The Mainframe – Mobilized for the Future

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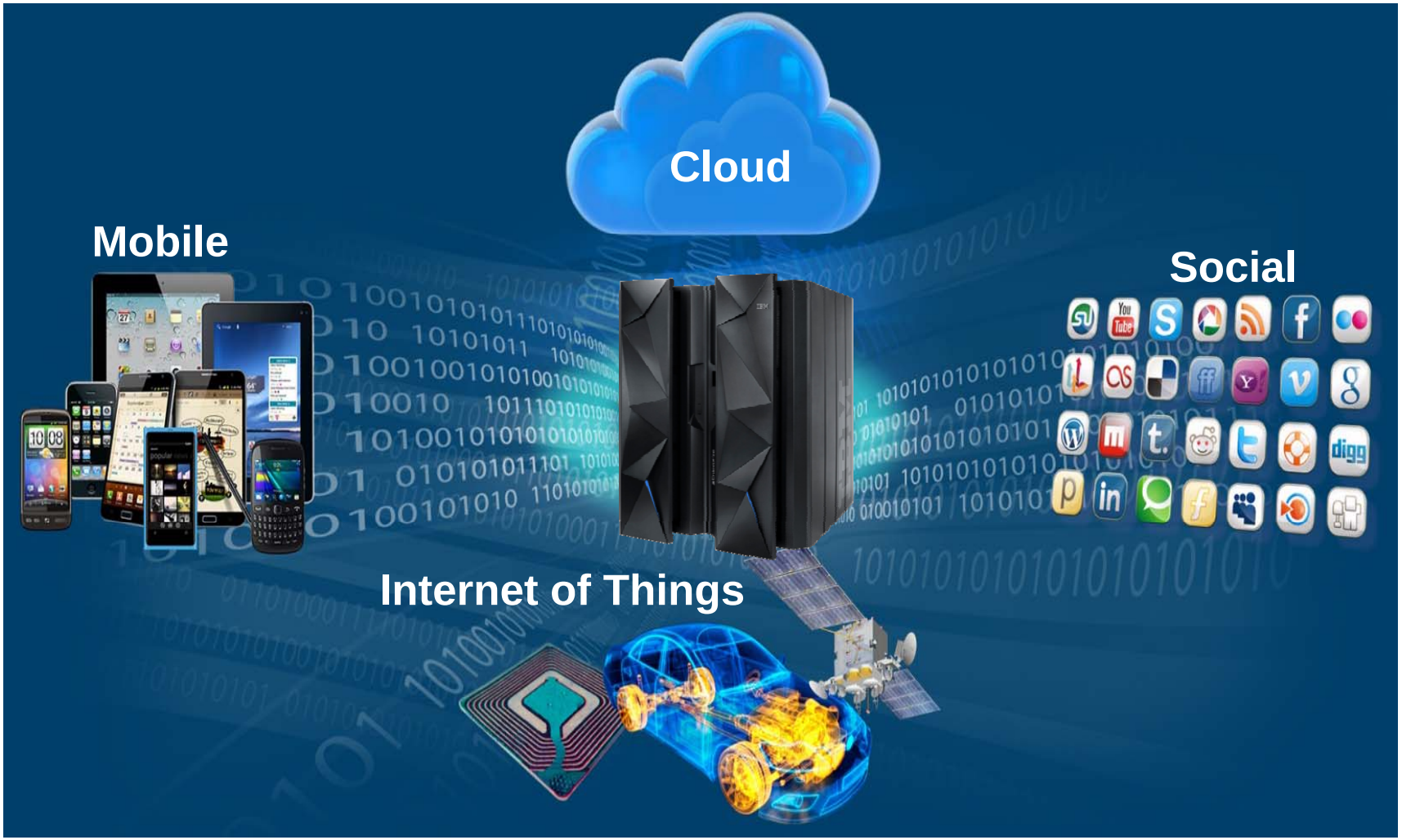
The business environment is shifting…



…and a new era of computing is emerging

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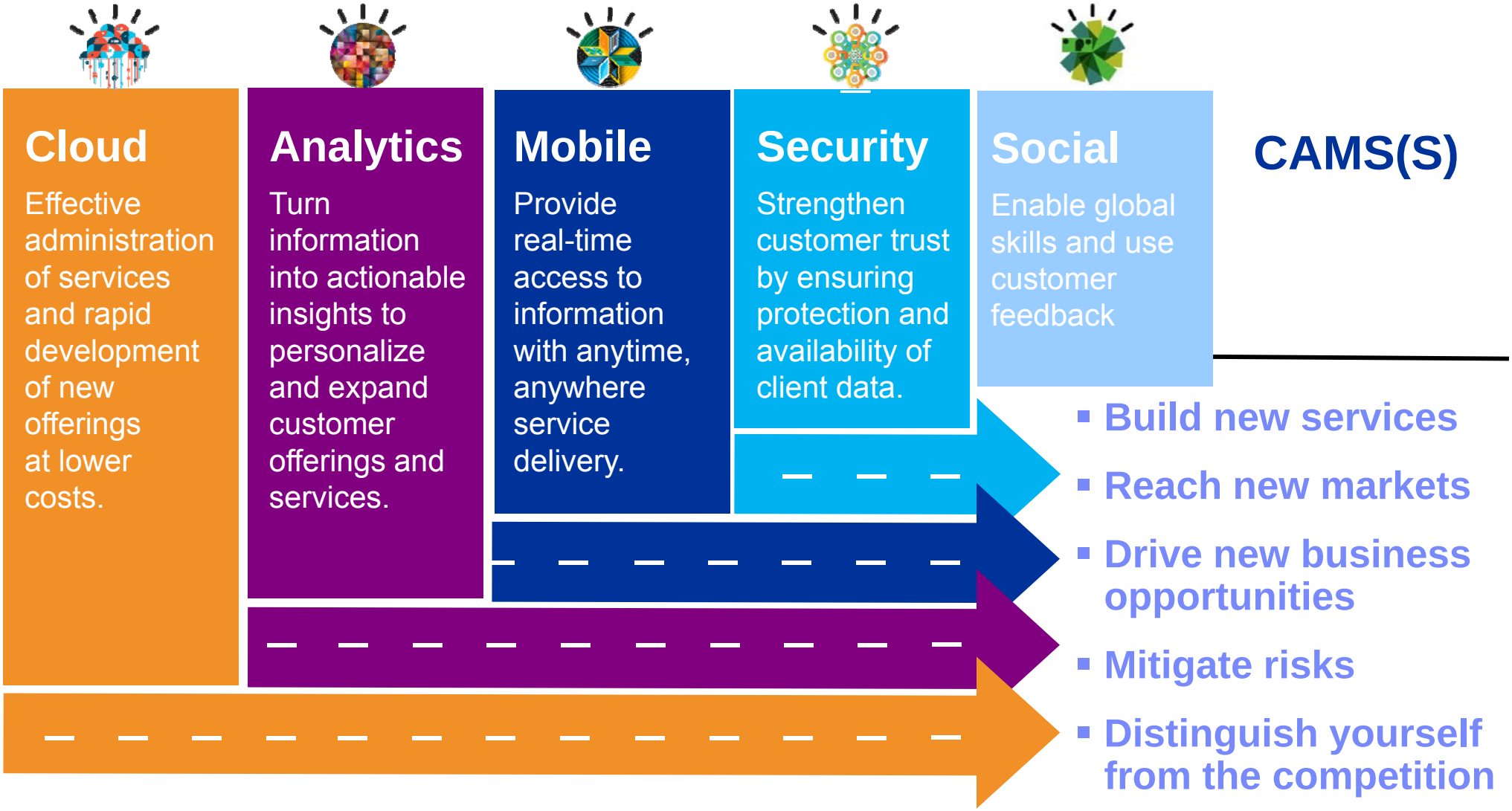
Mobilize the Mainframe with CAMSS



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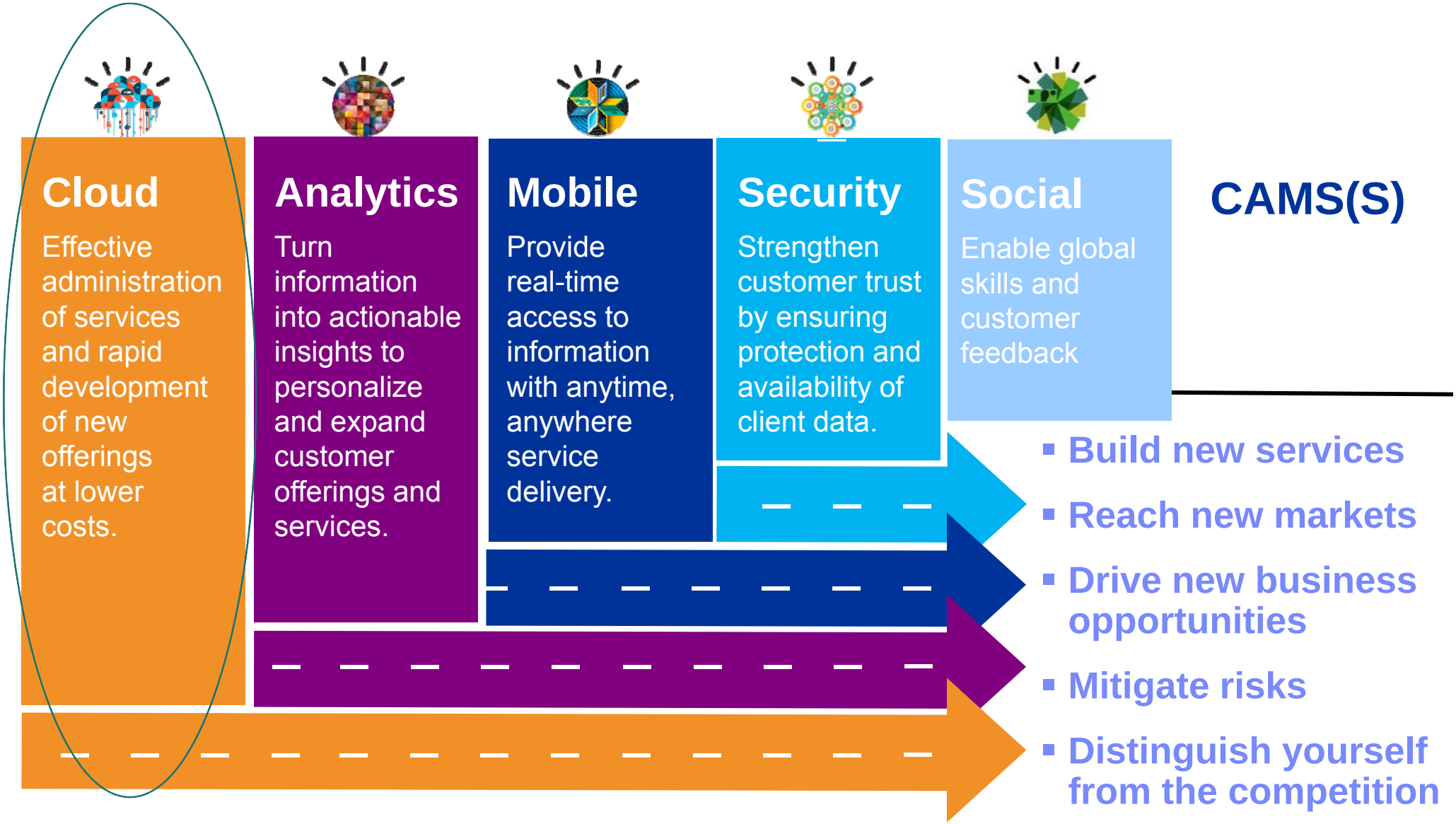

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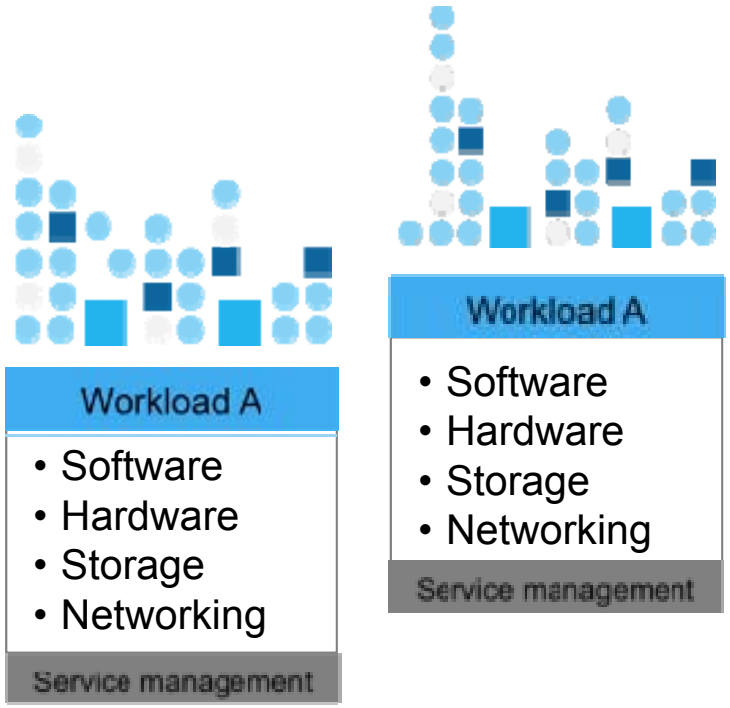
What is Different About Cloud Computing?

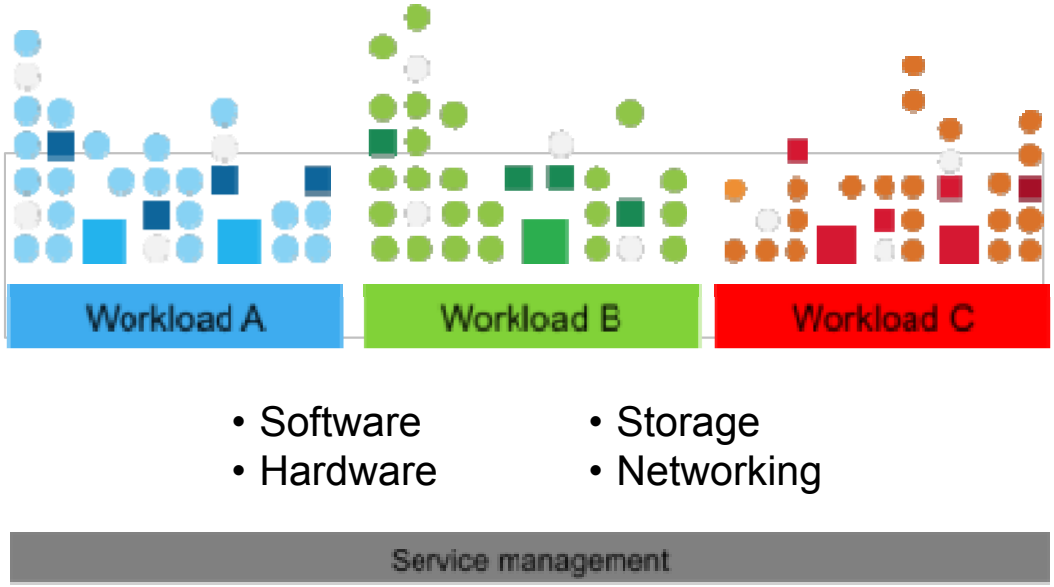
It's about business acceleration and effectiveness

Without cloud computing



With cloud computing

- Virtualized resources
- Automated service management
- Standardized services
- Location independent
- Rapid scalability
- Self-service



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Cloud on System z Solution Blueprint

Virtualization Infrastructure & Virtualization Management	Entry Level Cloud Standardization & Automation	Advanced Cloud Orchestration & Optimization

zEnterprise: zEC12, zBC12

- Massively scalable
- Characterized by economics / efficiencies
- Highly secure / available

z/VM 6.3

- Support more VMs than other platforms in a single footprint
- Integrated OpenStack support

Linux on System z

- Distributions available from RedHat and SUSE

IBM Wave for z/VM

- A graphical interface tool that simplifies the management and administration of z/VM and Linux environments

Differentiation

xCAT

- Shipped with z/VM 6.3
- Allows customers to set up a rudimentary cloud environment, without acquiring any additional product
- Based on open source code
- Focused on a different layer and not designed for upward integration to Cloud suite

IBM Cloud Manager with OpenStack

- A simple, entry level cloud management stack
- Based on OpenStack
- First tier in the IBM Cloud suite of cloud management products

Standardization

Cloud Ready for Linux on System z

- Image-based cloud service delivery with integrated provisioning, monitoring, service catalog & service desk, storage management, and HA

IBM Cloud Orchestrator *

- Based on IBM Cloud Manager with OpenStack
- adds runbook automation and middleware pattern support for workload deployment
- Provides workflows, driven by BPM process server

Service Lifecycle Management

Storage

- IBM DS8870
- Storwize V7000

Services

- 45 days
- pre-configuration
- pre-integration

Bundled Offerings Components

Cloud Monitoring
- OMEGAMON XE for z/VM and Linux

Cloud Backup/Recovery
- Tivoli Storage Manager Extended Edition

Cloud Management Automation
- Operations Manager for z/VM

Cloud Management Backup
- Backup and Restore Manager for z/VM

Licensing
- IBM MSP Utility Pricing for System z – 'Pay-as-You-Grow'

* System z support currently in development

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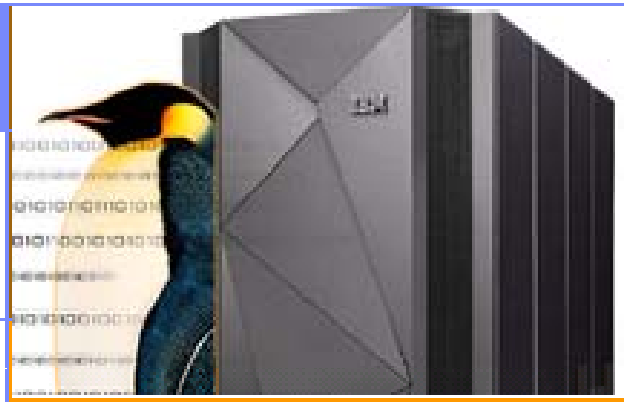
IT Simplicity with Enterprise Linux

IBM Enterprise Linux Server

Facts		Values
Deploy up to 40 virtual servers per core		As low as $1.^{00}$/day per virtual server[1]
Up to 520 virtual servers in a single footprint	**Linux Server Solution** including hardware, virtualization and support	Save up to 55% on TCO over 5 years[2]
Intelligent visualization – Simplified monitoring – Unified management		More than 3,000 ISVs apps supported
Secure isolation of logical partitions with highest level of security certification		Starting as low as $75K USD[3]
Support for Red Hat, SUSE and OpenStack® Cloud		

[1] IBM calculations of zEnterprise limits across maximum zBC12 configuration. Results may vary. 3-Year cost for hardware, hardware maintenance, and z/VM.
[2] Based on preliminary measurements and projections comparing Oracle DB on x86 2 chip 8 core 2.13GHz blades vs. zBC12 and Enterprise Linux Server solution edition pricing. Subject to change and results may vary based on numerous factors.
[3] Based on US market and will vary by country.

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Enterprise Cloud System at Managed Service Provider

IBM Ships Its First Enterprise Cloud System to Vissensa

By Darryl K. Taft | Posted 2014-06-27 Email Print

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IBM announced it delivered the first shipment of its Enterprise Cloud system to a U.K.-based managed service provider.

IBM has made the first delivery of its mainframe-based Enterprise Cloud System to Vissensa, a U.K.-based managed service provider (MSP).

The system will help Vissensa offer new cloud services to its customers. With the Enterprise Cloud System, the company can deliver a preconfigured, pretested Linux platform that can outperform its existing x86-based cloud infrastructure.

This offering is significant because many Vissensa customers are adopting multi-hypervisor operating systems and technologies, and incorporating new technologies such as OpenStack as part of their solutions to help reduce costs and increase performance, the company said.

"The zEnterprise platform offers better scalability with the most powerful processors of any server, the highest levels of availability you can get, and with better price/performance than legacy x86 hardware," Steve Groom, CEO Vissensa, said in a statement. "It means we can offer a new level of service, with even better security and lower the total cost of ownership for our clients."

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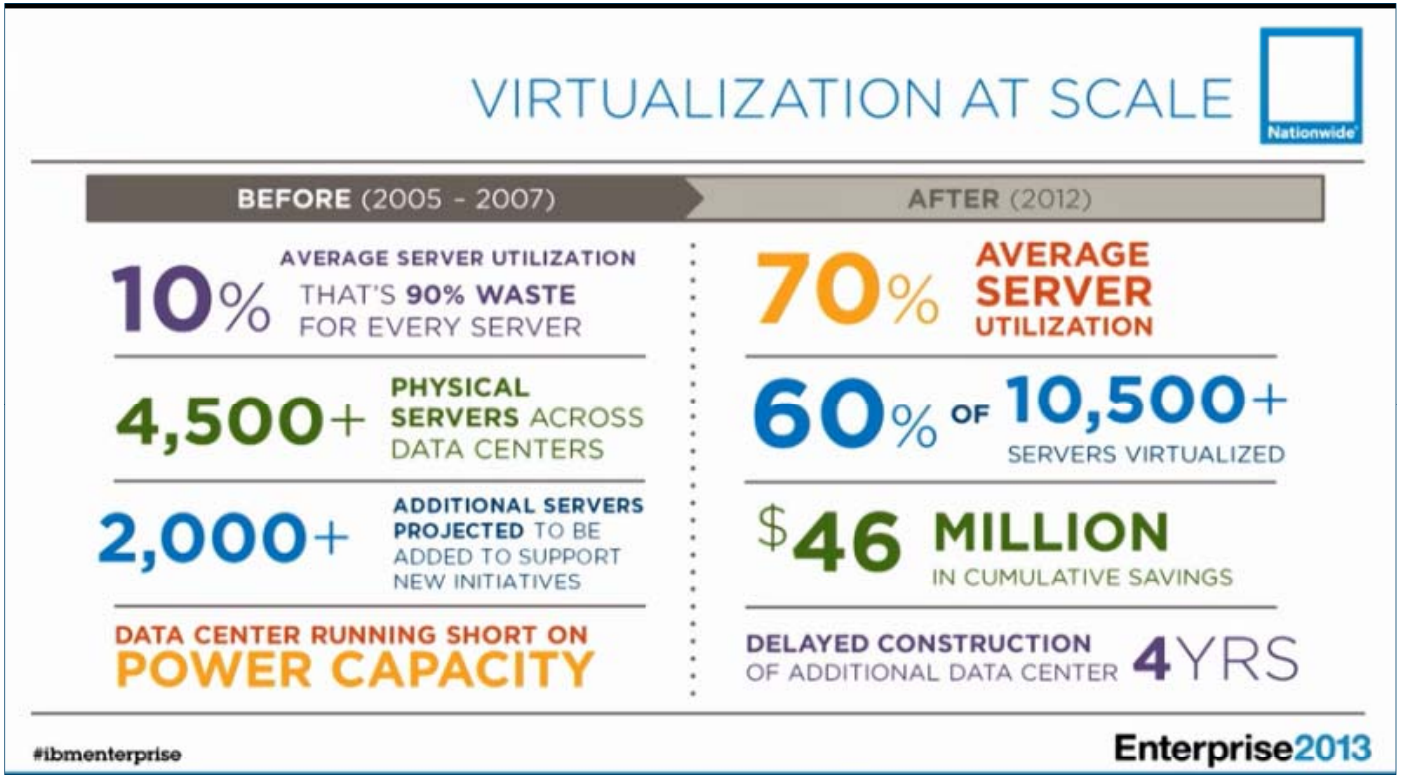
With cloud, IBM helped Nationwide Insurance save $46 million

„Nationwide‘s mission is to protect what matters most for our members.”

Jim Tussing
Infrastructure CTO
Nationwide Insurance



> *For a financial services company we make promises, in order for us to make and keep them our information systems have to be available and secure, they have to be cost-effective and agile.*
> *We need that so that we can fulfill our promise to be on your side.*
>
> **– Jim Tussing**

http://www.youtube.com/watch?v=ku9HELtbxvA

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~~Cloud Engines of Progress~~:

Business Connexion achieves the impossible

Business Connexion, **Africa's largest IT service provider** has set out to achieve the impossible through technology.

And that's why it **turned to the mainframe, enabling it to build and deploy end-to-end cloud offerings for customers across all of Africa**.

With the aid of the mainframe, Business Connexion can give access to services like Internet, banking and telemedicine -- and empower prosperity across a disconnected continent.

"Scalability is probably the most important [for our customers] – to actually grow as the business grows."

– Jacques Loubser, General Mananger, Business Connexion

www.youtube.com/watch?v=bqN1_6qyiGg&feature=youtu.be

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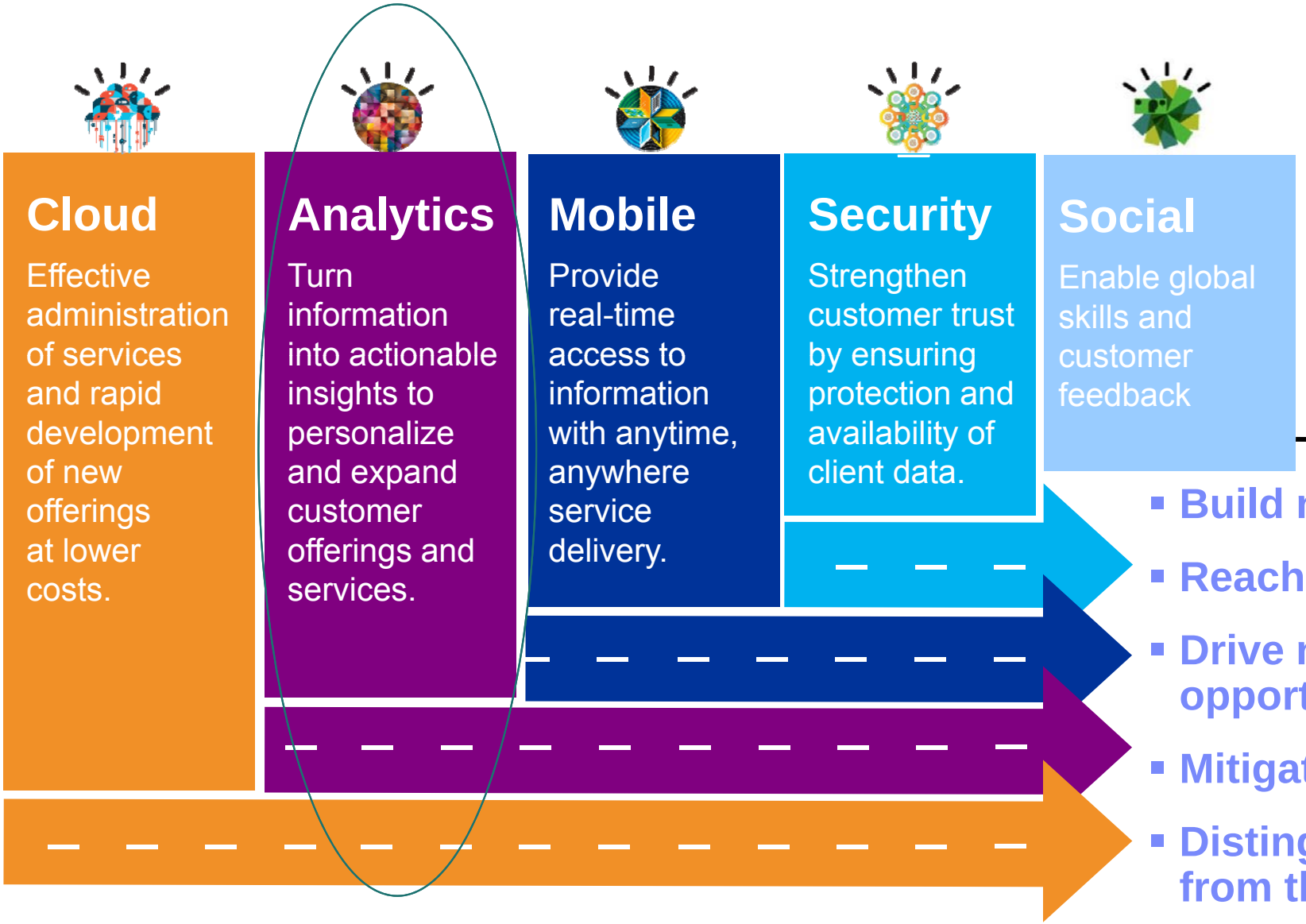
Mobilize the Mainframe with technologies - CAMSS



CAMS(S)

- Build new services
- Reach new markets
- Drive new business opportunities
- Mitigate risks
- Distinguish yourself from the competition

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Analytics, Business Intelligence and Predictive Analytics

IBM DB2, IBM InfoSphere, IBM Cognos BI and SPSS

Integrated Solution stack creates compelling value

- Predictive Analytics, Business Intelligence, Data Warehousing on highly scalable, secure and available IBM Enterprise Linux Server
- Low cost, easy to manage
- Simplified and faster access to the transactional data

Siccob - Brazil	**IBM Business Analytics** - USA
• Supporting rapid business growth with robust, secure and efficient ELS technology • Created a virtualized Linux landscape running more than 300 production environments, and deployed DB2, InfoSphere DataStage® and Cognos • Enabled growth in mobile, internet and branch transactions; avoiding $1.5 million in electricity costs annually	• IBM's strategic analytics platform, designed to empower IBM employees • Offers services for data warehousing and analytics; all data is analyzed using Cognos, which generates reports for distribution • IBM's strategic analytics initiative, which now delivers services to more than 390 teams and ~200,000 end-users • Delivers $25 million savings over five years; enables further savings

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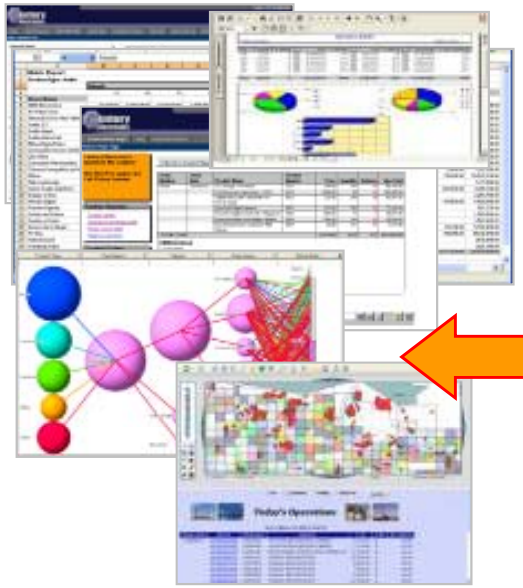
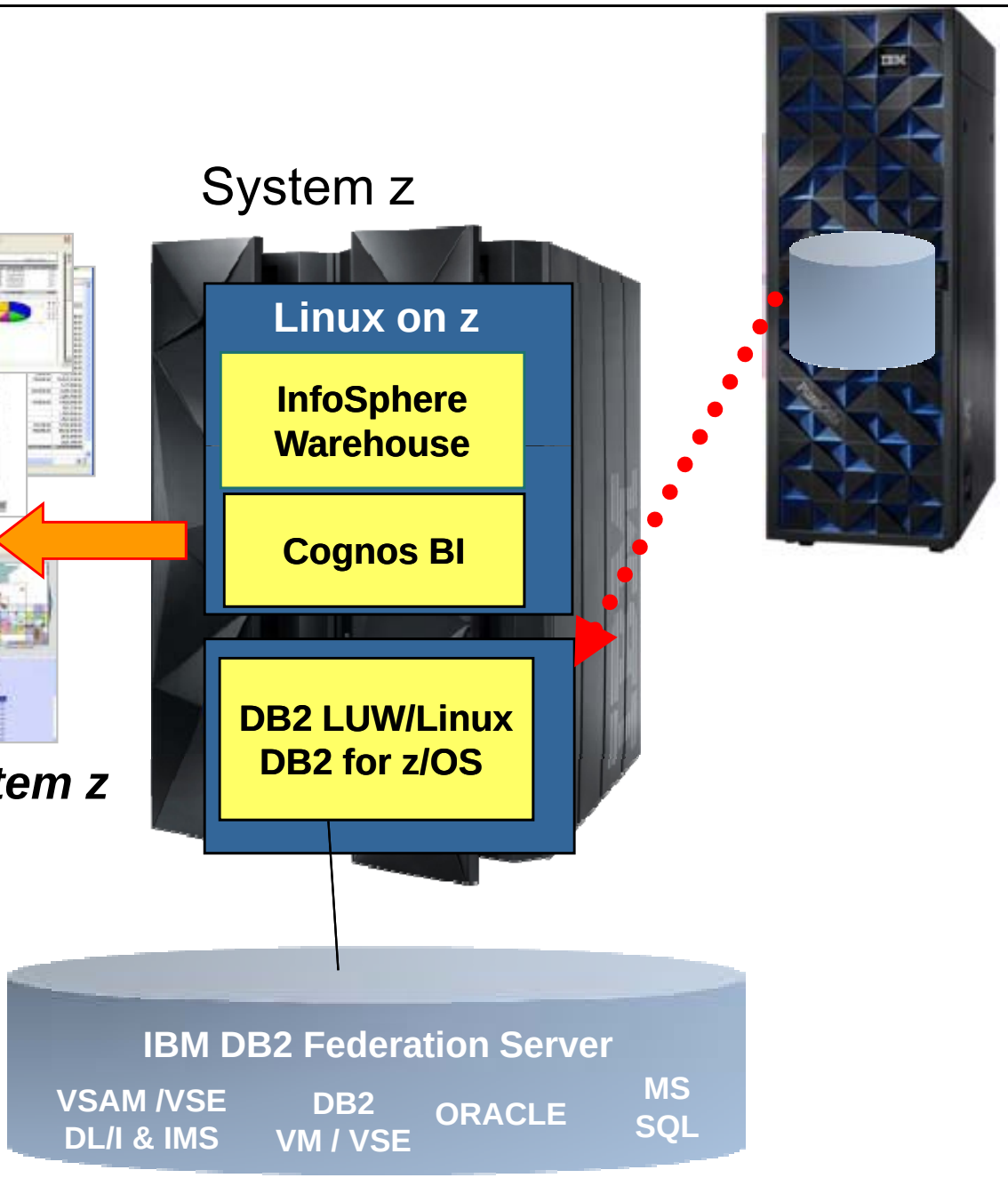
IBM Smart Analytics solutions

Building an end-to-end BI environment on System z



IBM Smart Analytics on System z



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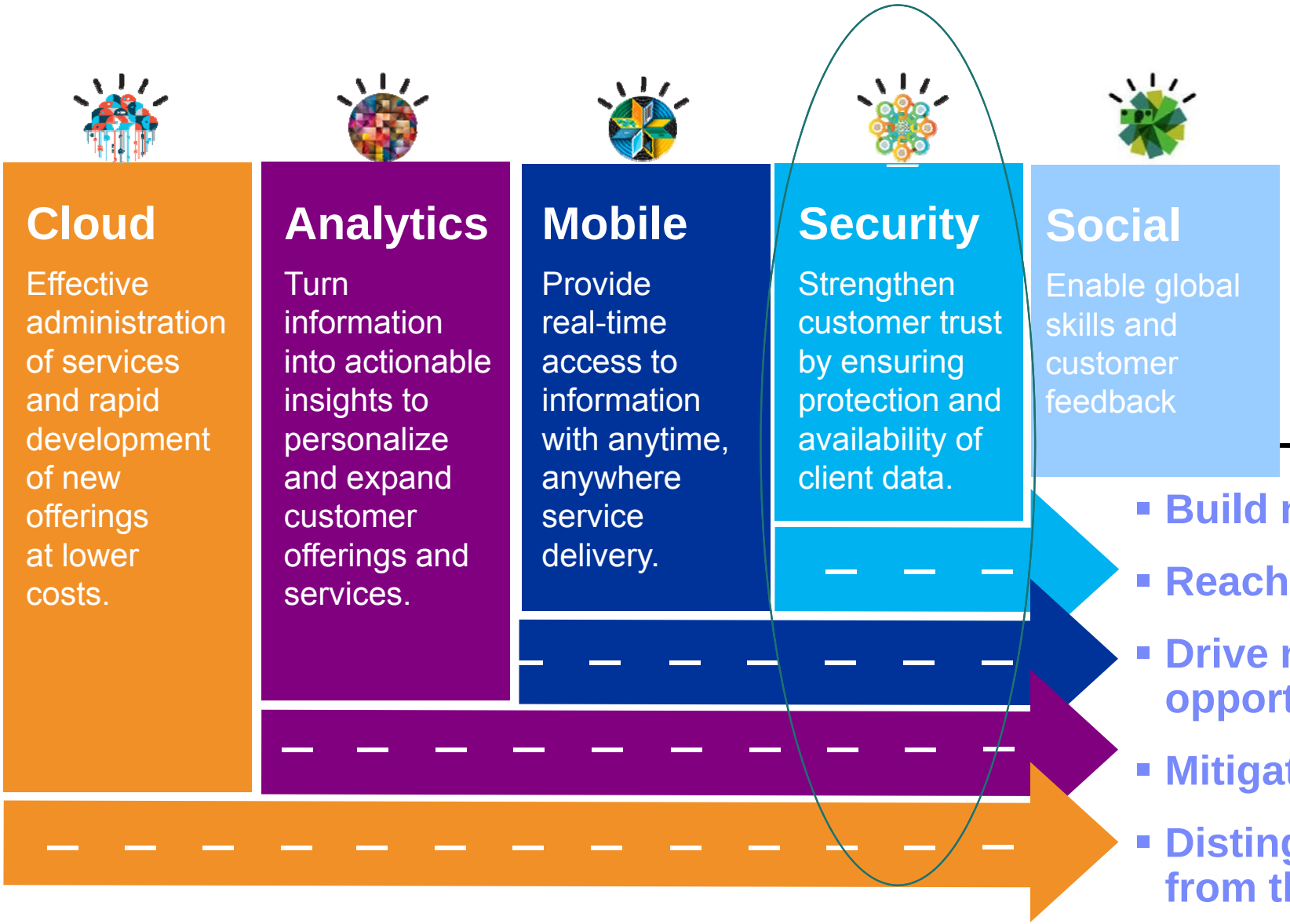
Mobilize the Mainframe with technologies - CAMSS



CAMS(S)

- Build new services
- Reach new markets
- Drive new business opportunities
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- Distinguish yourself from the competition

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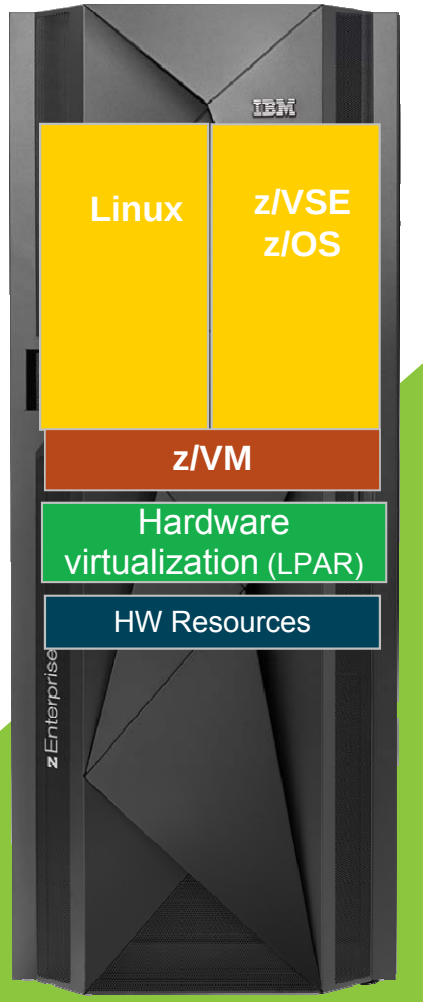
Built-in Security for System z Workloads

- Industry's top-rated EAL5+ security classification* for hardware Logical Partitions (LPARs)
- EAL4+ security classification on z/VM offering unmatched levels of secure virtualization and consolidation
- Security-rich holistic design to help protect system from malware, viruses, and insider threats
- Granular access controls integrated across the platform
- Centralized audit collection available for an enterprise view
- Network security features to help address outside threats
- Encryption solutions to help secure data from theft or compromise while in flight or at rest



The IBM advantage …only ELS hardware can boast the combination of EAL5+, an EAL4+ certified hypervisor, FIPS 140-2 Level 4 and related security certifications

The Gold Standard for Security

* https://www.bsi.bund.de/ContentBSI/EN/Topics/Certification/newcertificates.html

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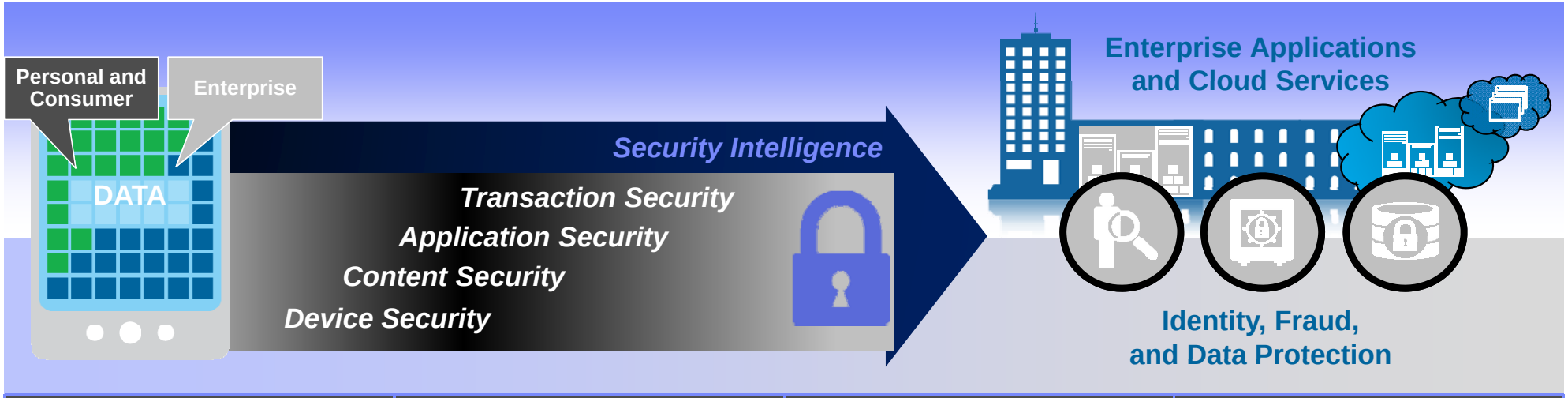
IBM End-to-End Security capabilities for the mobile enterprise



Device Security	*Content Security*	*Application Security*	*Transaction Security*
• Solutions to manage a diverse set of mobile devices from corporate owned assets to BYOD, all from the cloud	• Solutions to help secure file and document sharing across devices and SharePoint	• Solutions to develop applications with security by design • Protect enterprise data in both the applications you build and the applications you buy	• Solutions to help protect mobile transactions with customers, business partners and temporary workers that are not part of your enterprise mobile

Security Intelligence

A unified architecture for integrating mobile security information and event management (SIEM), log management,
anomaly detection, and configuration and vulnerability management

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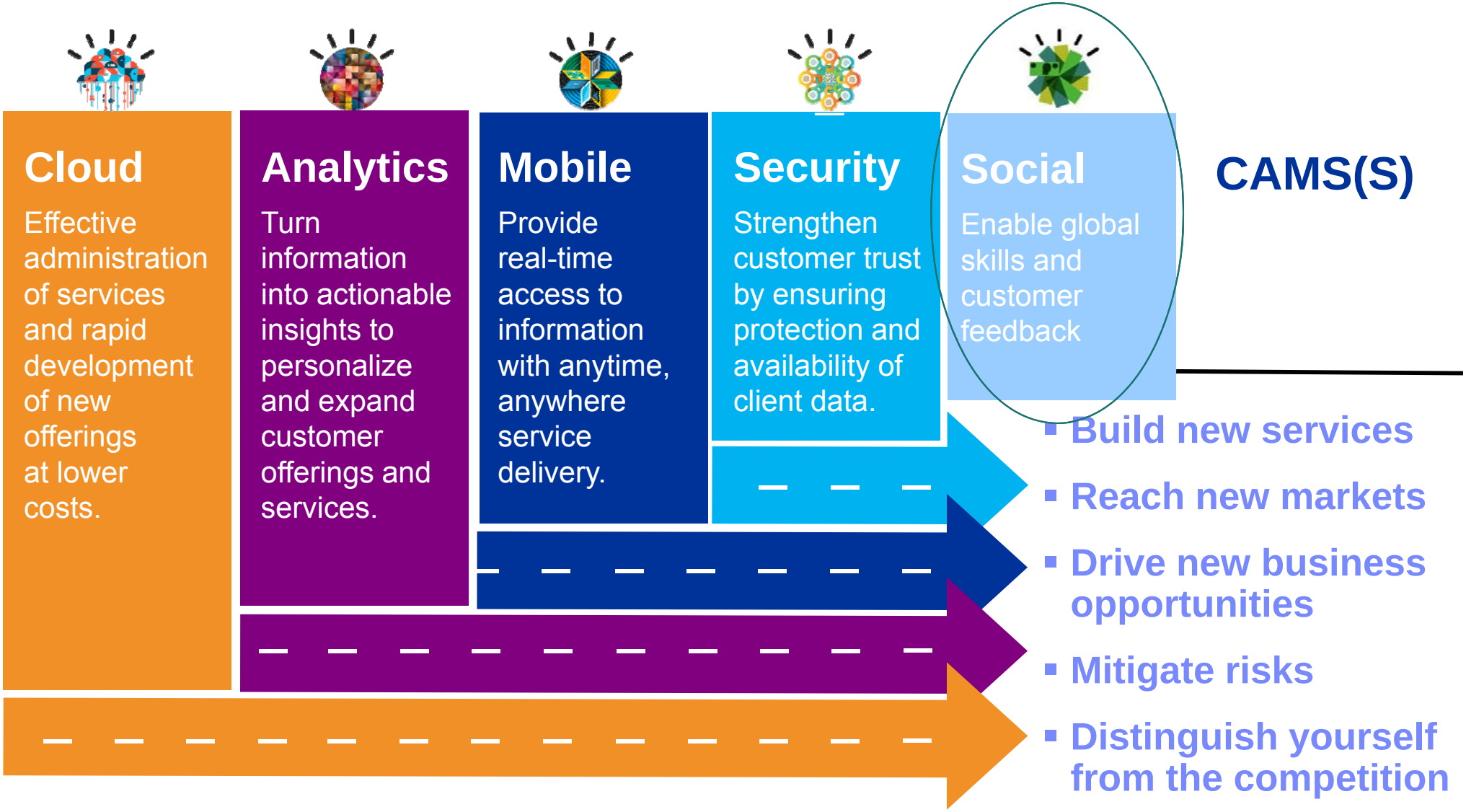
Mobilize the Mainframe with technologies - CAMSS



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Social business creates **value** across every level of your company

Marketing

Reaching new audiences

Can achieve 100% increase in market exposure

Skill

Increase productvity

Develop skills 50% faster using the largest network of specialists and experts

Product Development

Speeding time-to-market

Can develop and bring new products to market 23% faster

Sales

Improving effectiveness

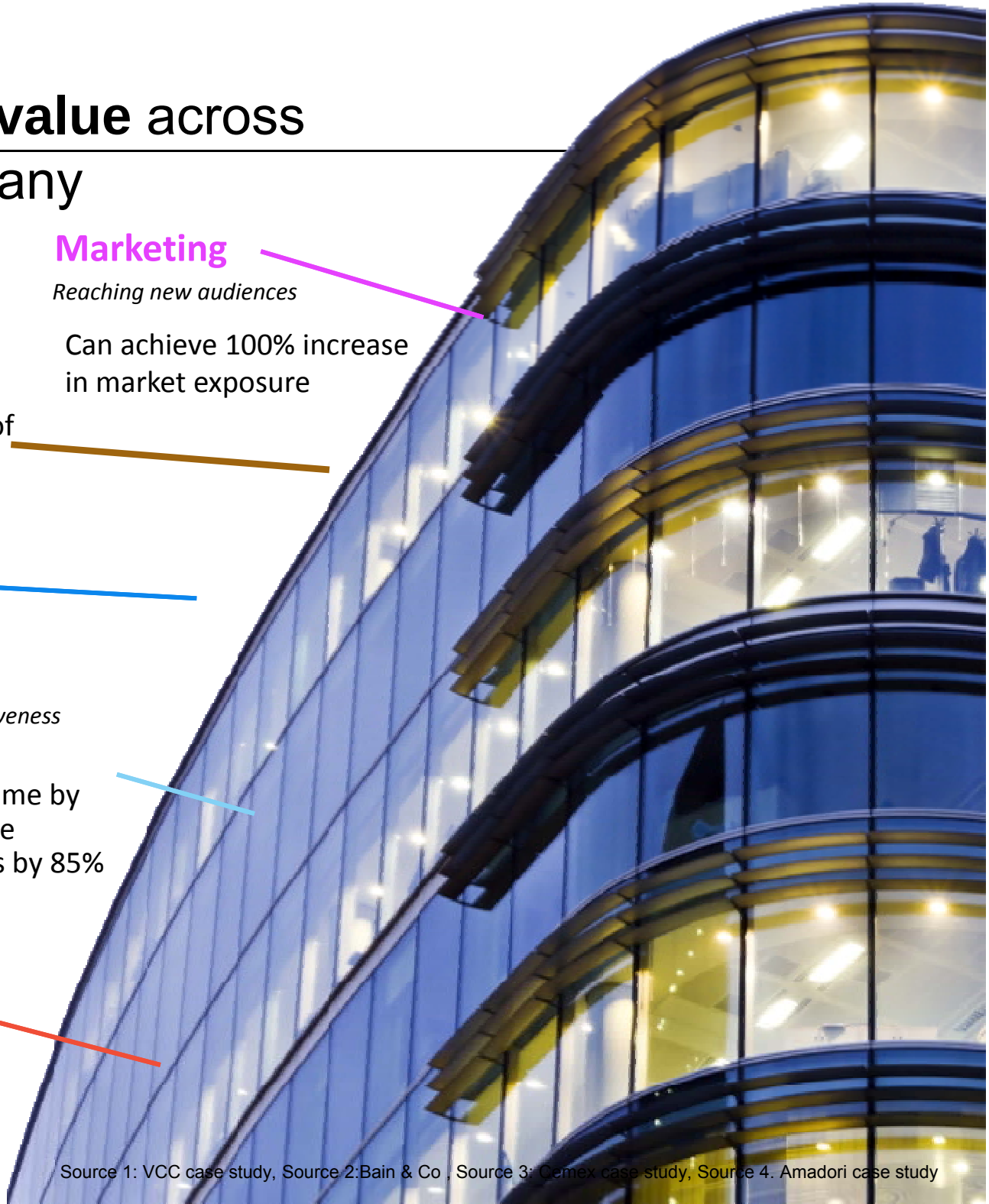
Can increase loan/sales volume by 34% and reduce operating costs by 85%

Customer Service

Improving customer retention

Deliver customer service 99% faster

A 24X7 automatic push notification and self service delivery



Source 1: VCC case study, Source 2:Bain & Co , Source 3: Cemex case study, Source 4. Amadori case study

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Subscribe to the new *IBM Mainframe Weekly* digital newsletter to get the latest updates on the IBM Mainframe!

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System z SMEs and Executives:
Deon Newman - @deonnewm
Steven Dickens - @StevenDickens3
Michael Desens - @MikeDesens
Patrick Toole - @Pat_Toole_II
Kelly Ryan - @KellykmRyan

Blogs

IBM Mainframe Insights **
Millennial Mainframer
#MainframeDebate blog
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IBM Mainframe50

List server discussions: VSE-L, VM-listserv, Linux User Groups

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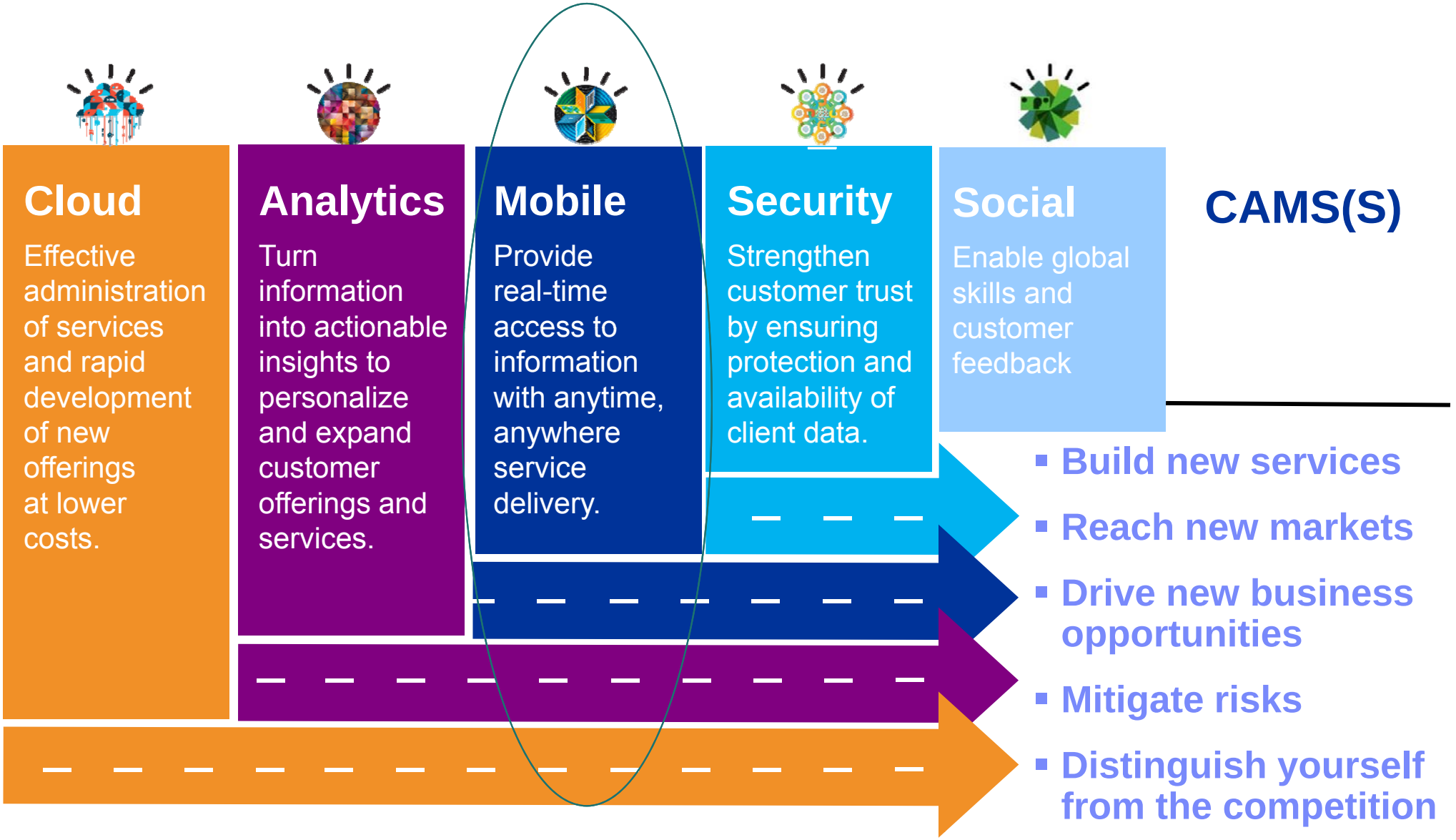

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Mobile is the evolution for connecting to the Data Center

91%

Mobile users keep their device within arm's reach 100% of the time

75%

Mobile shoppers take action after receiving a location based message

96%

Year to year increase in mobile cyber Monday sales

90%

Users use multiple screens as channels come together to create integrated experiences

900%

Increase of global machine-to-machine connections by 2022 (2 billion in 2011 to 18 billion at the end of 2022)

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Increasing proliferation of Smartphones

- **87%** of Mobile people worldwide have a smartphone
- **5 PB** of data are generated every day by mobile phone subscribers around the world
- **40%** of people use smart devices to log on onto the web before getting out of bed in the morning
- **91%** of mobile users keep their device within arm‘s reach 100% of the time

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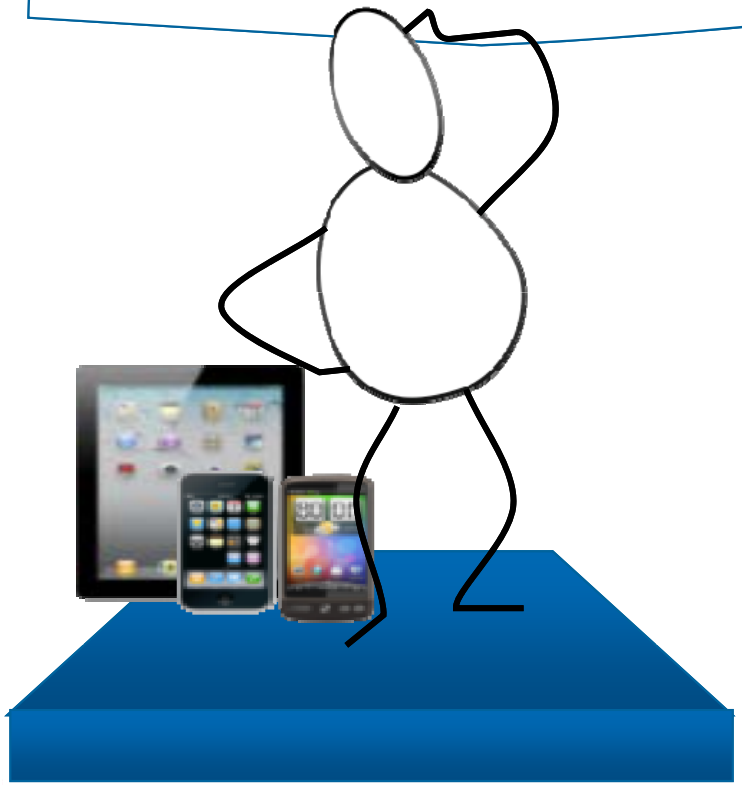
What about the mainframe?

The mainframe…
- Home to business critical applications and data

- How do we bridge the gap?



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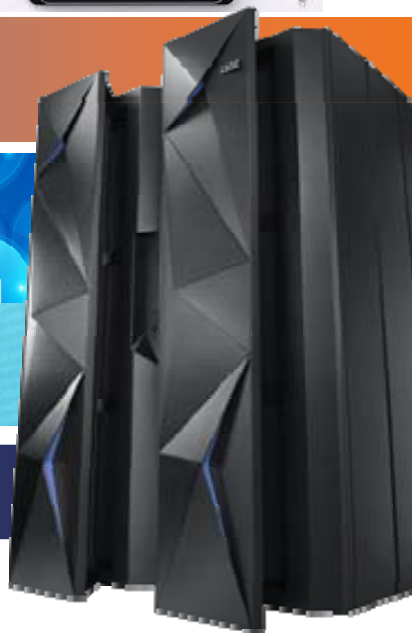
Mobile is changing the way information is used

Information developed using multiple platforms and transformed into web services

Mobile First

Information restricted and developed in the data center



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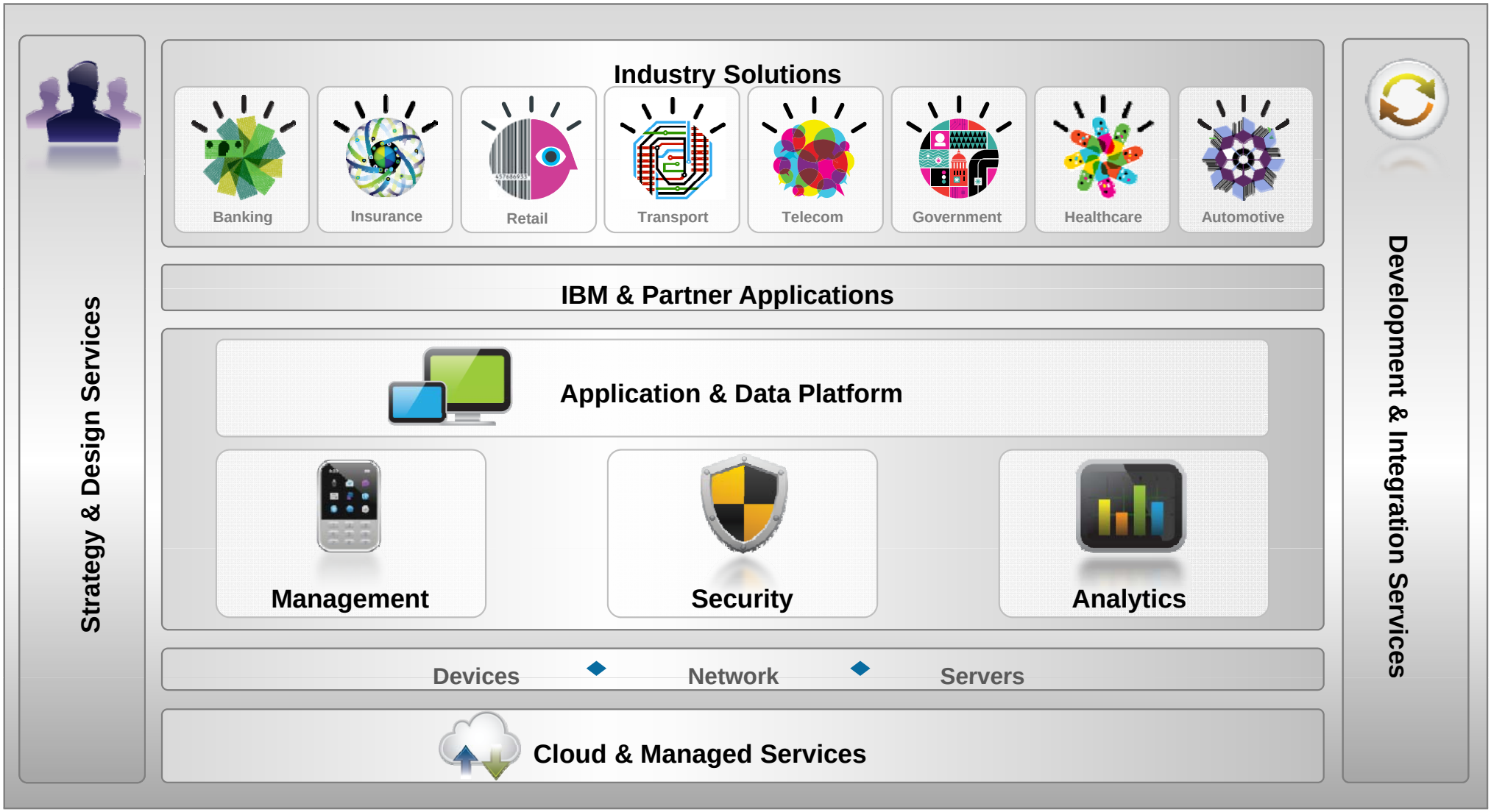
IBM MobileFirst Enterprise Blueprint

A rich portfolio for Mobile industry solutions and strategy



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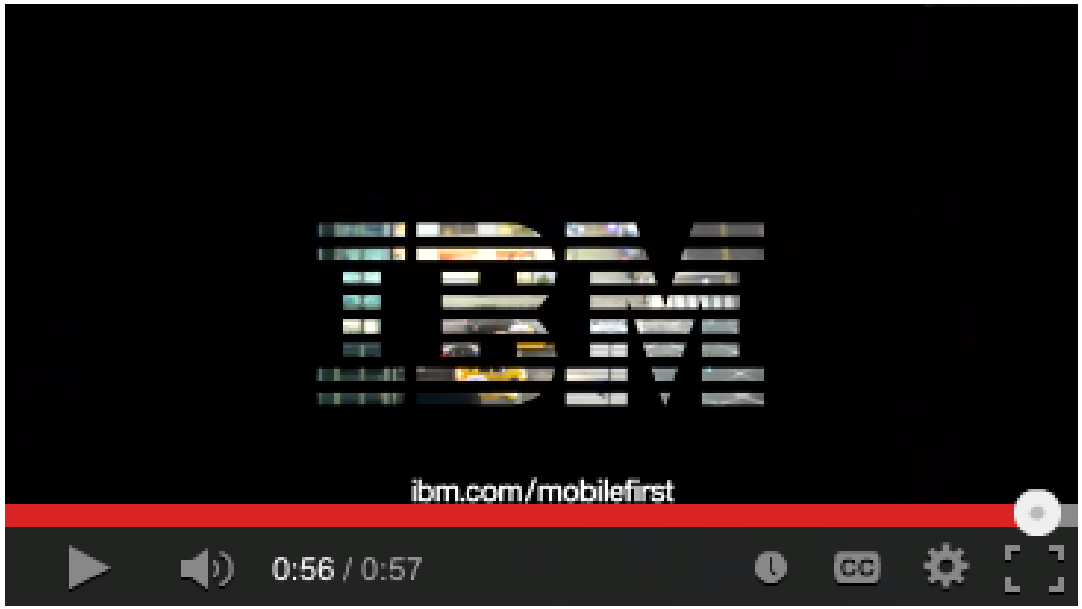
What Is IBM MobileFirst?



IBM MobileFirst Enables Enterprise Mobility

10,267 views 1 year ago

IBM MobileFirst is the industry's most complete mobile solution portfolio that enables mobility enterprise. It includes mobile software, services, and industry expertise. IBM's unified, cross-company approach to mobile helps our clients and partners to deliver best-in-class solutions, take advantage of more commercial opportunities, and provide superior customer service.

http://www.youtube.com/user/IBMMobileEnterprise

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Securing the enterprise while leveraging mobile

Sprint

"[IBM] brought one of their experts on-site, and truly within an hour, we had racked it and put a simple interface in the [IBM WebSphere DataPower] XC10 and proved that it would work."

—Alan Krause, IT director, Sprint Nextel Corp.

Challenge & Solution

- Grow its revenue while protecting customer privacy, improving efficiency and cutting costs with a scalable application infrastructure.
- WebSphere® DataPower® devices (XI52 and XC10) to enhance security, provide an integration gateway and improve responsiveness for customers

Key Features & Outcomes

- Helps Sprint process approximately 51 billion transactions per month
- Delivers a response to customers checking eligibility for rebates within milliseconds, as opposed to 0.2 seconds
- Provides an extra layer of security between internal systems and external systems, such as Sprint partner applications

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Mobile is Changing Conventions for Industries

Healthcare

From:

Traditional health institution

To:

Seamless interactions among physicians and providers, improving quality of care, patient safety and efficiency improving patient experience

Financial Institutions

From:

Traditional ATMs

To:

Mobile payment opportunity

Government

From:

Sitting in traffic jams

To:

Real-time re-direction to optimal routes using mobile info

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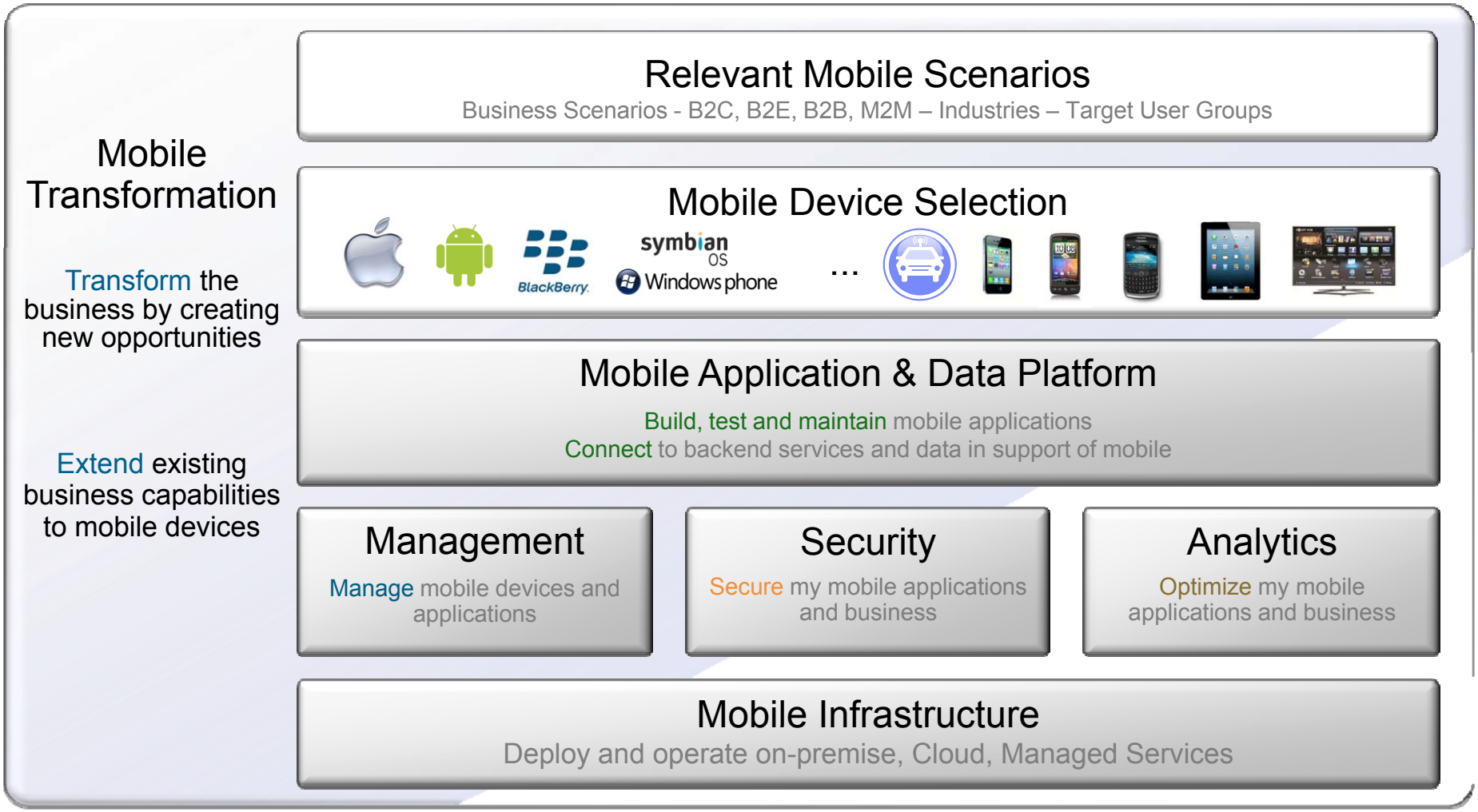
IBM MobileFirst Enterprise Blueprint

A Guideline to Defining Your Optimized MobileFirst Strategy



Scenario based Discovery and Architecture Definition, Leading to an Optimized Mobile Strategy

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Key mobile development and delivery challenges

Delivering for multiple platforms

- Highly fragmented set of …
  - Platforms and devices
  - Languages, APIs, and tools
- Native programming models not portable across platforms

Consumerization of IT and need to deliver high quality apps

- High quality user experience is a requirement
- Quality influenced as much by design as it is by function

Accelerated time to market requirements

- Higher frequency of releases and updates
- Added pressure on teams to deliver on time and with quality

Connecting apps and mobile users with existing enterprise systems

- Existing services typically need to be adapted, extended and scaled for mobile
- Enterprise wireless networks are running out of bandwidth to accommodate employee devices

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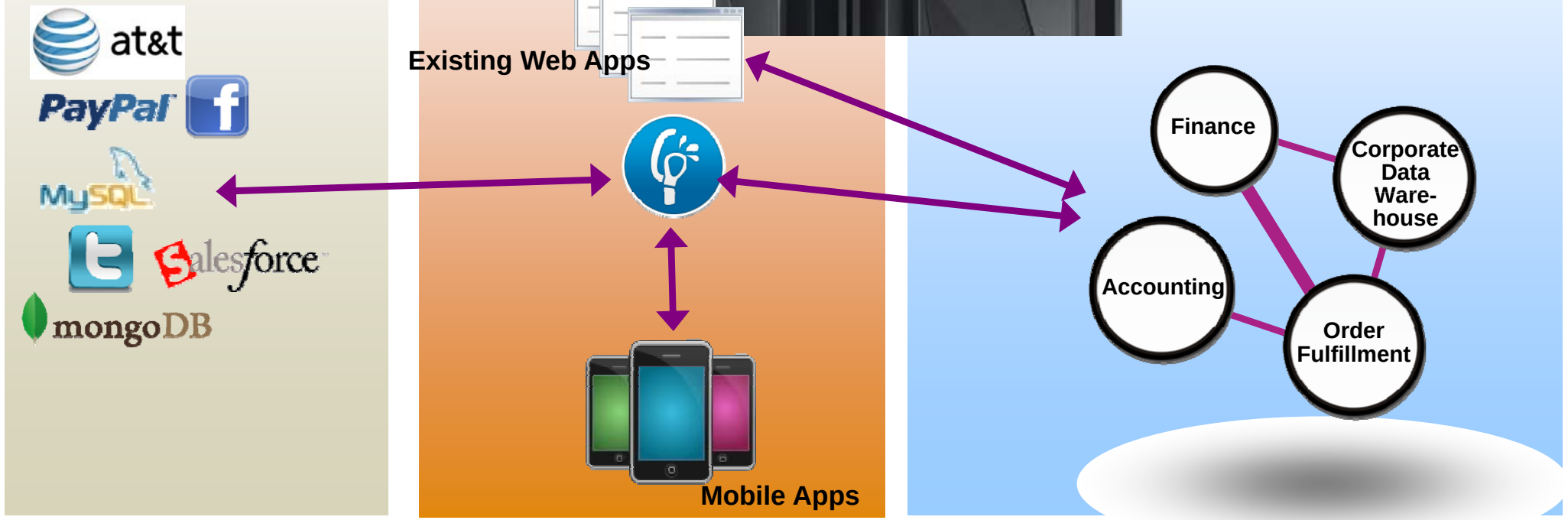
System z - Bridge Systems of Record and Systems of Engagement

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



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So Why is Mobile so Challenging?

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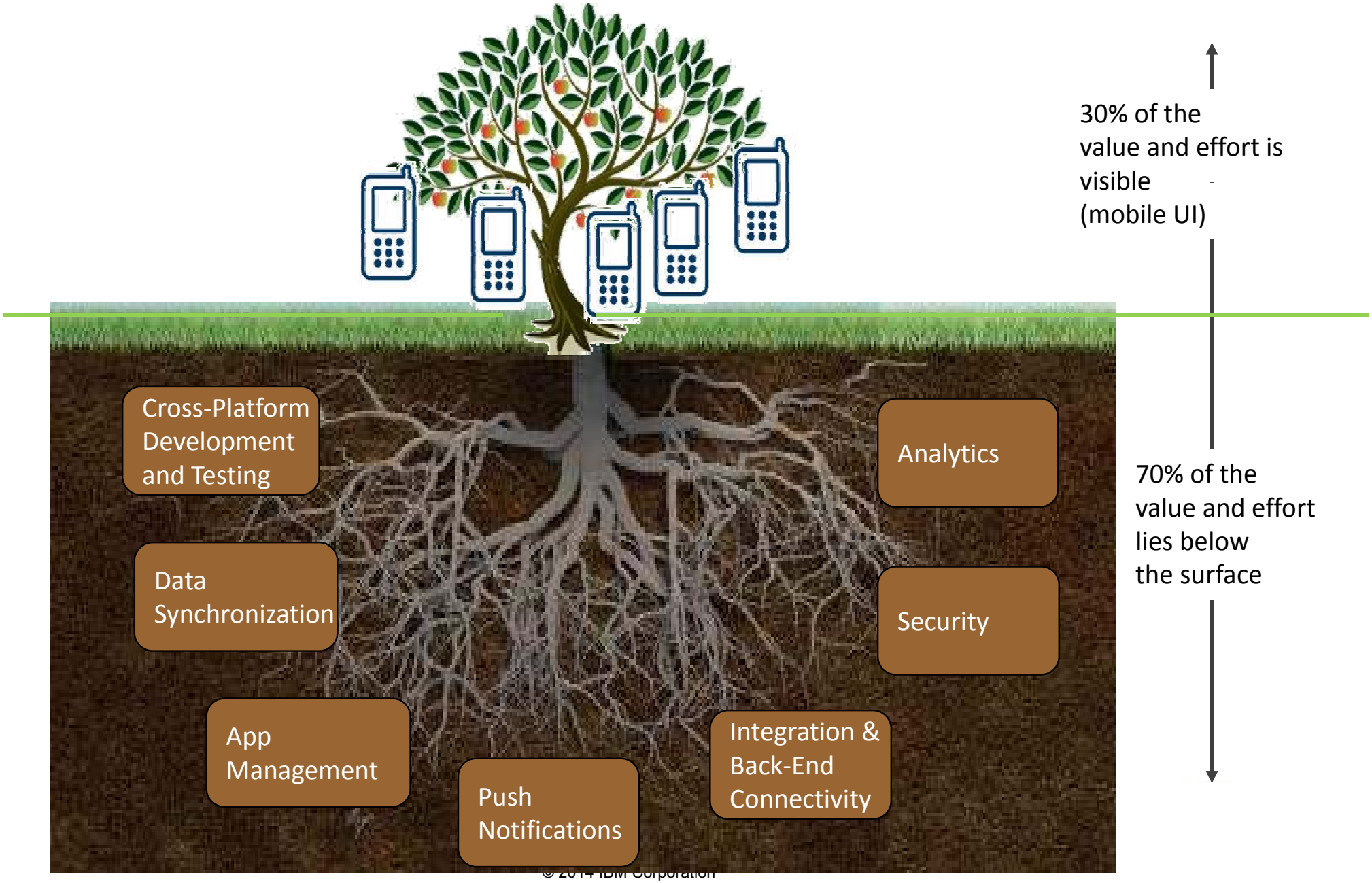
The Roots of Mobile Development Run Deep



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IBM Worklight – MobileFirst Foundation

IBM Worklight is part of the IBM MobileFirst family
- Mobile Application Platform for smartphones and tablets

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

Typical Customer Pain Resolved with Worklight:

- First mobile app was created through expensive native development by 3 parties
- No consistent user experience across mobile platforms
- No code reuse between mobile and PC environments
- User was required to install multiple apps - impossible to update existing app without redeploying the entire native app

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IBM Worklight – the Foundation for Mobile on System z

Mobile Devices

- iOS
- Android
- Blackberry
- Windows Phone

Systems of Engagement

Mobile Enterprise Application Platform (MEAP)

- Push updates
- Security
- Back-end connectivity
- Mobile Analytics
- App Center

Systems of Record

- CICS
- IMS
- SOA / WMQ
- DB2
- Analytics

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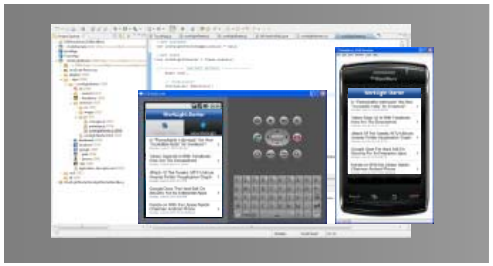
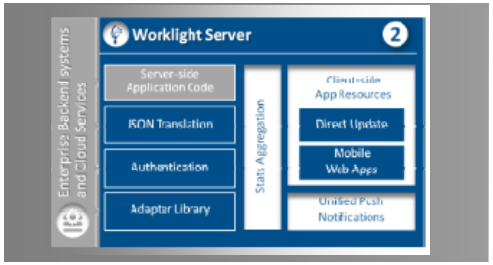
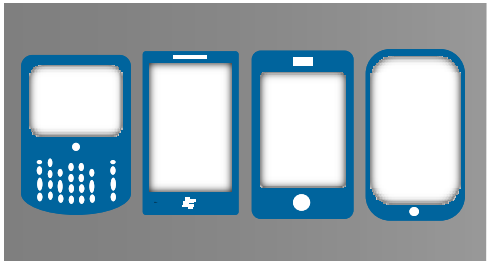
IBM Worklight overview



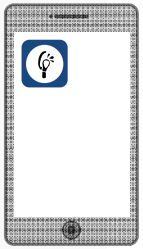
Worklight Studio
The most complete, extensible environment with maximum code reuse and per-device optimization



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



Worklight Runtime Components
Extensive libraries and client APIs that expose and interface with native device functionality



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

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

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IBM Worklight 6.2 Platform Support for System z

- Supported application server
  - WebSphere 7 & 8 (Distributed | System z Linux)
  - WebSphere 8.x Liberty Profile (included for Dev only), ND/Base (not included)
  - Apache Tomcat 7 (Linux | Windows | Mac OS X [development])
- Supported databases
  - DB2 Enterprise Server Edition V9.7 or later (DB2 LUW)
  - Apache Derby, SDK 10.8 (included), or later
  - Oracle 11.2g Database server, Standard or Enterprise Editions, release 1 or later
  - MySQL 5.5
- Supported OS
  - System z Linux SLES 10,11, RHEL 5.6, 6.
- Eclipse 4.2 & 4.3 and RTC 4.0.6 +fix packs

http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity-reports/report/html/softwareReqsForProduct?deliverableId=66C745D01E8711E28ACF6F870925FE36&osPlatform=Linux

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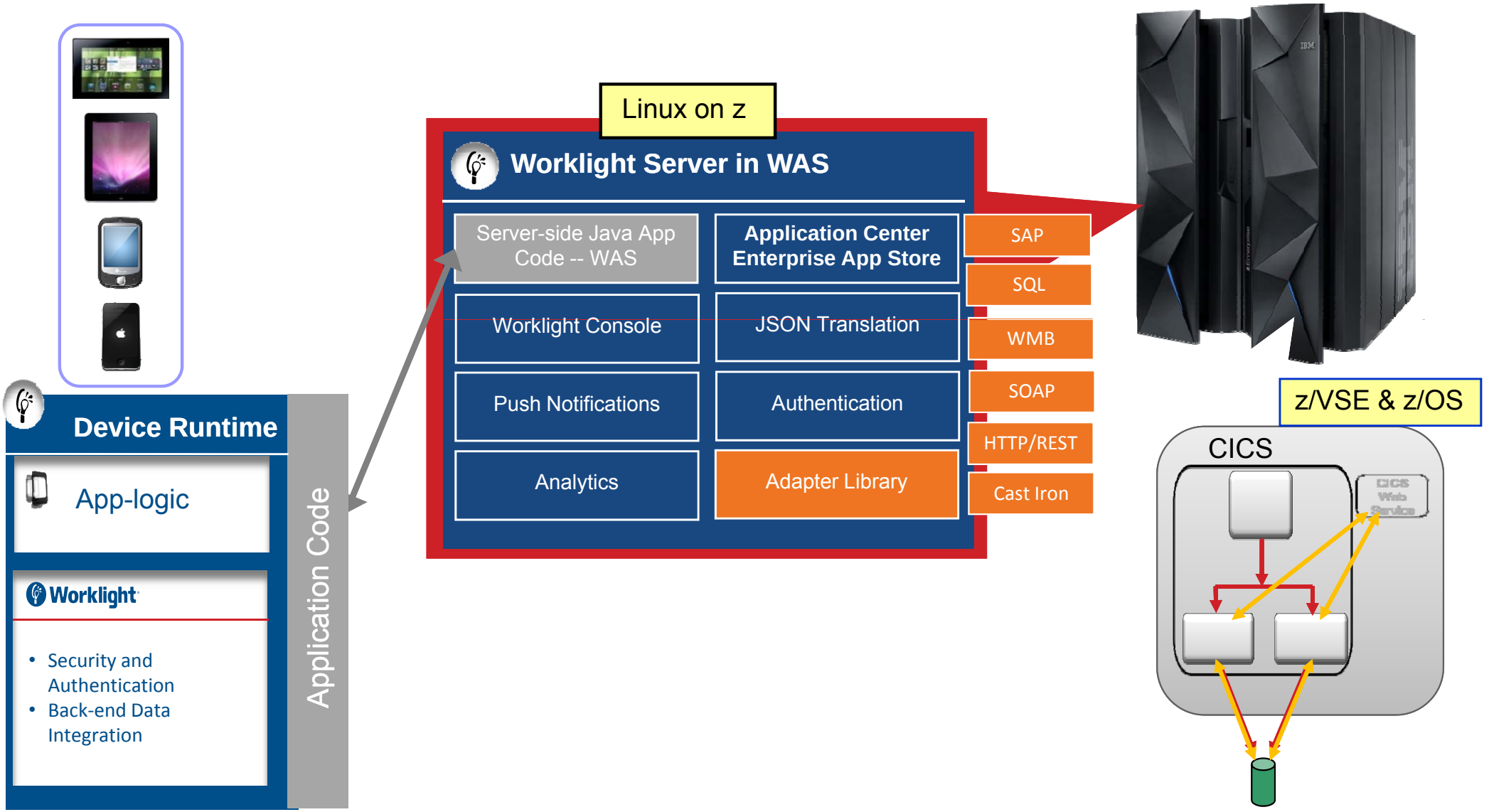
IBM Worklight Server in WebSphere Appl. Server



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

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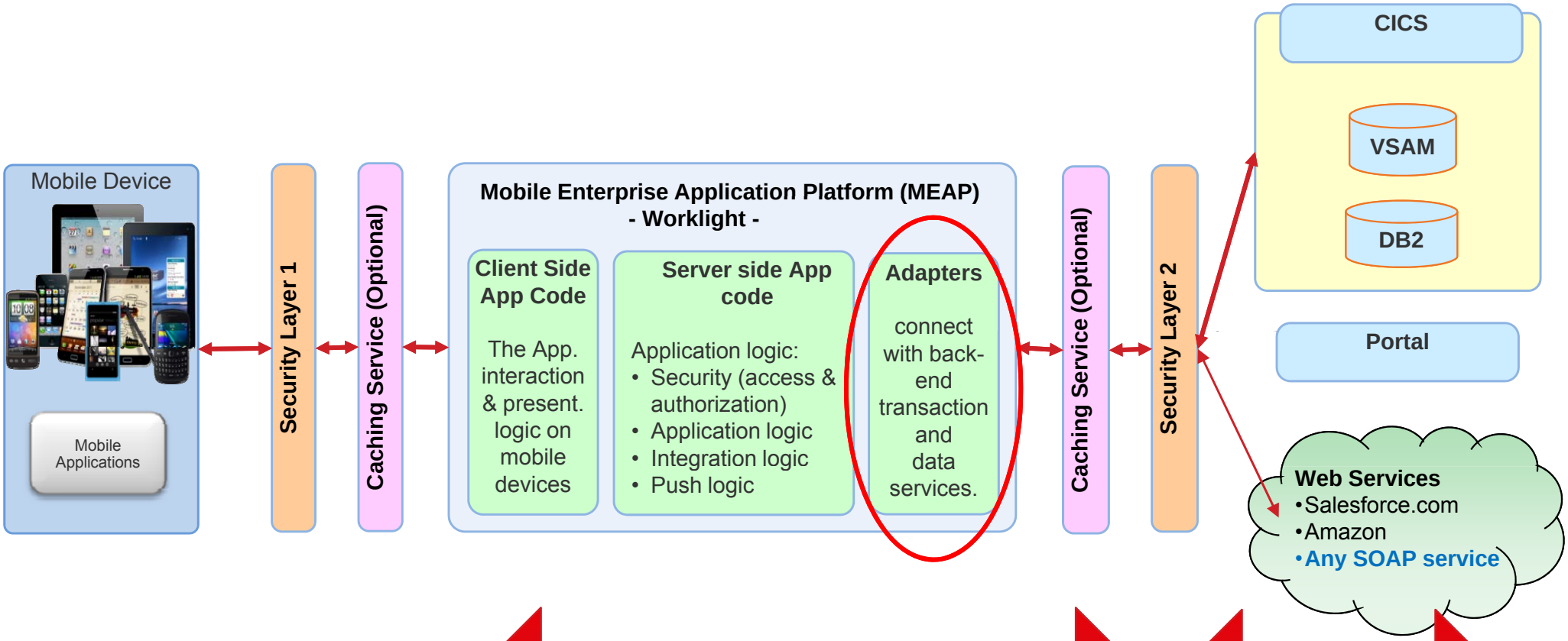
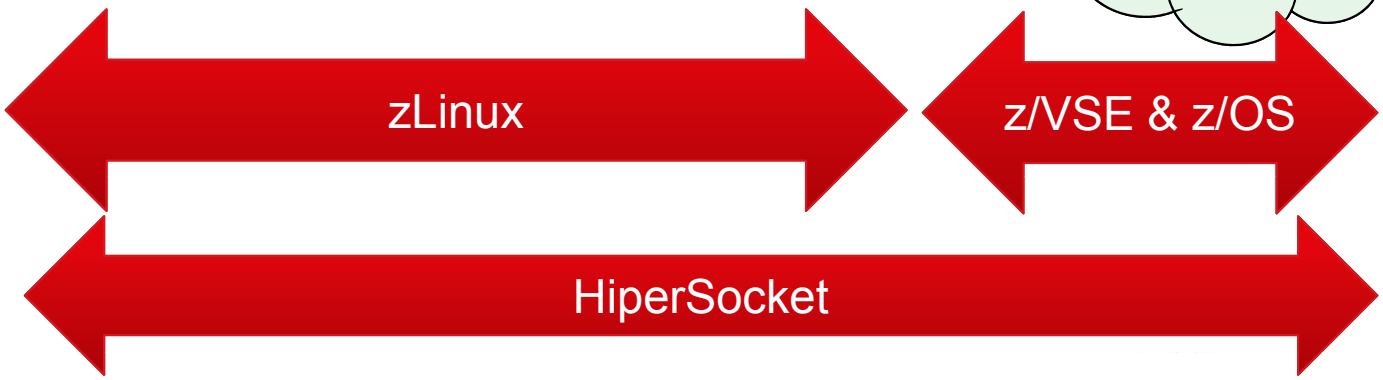
Mobile application overview diagram

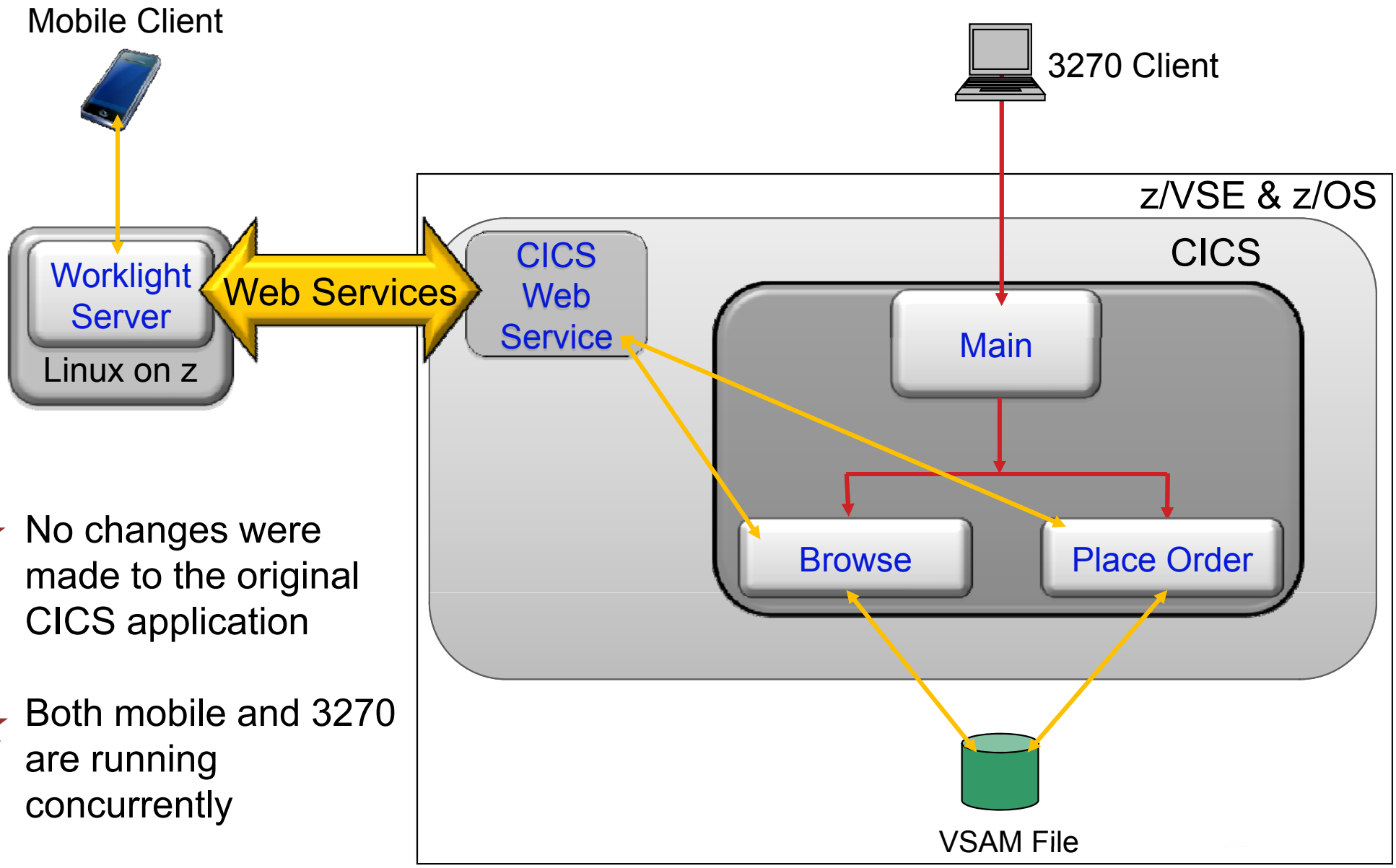


A mobile application needs end-to-end consideration for:
- Transactional integrity
- Data integrity
- Security



Mobile application integration is realized with Worklight Adapters

Worklight Modernizes the CICS Web Service Enabled App



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

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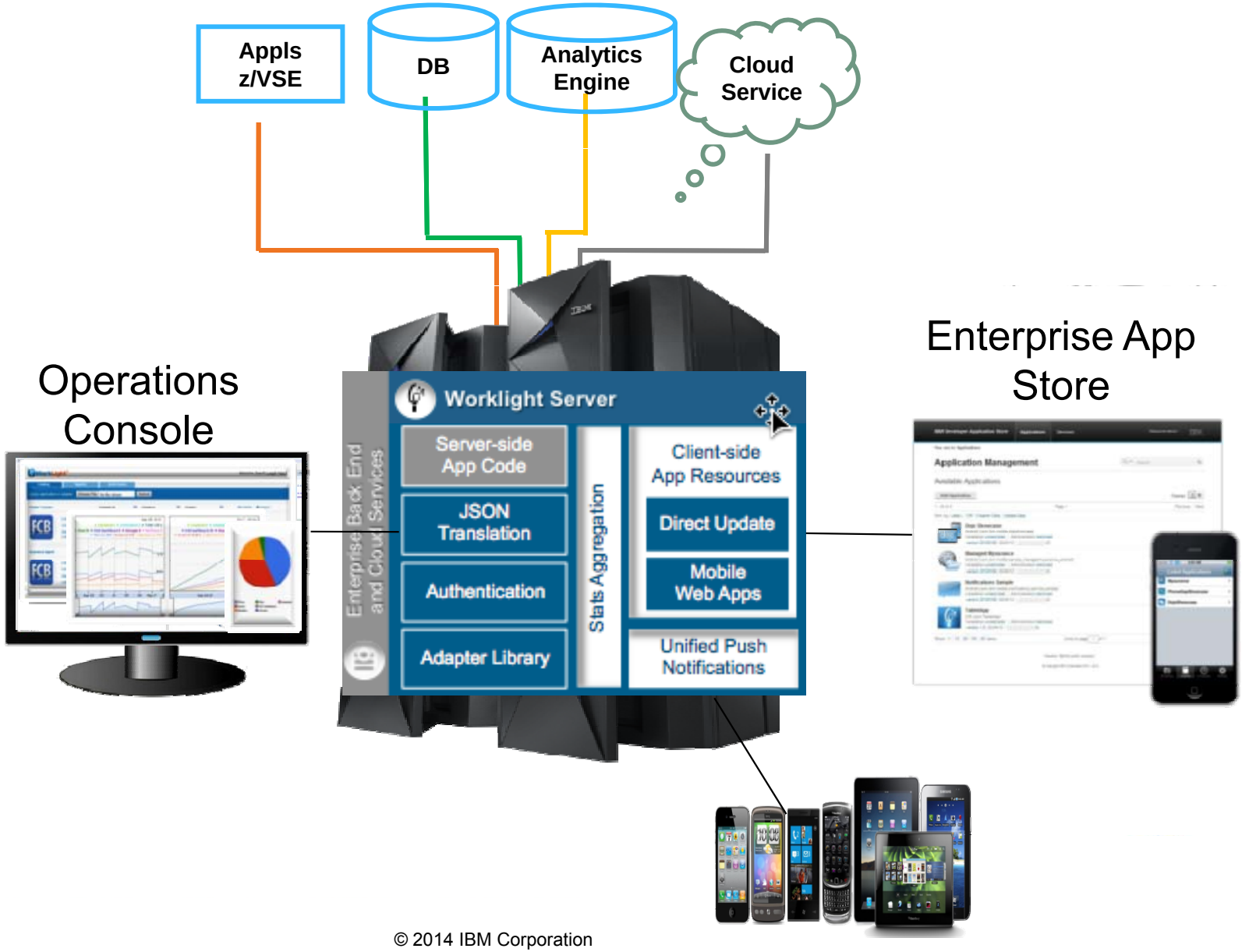
IBM Worklight, the control point for mobile access to enterprise transactional and data services

Caching, authentication, mobile application management and push notifications



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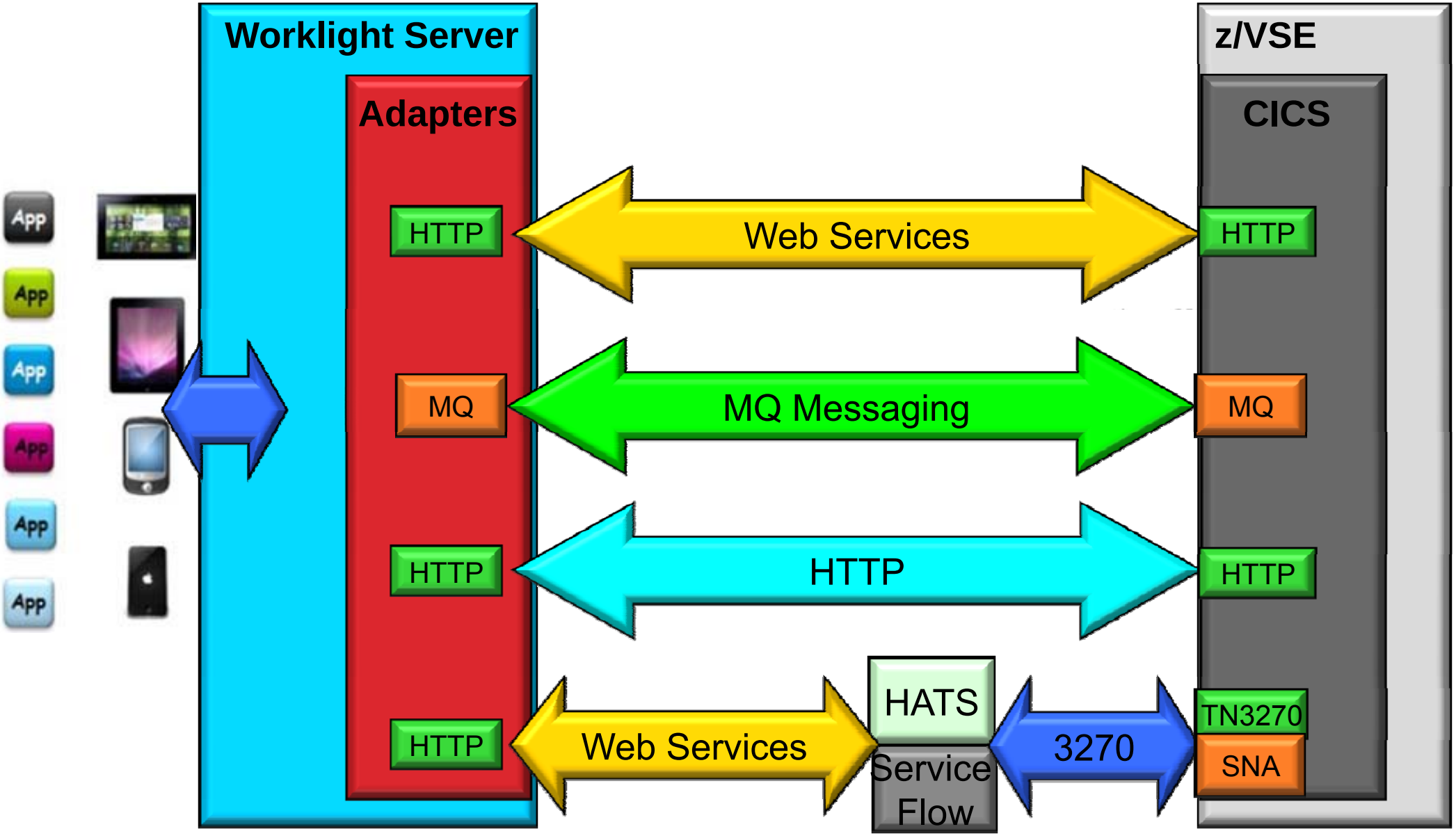
CICS Connectivity Options with Worklight



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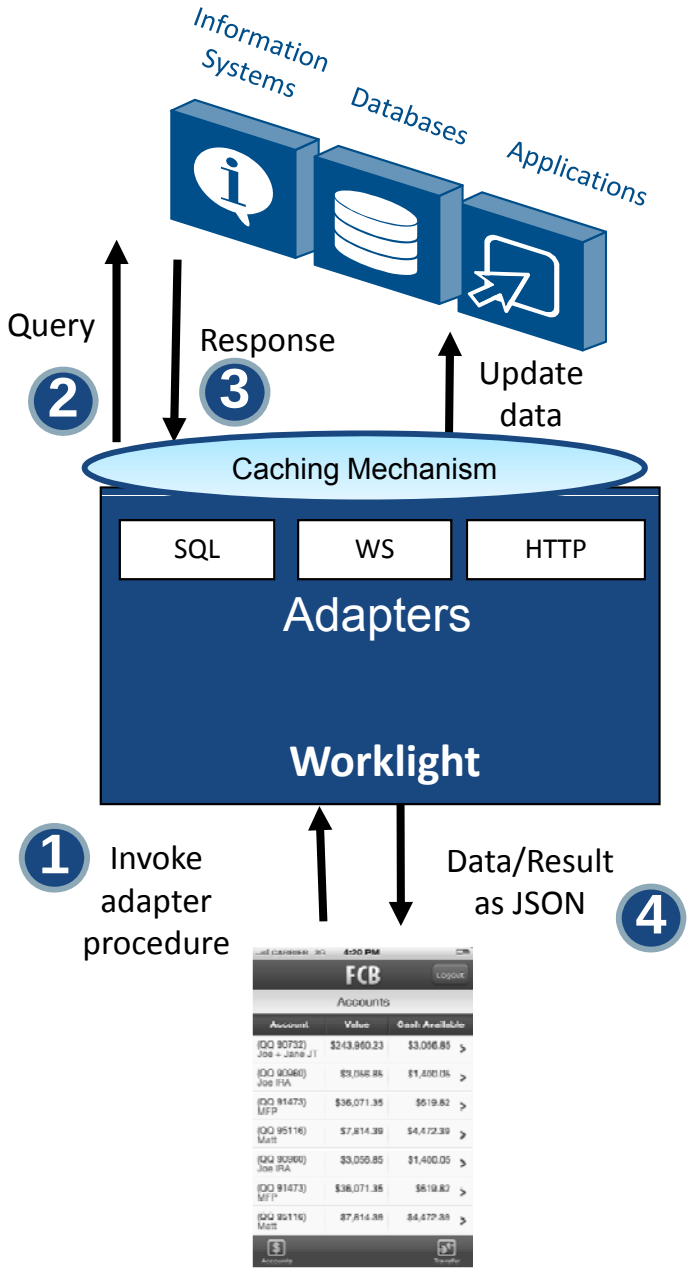
Worklight Server- Adapters



Universality

- Supports multiple integration technologies and back-end information systems

Read-only & Transactional Capabilities

- Adapters support read-only and transactional access modes to back-end systems

Security

- Flexible authentication APIs for back-end connections
- Connected user identity control

Caching

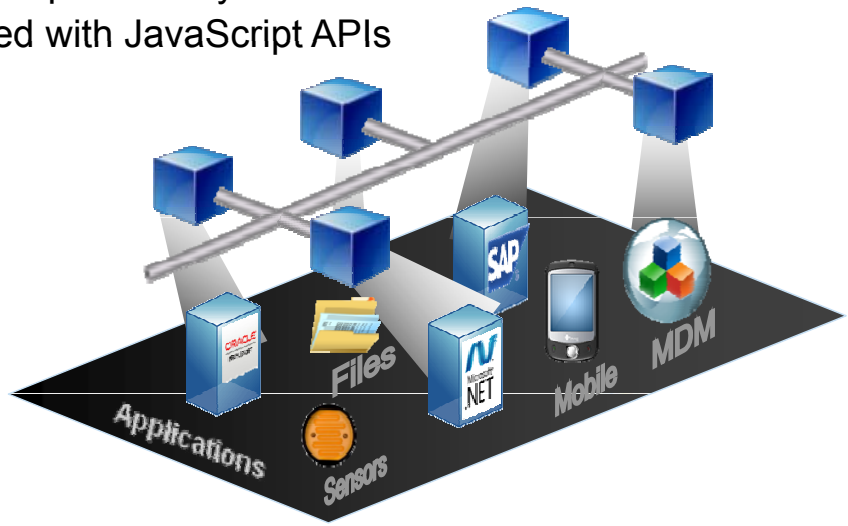
- Leveraged to store data retrieved from back-end

Transparency

- Uniform exposure of back-end data for all adapter types

Fast Development

- Defined using simple XML syntax
- Easily configured with JavaScript APIs



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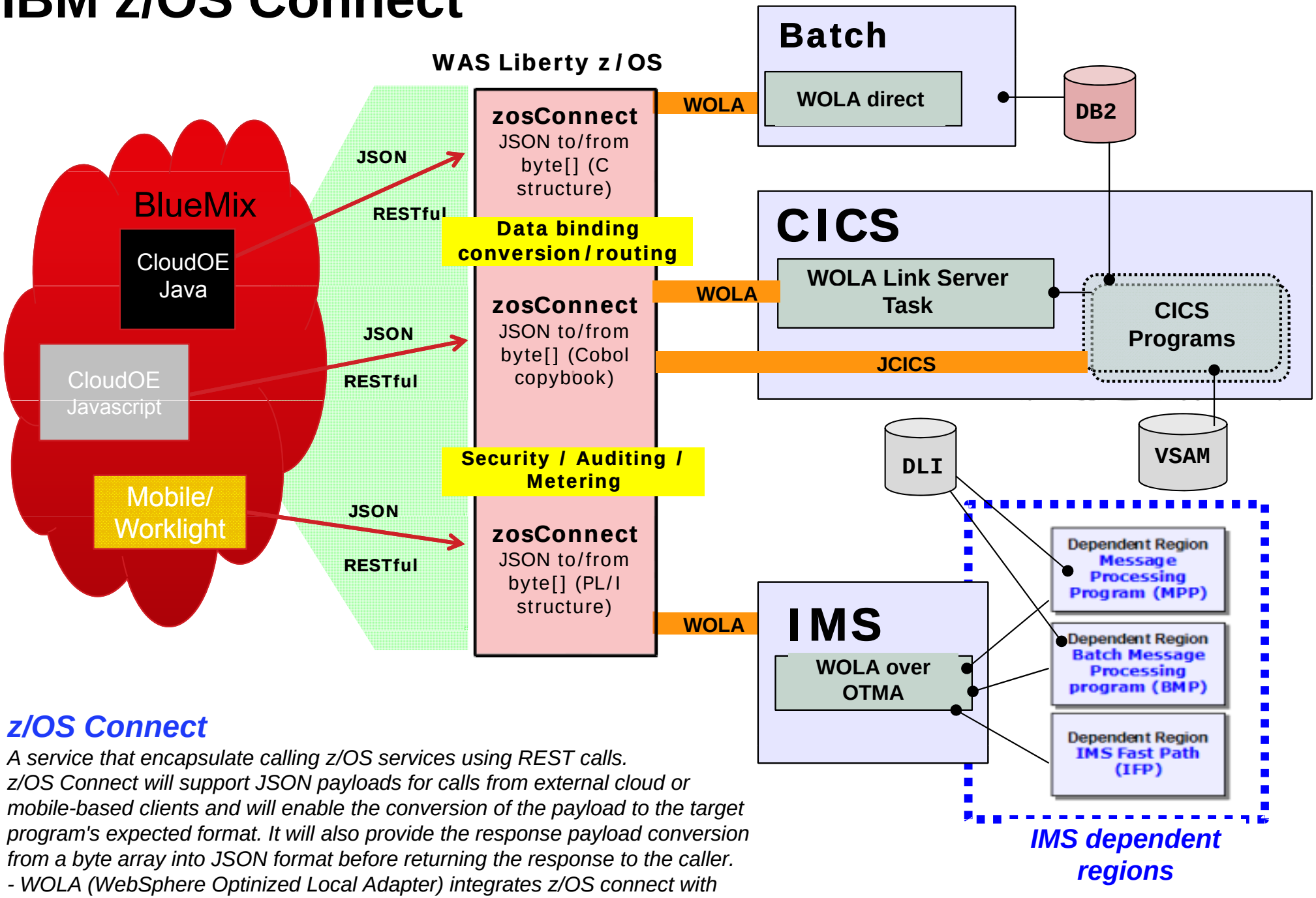
IBM z/OS Connect



z/OS Connect

A service that encapsulate calling z/OS services using REST calls.
z/OS Connect 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. It will also provide the response payload conversion from a byte array into JSON format before returning the response to the caller.
- WOLA (WebSphere Optinized Local Adapter) integrates z/OS connect with z/OS resources

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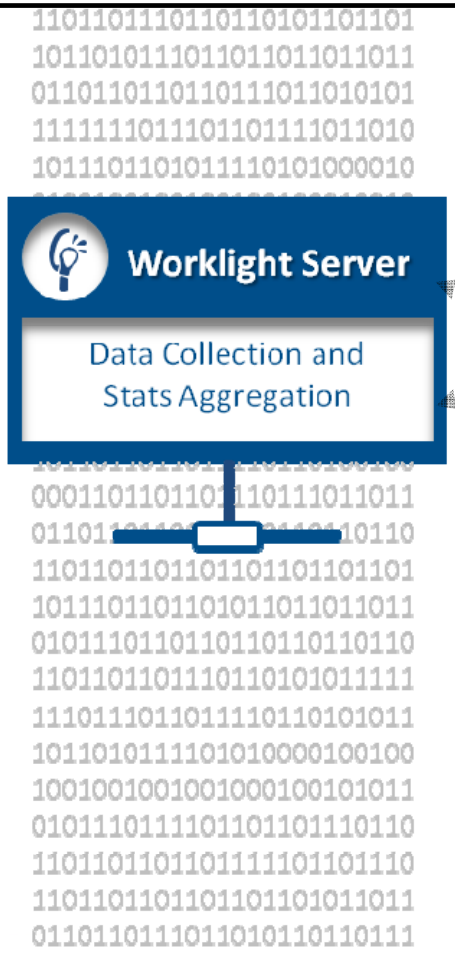
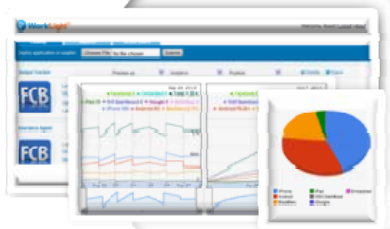
Life-cycle Management - Data Collection and Analytics

- Web-based console for **real-time analytics** and control of mobile apps and infrastructure
- Application version management
- Push management
- Usage reports and analytics, Audit log, Administrative dashboards



Corporate BI Systems

Cloud-based Analytics



Worklight Console

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The Mobile Security ecosystem

At the Device

Manage device
Set security policies
• Register
• Compliance
• Wipe / Lock

Secure Data
Data separation
• Leakage
• Encryption

Application Security
Offline authentication • Application level controls

Mobile App

Secure Application
Utilize secure coding practices • Identify application vulnerabilities
• Update applications

Integrate Securely
Secure connectivity to enterprise services

Manage Applications
Manage applications and enterprise app store

Over the Network

Secure Access
Properly identify mobile users and devices • Allow or deny access • Connectivity

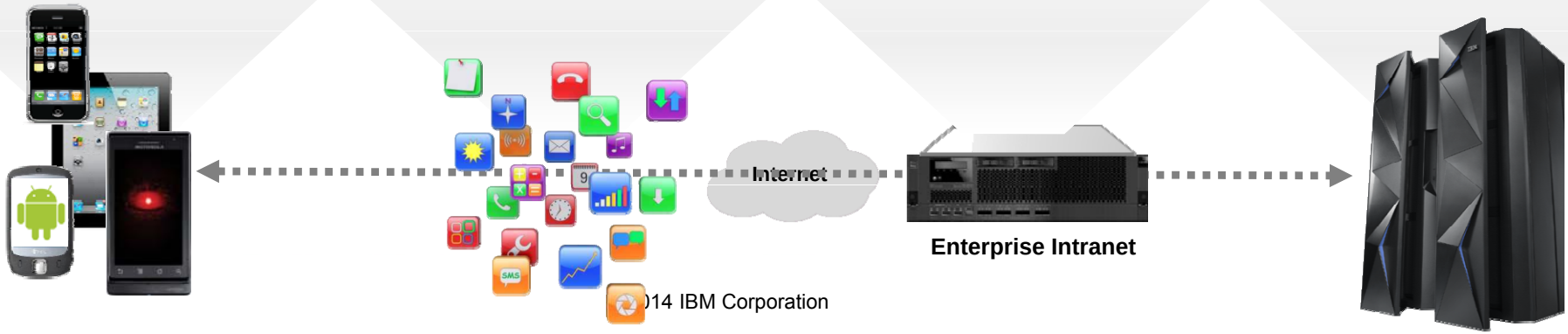
Monitor & Protect
Identify and stop mobile threats • Log network access, events, and anomalies

Secure Connectivity
Secure Connectivity from devices

Within the Enterprise

Transaction Security
Properly authenticate mobile users

Secure Connectivity
Secure Connectivity from devices



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The Mobile Security ecosystem

Recommend run on z

At the Device

Manage device

Endpoint Manager for Mobile

Secure Data

Data separation

Trusteer

Application Security

Offline authentication •

WorkLight Runtime

Mobile App

Secure Application

Utilize coding

AppScan for Mobile

Secure connectivity to enterprise services

WorkLight Server

Over the Network

Secure Access

Access Manager for Mobile

Monitor & Protect

QRadar

Secure Connectivity

Secure Connectivity from

DataPower XI50z

Within the Enterprise

Transaction Security

zSecure

Secure Connectivity

Secure connectivity from

RACF, PKI, Hardware crypto

Internet

Enterprise Intranet

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Secure every transaction for the mobile enterprise

Device Security	Content Security	Application Security	Transaction Security

IBM Mobile First *powered by…*

IBM Mobile Security Solutions

MaaS360 by Fiberlink, an IBM company

Worklight

IBM Security AppScan

IBM Security Access Manager

Trusteer an IBM Company

IBM Mobile Security Services

Security Intelligence

IBM QRadar Security Intelligence Platform

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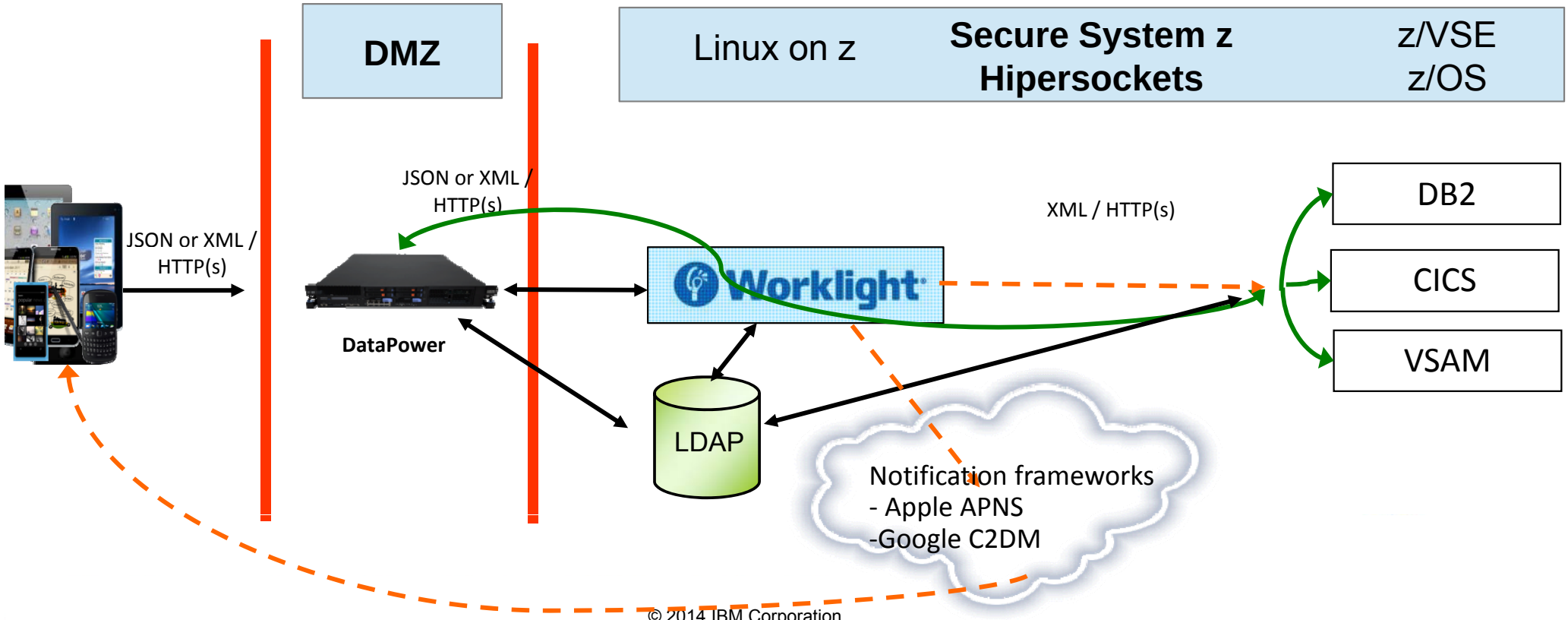
End-to-end Security Topology

– with DataPower as security gateway

Capabilities	Deployment scenarios	System z benefits
• DataPower contains the same functionality as a stand-alone device or virtual appliance, but can benefit from co-location with System z services. • Defence in depth	• For offload of security processing (e.g SSL) and to perform identity mapping • Secure proxy for push notifications from Worklight server to the mobile device	• DataPower acts as an additional security layer for backend services • IEDN provides a secure private network for communication between zLinux and z/OS



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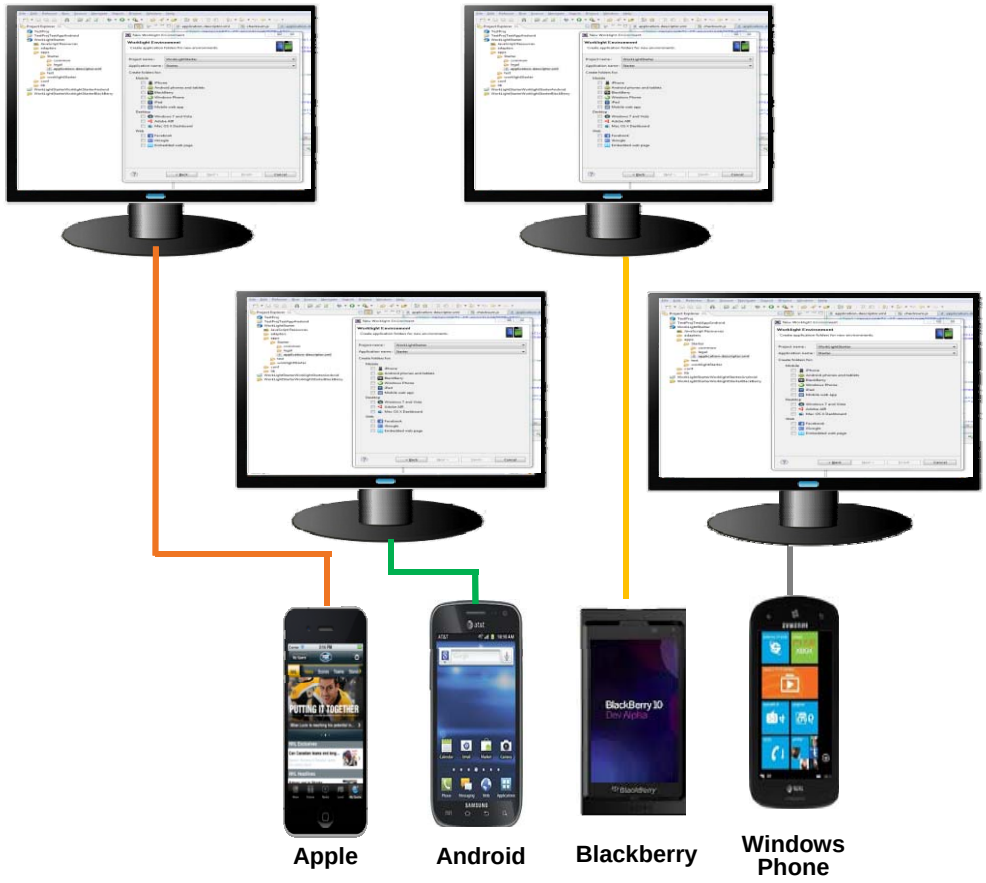
Rapid multi-platform development using a single shared codebase

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

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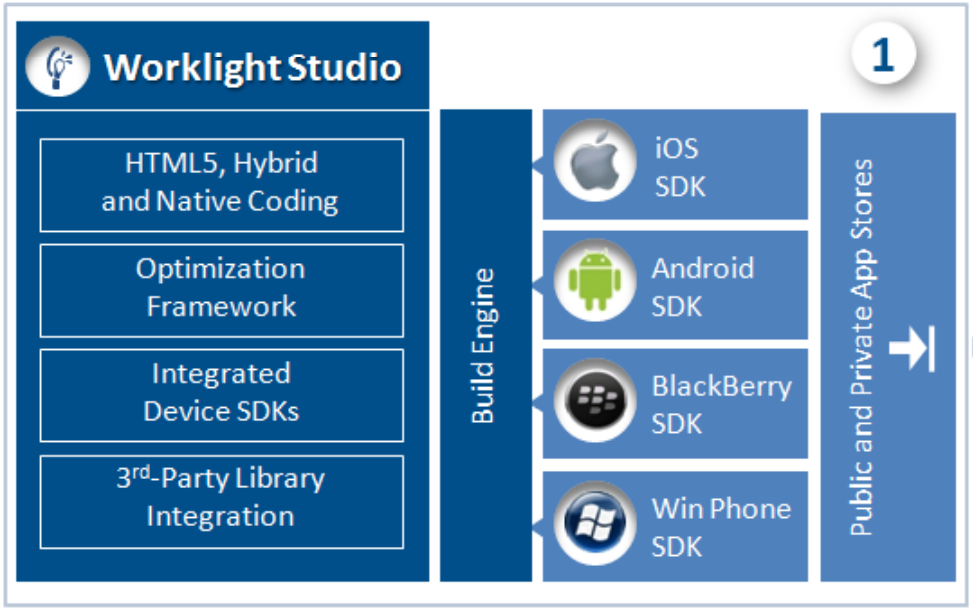
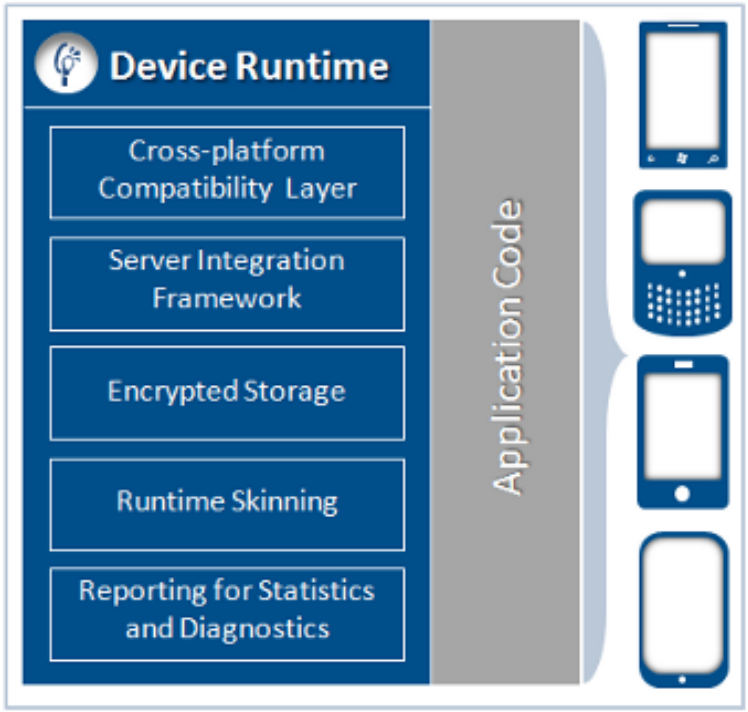
IBM Worklight Studio & Device Runtime





Eclipse based mobile **Integrated Development Environment (IDE)**

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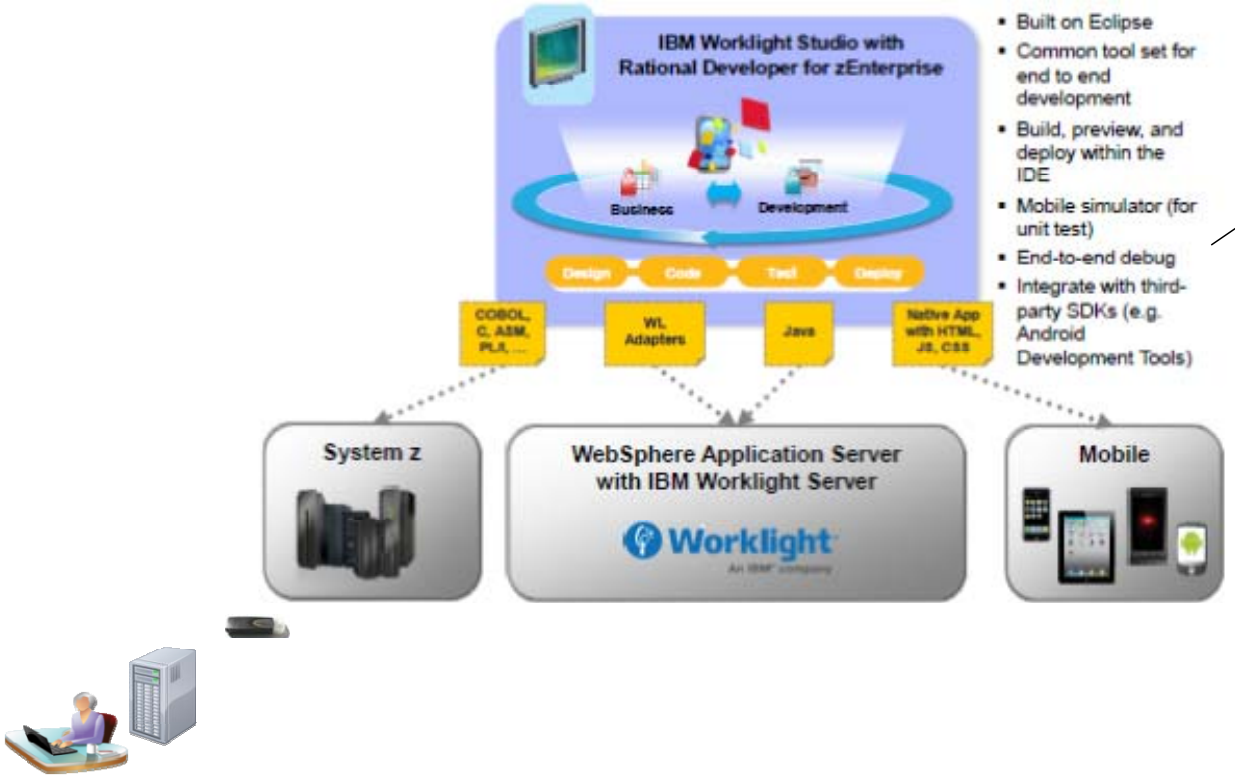
Worklight Studio with RDz a complete set of System z and Mobile Development capabilities



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

Integration for flexible access to System z environment (i.e. COBOL, JCL…)

Robust Mobile Development in conjunction with Worklight

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Worklight Studio with RDz a complete set of System z and Mobile Development capabilities

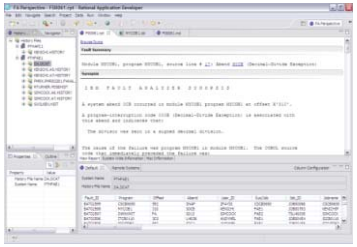
Integration with Team Concert for Lifecycle and Source Management

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

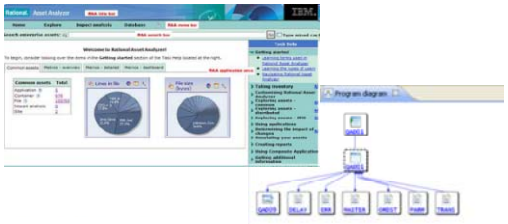
Integration with RD&T for flexible access to System z environment

Robust Mobile Development in conjunction with Worklight

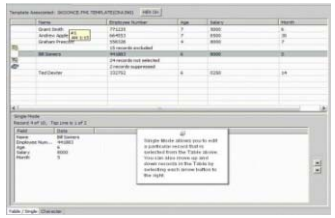
Integration with Fault Analyzer for Dump Analysis



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



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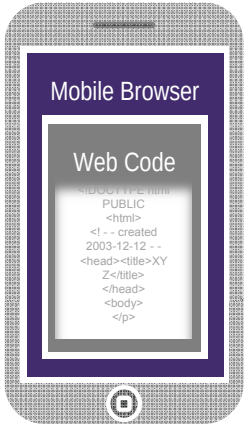
IBM Worklight – Support for Different Mobile Application Styles

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

Worklight
The Foundation for Mobile

Web

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



Mobile Web

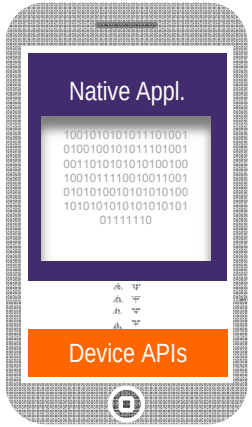
- HTML, JavaScript, CSS
- Accessed from a mobile web browser; mobile-optimized UI
- Limited access to lower-level device capabilities

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



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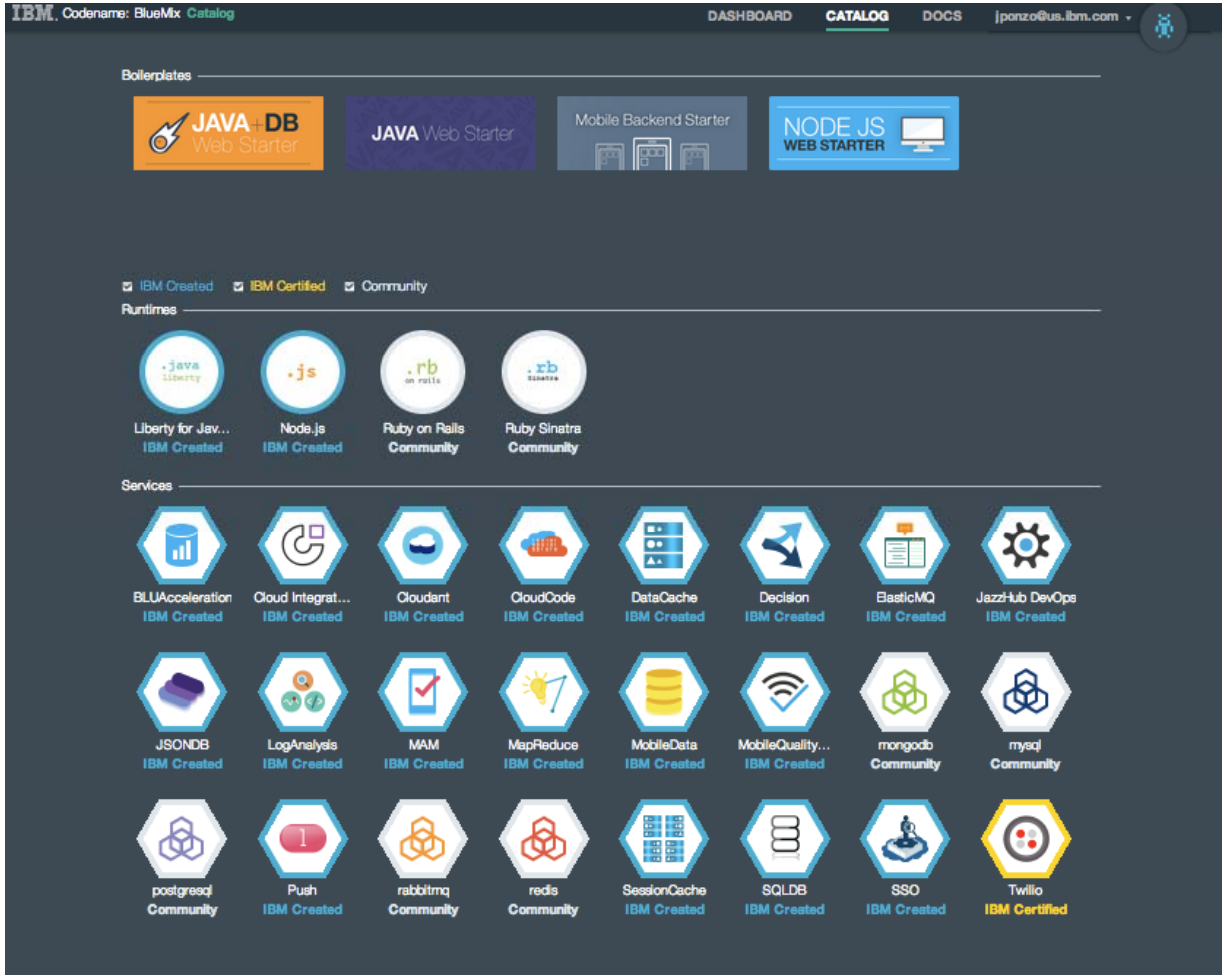
Overview of BlueMix on IBM SoftLayer

Delivering a Composable Services development environment including Mobile



Run Your Apps

The developer can chose any language runtime or bring their own. Just upload your code and go.

DevOps

Development, monitoring, deployment and logging tools allow the developer to run the entire application

APIs and Services

A catalog of open source, IBM and third party APIs services allow a developer to stitch together an application in minutes.

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.

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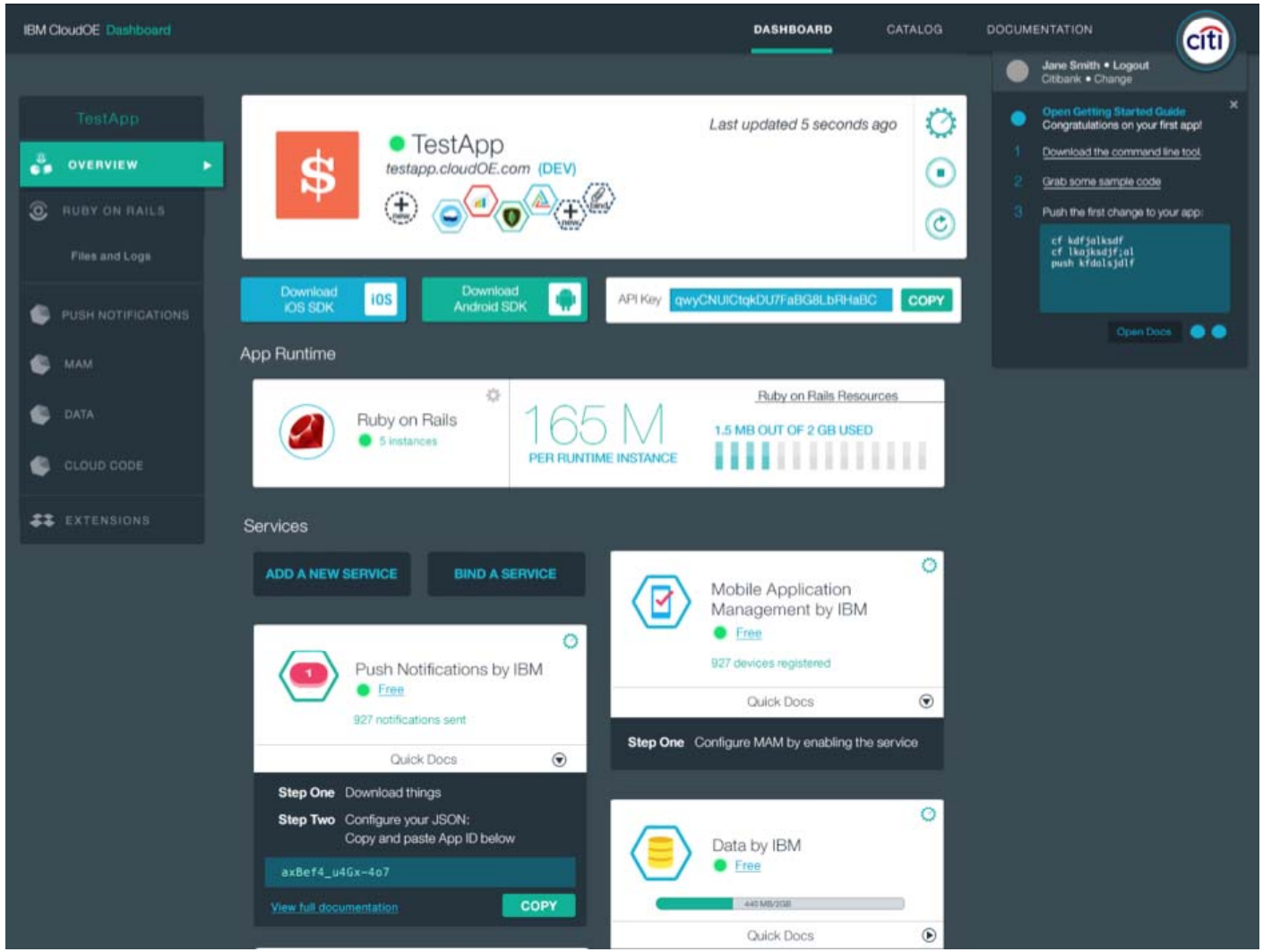
DevOps

Fully integrated environment for deploying and managing your application



Single Dashboard

Single view of application health, usage and status

Health and Monitoring

Integrated monitoring and diagnostics with the ability to add on features such as code level tracing

Scaling

Ability to scale the application by adding new runtime instances

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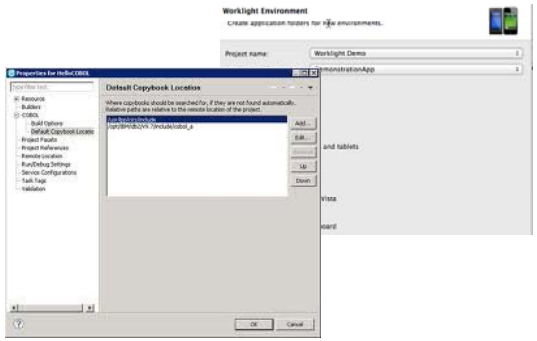
Mobile and cloud with zEnterprise



System z applications

Core CICS, IMS, DB2 and other applications and databases cloud and mobile ready

Mobile Devices

developed for the Cloud through web-based shared apps using Worklight

Infrastructure

Cloud orchestration, provisioning and automation with Tivoli solutions

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Mainframe with z/VSE – mobilized for the future
CAMS Solution Examples

Cloud

zBC12

CP | IFL

z/VSE V5

VSE Connectors

Linux on System z

IBM Wave for z/VM

LPAR z/VM

z/VM V6.3 xCAT

LPAR

Analytics

zBC12

CP | IFL

z/VSE V5

DB2/VSE (Client)

VSE Connectors

Linux on System z

Cognos

InfoSphere Warehouse DB2 LUW

LPAR z/VM

z/VM V6.3

LPAR

Mobile

zBC12

CP | IFL

z/VSE V5

Web Service (SOAP Server)

VSE Connectors

Linux on System z

Worklight in WebSphere Liberty

DB2 LUW

LPAR z/VM

z/VM V6.3

LPAR

Security

zBC12

CP | IFL

z/VSE V5

Encryption Facility

OpenSSL

LDAP (Client)

VSE Connectors

Linux on System z

Firewall

LDAP Server

LPAR z/VM

z/VM V6.3 RACF

LPAR

and many more ....

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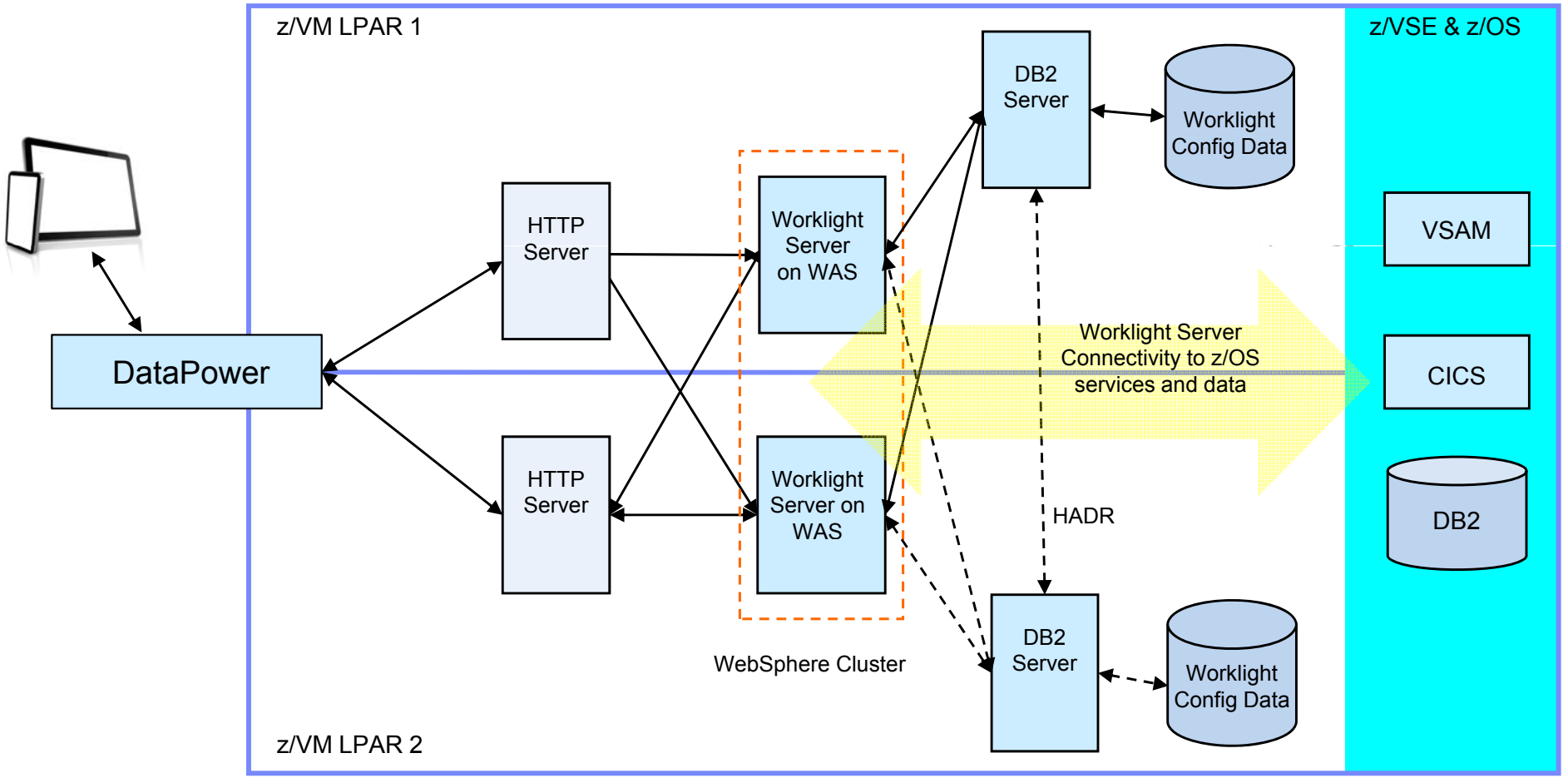
Worklight Server on WebSphere on Linux on System z Production High Availability



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

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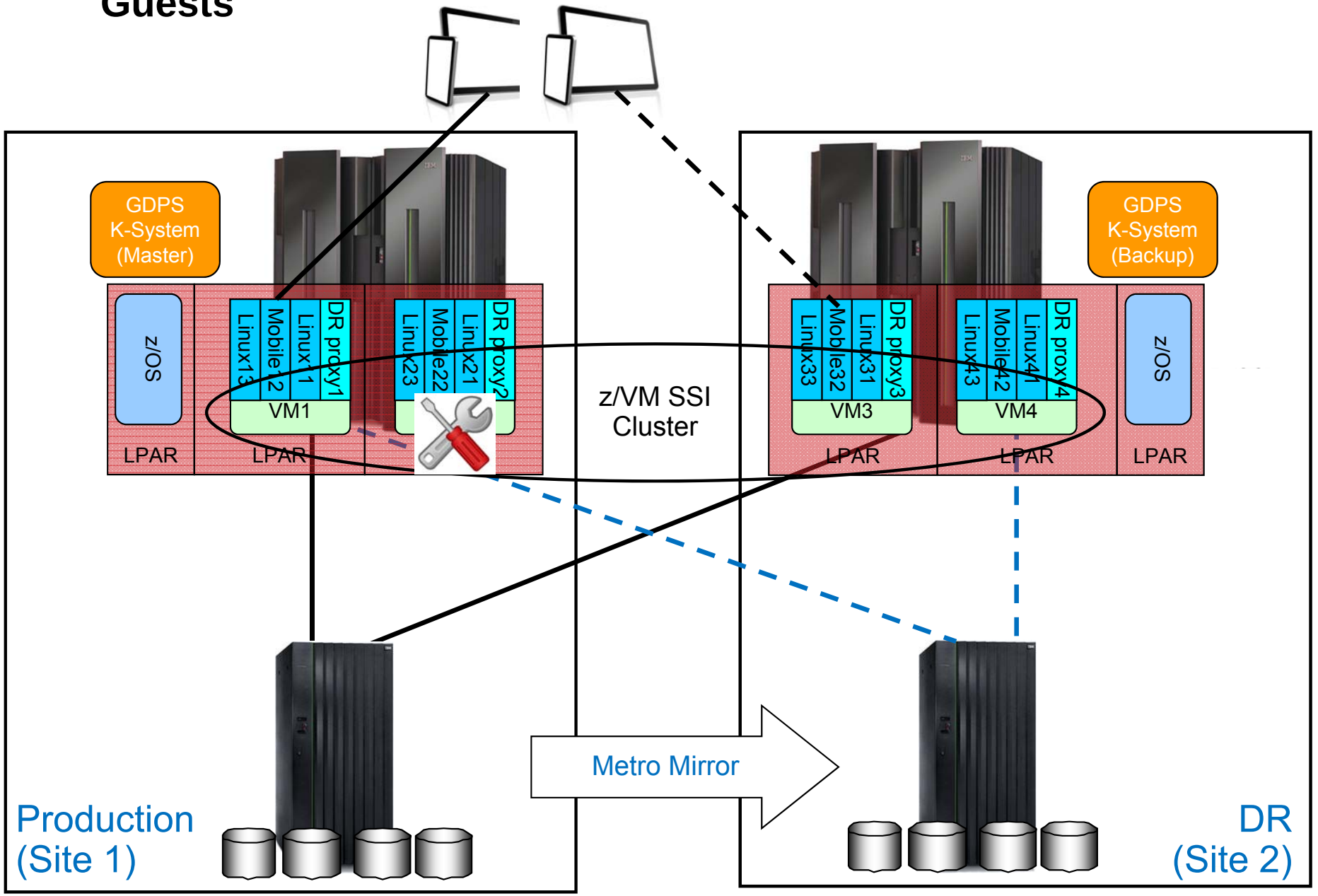
z/VM SSI and GDPS support

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



System z Ha and DR scenario

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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 Worklight and WebSphere Clusters in a highly virtualised Linux on System z environment
- Co-location of the Worklight 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 Worklight 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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Gartner has recognized IBM as a leader in the Magic Quadrant for Mobile Application Development Platforms

Magic Quadrant for Mobile Application Development Platforms
Ian Finley, Van L. Baker, Ken Parmelee, David Mitchell Smith, Ray Valdes, Gordon Van Huizen
Aug 7, 2013

"As unprecedented numbers of enterprises build mobile applications, the mobile application development platform market continues to grow and evolve rapidly."

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

Figure 1. Magic Quadrant for Mobile Application Development Platforms

Source: Gartner (August 2013)

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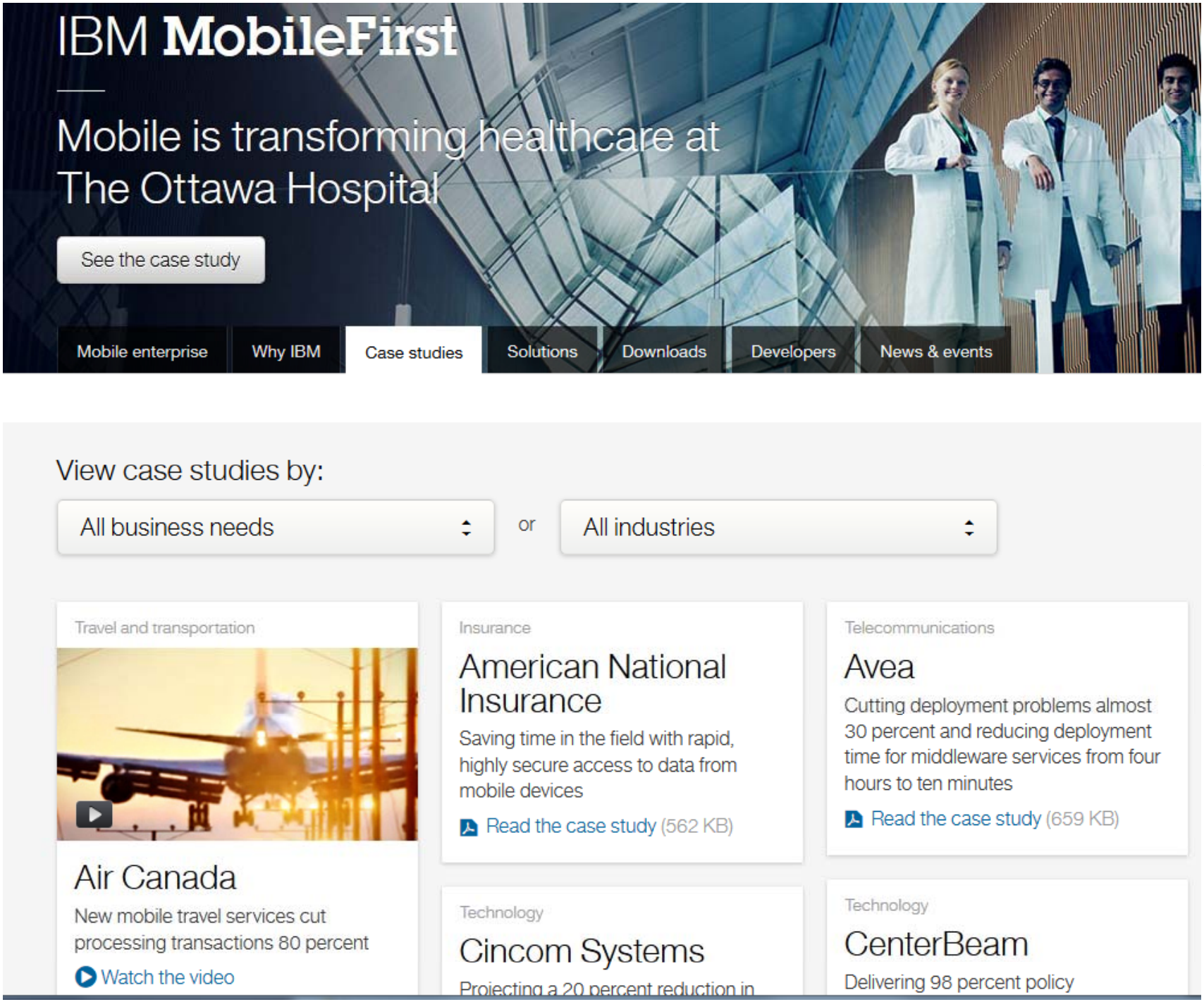

http://www.ibm.com/mobilefirst/us/en/see-it-in-action/

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Business to Consumer Worklight Apps

Industry	Company	iPhone	Android
Banking	Capital One USA)	http://www.capitalone.com/online-banking/mobile/	http://www.capitalone.com/online-banking/mobile/
	Lotte Card (Korea)	https://itunes.apple.com/il/app/id368195929?mt=8	https://play.google.com/store/apps/developer?id=lottecard
	ING Direct (France)	http://www.ingdirect.fr/etre-client/services-mobiles.jsp	http://www.ingdirect.fr/etre-client/services-mobiles.jsp
	TD Bank (Canada)	https://itunes.apple.com/ca/app/td-pour-ipad/id374404427?l=fr&mt=8	
	ING Visya (India)	http://www.ingvysyabank.com/Mobile-Banking/index.aspx	http://www.ingvysyabank.com/Mobile-Banking/index.aspx
	Krung Thai Bank (Thailand)	https://itunes.apple.com/en/app/ktb-netbank/id436753378?mt=8	https://play.google.com/store/apps/details?id=ktbcs.netbank&hl=en
	AMEX (Middle East)	https://itunes.apple.com/bh/app/amex-middle-east-b.s.c./id723401892?mt=8	
	WestPac (New Zealand)	https://itunes.apple.com/au/app/westpac-get-paid/id727420087?mt=8	https://play.google.com/store/apps/details?id=nz.co.westpac.epic
	Chong Hing Bank (Hong Kong)	https://itunes.apple.com/hk/app/chbank/id483522652	https://play.google.com/store/apps/details?id=com.chb.com
	Dah Sing Bank (Hong Kong)	https://itunes.apple.com/hk/app/dah-sing-bank/id552873970?mt=8	https://play.google.com/store/apps/details?id=com.MobileTreeApp
	Cornèr Banca (Switzerland)		https://play.google.com/store/apps/details?id=com.CornerCard
	Bank of Montreal	https://itunes.apple.com/ca/app/bmo-mobile-banking/id429080319?mt=8	https://play.google.com/store/apps/details?id=com.bmo.mobile

Business to Consumer Worklight Apps

Industry	Company	iPhone	Android
Insurance	Unisalute (Italy)	https://itunes.apple.com/fr/artist/unisalute-s.p.a./id638165922	https://play.google.com/store/apps/details?id=com.Unisalute&hl=fr
	Liberty Mutual (USA)	http://www.libertymutual.com/liberty-mutual-mobile/claims-app	http://www.libertymutual.com/liberty-mutual-mobile/claims-app
	BCBS Tennessee (USA)	https://itunes.apple.com/us/app/myblue-tn/id656808642?mt=8	
	The Phoenix (Israel)	https://itunes.apple.com/il/app/hpnyqs/id642869883?mt=8	https://play.google.com/store/apps/details?id=com.TravelInsurance
	Catamaran (USA - Pharmacy Benefits)	https://itunes.apple.com/us/app/catamaran/id686089873?mt=8	https://play.google.com/store/apps/details?id=com.catamaranrx.catamaranrx&hl=en
Retail	JD Sports (UK)	https://itunes.apple.com/gb/app/jd-sports/id690602681?mt=8	
	Elmec (Italy)	https://itunes.apple.com/it/app/elmec-mobile/id611099181?mt=8	https://play.google.com/store/apps/details?id=com.ElmecMobile&hl=en_GB
	Dutch Rose Media (Netherlands)	https://itunes.apple.com/us/app/smilez/id687281325?mt=8	
	Shufersal (Israel)		https://play.google.com/store/apps/details?id=com.Shufersal

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Business to Consumer Worklight Apps

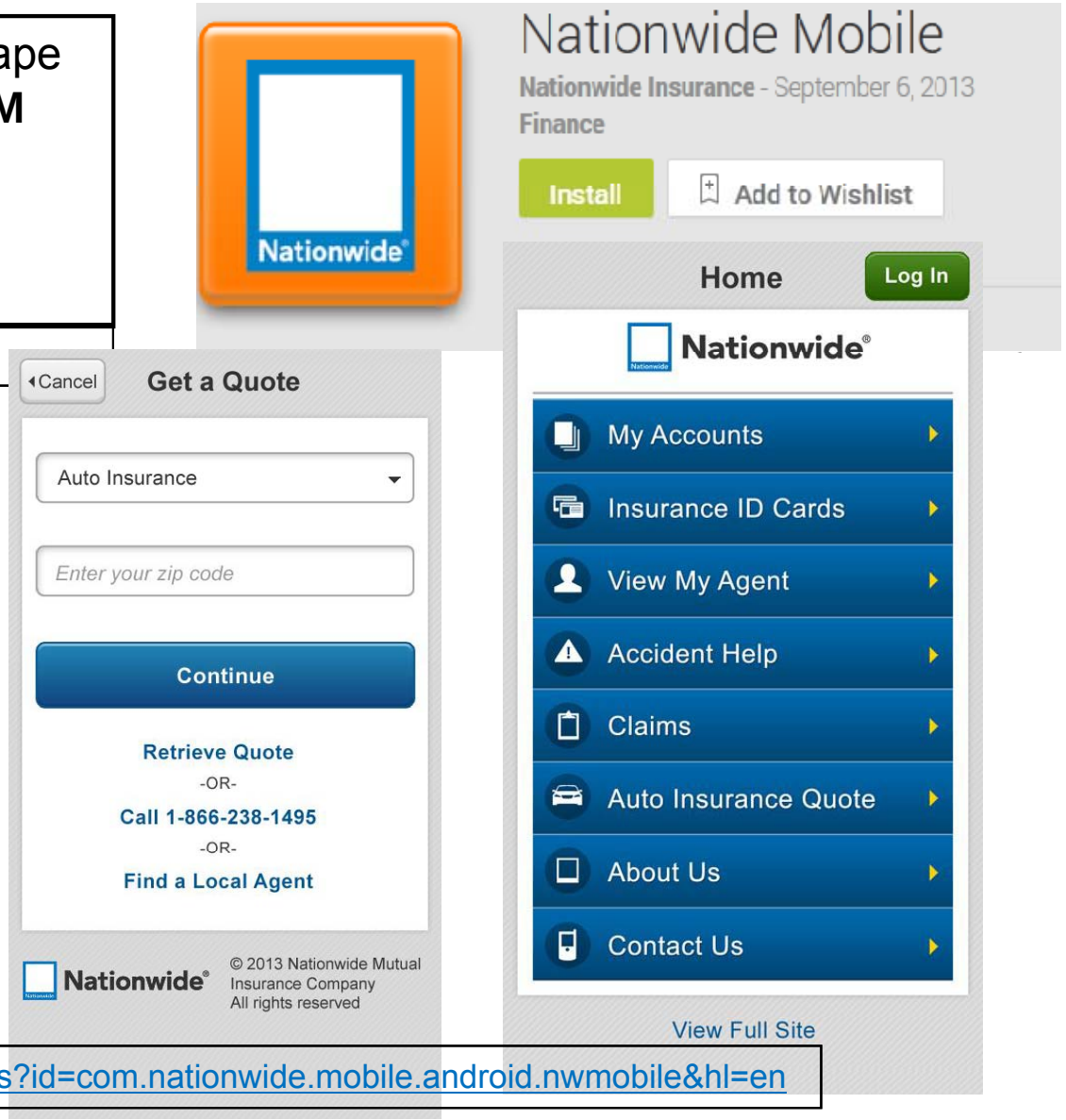
Industry	Company	iPhone	Android
Telecom	XL (Indonesia)	https://itunes.apple.com/us/artist/pt-xl-axiata-tbk/id549471399	https://play.google.com/store/apps/details?id=com.apps.MyXL
Construction	Danya Cebus (Israel)		https://play.google.com/store/apps/details?id=com.customers
Travel & Transportation	WestJet (Canada)		https://play.google.com/store/apps/details?id=com.westjet
	Ministry of Rail (China)	https://itunes.apple.com/cn/app/tie-lu12306/id564818797?mt=8	
Retail	CSX (USA)	https://itunes.apple.com/us/app/shipcsx/id469922042?mt=8&ls=1	https://play.google.com/store/apps/details?id=com.csx.shipcsx&hl=en
Government	Haifa Municipality (Israel)	https://itunes.apple.com/il/app/hyph-bngy-t-zb/id715471069?mt=8	https://play.google.com/store/apps/details?id=com.HaifaMuni
	Ministery of Interior (UAE)	https://itunes.apple.com/ae/app/uae-moi/id768665731?ls=1&mt=8	https://play.google.com/store/apps/details?id=com.uaemoi.smartservices
Construction	Danya Cebus (Israel)		https://play.google.com/store/apps/details?id=com.customers
Manufacturing	Rohde & Schwarz (Germany)	https://itunes.apple.com/us/app/r-s-news/id722178911?mt=8	https://play.google.com/store/apps/details?id=com.rohdeschwarz.news&hl=en
Waste Mgmt	Waste Management (USA)	https://itunes.apple.com/us/app/wm-mobile/id714263094?mt=8	https://play.google.com/store/apps/details?id=com.eBusiness

Cloud and Mobile Computing

Nationwide Insurance

- Consolidated distributed server landscape to **Linux virtual servers running on IBM zEnterprise**
- Created multi-platform private cloud optimized for all workloads

http://youtu.be/ZygaG7noaDE



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https://play.google.com/store/apps/details?id=com.nationwide.mobile.android.nwmobile&hl=en

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RCBC – Mobile Banking with zEnterprise

http://www.youtube.com/watch?v=_qKzw-YeqMY

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Published on 4 Apr 2014

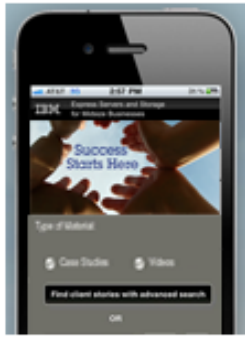
"Running our mobile banking service on Linux on zEnterprise is another step forward in our continual evolution on the mainframe. The key value for our business is that the most important services can be managed together on a consistent, stable and highly secure platform that offers enormous scalability and performance."

Daniele Cericola, ICT Governance Manager, Banca Carige

Customer

Banca Carige

Contact Us
custref@us.ibm.com



Viewing from your Mobile Device?
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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

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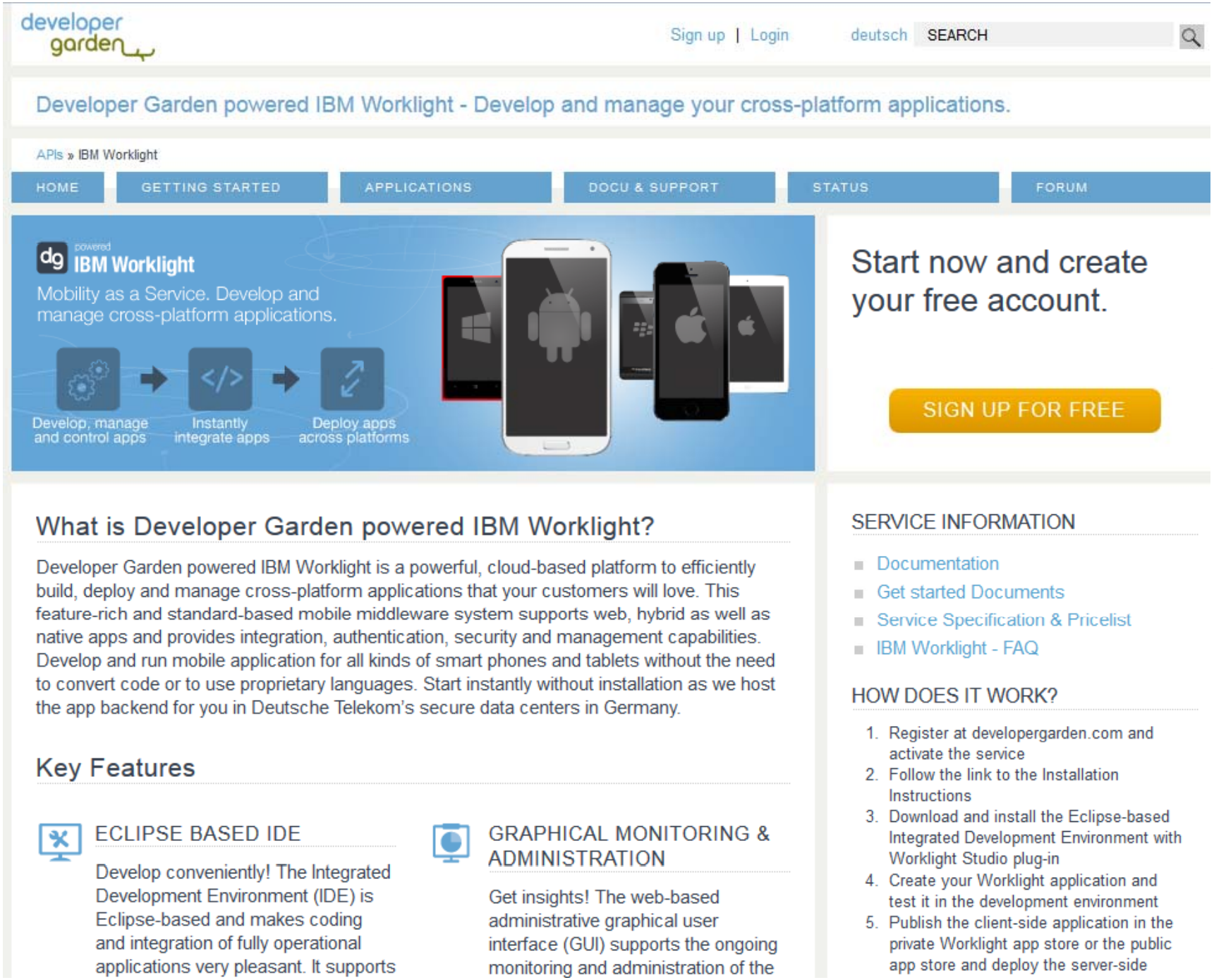
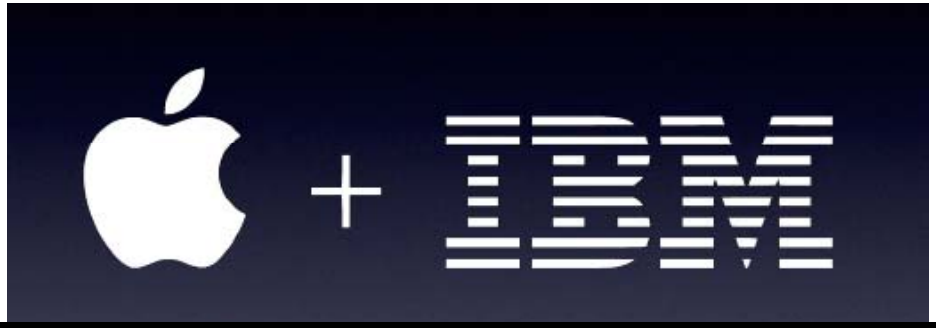
New Mobile initiative: IBM – Deutsche Telekom



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

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Quick Reference mobile app

for IBM System z

http://www-03.ibm.com/systems/z/resources/mobileapp/

New Quick Reference for IBM System z mobile app

Quick Reference IBM System z

Access critical System z information — from the convenience of your Smartphone

The free Quick Reference for IBM System z mobile app, now available for Android, BlackBerry and iPhone, provides quick and easy access to the latest System z product information, success stories, social networks, and z experts.

Key features

- Latest product highlights, descriptions, and specifications
- Client success stories
- Automatic content updates
- Core product content available without connectivity
- Access to relevant social networks, venues, and z experts
- One-touch communication with IBM
- Links to more System z information on the Web
- Sign-up options for additional exciting updates via e-mail or SMS

Download now

The free Quick Reference for IBM System z mobile app is available in the following ways:

- **Android users:**
  Download from Android Market (link resides outside of ibm.com)
- **BlackBerry users:**
  Download (link resides outside of ibm.com)
- **iPhone users:**
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→ Community | → New to System z
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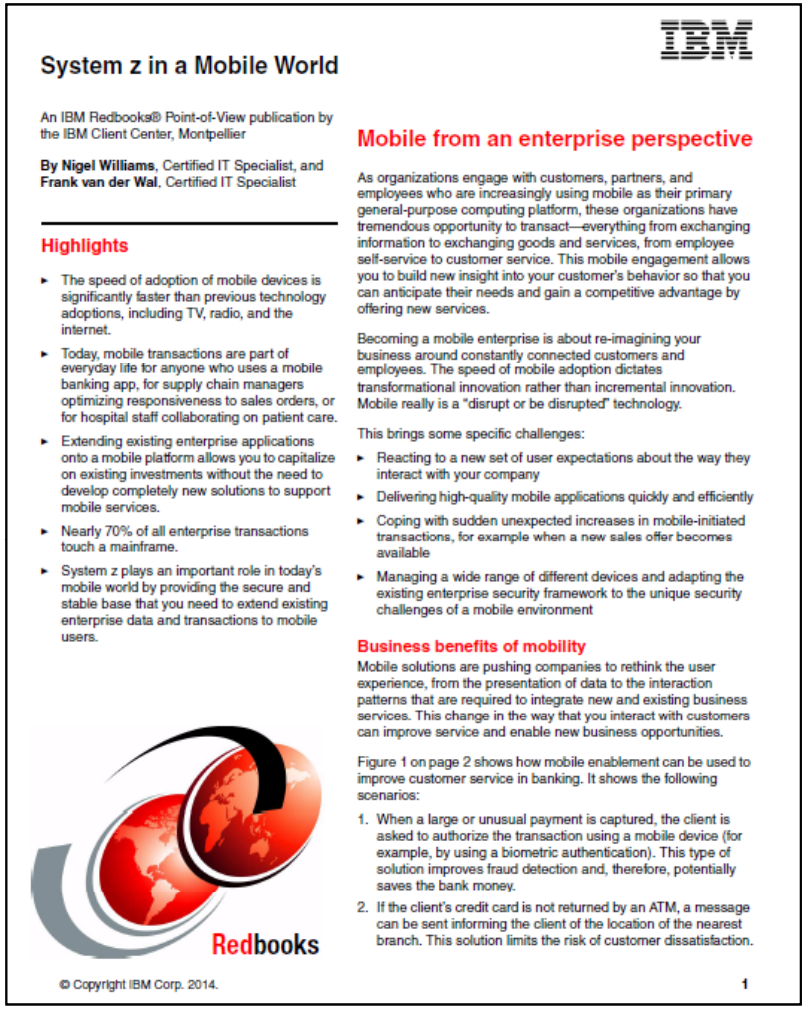
→ Literature | → Success Stories
→ Migrate to System z | → Support & services

Manage your Systems from your Mobile device – HMC on System z, System p and Blades

http://ibmremote.com/IBM_Mobile_Systems_Remote/Welcome.html

Interested in mobile and System z ? Next steps...

- **Boeblingen is European Center of Competence (CoC) for Mobile**
- Read our Point-of-View paper.
- Read the Mobile Solution Guide
- Request a Demo.
  - Banking, Retail, Government, Insurance
  - Deploy Worklight on Linux for System z
  - Reuse z/OS transactions
- Try the System z Mobile demo apps
  - CICS GENAPP
  - CICS EGUI
  - IBM Remote. Sample App you can use to manage z HMC
- System z Mobile home page
  - Customer case studies
  - Analyst reports
  - Customer Videos



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System z in a Mobile World

An IBM Redbooks® Point-of-View publication by the IBM Client Center, Montpellier

By Nigel Williams, Certified IT Specialist, and **Frank van der Wal**, Certified IT Specialist

Highlights

- The speed of adoption of mobile devices is significantly faster than previous technology adoptions, including TV, radio, and the internet.
- Today, mobile transactions are part of everyday life for anyone who uses a mobile banking app, for supply chain managers optimizing responsiveness to sales orders, or for hospital staff collaborating on patient care.
- Extending existing enterprise applications onto a mobile platform allows you to capitalize on existing investments without the need to develop completely new solutions to support mobile services.
- Nearly 70% of all enterprise transactions touch a mainframe.
- System z plays an important role in today's mobile world by providing the secure and stable base that you need to extend existing enterprise data and transactions to mobile users.

Redbooks

Mobile from an enterprise perspective

As organizations engage with customers, partners, and employees who are increasingly using mobile as their primary general-purpose computing platform, these organizations have tremendous opportunity to transact—everything from exchanging information to exchanging goods and services, from employee self-service to customer service. This mobile engagement allows you to build new insight into your customer's behavior so that you can anticipate their needs and gain a competitive advantage by offering new services.

Becoming a mobile enterprise is about re-imagining your business around constantly connected customers and employees. The speed of mobile adoption dictates transformational innovation rather than incremental innovation. Mobile really is a "disrupt or be disrupted" technology.

This brings some specific challenges:

- Reacting to a new set of user expectations about the way they interact with your company
- Delivering high-quality mobile applications quickly and efficiently
- Coping with sudden unexpected increases in mobile-initiated transactions, for example when a new sales offer becomes available
- Managing a wide range of different devices and adapting the existing enterprise security framework to the unique security challenges of a mobile environment

Business benefits of mobility

Mobile solutions are pushing companies to rethink the user experience, from the presentation of data to the interaction patterns that are required to integrate new and existing business services. This change in the way that you interact with customers can improve service and enable new business opportunities.

Figure 1 on page 2 shows how mobile enablement can be used to improve customer service in banking. It shows the following scenarios:

1. When a large or unusual payment is captured, the client is asked to authorize the transaction using a mobile device (for example, by using a biometric authentication). This type of solution improves fraud detection and, therefore, potentially saves the bank money.
2. If the client's credit card is not returned by an ATM, a message can be sent informing the client of the location of the nearest branch. This solution limits the risk of customer dissatisfaction.

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1

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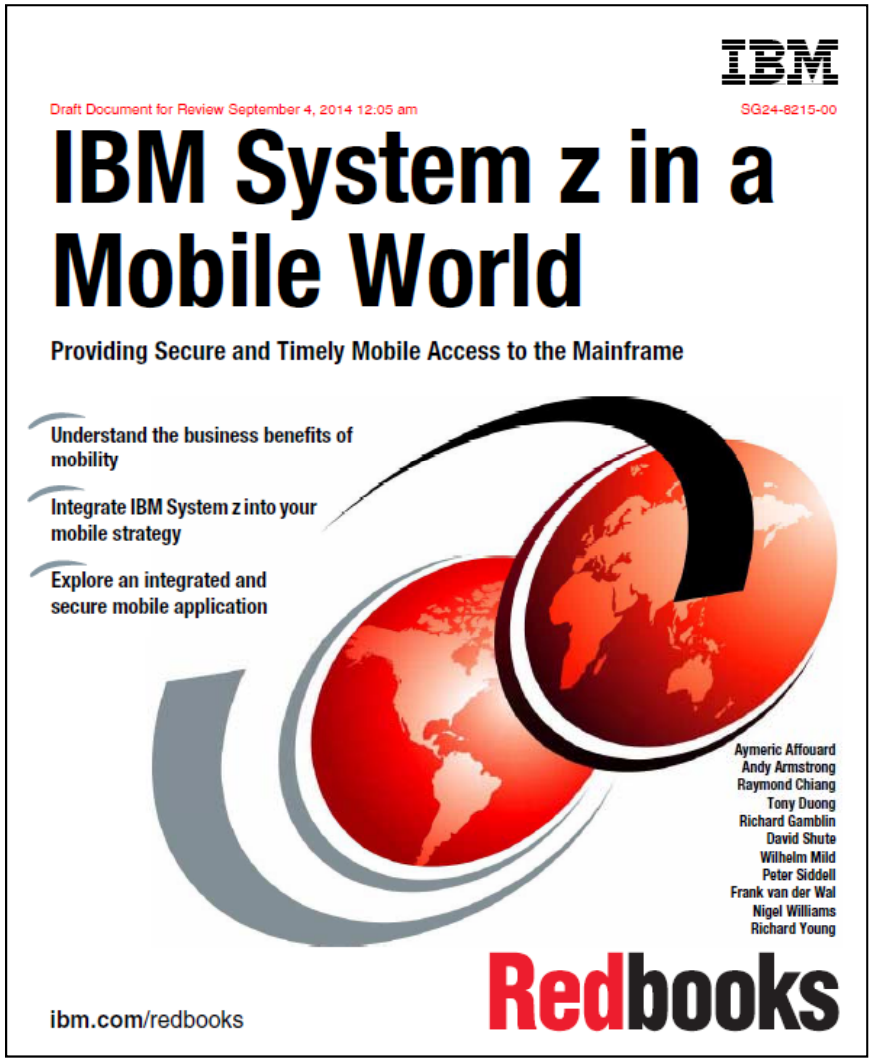
IBM System z in a Mobile World

Redbook – draft available

- **Understanding the business context in a mobile world**
  1. Business drivers
  2. IBM MobileFirst
  3. SoE and SoR
  4. IBM Worklight
  5. Industry use cases

- **Architecting and planning the solution**
  6. Deployment models
  7. Enterprise architecture
  8. Designing for resilience
  9. Designing for security

- **Customer scenario**
  10. Overview of scenario
  11. Agile approach to deliver applications
  12. Deploying to a HA infrastructure
  13. Enabling E2E security
  14. Mobile analytics



http://www.redbooks.ibm.com/redpieces/abstracts/sg248215.html?Open

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Additional information in Mobile Redbooks

- ***Transform Your Organization into a Mobile Enterprise with IBM Worklight***,
  Solution Guide, published 9 October 2013
- ***Extending Your Business to Mobile Devices with IBM Worklight***, SG24-8117-00
  Red*books,* published 12 August 2013
- ***IBM MobileFirst Strategy Software Approach***, SG24-8191-00
  Draft ***Red****books, 5* December 2013
- ***IBM System z in a Mobile World***, *Solution Guide,* published 21 February 2014
- ***System z in a Mobile World***, REDP-5088-00, *Point-of-View,* 24 January 2014
- ***Implementing IBM CICS JSON Web Services for Mobile Applications***, TIPS1066
  Solution Guide, 9 September 2013
- ***Securing Your Mobile Business with IBM Worklight***, SG24-8179-00,
  7 October 2013
- ***Enabling Mobile Apps with IBM Worklight Application Center***, REDP-5005-00
  Red*papers,* 1 June 2013
- ***Responsive Mobile User Experience Using MQTT and IBM MessageSight***, SG24-8183-00
  Draft ***Red****books,* last update 18 December 2013
- ***Mobilizing Employees with IBM Notes Traveler***, *Solution Guide,* published 19 February 2013

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Environment Setup

Make use of developerworks documents:
http://www.ibm.com/developerworks/mobile/worklight/getting-started.html#basics

- **Install IBM Installation Manager**
- **Install a web application server**
  - **WAS Liberty 8.5.5 or WAS Full Profile 8.5 or WAS ND**
- **Install a database for Worklight**
  - **DB2 LUW or Oracle**
- **Install IBM Worklight server**
- **For development, install on a workstation or Apple laptop:**
- Eclipse Keppler or Eclipse Juno 4.22
  - Worklight Studio – will be installed via the Eclipse update/plugin function
  - **you get a development environment with a full worklight server included**
  - **Download the development environment from:**
    https://marketplace.eclipse.org/content/ibm-worklight-developer-edition

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Questions?

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Wellcome to the Mobile era !

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Mobile on System z Introduction

Solution Elements STG

System z helps to connect Systems of Engagement with Systems of Record

- Easy consumable mobile access to all the data and transactions in z subsystems (DB2, CICS, IMS, MQ, etc.)
- Customer can create engaging mobile apps today using existing z transactions
- z/OS availability and scalability is crucial for mobile workloads

- Worklight on Linux on System z
- System z/OS Connect (provides pre-configured JSON services endpoints to a variety of z/OS backends)

"70% of mobile applications touch a mainframe system"
Infrastructure matters for mobile applications. The System z platform's scalability, security, and resilience can enhance critical mobile applications.

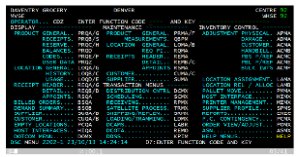
Value Proposition

- System z with it's characteristics can serve the high demanding customers that expects 24/7/365 access and is massive scalable to handle the workload of millions of devices and sensors
- Manage the growing mobile transaction volumes with scalability, trust and confidence
- Fast, secure and reliable access to data stored on System z Backend Systems, even if the workload is unpredictable
- Worklight security integrates with z/OS security providing end-to-end security and data privacy for mobile apps.
- Bridge the Systems of Record with the Systems of Engagement with end to end security
- Easy-to-consume APIs from CICS, DB2, IMS allow you to leverage your investment in z/OS transactions to quickly add a mobile channel.
- Low-latency access to critical enterprise data
- Business Resiliency for critical mobile apps

Client Examples

TESCO

IBM internal Reference!



A warehouse Stock Control System - extended a CICS application to a mobile application by using IBM Worklight

ABK Systeme GmbH
the green company

POLICE DEPARTMENT CITY OF NEW YORK

FNB First National Bank

BANCA CARIGE

RCBC

Partly IBM internal References

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