**
  - Cross Mobile Platform - Android, iOS, Blackberry, Windows Phone
    - Device Management
    - App Management
    - Mobile Apps Analytics
- **Advanced Integration Capabilities**
  - Integration flexibility with Adapter technologies
    - Universal, transactional, secure adapters, integrate existing App code
- **End-to-End Security**
  - Security focus an Device, Content, Application and Transaction security

Mobile Reference Architecture Overview Diagram for System z



Mobile application overview diagram



A mobile application needs end-to-end consideration for:
- Transactional integrity
- Data integrity
- Security

Mobile application integration is realized with MobileFirst Adapters

IBM MobileFirst Server

Device

App-logic

Worklight

- Security and Authentication
- Back-end Data Integration

Application Code

Linux on z

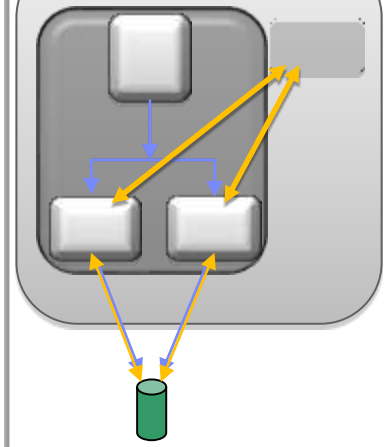
MobileFirst Server in WAS

Server-side Java App Code -- WAS	**Application Center Enterprise App Store**
MobileFirst Console	JSON Translation
Push Notifications	Authentication
Analytics	Adapter Library

SAP
SQL
WMB
SOAP
HTTP/REST
Java

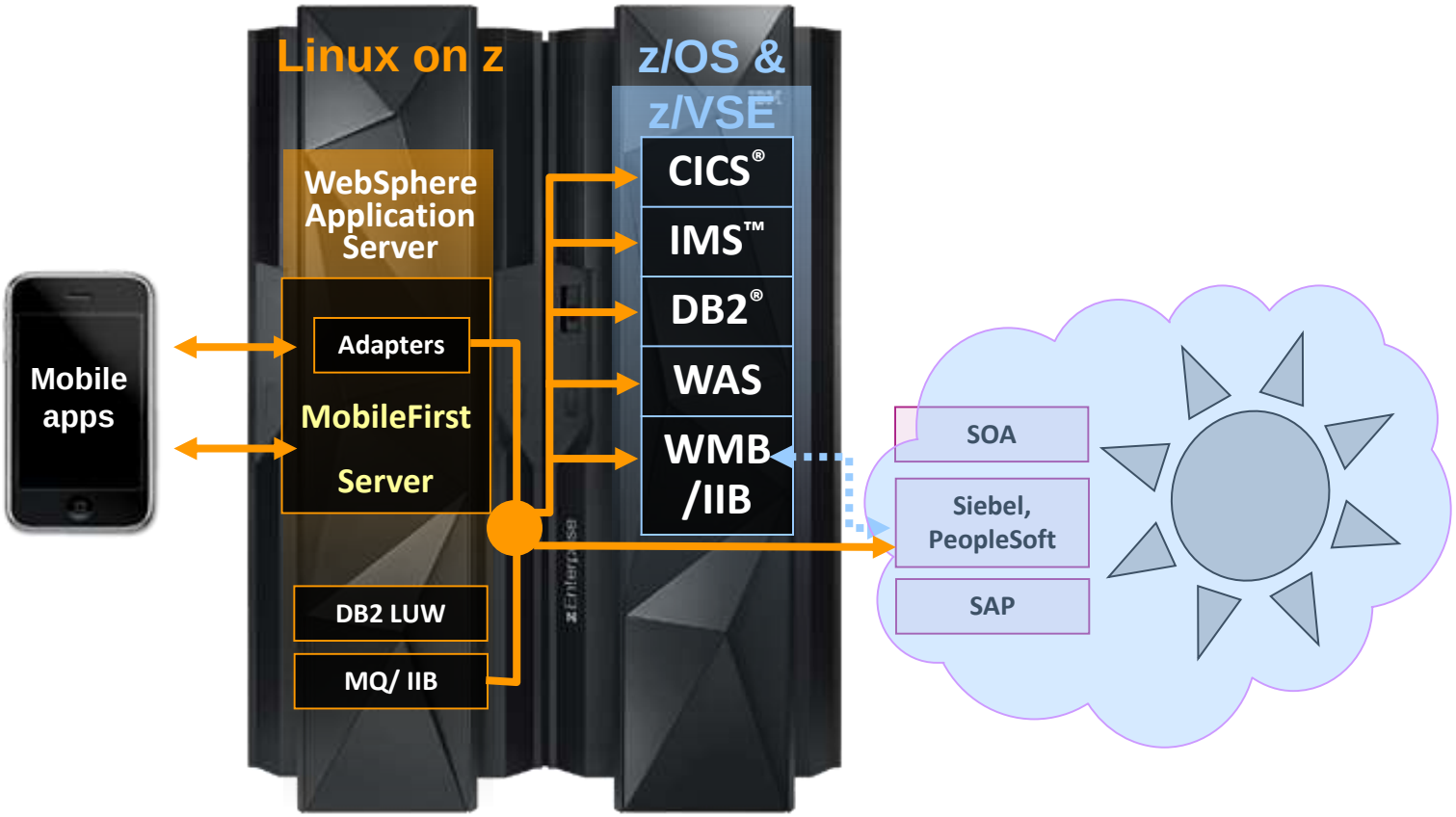
z/VSE & z/OS

CICS



MobileFirst Video: http://www.youtube.com/watch?feature=player_embedded&v=zHnFw70XXXo

Mobile Environment on z Systems connecting to Core Systems



IBM z Systems®

- **Server side software components and adapters for channeling System z to mobile devices** with IBM MobileFirst Server
- **Mobile application support** with WebSphere Application Server on System z
- **Mobile protocol connectivity with core System z applications** including CICS, IMS, TPF, MQ, WMB and DB2

1) Integrate and securely expose APIs & business services to internal and external consumers

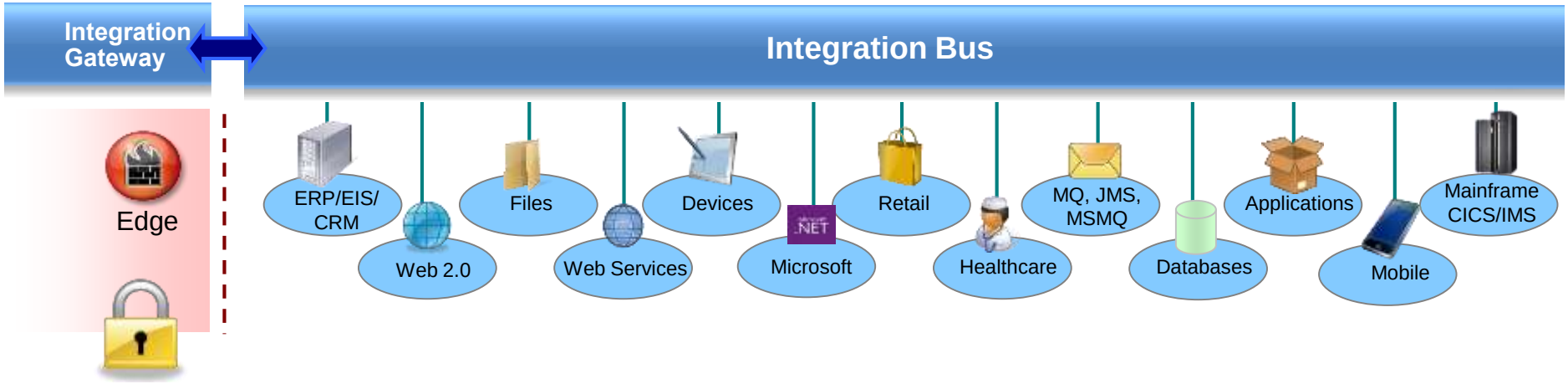
On-premise SaaS Bluemix

IBM API Management v4

- Easily assemble business APIs into a **single catalog** & publish to **custom social portals**
- Manage APIs using IBM API Management in **Bluemix** & share APIs with **Bluemix developers**
- Accelerate API creation, deployment & invocation with **Swagger 2.0** support
- Extract **API usage & analytics data** via API
- Leverage **API Management Service** delivered in Softlayer with built-in failover, redundancy & dynamic scaling
- Move APIs & Plans from public cloud to private/on-premise for **complete flexibility**

2) Integrate through IBM Integration Bus

- IBM's strategic enterprise integration technology
  - Single engineered product for .NET, Java and fully heterogeneous integration scenarios
  - DataPower continues to evolve for integration gateway use-cases



- IBM Integration Bus is the new name for WebSphere Message Broker
  - Technology progression over 15 years, installed at 2500+ customers worldwide across all industries
  - Fully supported worldwide by IBM global support network, standard 5 + 3 years support policy
  - Version to version migration is key design consideration
  - Global skills availability - SME's available globally via IBM and partners
  - Close interaction with growing and loyal customer base: beta and lab advocacy programs
  - Also incorporates WebSphere ESB use-cases

3) Integrate z/OS via IBM WebSphere Liberty z/OS Connect

Secure and Consistent Enterprise Connectivity for Mobile

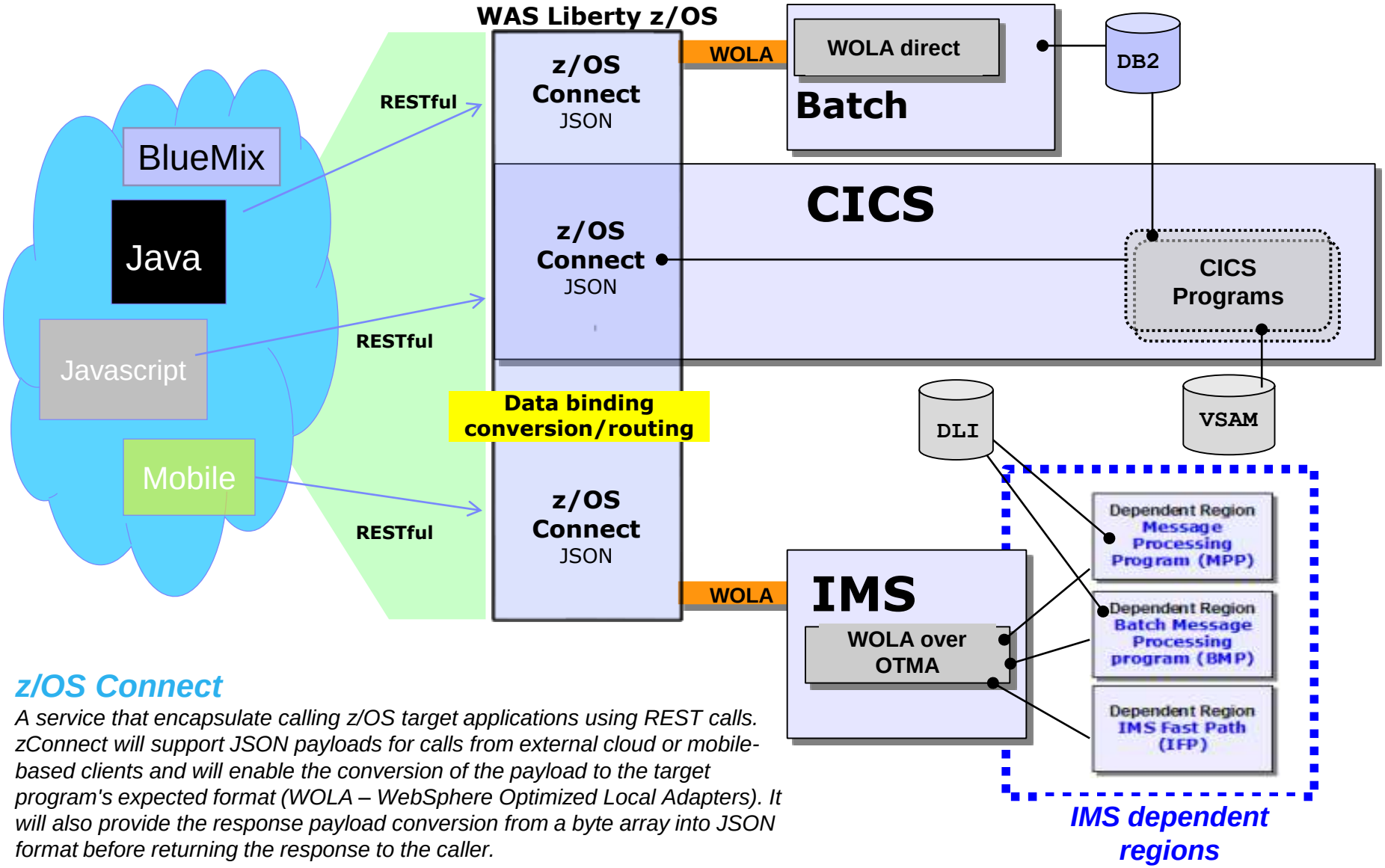
Ships with WAS, CICS, and IMS. Runs in z/OS only.

- **Built for z/OS** – Builds on z/OS qualities of service - security, auditing, chargeback.
- **Unifies connectors** – A common solution for mobile, cloud, and web
- **Simplified integration** – Hide complexity of connecting to z/OS using REST
- **API Management** – Mobile developers can discover the transactions you choose.

Systems of Engagement

Systems of Record

Access to z/OS via z/OS Connect with increased security

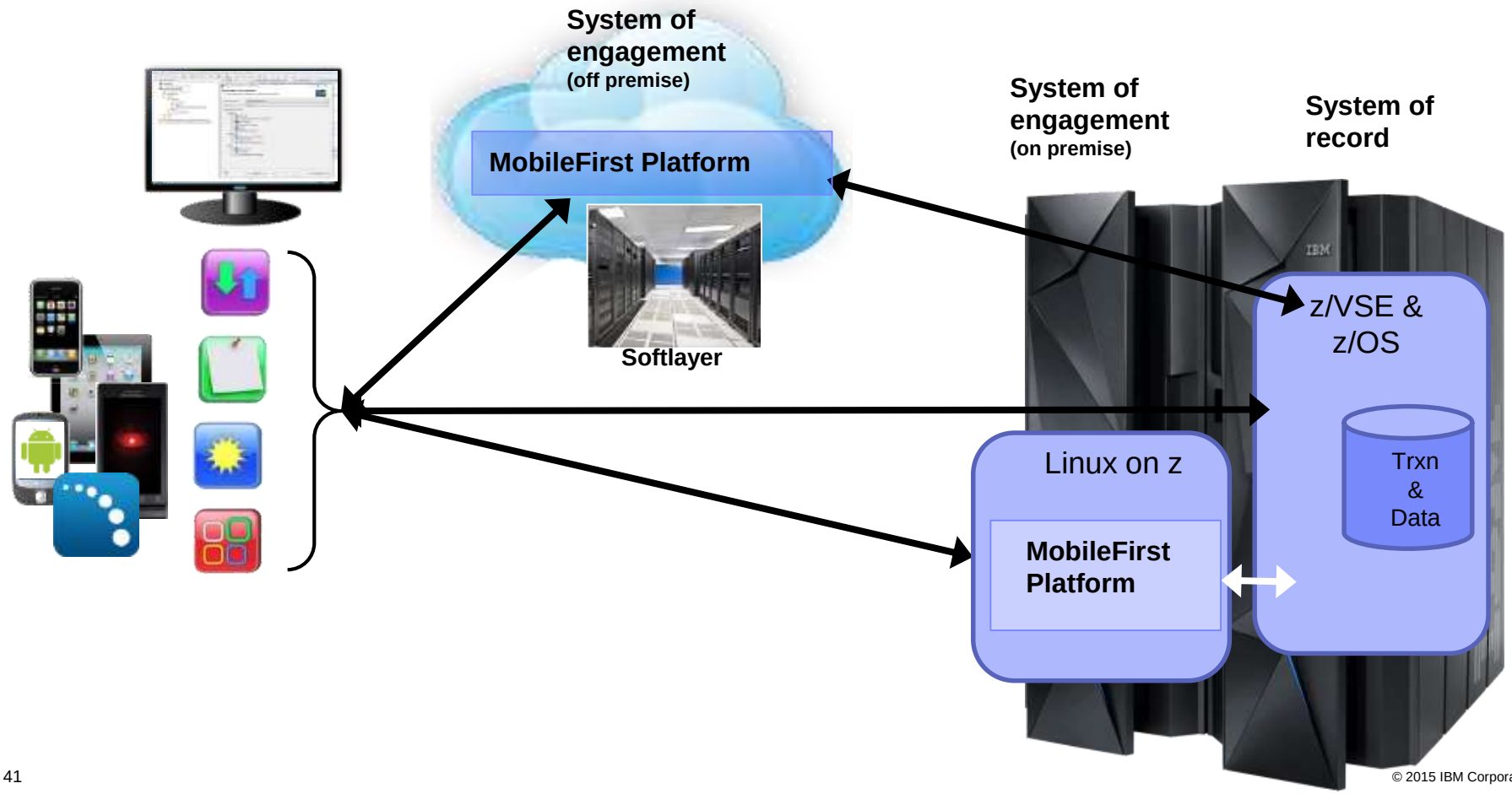


z/OS Connect

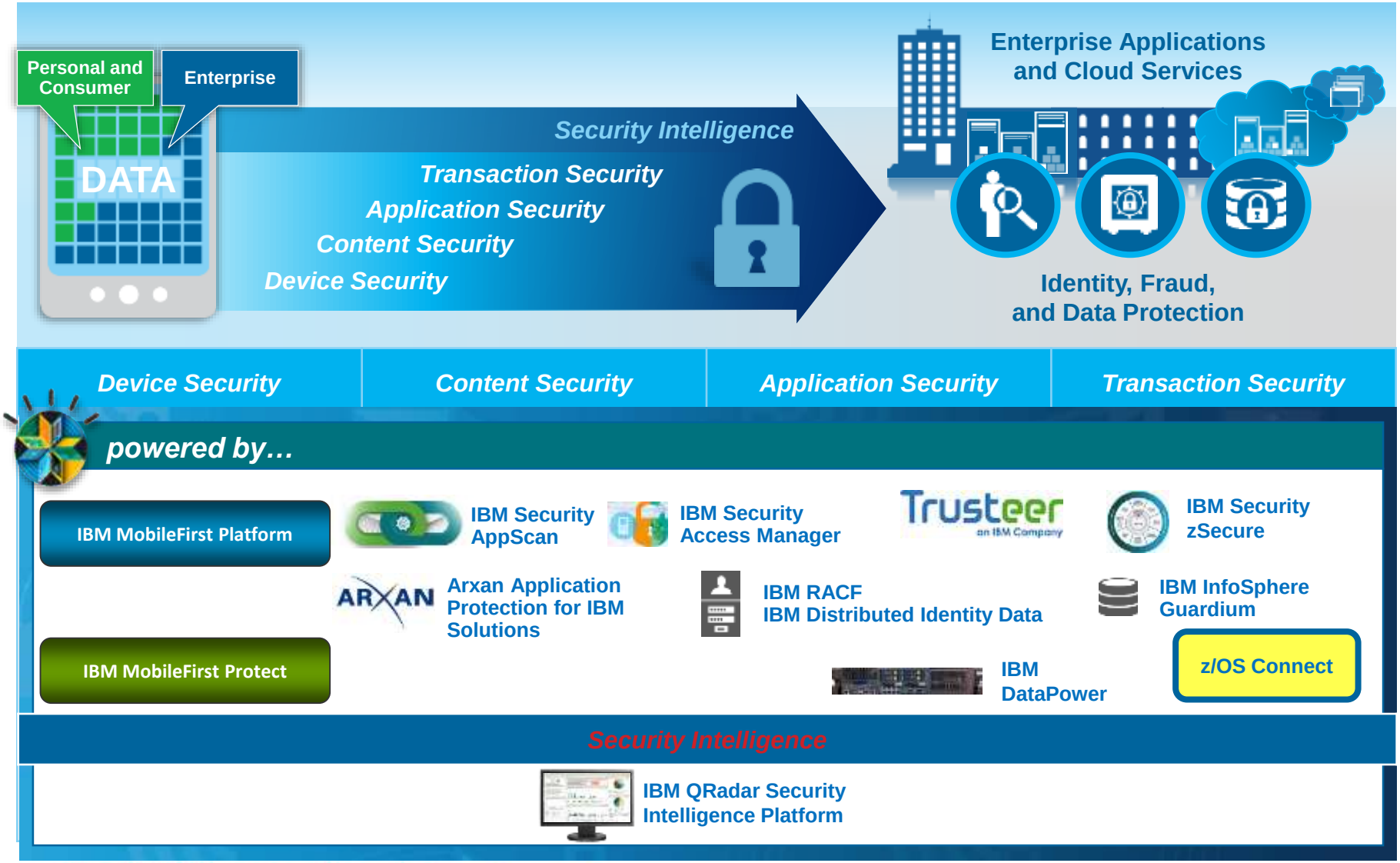
A service that encapsulate calling z/OS target applications using REST calls. zConnect will support JSON payloads for calls from external cloud or mobile-based clients and will enable the conversion of the payload to the target program's expected format (WOLA – WebSphere Optimized Local Adapters). It will also provide the response payload conversion from a byte array into JSON format before returning the response to the caller.

Key Mobile Deployment scenarios with z Systems

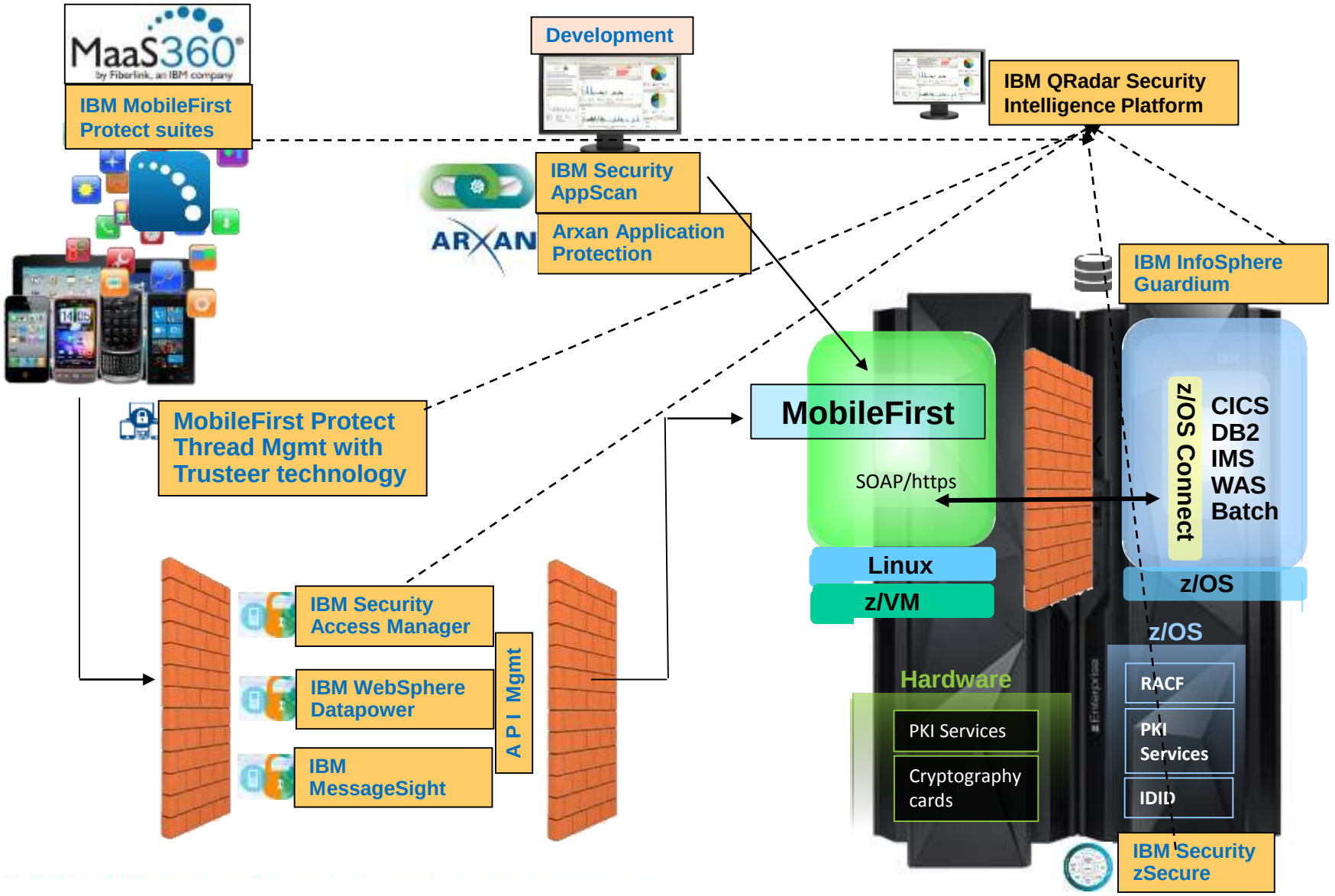
- on premise – with the System of engagement on z Systems
- off premise – with the System of engagement offsite – i.e. in IBM Softlayer cloud



End-to-end security solutions for the mobile enterprise

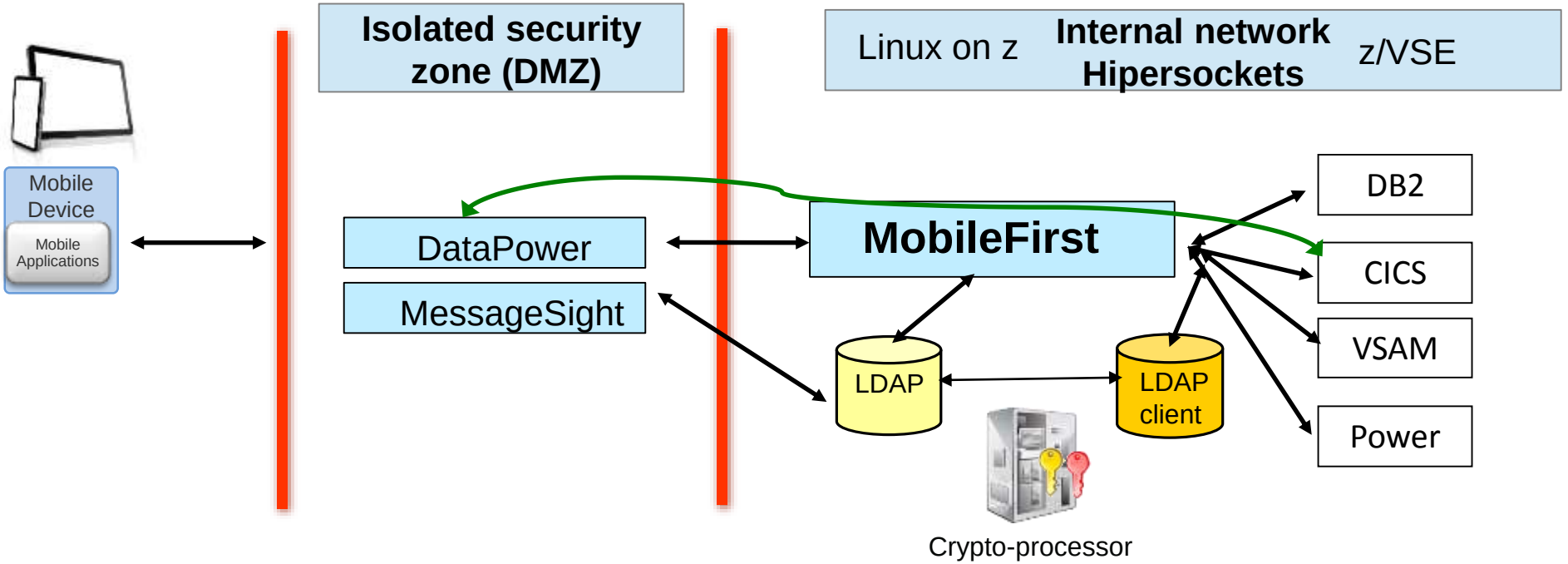


Secure the Users & Devices and every transaction from Mobile to the Enterprise transactions and data



Topology – DataPower as a reverse proxy for MobileFirst Platform

Capabilities	Deployment scenarios	System z benefits
• Combined capabilities of MobileFirst and DataPower • Datapower in an isolated secured network zone DMZ – DeMilitarized Zone	• When hybrid mobile apps use a combination of web and Restful interactions • High volume or internet mobile access	• Additional benefits of DataPower as a mobile security gateway for MobileFirst on zLinux • LDAP user registry shared between DataPower and MobileFirst



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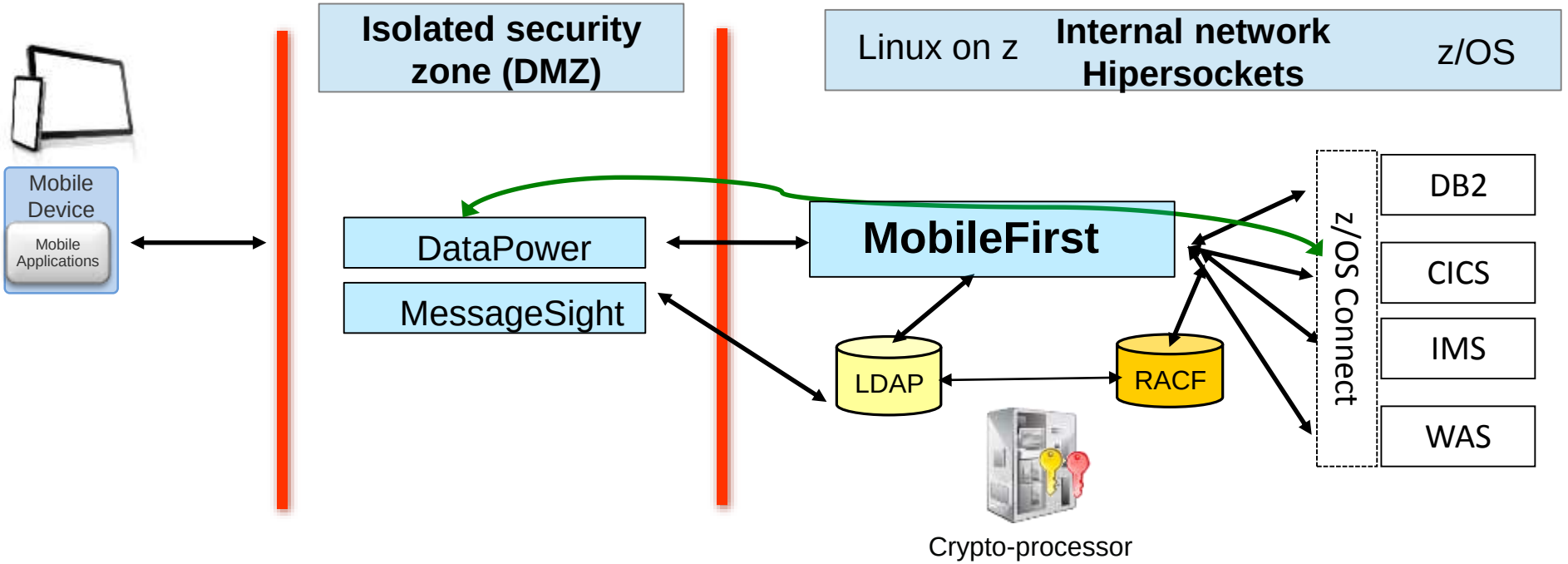
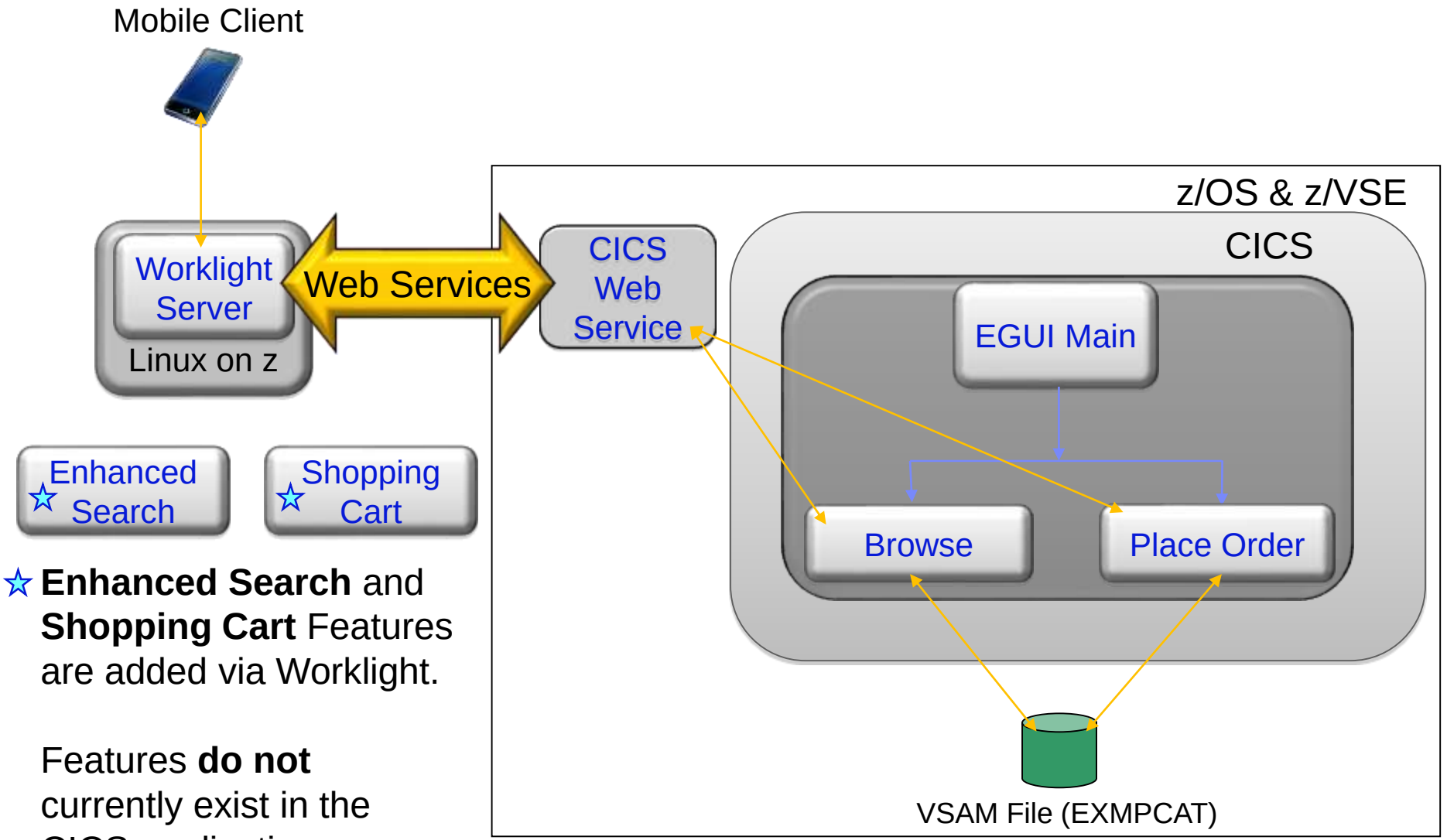


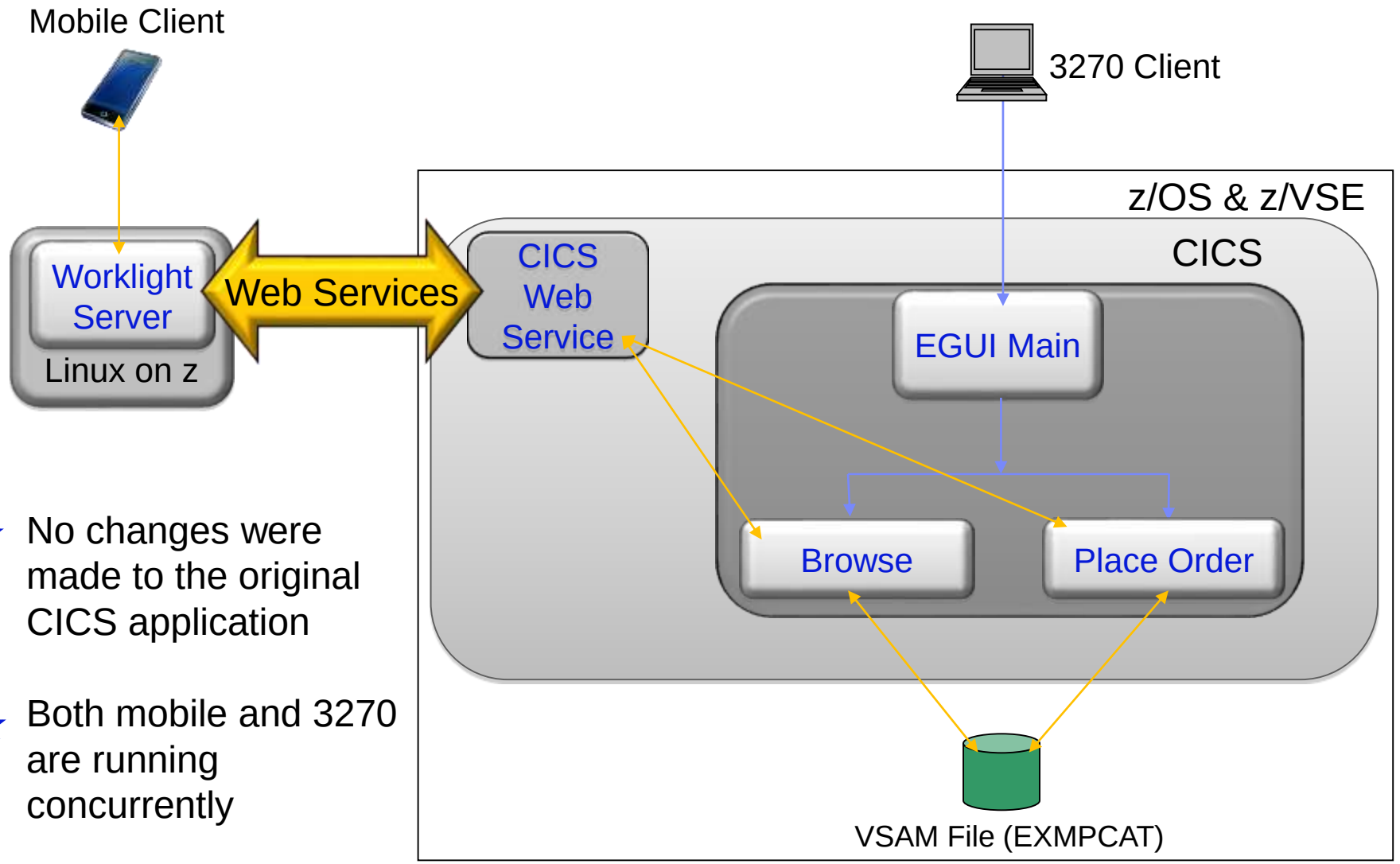
Worklight Modernizes the CICS Web Service Enabled App



☆ **Enhanced Search** and **Shopping Cart** Features are added via Worklight.

Features **do not** currently exist in the CICS application.

Worklight Modernizes the CICS Web Service Enabled App

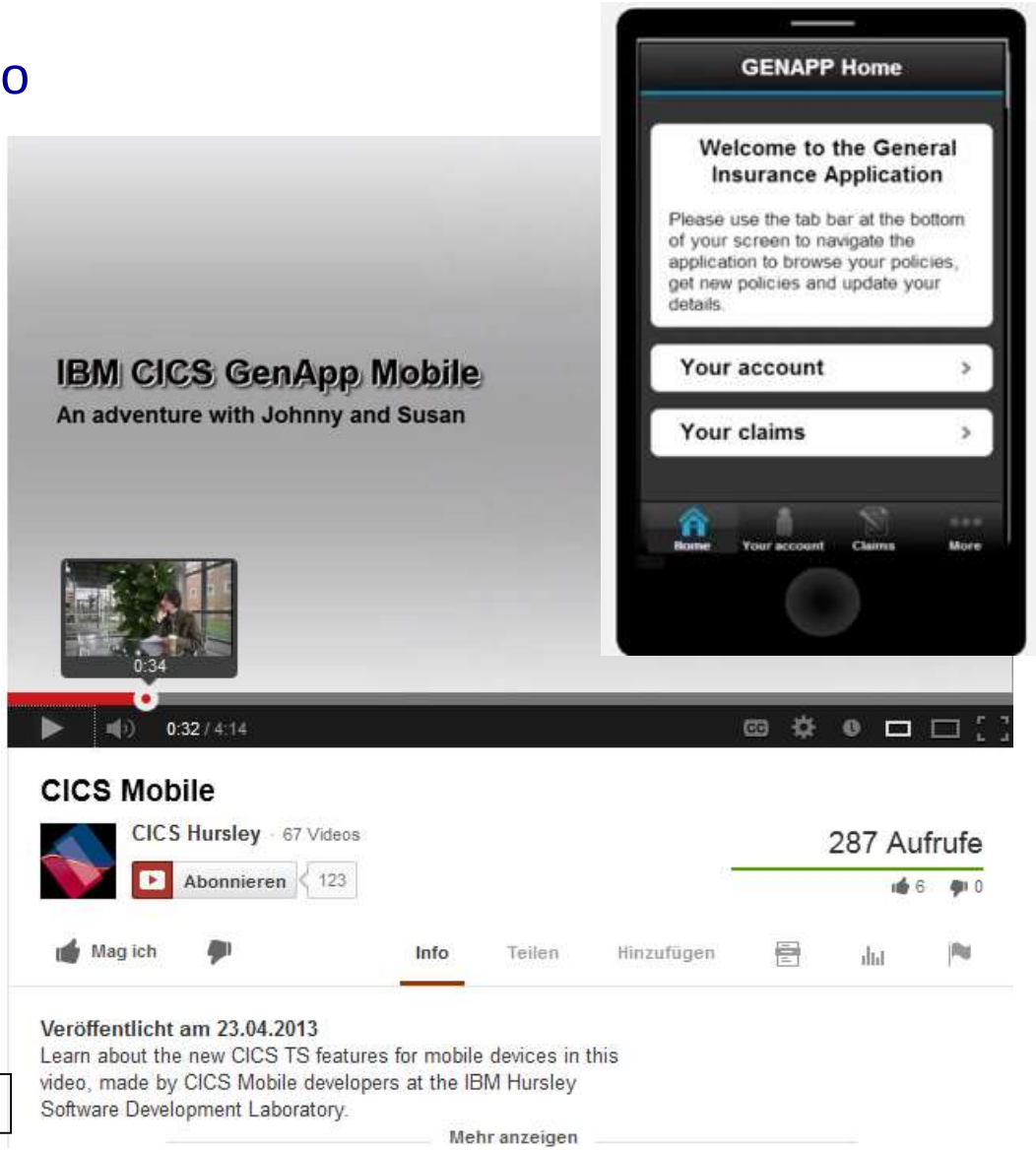


- No changes were made to the original CICS application
- Both mobile and 3270 are running concurrently

CICS Mobile - Youtube Video

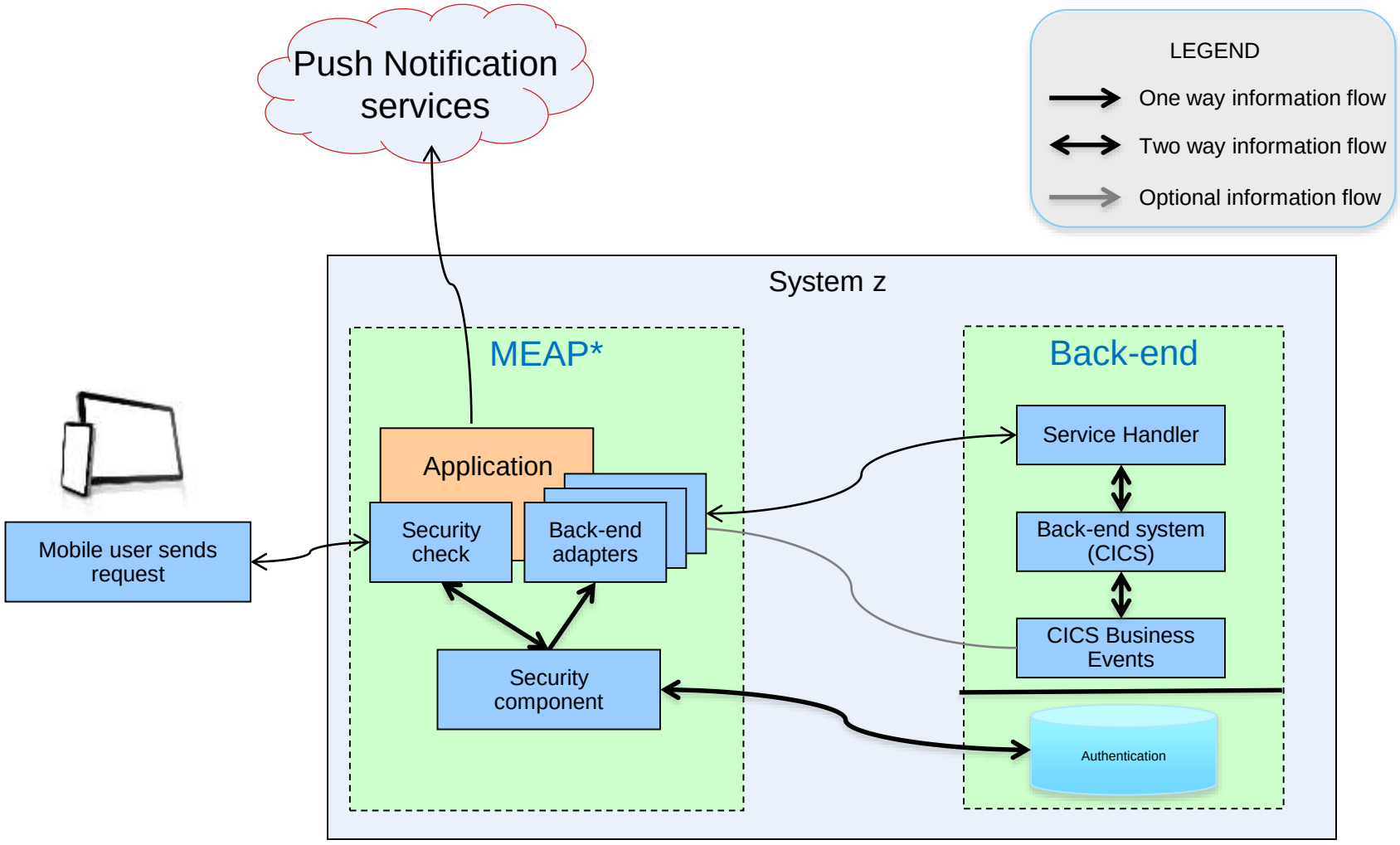
Home screen

- Worklight allows you to construct standard interface components that work across all mobile platforms
- Build powerful interfaces that drive existing mainframe applications written in C/C++, COBOL, PL/I, and Java



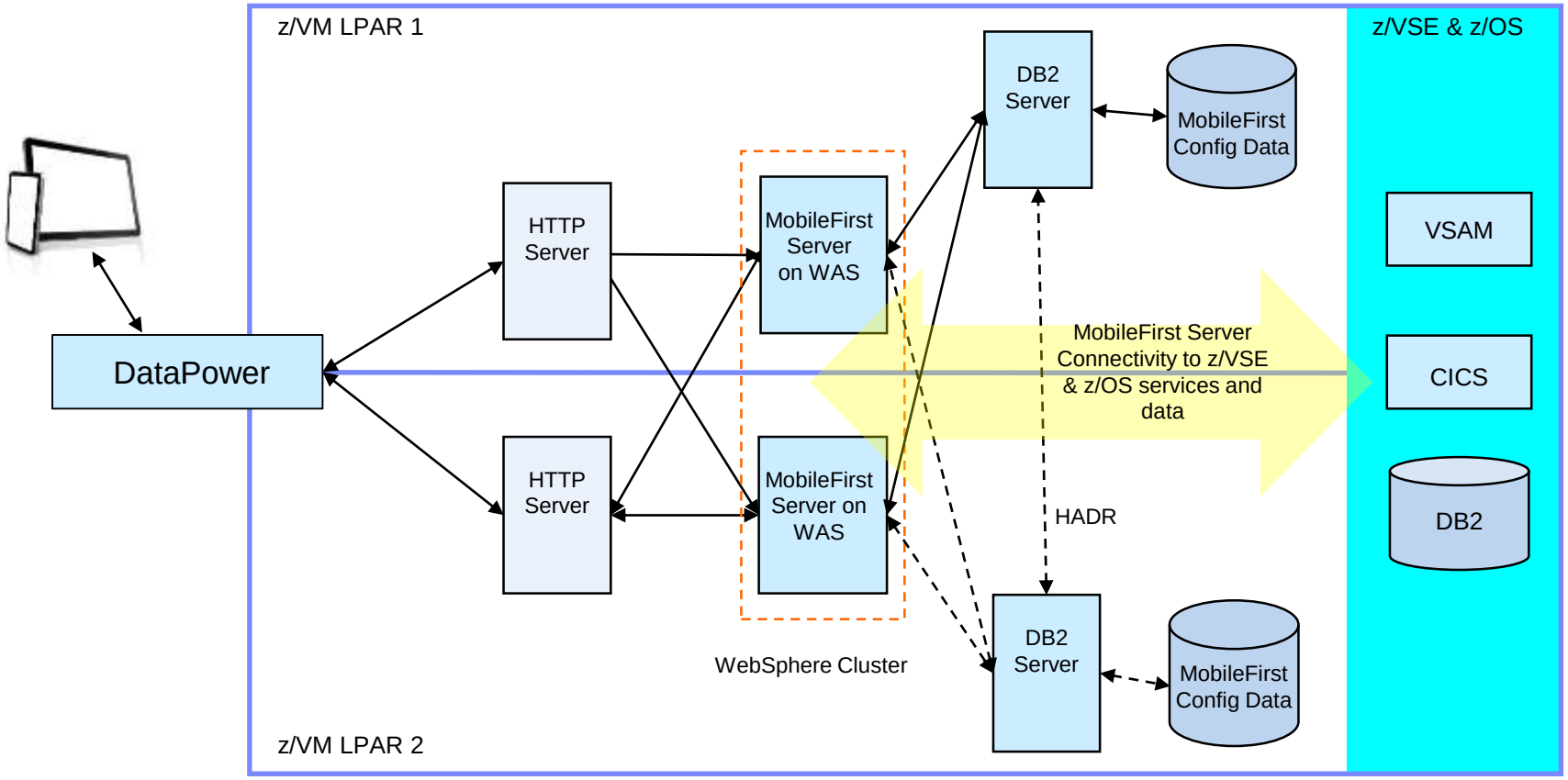
http://www.youtube.com/watch?v=jc7d1o4_gj0

Operational setup



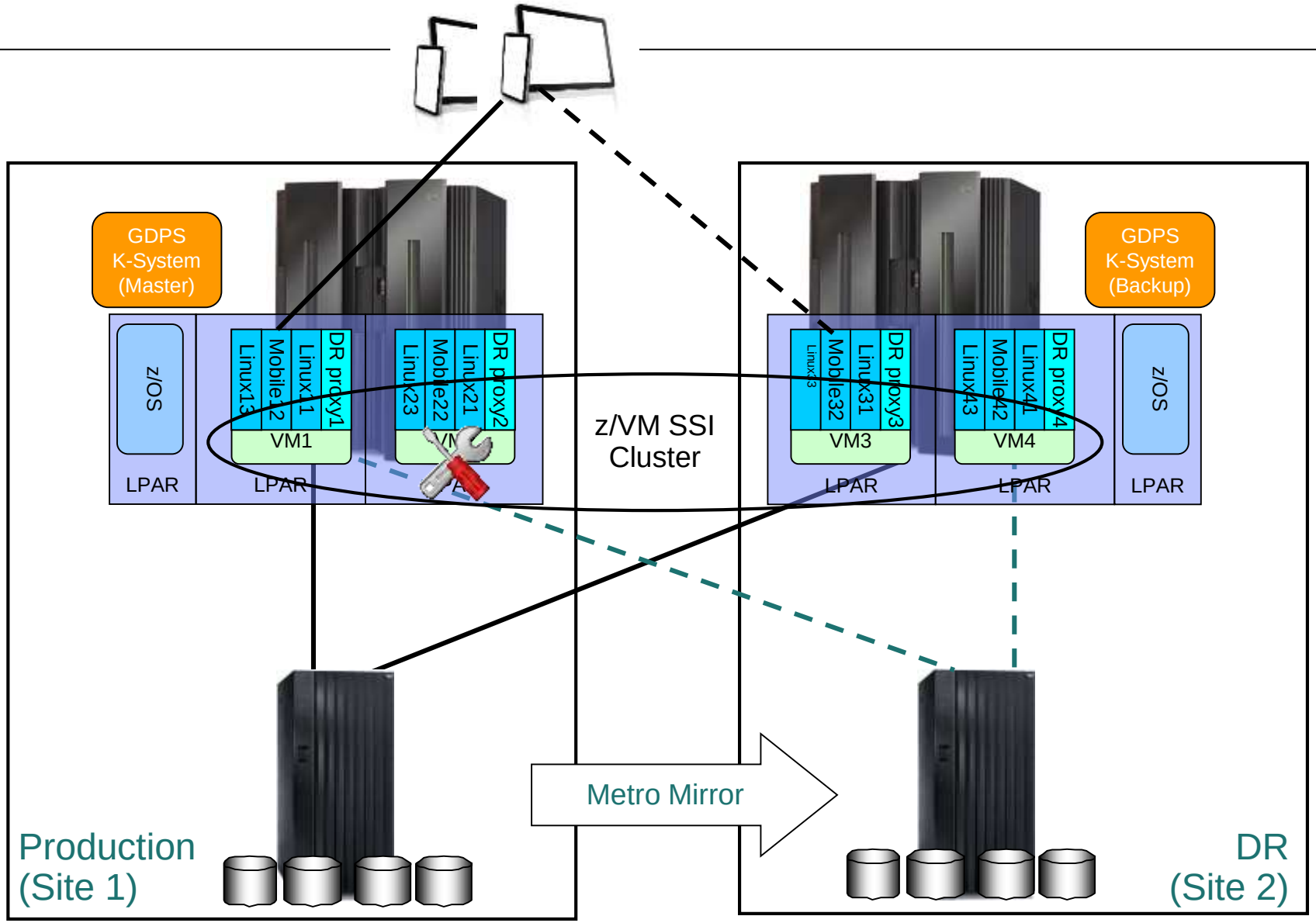
*MEAP – Mobile enterprise Application Platform

MobileFirst Server on WebSphere on Linux on System z Production High Availability



Solid Lines denote primary data path, dashed lines denote backup data path.

z/VM or LPAR Implementation - Continuous Availability of z/VM Guests

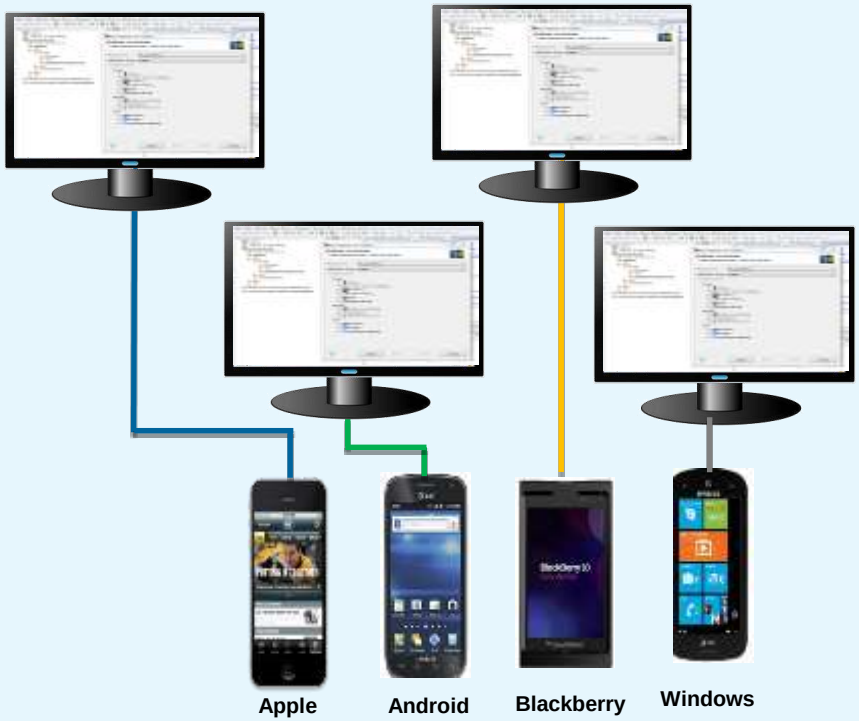


System z Ha and DR scenario

Multi-platform development with a shared codebase

From the complexity of many…

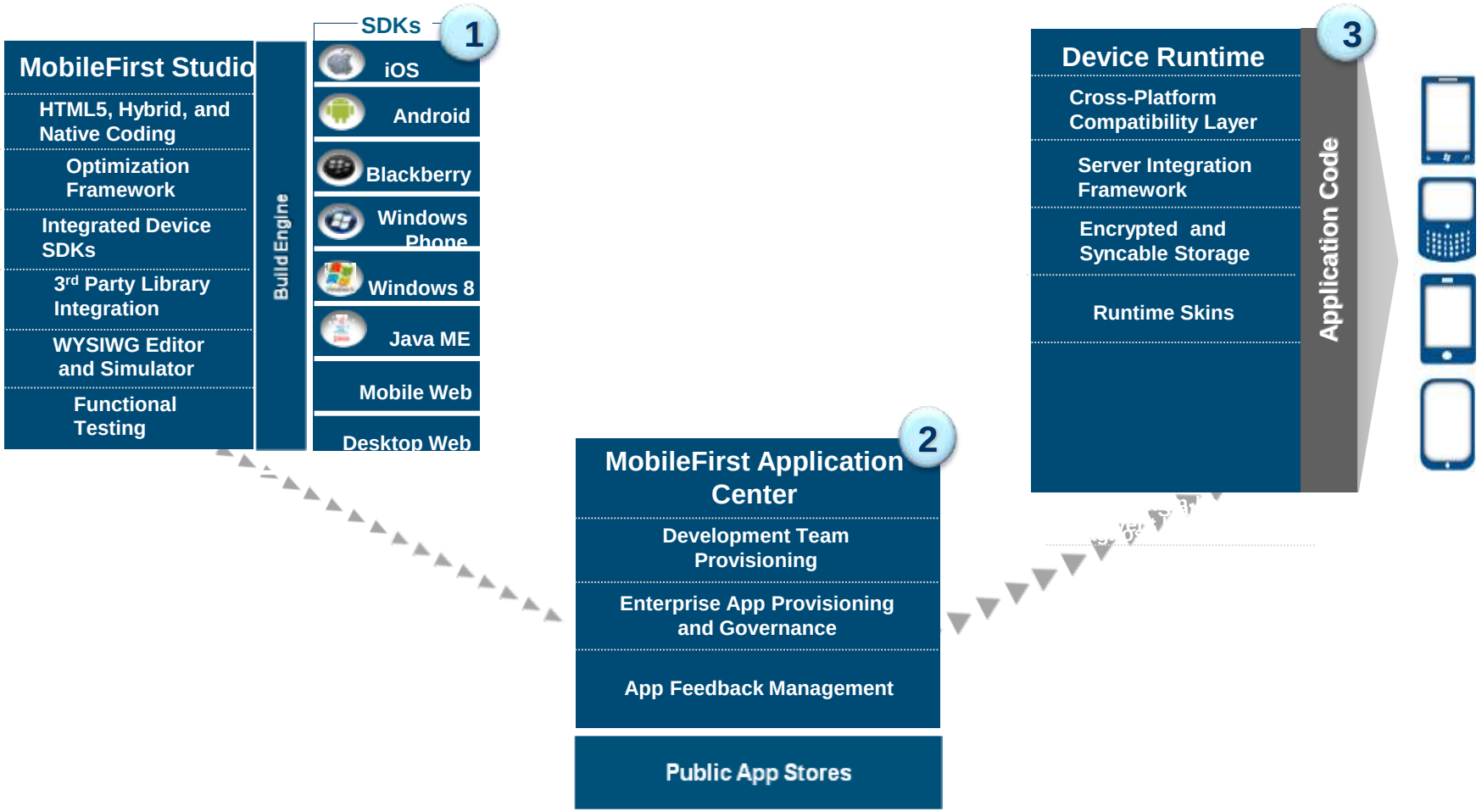
- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



To the simplicity of one

- One development environment
- One codebase to develop and maintain

IBM MobileFirst Studio - Development overview



MobileFirst Studio with Rational Developer for System z a complete toolset for z Systems Mobile Development and Test

Integration with Team Concert for Lifecycle and Source Management

Integration with RD&T for flexible access to System z environment

Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS

Robust Mobile Development in conjunction with MobileFirst

Integration with Fault Analyzer for Dump Analysis

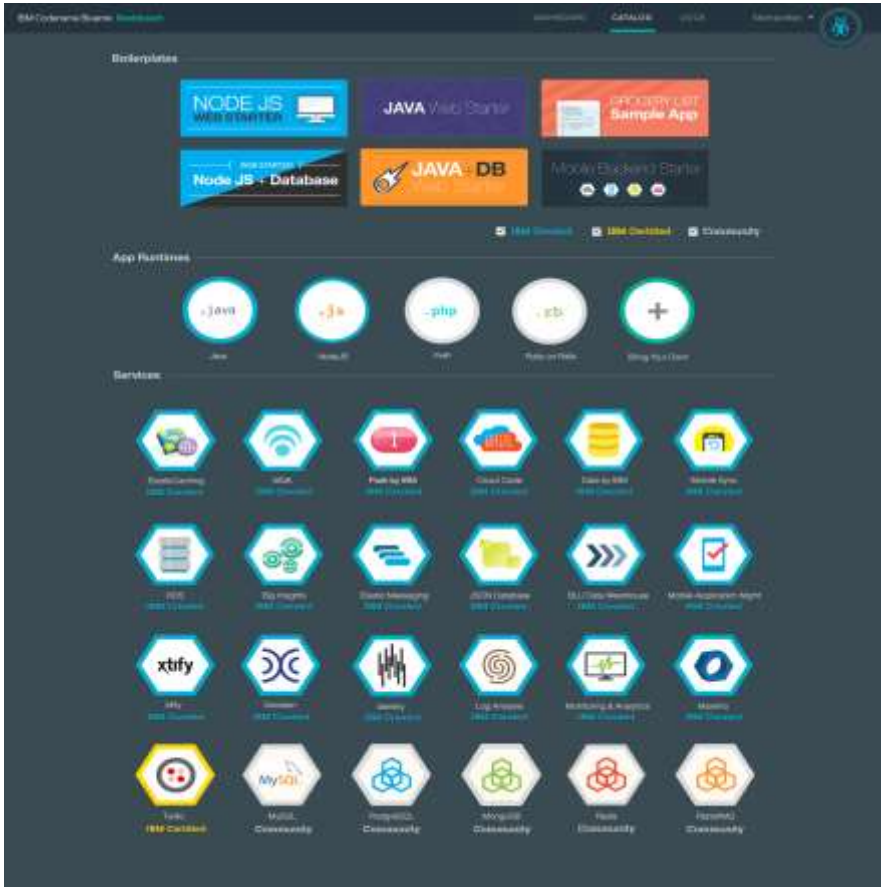
Integration with Asset Analyzer for Application Understanding and Impact Analysis

Integration with File Manager and Fault Analyzer for file and test data handling and Dump Analysis

BlueMix Development environment in Softlayer

Delivering a Composable Services development environment including Mobile

- Softlayer – the off premise distributed cloud platform with secured access to System z resources
- BlueMix – development environment for new applications using composable services



Categories

API Catalog

A catalog of developer friendly APIs (IBM & third party) with mobile SDKs, that can be composed into new and existing mobile apps. Configure and manage through the BlueMix portal.

Run Code

The developer can chose from multiple language runtimes or bring their own. Just upload your code and go.

Store Data

The developer can store data in the cloud as a service easily without needing to administer the databases.

Cloud Integration

Build hybrid environments. Connect to on-premises systems of record plus other public and private clouds. Expose your own APIs to your developers.

Built on IBM SoftLayer

Runs on top of IBM's leading infrastructure as a service.

Gartner has recognized IBM as a leader in the Magic Quadrant for Mobile Application Development Platforms

Magic Quadrant for Mobile Application Development Platforms
Ray Valdes, Van L. Baker, Richard Marshall, Jason Wong
September 2, 2014

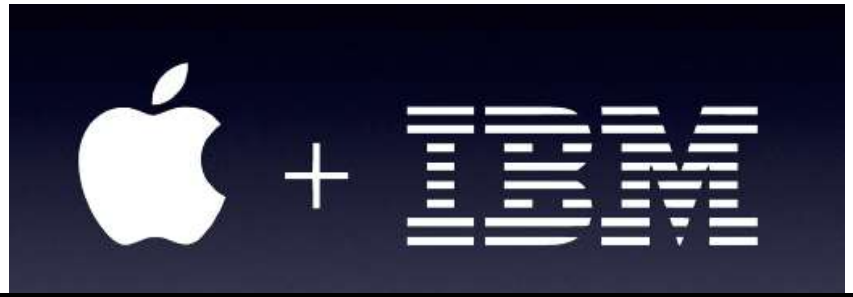
"The mobile application development platform market continues to grow, evolve and mature in response to escalating customer requirements. We assess the major vendors that enable enterprise IT developers to create mobile applications for customers, partners and employees."

Figure 1. Magic Quadrant for Mobile Application Development Platforms

Source: Gartner (September 2014)

This Magic Quadrant graphic was published by Gartner, Inc. as part of a larger research note and should be evaluated in the context of the entire report. The full report is available at http://ibm.co/13TU2Dm

IBM and Apple cooperation announced 07/2014



Mobile First for iOS

MobileFirst for iOS

A iOS Apps — 100+ industry-specific apps for iOS

+

B ERP for iOS — iOS optimized platform with advanced APIs

+

C App Integration & Management — End-to-end lifecycle management for iOS apps

Banking • Insurance • Telco • Retail • Government • Travel/Transportation • Healthcare

IBM & Twitter

Twitter and IBM Form Global Partnership to Transform Enterprise Decisions

Select a topic or year

News release | Contact(s) information

Related XML feeds | Related resources

SAN FRANCISCO and ARMONK, NY - 29 Oct 2014: Twitter and IBM (NYSE: IBM) today announced a landmark partnership that will help transform how businesses and institutions understand their customers, markets and trends – and inform every business decision. The alliance brings together Twitter data that distinctively represents the public pulse of the planet with IBM's industry-leading cloud-based analytics, customer engagement platforms, and consulting services.

The collaboration will focus on three areas:

Integration of Twitter data with IBM analytics services on the cloud: IBM plans to offer Twitter data as part of select cloud-based services, including IBM Watson Analytics, a new cognitive service in the palm of your hand that brings intuitive visualization and predictive capabilities to business users; and a cloud-based data refinery service that enables application developers to embed data services in applications. Entrepreneurs and software developers will also be able to integrate Twitter data into new cloud services they are building with IBM's Watson Developer Cloud or IBM Bluemix platform-as-a-service.

New data-intensive capabilities for the enterprise: IBM and Twitter will deliver a set of enterprise applications to help improve business decisions across industries and professions. The first joint solution will integrate Twitter data with IBM ExperienceOne customer engagement solutions, allowing sales, marketing, and customer service professionals to map sentiment and behavior to better engage and support their customers.

Is IBM MobileFirst Platform for Your Company?

If you are planning 3 or more Mobile Applications,

On 3 or more different devices, and

will be using 3 or more different integration points

Then…

IBM MobileFirst Platform is for you!!!

Client drivers for mobile solutions span all industries

Finance & Banking
Manage their investment portfolios and accounts from anywhere for complete bank transactions

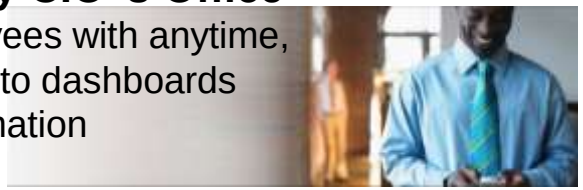
Construction & Manufacturing
Manage complex projects and operations on site and streamline survey and work order processes

Insurance
File, process and manage claims and document damages

Retail
Engage shoppers in new ways and intelligently target personalized and location sensitive marketing offers

Travel & Transportation
Provide up to date information specific to their itineraries and location and enable customer self-service

Cross-Industry CIO's Office
Empower employees with anytime, anyplace access to dashboards and critical information



University of Florida goes mobile

Enabling 50,000 students, 5,400 faculty members and staff access to online features anytime, anywhere

Data provided to students real time
Mobile formatted information of class schedules, textbooks, academic dates, grades, emergency information and campus map

IBM Solution
Accessing CICS with System z information via smartphones

Up to 1M transactions/day

Mobile is growing rapidly on z Systems

SICOOB

Case Study. Video.

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Rolls-Royce Motor Cars Limited

Case Study.

renfe

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Case Study. Video.

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Case Study.

Nationwide

Case Study.

HALKBANK

Case Study.

1/3 of all IBM MobileFirst business is on System z

IBM z Systems Mobile reference architectures

1

Contents

- Components of a mobile architecture.
- Mobile topology choices.
- MobileFirst Platform in production.
- MobileFirst Platform in dev/test
- Scalability and performance considerations.
- Conclusion

2

Contents

- Summary of z mobile connectivity options, including MobileFirst Platform Foundation
- Details about
  - Push Notification
  - IBM API Management
  - CICS
  - IMS
  - DB2
  - WMB

3

Contents

- Introduction to the MobileFirst security products – what they do and how they relate to System z.
- Building a Secure Enterprise Mobile environment using the MobileFirst Security products.
- Use Cases and Reference Architectures.

http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS5285

Mobilize the Mainframe
- Take advantage of unique Characteristics

- Massive scalability in a single footprint, to handle the workload of millions of devices and sensors
- Workload Management to provide a quick reaction to sharp spikes in demand
- High Availability with MobileFirst Platform and WebSphere Clusters in a highly virtualised Linux on System z environment
- Co-location of the MobileFirst Platform server application with data and transactions on z/VSE and z/OS reduces the latency of access to System z data.
- Hipersockets provides the best communication between MobileFirst Platform apps and System of Record.
- Hardware encryption speeds SSL applications
- Business Resiliency for critical mobile apps

Infrastructure matters for mobile applications. The System z platform's scalability, security, and resilience can enhance critical mobile applications.

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Enterprise mobility

Innovate and differentiate your mobile services with IBM zEnterprise

IBM Mainframe: The smart phone's ultimate accessory for enterprise mobility

In today's mobile era, there are over 10 billion devices accessing information. Enterprises are challenged with integrating new mobile services with existing organizational processes, without sacrificing the client's experience. IBM zEnterprise provides you with enterprise mobility solutions which can scale to handle the huge number of often unpredictable transaction rates and volumes, deliver proven mobile end-to-end integration with reliability, availability, and security, and ensure that your customer data is protected.

Keep your mobile data safe

The average organizational cost of a data breach is $7.2 million.

→ See the mobile infographic

Built-in security

Learn how IBM System z offers new levels of data safety

→ Read the eBook to learn more

IBM zEnterprise mobile solutions

New! WebSphere Liberty z/OS Connect

Simple and secure access to z/OS data and transactions from mobile applications via a single gateway

IBM Worklight

Build, run, test and manage HTML5, hybrid and native mobile applications to extend your business.

IBM CICS Transaction Server v5.2

Enhanced mobile protocol support and

IBM Mobile Quality Assurance

Capture tester and live-user experience for building great mobile applications

IBM Continuous Integration for System z

Compresses application delivery cycle from months to weeks or days

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Questions?

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