Mobility on System z

Wilhelm Mild
IT Architect
IBM
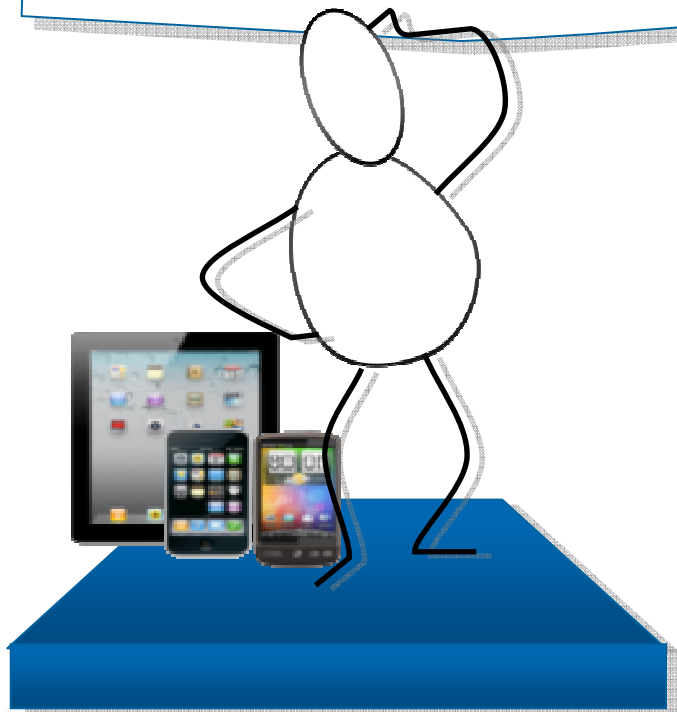
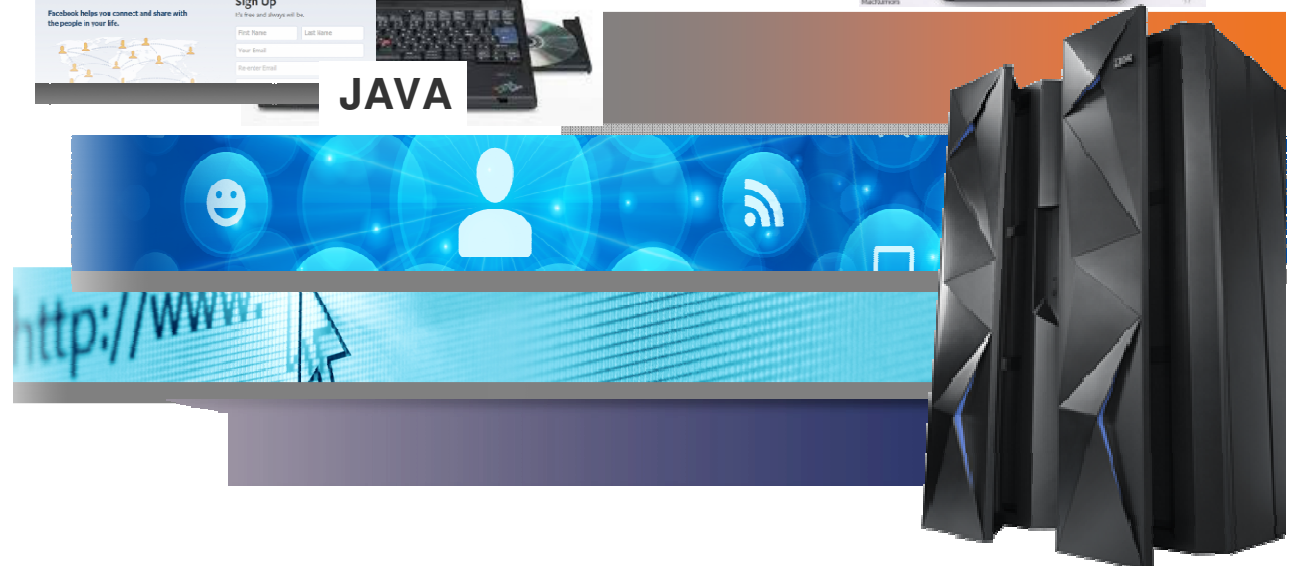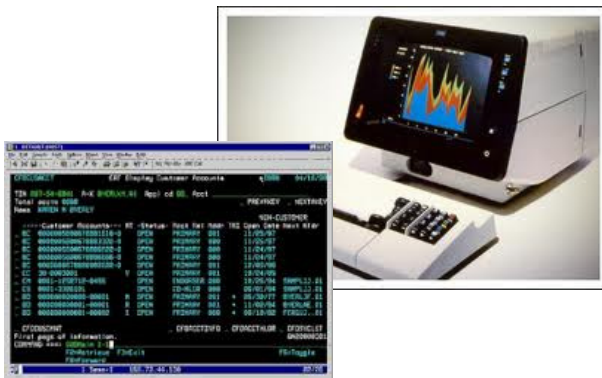# Mobile is changing the way information is used

Mobile First

Information developed using multiple platforms and transformed into web services

Information restricted and developed in the data center

JAVA

Mobile First

- Mobile devices are emerging as **primary design point** for end-user access to IT

- Consumer access to enterprise data creates an increasing need for enterprise-level security and control

- Mobile First is about: Behavior like **consumer** applications

  - constantly connected clients
  - quickly accomplishing single tasks and then move on

- Is accelerating the integration of cloud, social, and analytics

http://www.b2match.eu/system/softwaredays2013/files/Global-Technology-Outlook-2013_IBM.pdf?1366628169

IBM MobileFirst Enterprise Blueprint
A Guideline to Defining Your Optimized MobileFirst Strategy

Mobile Transformation

Transform the business by creating new opportunities

Extend existing business capabilities to mobile devices

Relevant Mobile Scenarios
Business Scenarios - B2C, B2E, B2B, M2M – Industries – Target User Groups

Mobile Device Selection

Mobile Application & Data Platform
Build, test and maintain mobile applications
Connect to backend services and data in support of mobile

Management
Manage mobile devices and applications

Security
Secure my mobile applications and business

Analytics
Optimize my mobile applications and business

Mobile Infrastructure
Deploy and operate on-premise, Cloud, Managed Services

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

Mobile First - Mobile Applications are Not Miniature PC applications…

m1

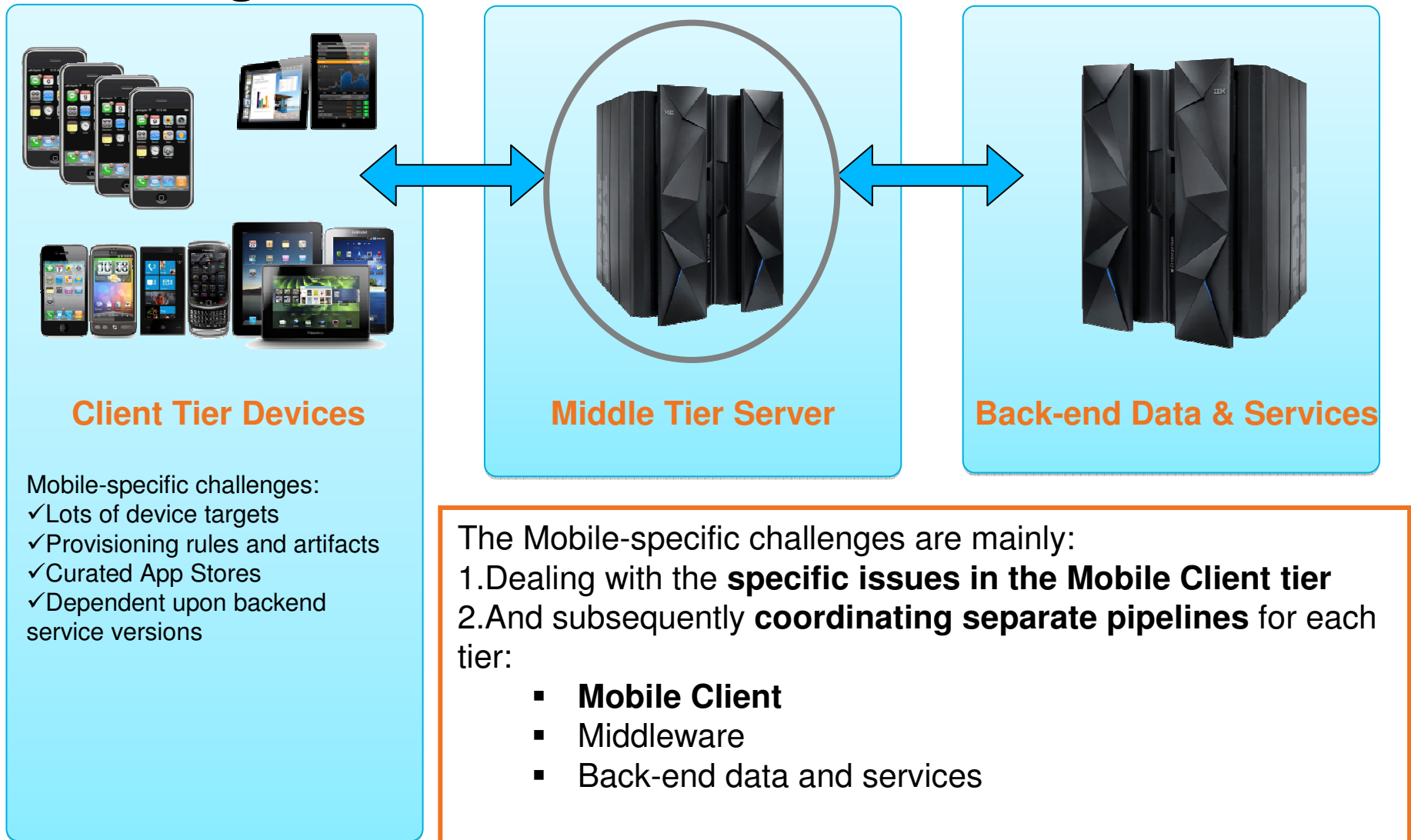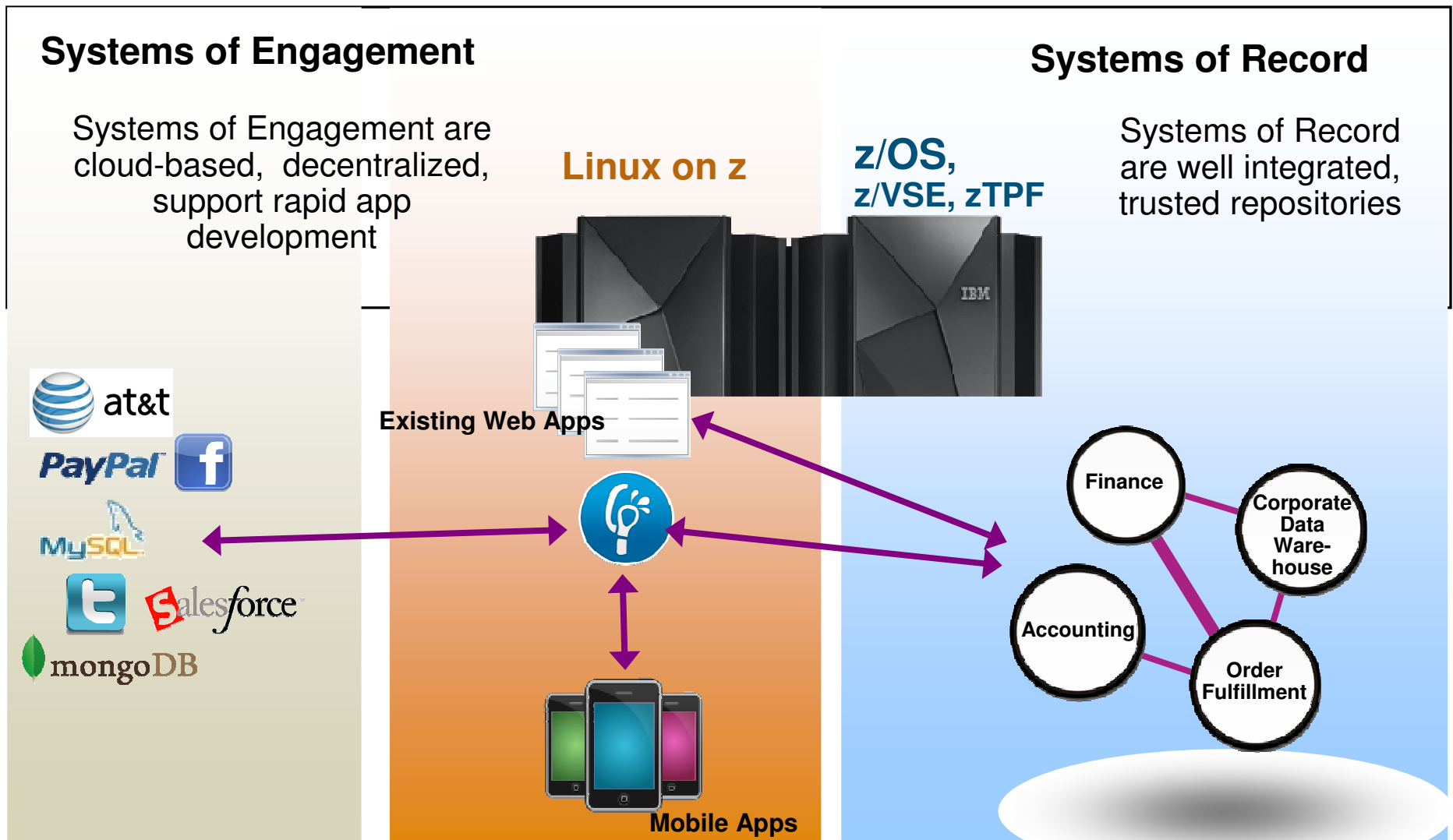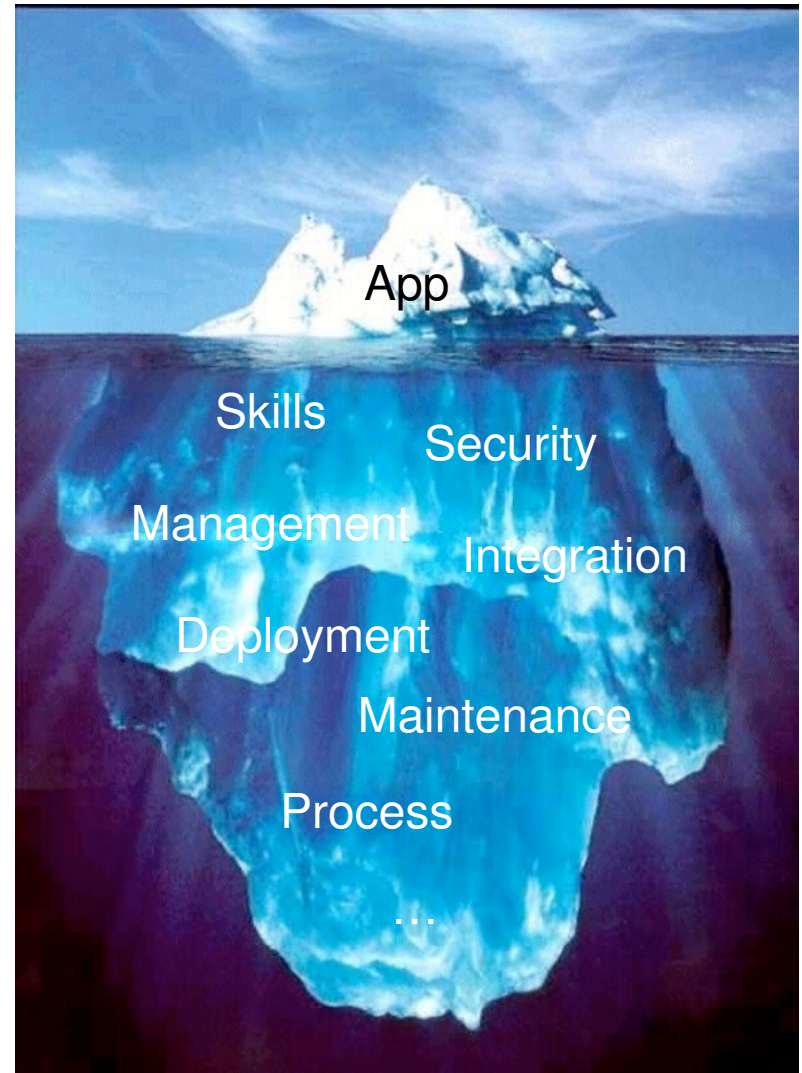|	Mobile Applications	PC Applications
Usage Context	• User may be in the middle of some other activity (e.g. shopping in a supermarket) • Interactions are short and may be interrupted • Users are very impatient	• Using the application is the primary activity • Interactions are longer and more focused • Users are impatient
Mode of Interaction	• Non-keyboard: touch prevalent, also speech • Typing should be minimized • Screen size/real-estate is small	• Keyboard and mouse • Typing is okay • Larger screen size for presenting information
Other considerations	• Integration with device capabilities (e.g. camera, GPS, accelerometer) • Offline behavior	

Multi-tier Mobile Apps - Specific Challenges

Client Tier Devices

Mobile-specific challenges:
- ✓Lots of device targets
- ✓Provisioning rules and artifacts
- ✓Curated App Stores
- ✓Dependent upon backend service versions

Middle Tier Server

Back-end Data & Services

The Mobile-specific challenges are mainly:
1. Dealing with the **specific issues in the Mobile Client tier**
2. And subsequently **coordinating separate pipelines** for each tier:
   - ▪ **Mobile Client**
   - ▪ Middleware
   - ▪ Back-end data and services

System z - Bridge Systems of Record and Systems of Engagement

Systems of Engagement

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

Linux on z

z/OS, z/VSE, zTPF

Systems of Record

Systems of Record are well integrated, trusted repositories

Existing Web Apps

Mobile Apps

Finance

Corporate Data Ware-house

Accounting

Order Fulfillment

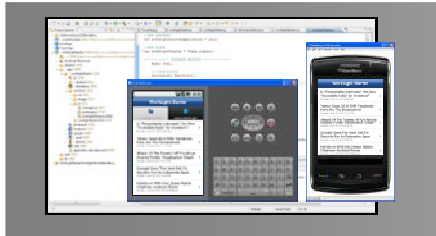# MobileFirst – Adding Mobile Apps Just Isn't Enough

- Mobile as a first choice – overall solution needs to be **optimized to the needs of mobile** users

- Just implementing **a mobile app isn't enough**

- Requires specific **user experience and usability**

- A different set of **security measures** are required for securing mobile applications

- Requires **secure**, **reliable and scalable integration** into your business processes & services

- Vast number of form factors and devices across multiple platforms and licensing conditions & terms require **specific development, testing, deployment and lifecycle management** solutions

# Mobile Architecture Overview for System z

Worklight Studio and Rational Developer for System z

Mobile Device

Mobile Applications

Security Layer 1

Caching Service 1 (Optional)

WebSphere Application Server on Linux

Worklight Server

Worklight App Code

Worklight Server and Console

Worklight Adapters

DB

z/VM

Caching Service 2 (Optional)

Security Layer 2

z/OS

CICS, IMS

DB2

z/TPF

z/VSE

IBM Information Bus (IIB)
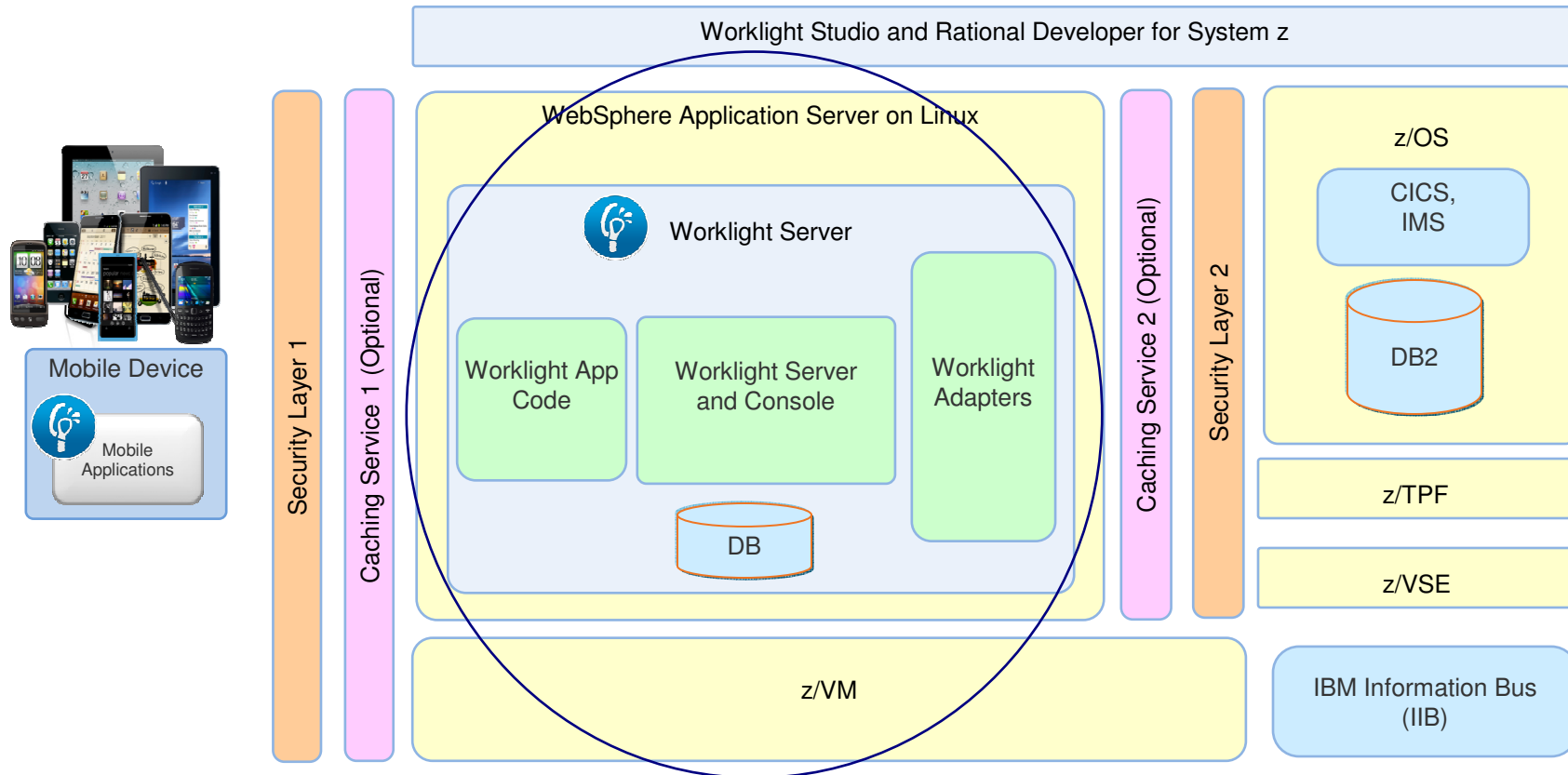
Worklight overview

Worklight Studio
The most complete, extensible environment with maximum code reuse and per-device optimization
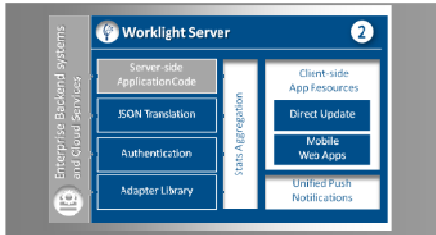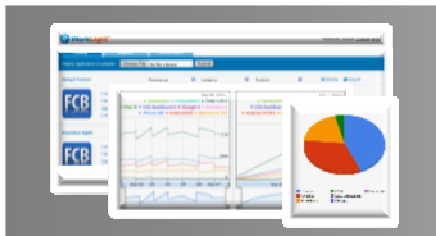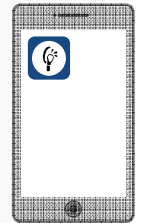
Worklight Server
Unified notifications, runtime skins, version management, security, integration and delivery
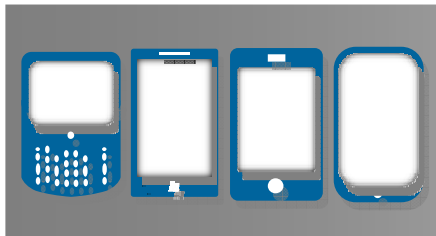
Worklight Runtime Components
Extensive libraries and client APIs that expose and interface with native device functionality
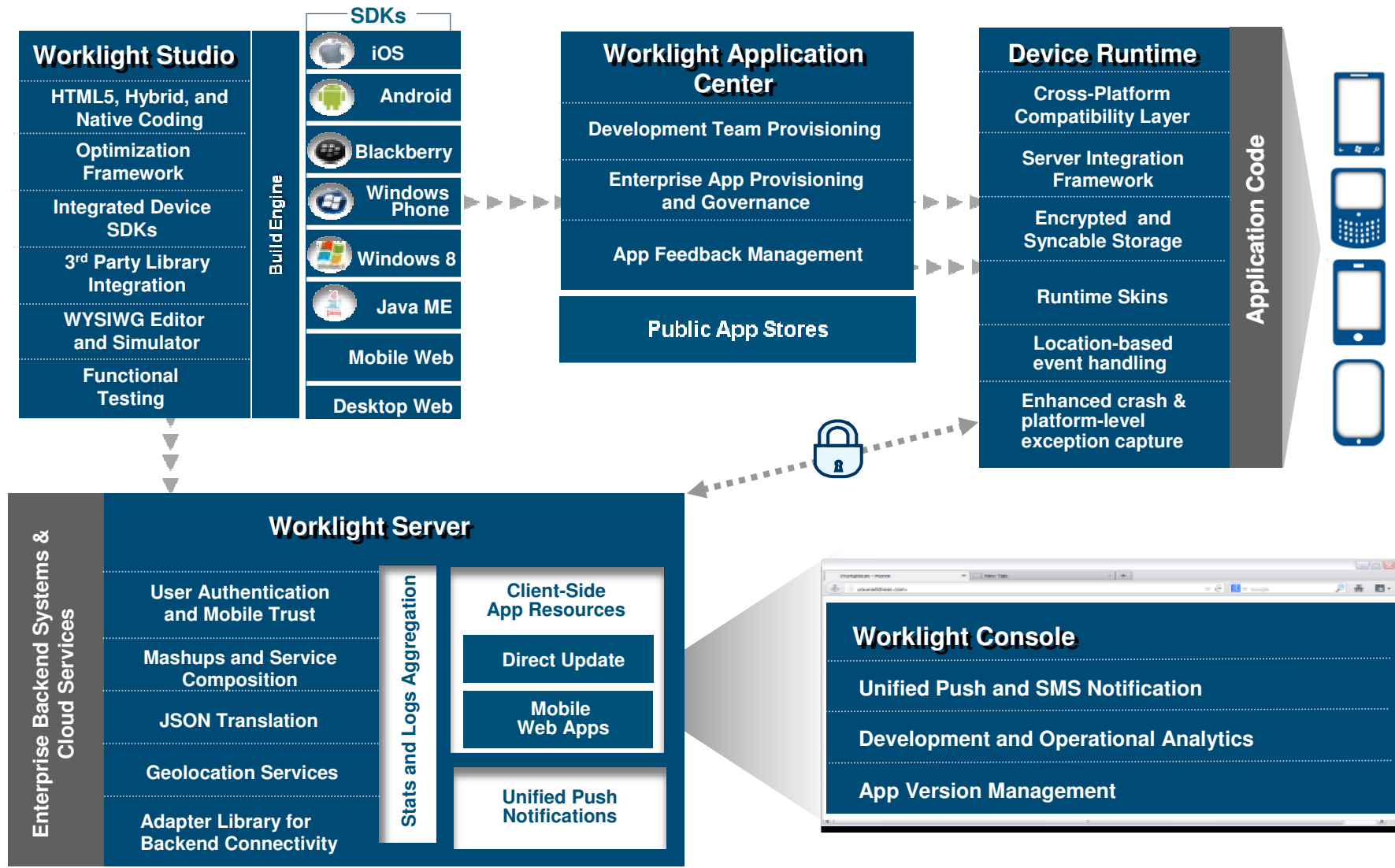
Worklight Console
A web-based console for real-time analytics and control of your mobile apps and infrastructure

IBM Worklight Components Overview

Worklight Studio

- HTML5, Hybrid, and Native Coding
- Optimization Framework
- Integrated Device SDKs
- 3rd Party Library Integration
- WYSIWG Editor and Simulator
- Functional Testing

Build Engine

SDKs

- iOS
- Android
- Blackberry
- Windows Phone
- Windows 8
- Java ME
- Mobile Web
- Desktop Web

Worklight Application Center

- Development Team Provisioning
- Enterprise App Provisioning and Governance
- App Feedback Management

Public App Stores

Device Runtime

- Cross-Platform Compatibility Layer
- Server Integration Framework
- Encrypted and Syncable Storage
- Runtime Skins
- Location-based event handling
- Enhanced crash & platform-level exception capture

Application Code

Worklight Server

Enterprise Backend Systems & Cloud Services

- User Authentication and Mobile Trust
- Mashups and Service Composition
- JSON Translation
- Geolocation Services
- Adapter Library for Backend Connectivity

Stats and Logs Aggregation

Client-Side App Resources
- Direct Update
- Mobile Web Apps

Unified Push Notifications

Worklight Console

- Unified Push and SMS Notification
- Development and Operational Analytics
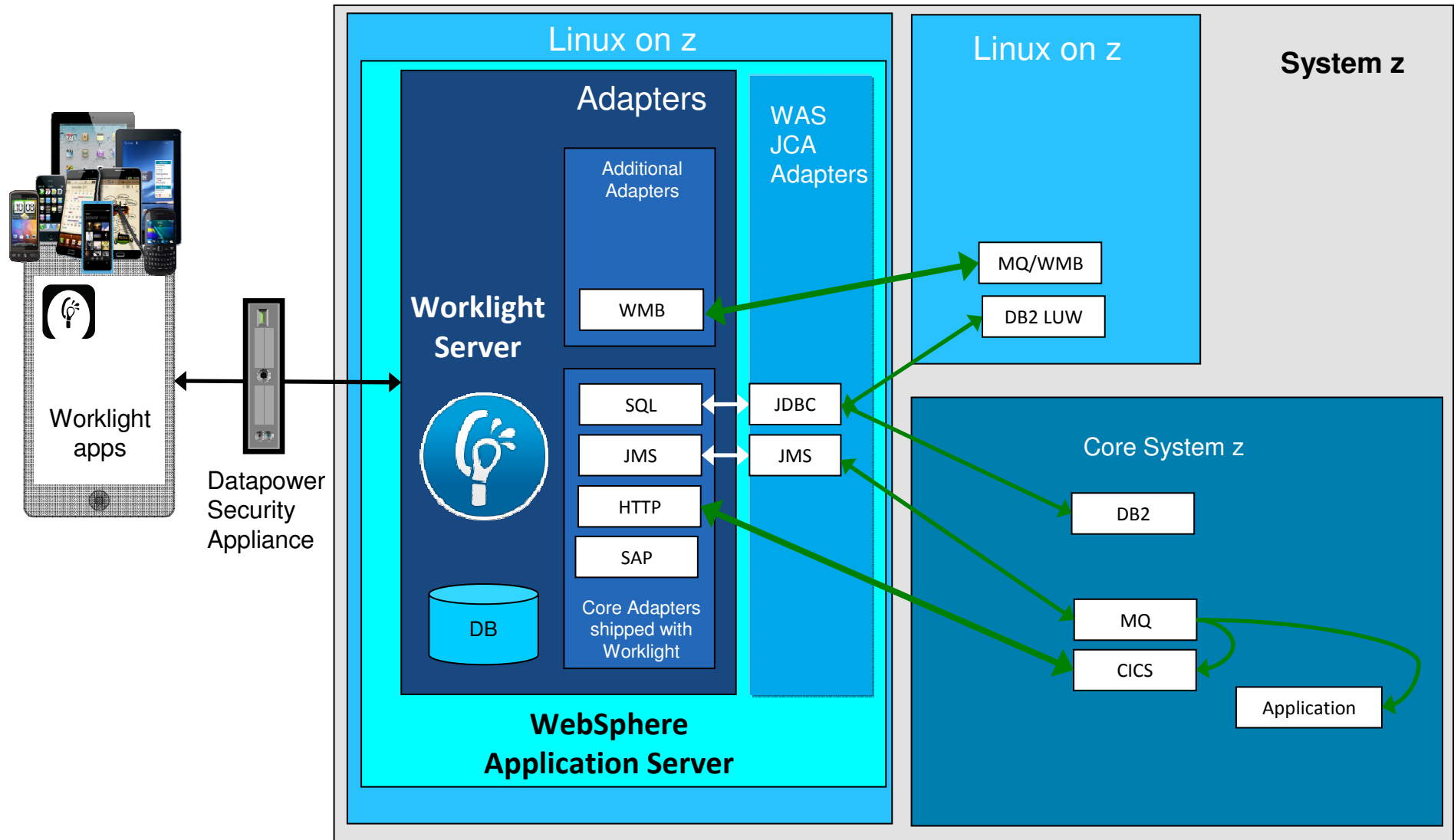- App Version Management

IBM Worklight 6.1 Platform Support

- Supported application server
  - WebSphere 7 & 8 (Distributed | System z Linux)
  - WebSphere 8.5 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 11g Database server, Standard or Enterprise Editions, release 1 or later
  - MySQL 5.5
- Supported OS
  - System z Linux SLES 10,11, RHEL 5,6.
  - Apache Ant1.8.1

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

Implementation of a Mobile environment on System z
- Functional diagram with WAS and Worklight Adapters

IBM Worklight Server

Linux on z

Worklight Server in WAS

Server-side Java App Code -- WAS	**Application Center Enterprise App Store**	SAP
Worklight Console	JSON Translation	SQL
Push Notifications	Authentication	WMB
Analytics	Adapter Library	SOAP
		HTTP/REST
		Cast Iron

Device

App-logic

Worklight

- Security and Authentication
- Back-end Data Integration

Application Code

z/OS, z/VSE

CICS

CICS Web Service

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

Worklight Server- Adapters

Information Systems Databases Applications

Query

Response

2 **3**

Update data

Caching Mechanism

| SQL | WS | HTTP |

Adapters

Worklight

1 Invoke adapter procedure

Data/Result as JSON **4**
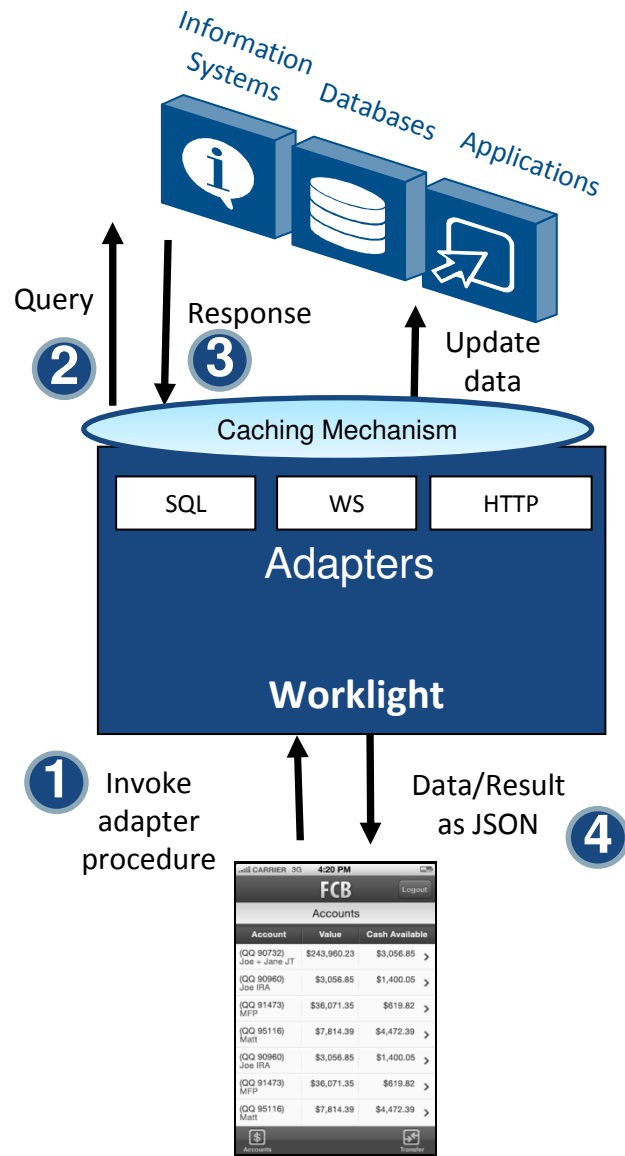
Universality
- Supports multiple integration technologies and back-end information systems

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

CICS Connectivity Options with Worklight

Worklight Server

Adapters

HTTP	←SOAP→	HTTP
HTTP	←JSON→	HTTP
HTTP	←REST→	HTTP
MQ	←Messaging→	MQ
MQ	←MQTT→	MQ
HTTP	←Web Services→ HATS ←3270→	TN3270 / SNA

System z

CICS
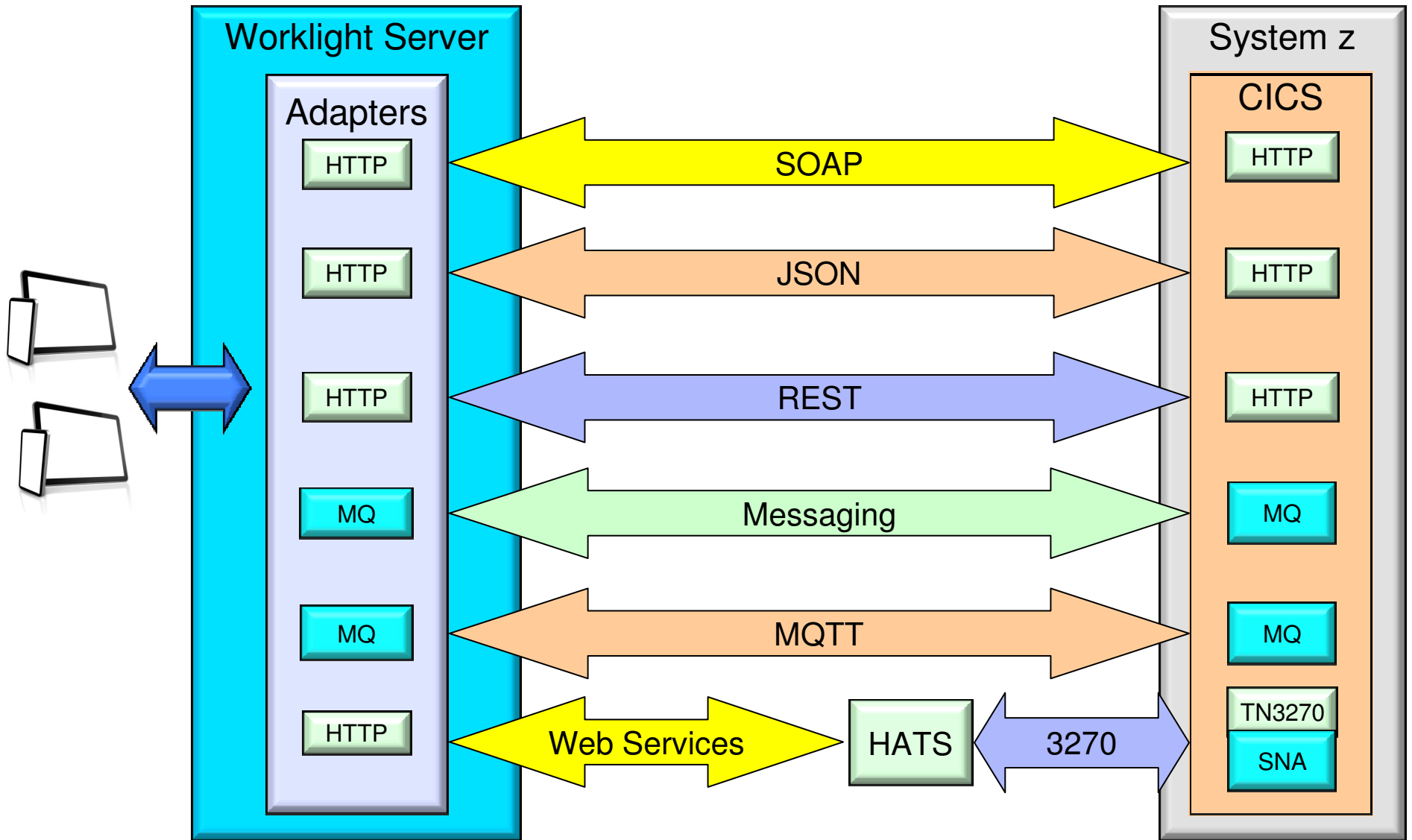
What role does MQTT fulfill in Mobile Messaging?

Reliable messaging that conserves battery power and reduces network traffic

- **Provides a reliable transport**
  - to convey messages from mobile apps to and from your enterprise applications, services and data
- **Provides a Push notification mechanism**
  - No polling required
- **Publish/subscribe paradigm support**
  - A single message can go to multiple devices
  - Great for push notifications and a big advantage over use of HTTP

- **Helps conserve battery & bandwidth**
  - Very light footprint from a client code perspective
  - Less chatty protocol than HTTP solutions so conserves valuable network bandwidth
- **Eases application development costs & speeds time to value**
  - great integration to products such as WebSphere Message Broker to easily enable access to enterprise services

Lightweight MQ for Mobile Messaging (MQTT)

HTTP

Platform Specific Notification

APNS or GCM

MQTT

Worklight Server

Client-side App Resources
- Direct Update
- Mobile Web Apps

Unified Push Notifications

Stats Aggregation

Server-side Application Code

JSON Translation

Authentication

Adapters

HTTP

SOAP

MQ

MQ Queue Manager

Device Runtime

PhoneGap

Worklight
- Security & Authentication
- Back-end Data Integration
- Post-deployment control and Diagnostics

Application Code

MQTT client

MQTT - (MQ Telemetry Transport) clients augment Worklight capabilities:
- Reliable messaging that conserves battery power and reduces network traffic
- Clients are linked into the app by the app developer

Worklight Server provides security, app management, statistics gathering etc.s

APNS - Apple Push Notification Service
GCM - Google Push Notification

Worklight Studio

MQTT client

Java Script Object Notation (JSON)
- Lightweight Web Services

- The growth in mobile helped boost the popularity of JSON
- The lightweight data format is ideally suited to mobile data transfer
- As a result numerous tools and frameworks now support JSON…

Worklight

jQuery *mobile* **dojo**

IBM Worklight uses JSON:
- For communication between a mobile application and the Worklight Server
- Provides a JSON Store for offline storage of data
- Automatically converts Webservice SOAP replies into JSON

Numerous other frameworks depend upon JSON data…

Eg. jQuery & dojo use JSON:
- JSON Store
- Ajax calls
- All data interchange

z/OS CICS Transaction server Feature Pack for Mobile Extensions 1.0

The CICS TS Feature Pack for Mobile Extensions V1.0 enables you to extend the reach of your existing COBOL, C/C++, and PL/I programs to mobile devices, without having to make costly changes to your applications. The feature pack adds support for web service requests using JavaScript Object Notation (JSON) and the conversion between JSON and high-level language data structures, creating an efficient method of consuming enterprise data on a mobile device.

- Ideal for companies that wish to build mobile applications to exploit existing enterprise services hosted within the robust and scalable CICS environment

- Uses existing CICS web service technology: a separate WSBIND file provides the mapping from the COBOL, C/C++, or PL/I language structures to JSON, or from JSON back to the language structure

- Requests are process by CICS in a web service pipeline, taking advantage of the proven web service infrastructure within CICS Transaction Server

- JSON greatly simplifies connectivity to mobile devices, particularly when using IBM Worklight Server, as you no longer need to write extensive custom adapter code to invoke CICS services

The CICS TS Feature Pack for Mobile Extensions V1.0 is available for CICS TS V4.2 and CICS TS V5.1

z/OS CICS TS – Easier Communication via JSON (JavaScript Object Notation)
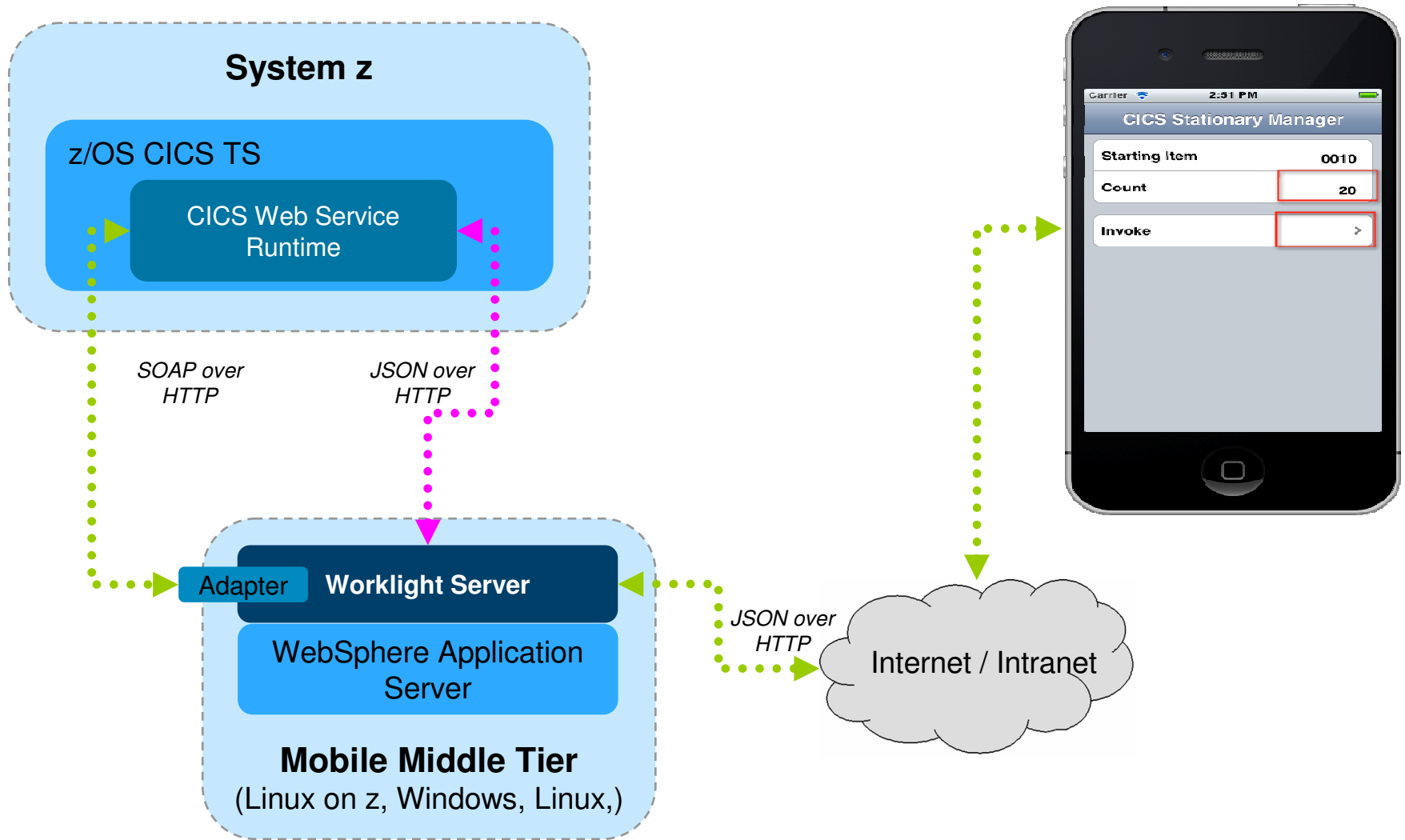
JSON access to z/OS CICS via REST APi

Connect a mobile application to CICS using the RESTful JSON interface

Wrapper application in CICS uses the URL to identify the resource, DB or VSAM File, with the Path being the specific element to operate on

CICS TS V5.1

New JSON Webservice

App. makes a RESTful call, using HTTP GET (read) or POST (write) to a named resource

New RESTful "receiver" program

WSBIND

Existing application

Use **DFHJS2LS** to generate a language structure corresponding to the **inbound JSON** schema the CICS application will receive.

Business Data
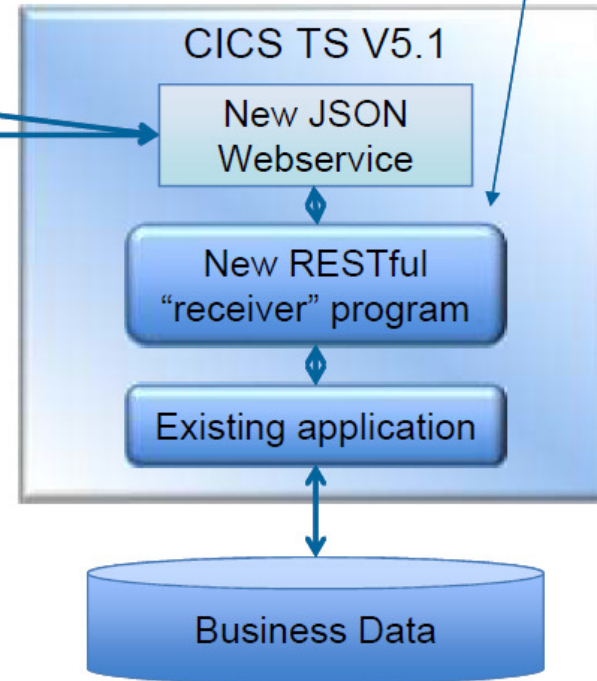
JSON access to z/OS CICS via Worklight

Exposing an existing CICS application as a JSON callable service

Existing SOAP Webservices remain unaffected by the introduction of new mobile based clients.

Worklight

CICS TS V5.1

Existing SOAP Webservice

New JSON Webservice
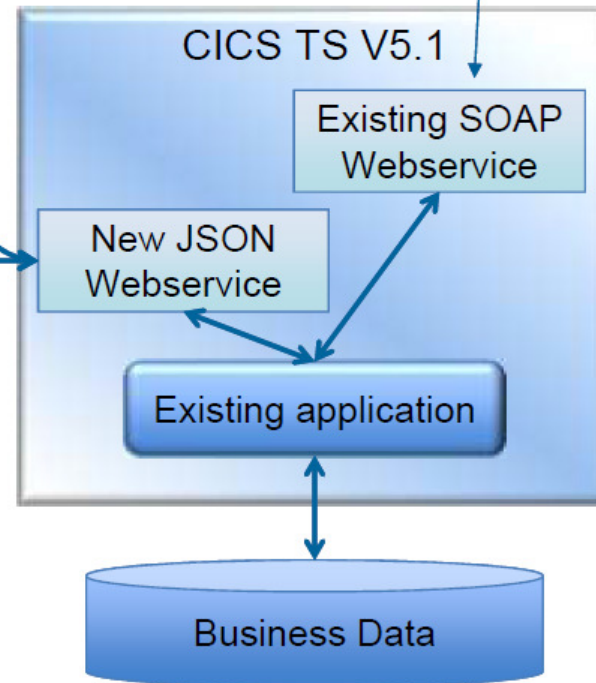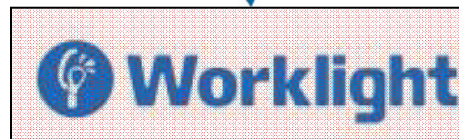
Use DFHLS2JS to generate a JSON Schema corresponding to the language structure of the existing CICS application.

CICS Pipeline processing converts the request into the correct format

WSBIND

Existing application

Business Data

Mobile Environment on zEnterprise connecting to Core Systems

Linux on z
- WebSphere Application Server
  - Adapters
  - Worklight Server
- DB2 LUW
- MQ/ WMB

z/OS
- CICS®
- IMS™
- DB2®
- WAS
- MQ/ WMB

Mobile apps

SOA

Siebel, PeopleSoft

SAP

IBM zEnterprise®
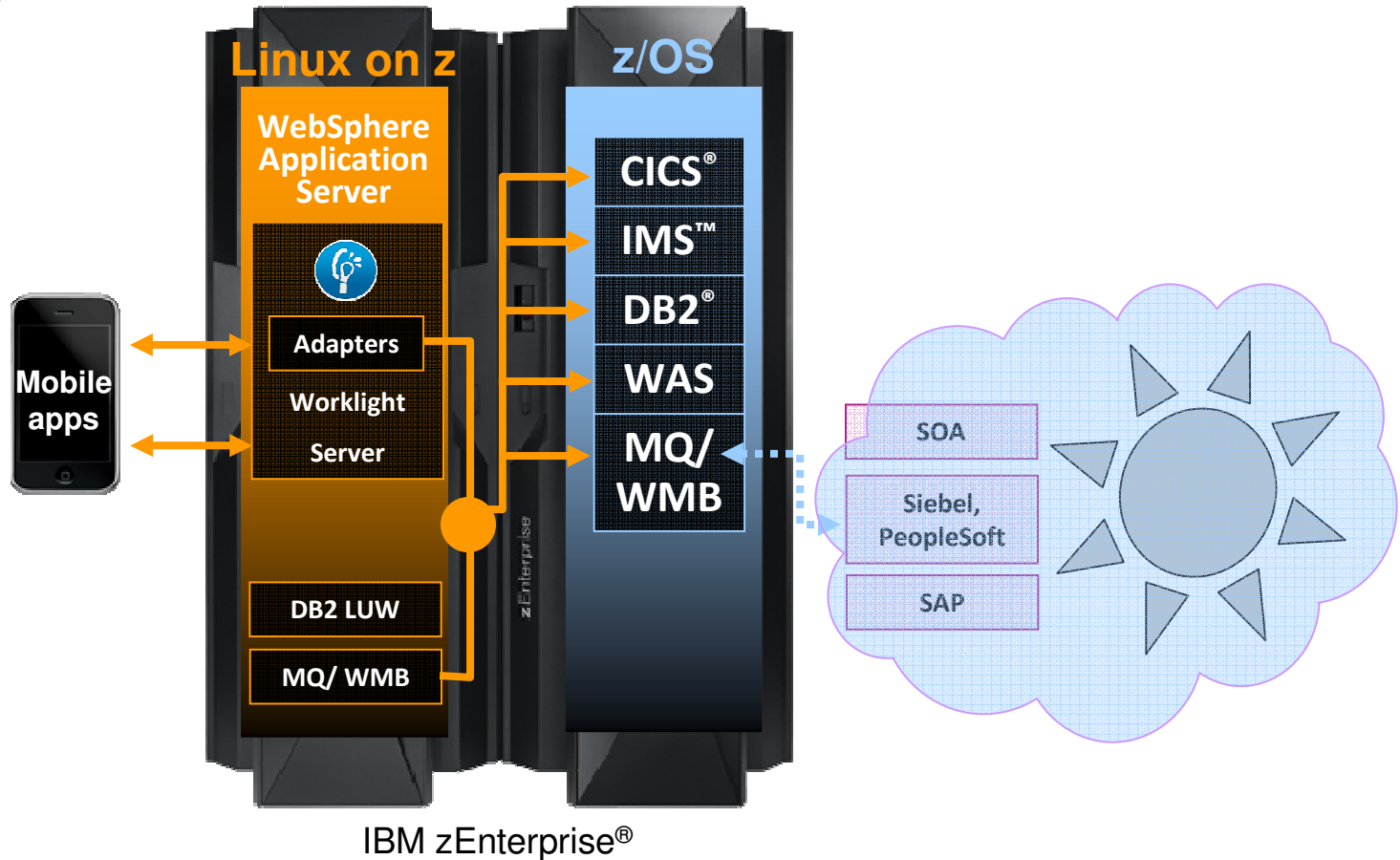
- **Server side software components and adapters for channeling System z to mobile devices** with IBM Worklight Server

- **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

Hybrid Cloud Enterprise Architecture: Overview

➢ CICS OLTP System on-premise Data Center
  ➢ Provides best-of-breed OLTP system
  ➢ Exploiting security and scalability of GDPS
➢ Application server on SoftLayer Cloud Server
  ➢ Hosts application / presentation tier on dedicated or virtual server
  ➢ Elastically scales compute capacity
  ➢ Reduces costs by paying for capacity
➢ Secure VPN Tunnel
  ➢ Provides secure means to cross public network
  ➢ Presents private network of SoftLayer as extension of on-premise private network

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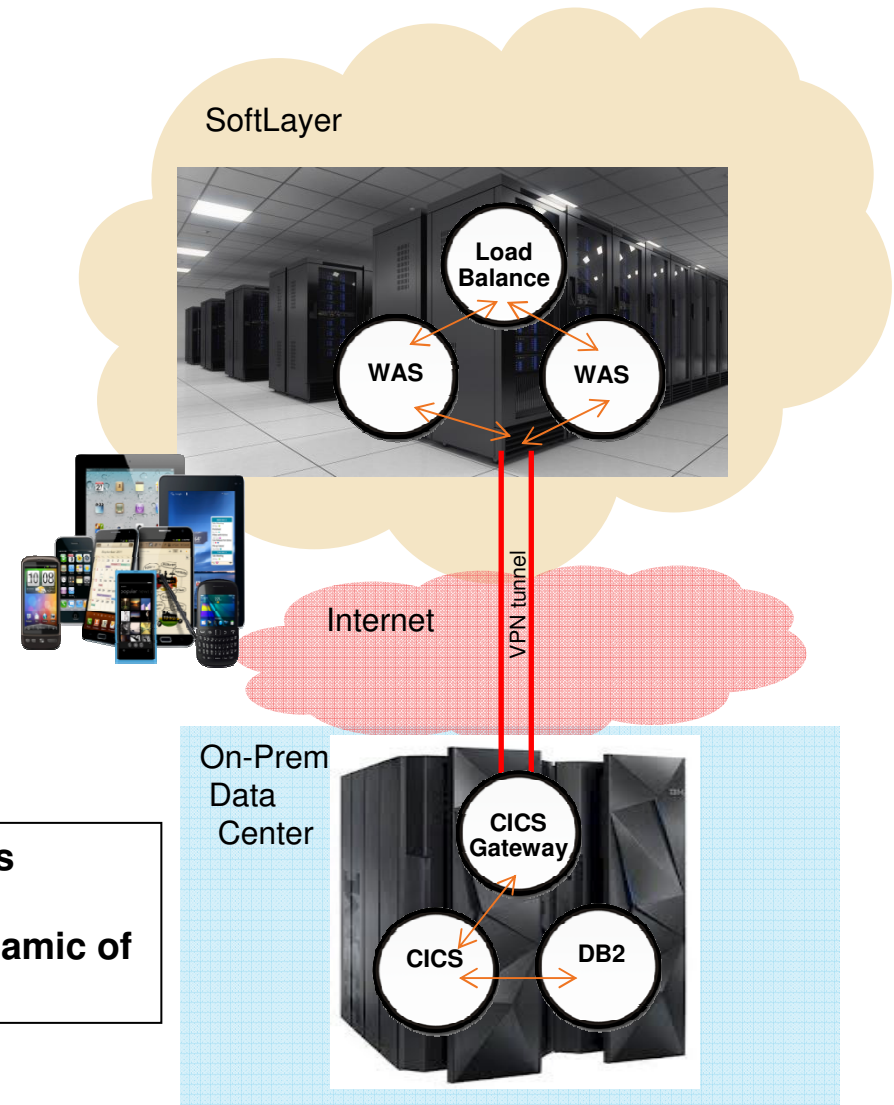
Hybrid Architecture provides best of both worlds

Secure Transactions combined with the dynamic of Cloud

SoftLayer

Load Balance

WAS   WAS

Internet

VPN tunnel

On-Prem Data Center

CICS Gateway

CICS   DB2

Mobile Architecture Overview for System z
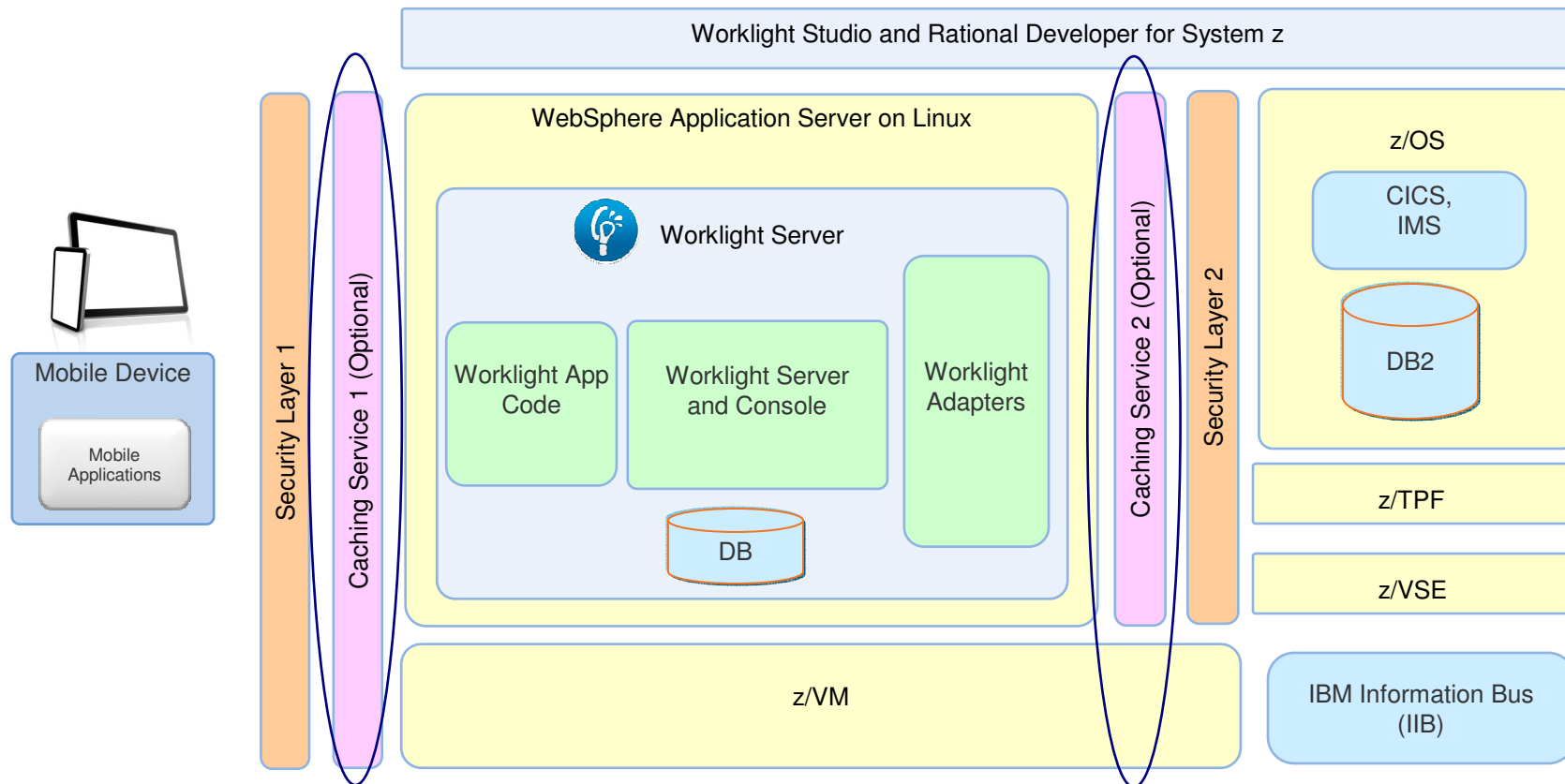
Worklight caching
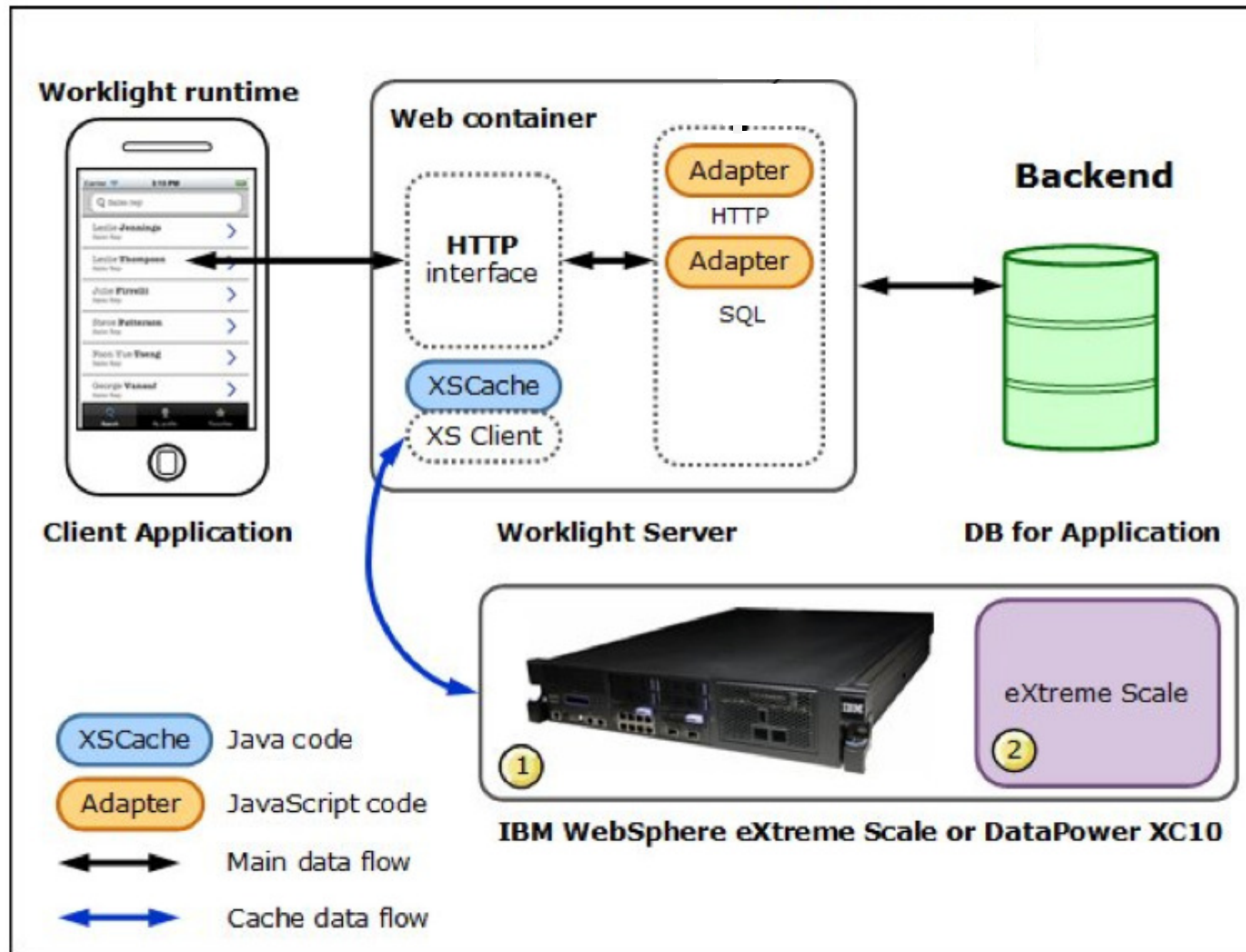
Solution Architecture from: http://www.redbooks.ibm.com/abstracts/tips0953.html#contents

Worklight Adapter integration with WebSphere Extreme Scale
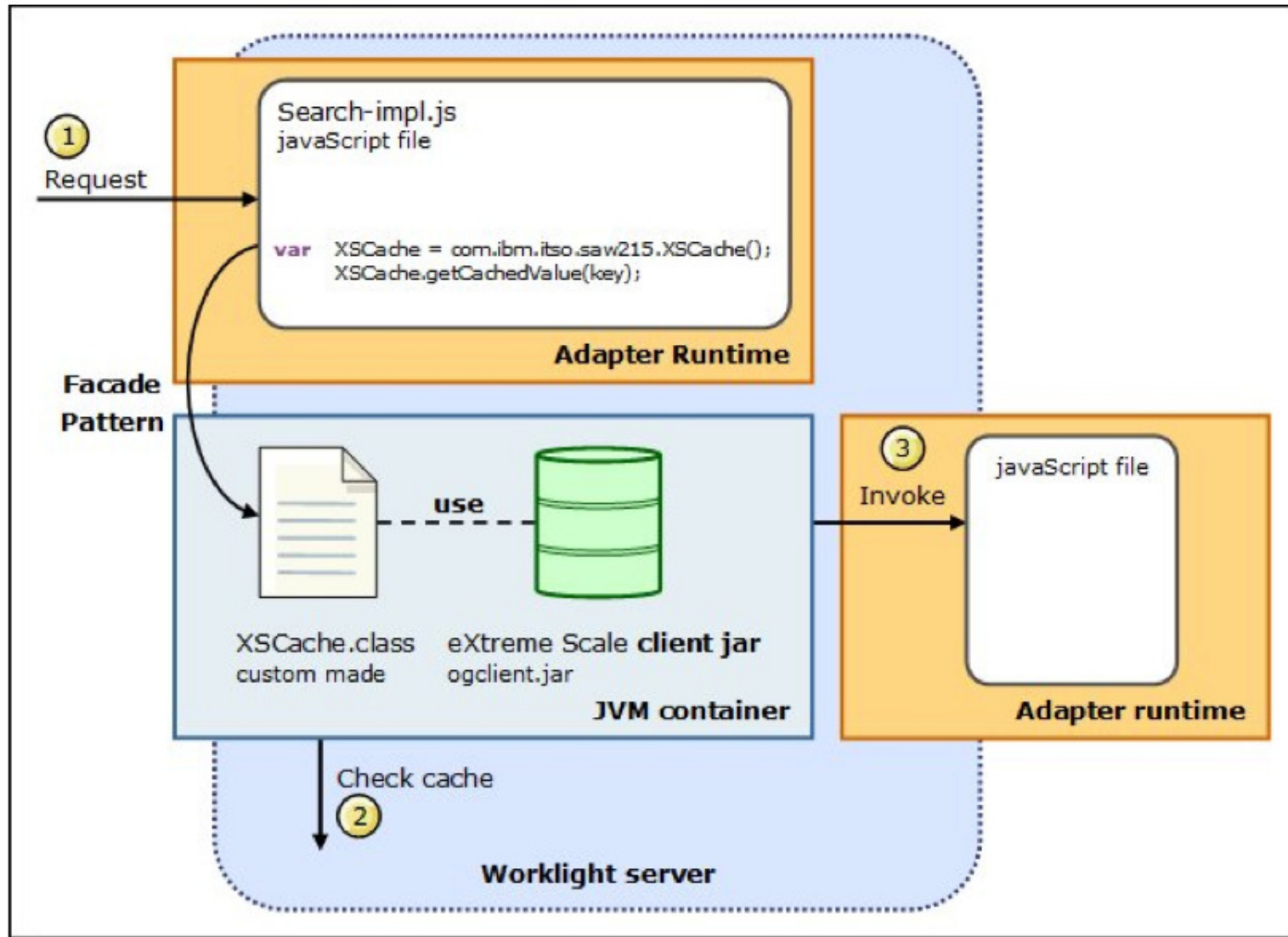
Caching solution decision

Options for caching	Rationale and decision points
When use WebSphere Extreme Scale (WXS)?	WXS is a general-purpose scalable cache. It can be added to any java application running in the mid-tier without requiring changes to any transactions running in the back-end. JavaScript code has to be implemented in the mobile application source to take full benefit of WXS.
When use DataPower XC10 appliance?	Out-of-the box caching appliance that can deliver benefits without adaption of (mobile) application needed. Just configure the network topology to point to the XC10 Typically placed in DMZ to cache static data.
Why use front end caching?	In cases where static data like images, user profiles, product description and HTML are to be cached. Front end caching makes it possible to cache a large set of data, for all requests for (back end) services are processed here. Performance improvement tends to be more of an entry point.
Why use back end caching?	Typically to off-load back end queries in cases where inquiries are made but no business relevant transactions are performed.

Mobile Architecture Overview for System z
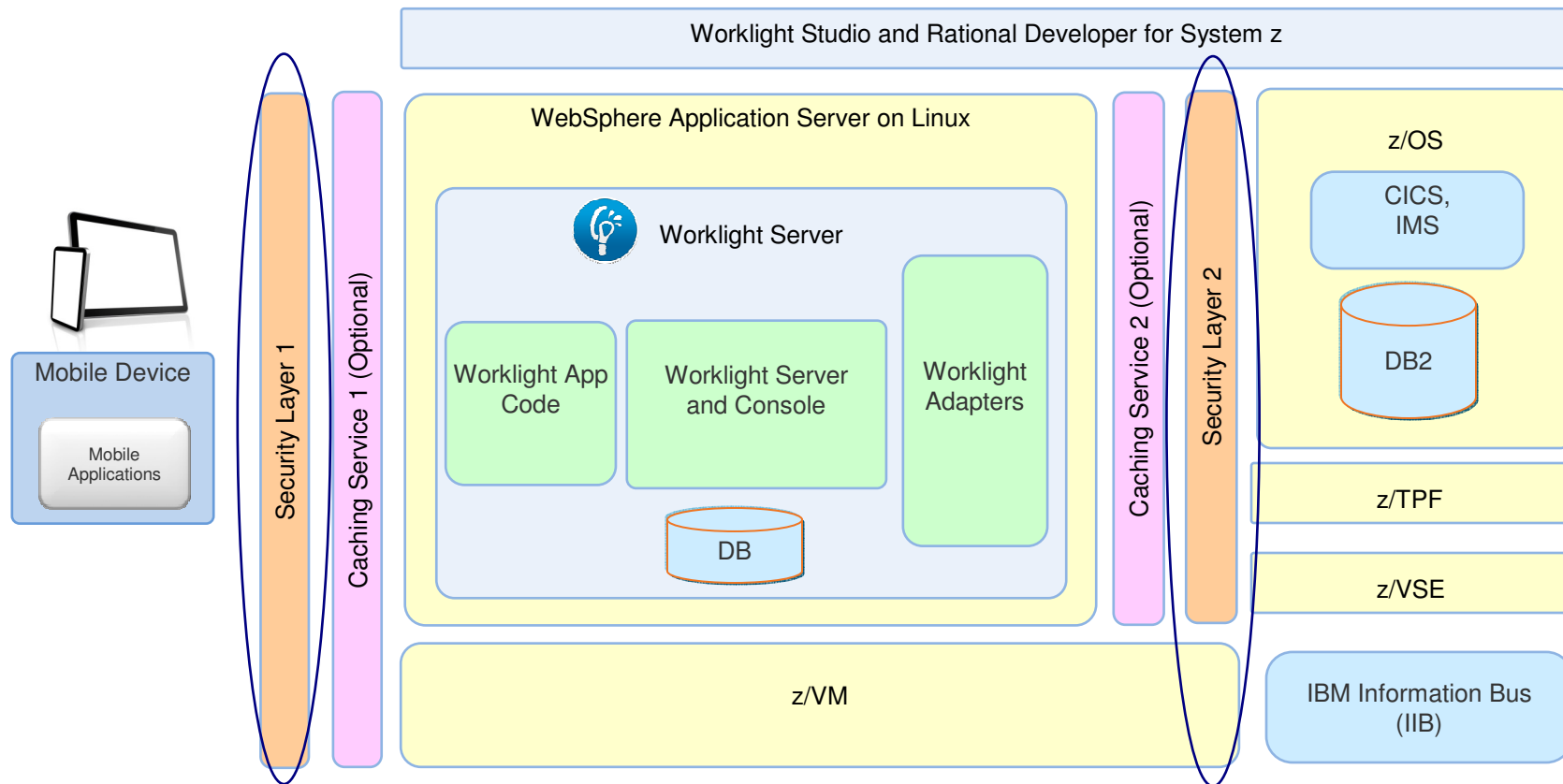
Worklight Security Features

- Ensure that only specific applications on specific devices can connect to enterprise systems

- Extensible framework for authentication of mobile application users

- Encrypt data on the device

- Enforce security updates

- Propagate identity to enterprise systems
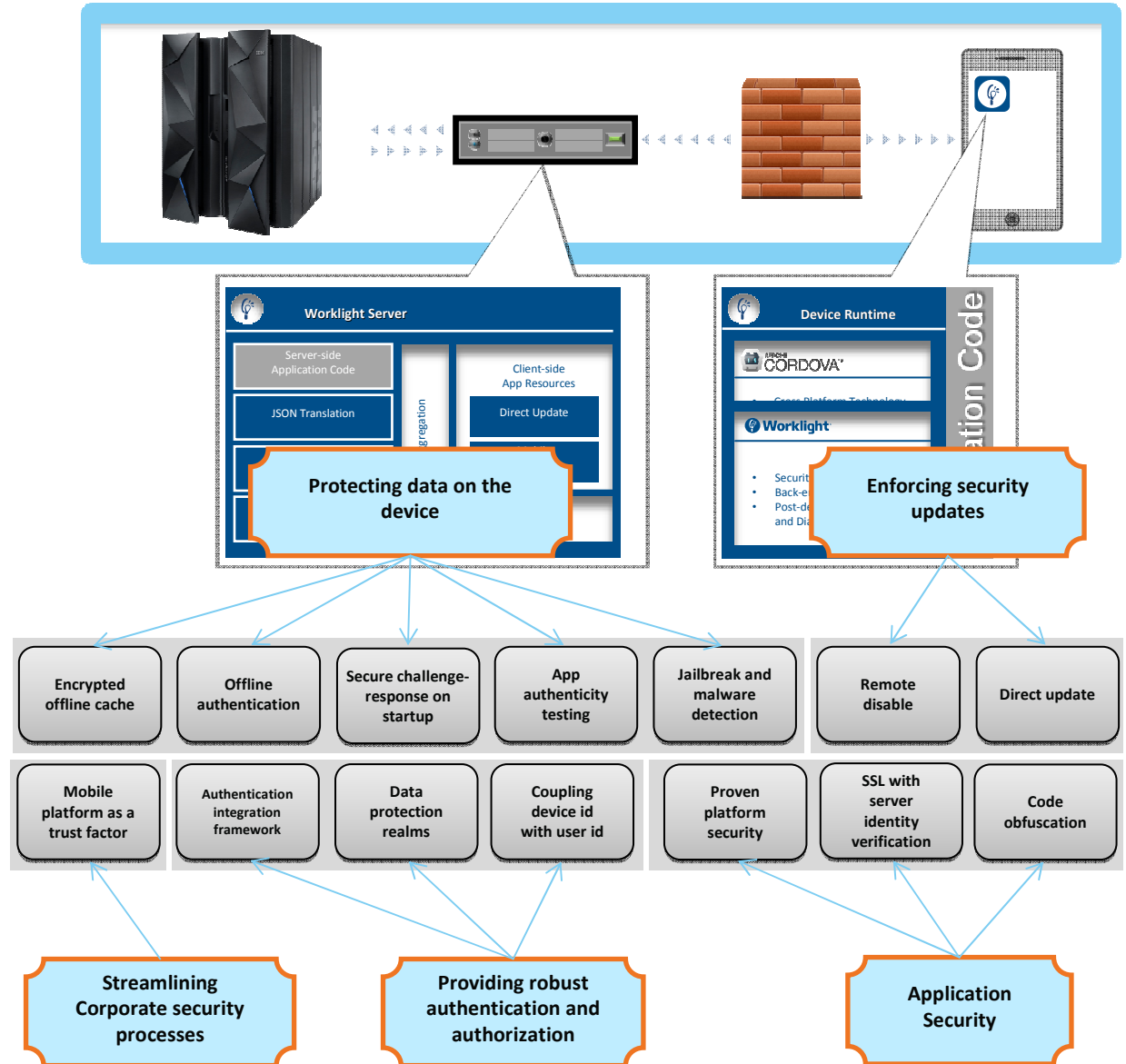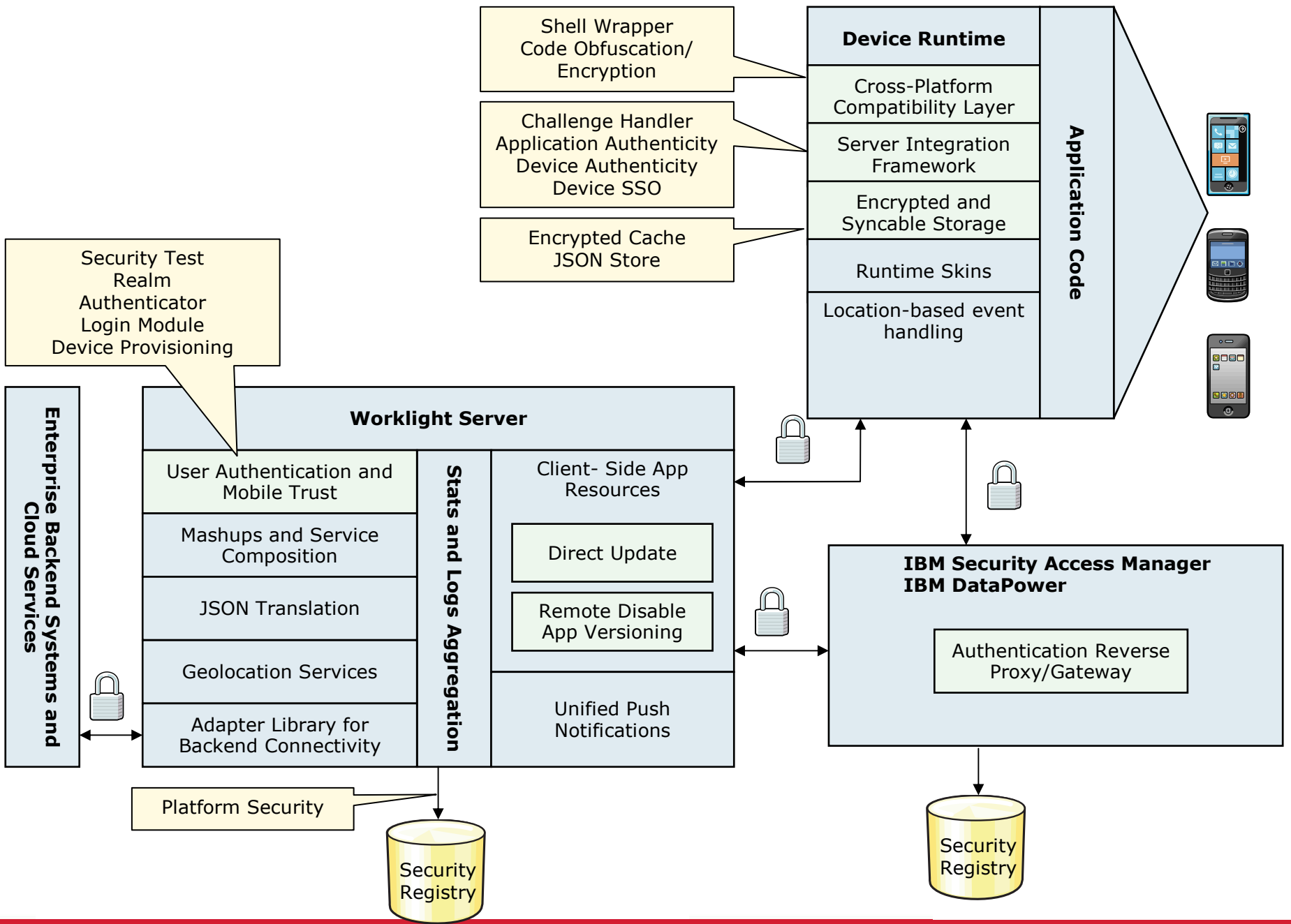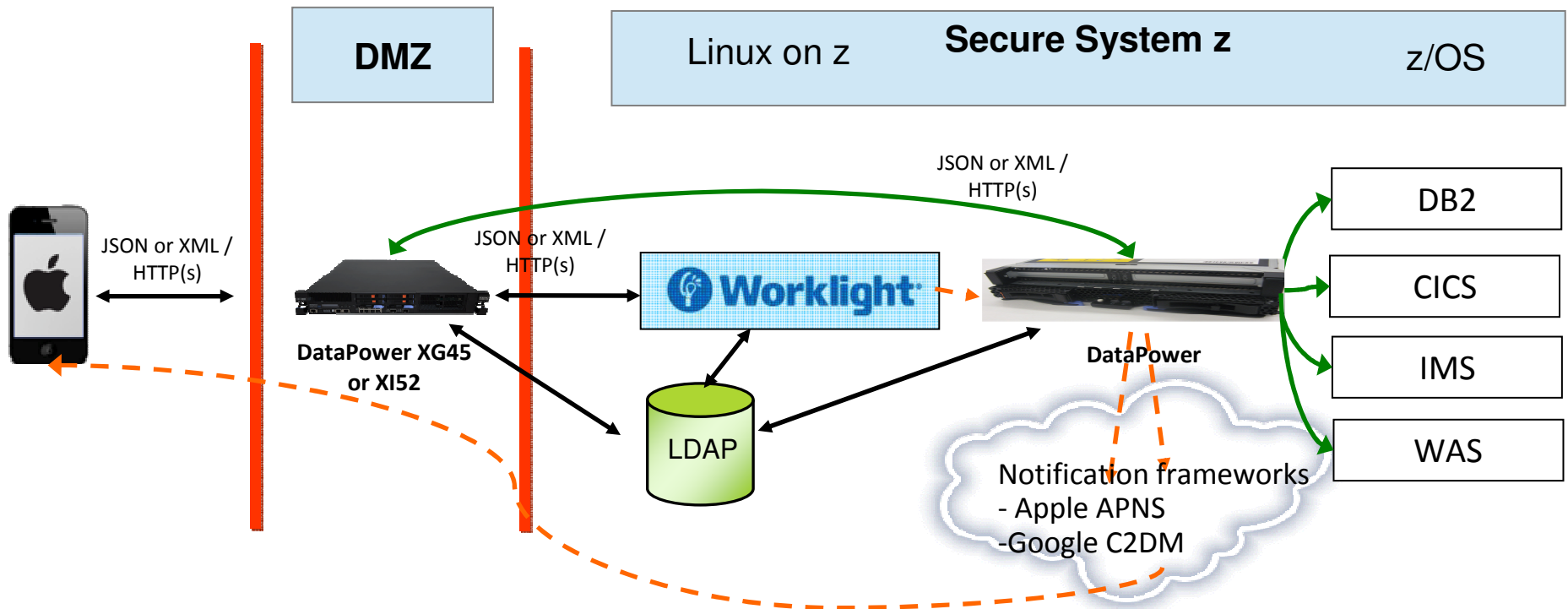
DataPower Mobile Security Features
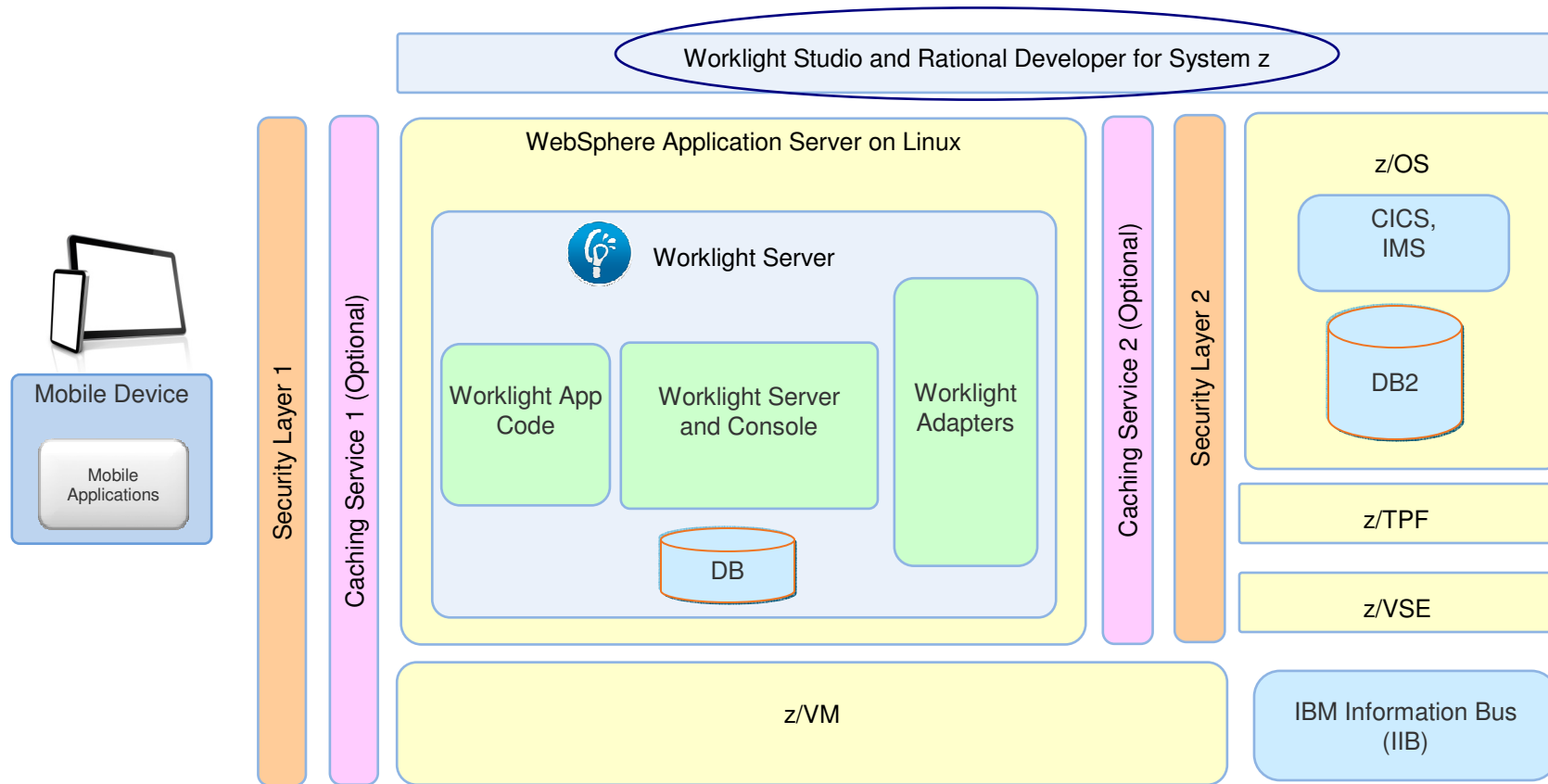## *Available as a physical or virtual appliance*

DataPower Gateway Appliance

CICS
IMS
DB2

Worklight,
WAS ND

Other servers,
Web Apps, other
services

e.g. REST (JSON/XML)
over HTTPS

e.g. SOAP
over HTTP(S)
or messaging
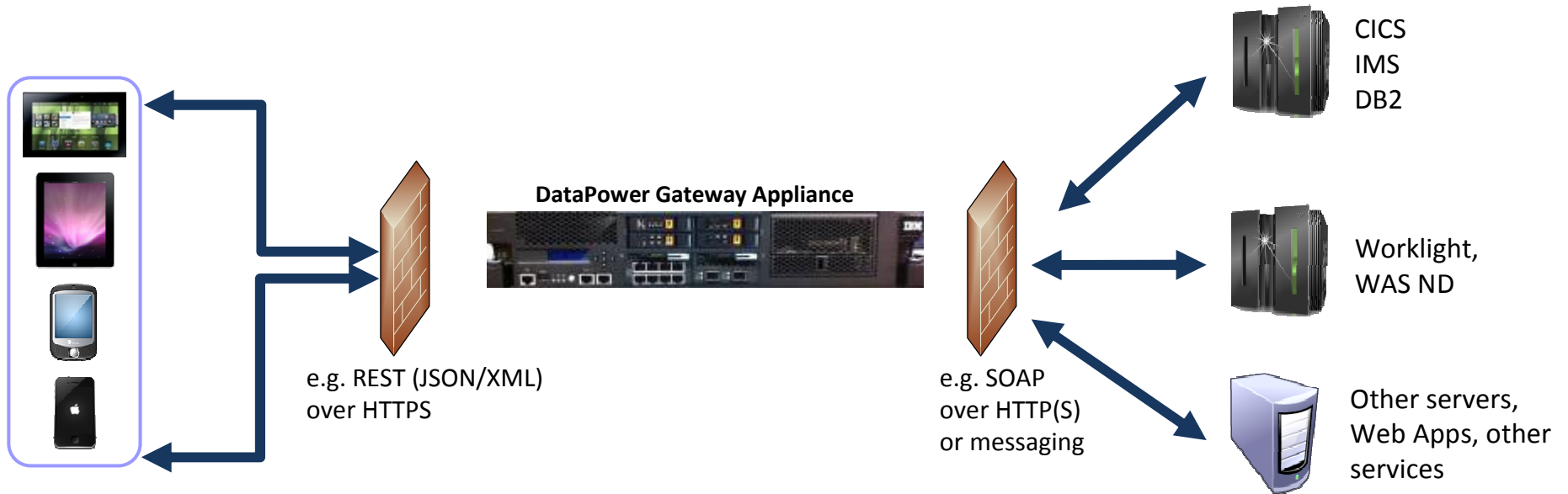
- Security, Control, Integration & Optimization of mobile workload
- Enforcement point for centralized security policies
- Authentication, Authorization, SAML, OAuth 2.0, Audit
- Threat protection for XML and JSON
- Message validation and filtering
- Centralized management and monitoring point
- Traffic control / Rate limiting
- Integration with Worklight

Security Topology – DataPower as a 2nd security layer

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

Mobile Architecture Overview for System z

Worklight Studio and Rational Developer for System z

WebSphere Application Server on Linux

Worklight Server

Worklight App Code

Worklight Server and Console

Worklight Adapters

DB

Mobile Device

Mobile Applications

Security Layer 1

Caching Service 1 (Optional)

Caching Service 2 (Optional)

Security Layer 2

z/OS

CICS, IMS

DB2

z/TPF

z/VSE

z/VM

IBM Information Bus (IIB)

IBM Worklight Studio & Device Runtime

Worklight Studio

- HTML5, Hybrid and Native Coding
- Optimization Framework
- Integrated Device SDKs
- 3rd-Party Library Integration

Build Engine

- iOS SDK
- Android SDK
- BlackBerry SDK
- Win Phone SDK

Public and Private App Stores

1
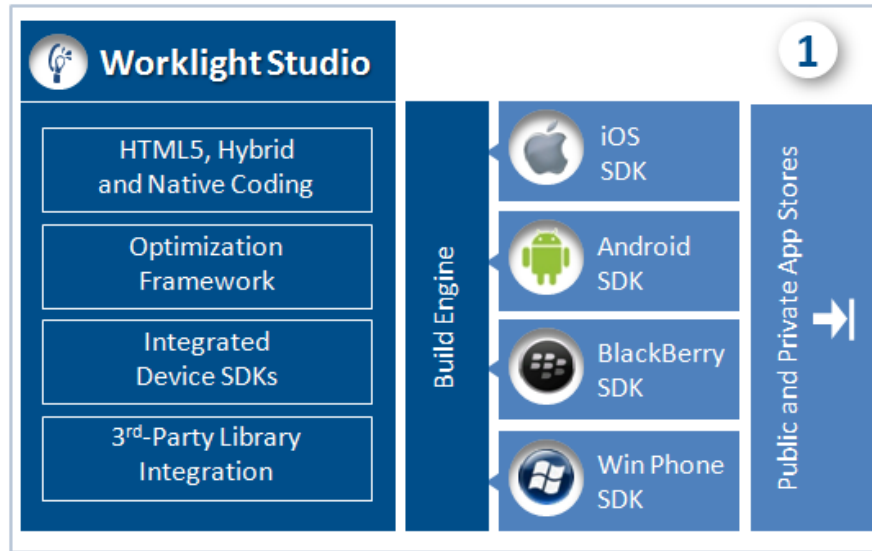
Eclipse based mobile **Integrated Development Environment (IDE)**

Device Runtime

- Cross-platform Compatibility Layer
- Server Integration Framework
- Encrypted Storage
- Runtime Skinning
- Reporting for Statistics and Diagnostics

Application Code

jQuery · dōjō · Sencha
HTML5 · PhoneGap
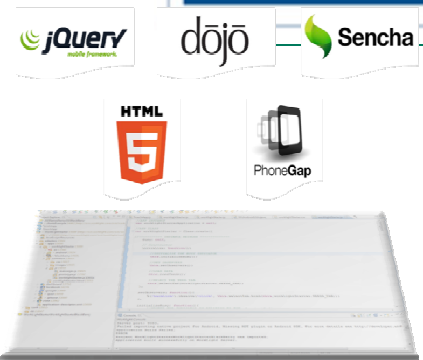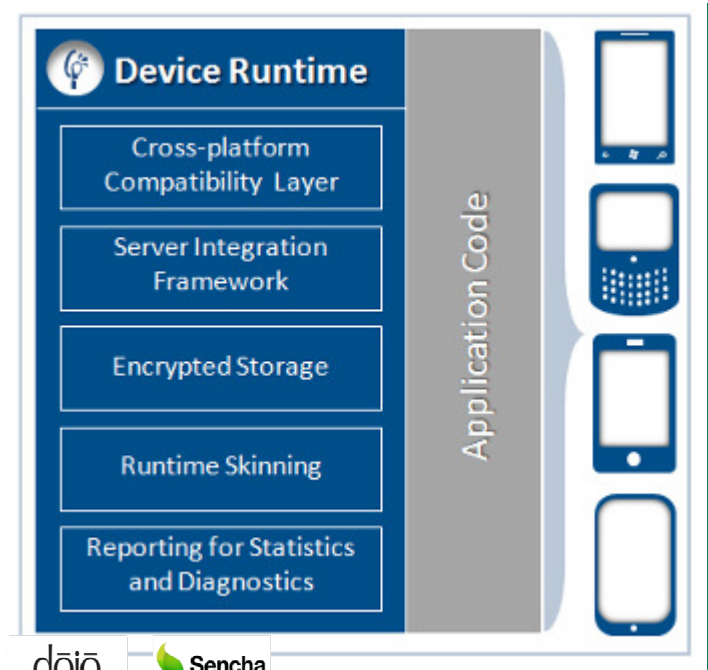
IBM Worklight – Support for Different Mobile Application Styles

- 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
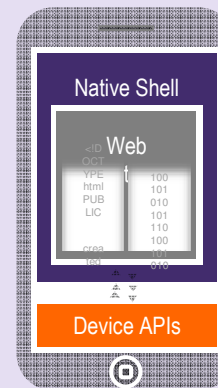
Native

- Native code
- Access to full set of lower-level device capabilities
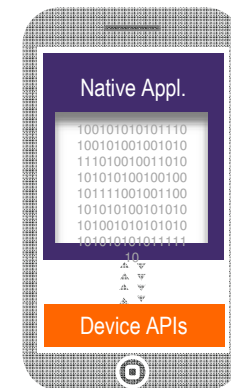
Hybrid – Worklight and WebSphere Portal together

WebSphere Portal/WCM and IBM Worklight used together can extend the capabilities and reach of an exceptional web experience

Hybrid Container

Web Site

Device Features

IBM Worklight
Access devices specific capabilities
(camera, contacts,etc...)
App Store Presence
Application management
Mobile Notifications

WebSphere Portal/WCM
Multiple Applications, Content, Roles,
Personalization, Customization

Carrier   4:57 PM   100%

Hybrid Container

Web Site

Device Features

WCM = Web Content Manager

Multi-channel site – with WebSphere Portal and Worklight
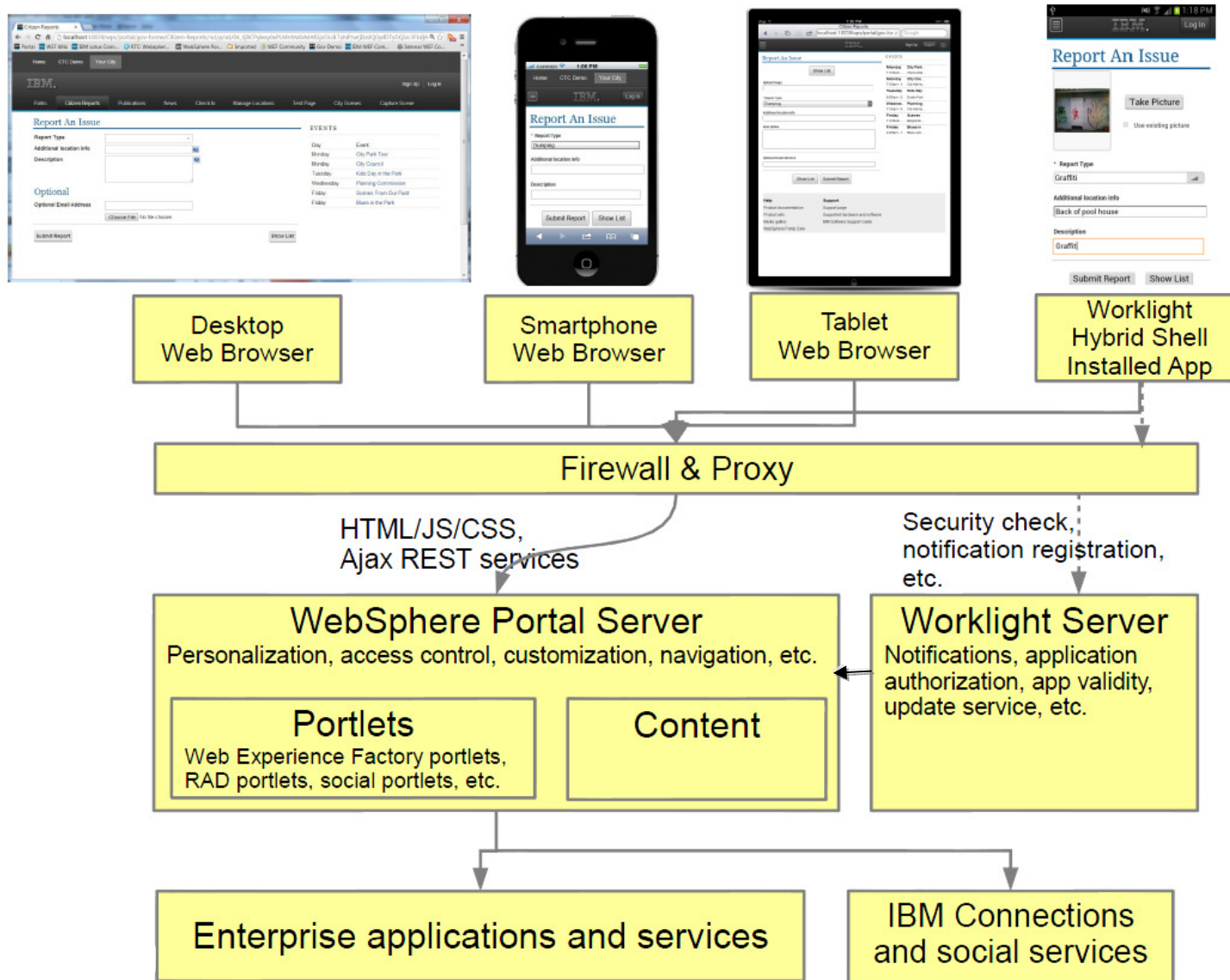
Apps on Mobile devices:
- with WPS Web Sites
- with apps from WL
- with hybrid content from WPS through WL

Desktop Web Browser	Smartphone Web Browser	Tablet Web Browser	Worklight Hybrid Shell Installed App

Firewall & Proxy

HTML/JS/CSS, Ajax REST services

Security check, notification registration, etc.

WebSphere Portal Server
Personalization, access control, customization, navigation, etc.

Portlets
Web Experience Factory portlets, RAD portlets, social portlets, etc.

Content

Worklight Server
Notifications, application authorization, app validity, update service, etc.

Enterprise applications and services

IBM Connections and social services

Worklight Push Notification Services

- Users receive notifications when the mobile application is not active
  - Efficiency gain as application does not need to issue constant queries
  - Saves battery life and also reduces network bandwidth (communication fees)
- Notifications are not always appropriate and have disadvantages
  - Users need to subscribe on their device to receive push notifications
  - Notifications are limited in the size of their payload (for example, 256 bytes on iOS)
  - No quality of service is guaranteed and there is no delivery notification
  - No guarantee either that the end-to-end delivery chain is secure

Worklight Push Notification from WebSphere MQ

- Creates a push notification adapter from a WebSphere MQ queue
  - Generates a web service implementation which is deployed to Message Broker
  - Builds a Worklight integration adapter which polls for pending notifications
  - Pending notifications are written to a WebSphere MQ queue by a provider application
  - The adapter converts the notifications into JSON and arranges delivery to the mobile
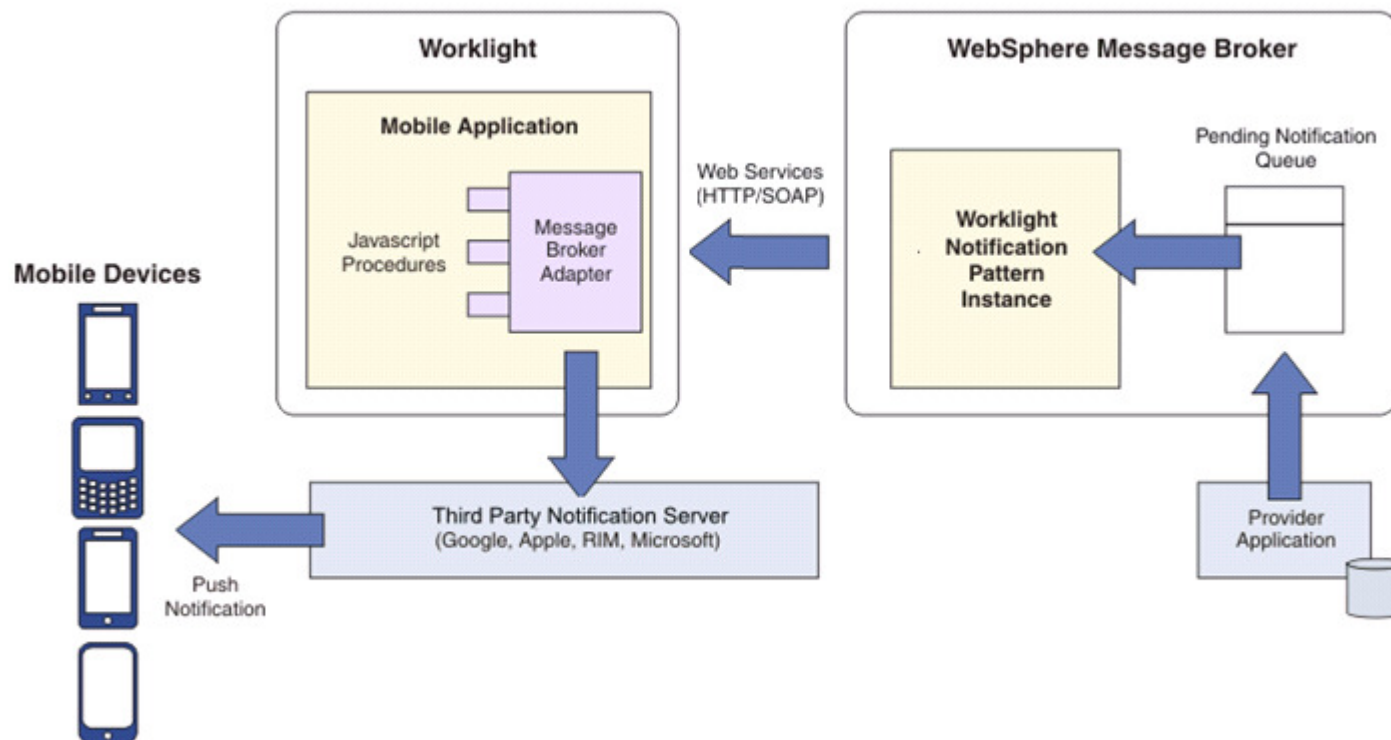
Worklight Studio with RDz a complete set of System z and Mobile Development capabilities

Integration with Team Concert for Lifecycle and Source Management

Integration with RD&T for flexible access to System z environment
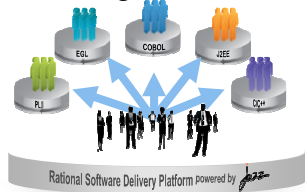
Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS
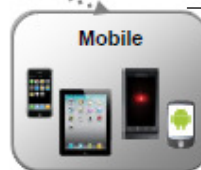
Robust Mobile Development in conjunction with Worklight

Integration with Fault Analyzer for Dump Analysis
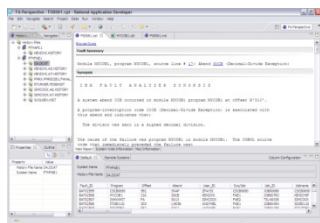
Integration with Asset Analyzer for Application Understanding and Impact Analysis
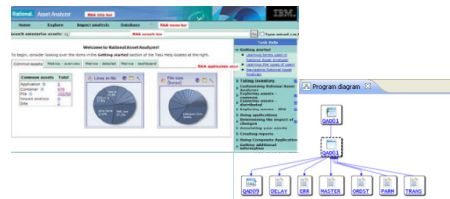
Integration with File Manager and Fault Analyzer for file and test data handling and Dump Analysis

IBM Worklight Studio with Rational Developer for zEnterprise

- Built on Eclipse
- Common tool set for end to end development
- Build, preview, and deploy within the IDE
- Mobile simulator (for unit test)
- End-to-end debug
- Integrate with third-party SDKs (e.g. Android Development Tools)

Design · Code · Test · Deploy

Business · Development

COBOL, C, ASM, PL/I, ...

WL Adapters

Java

Native App with HTML, JS, CSS

System z

WebSphere Application Server with IBM Worklight Server

Mobile

Worklight — An IBM company

In quick summary… BlueMix can…

Delivering a Composable Services development environment
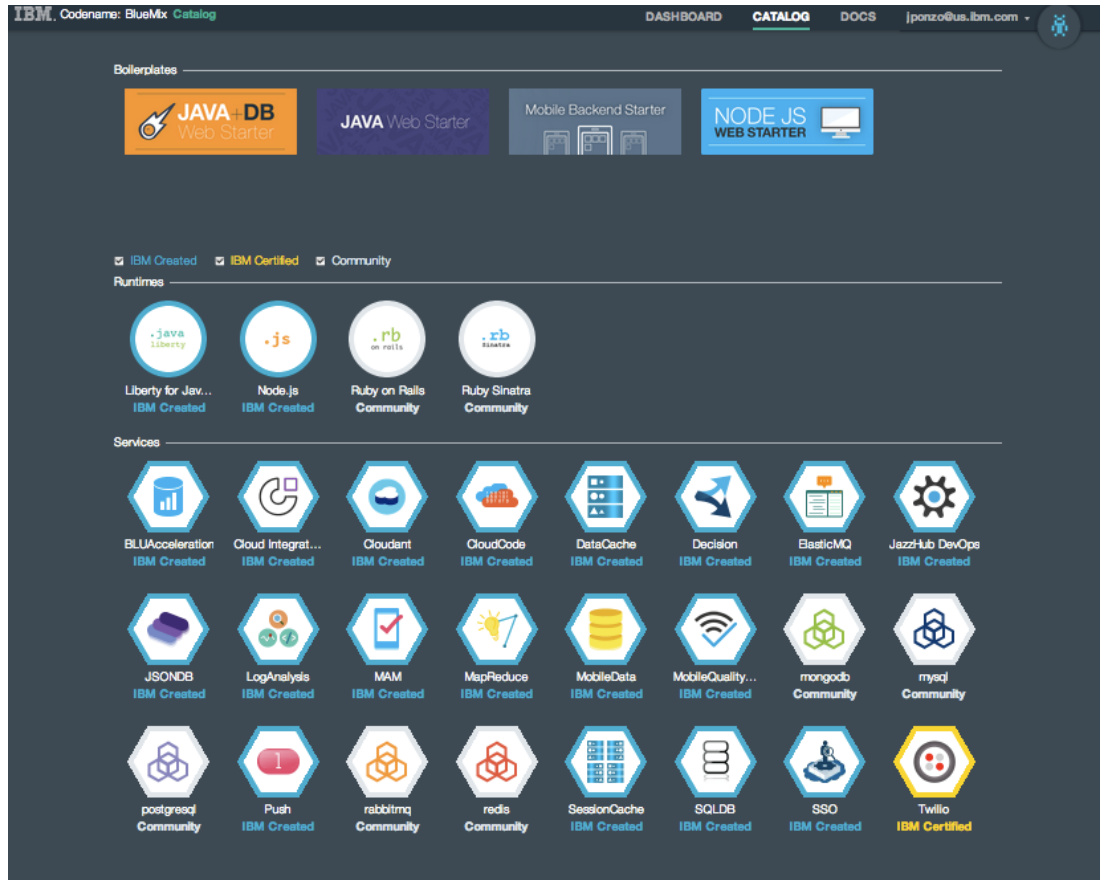
Run Your Apps

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.

Operational setup
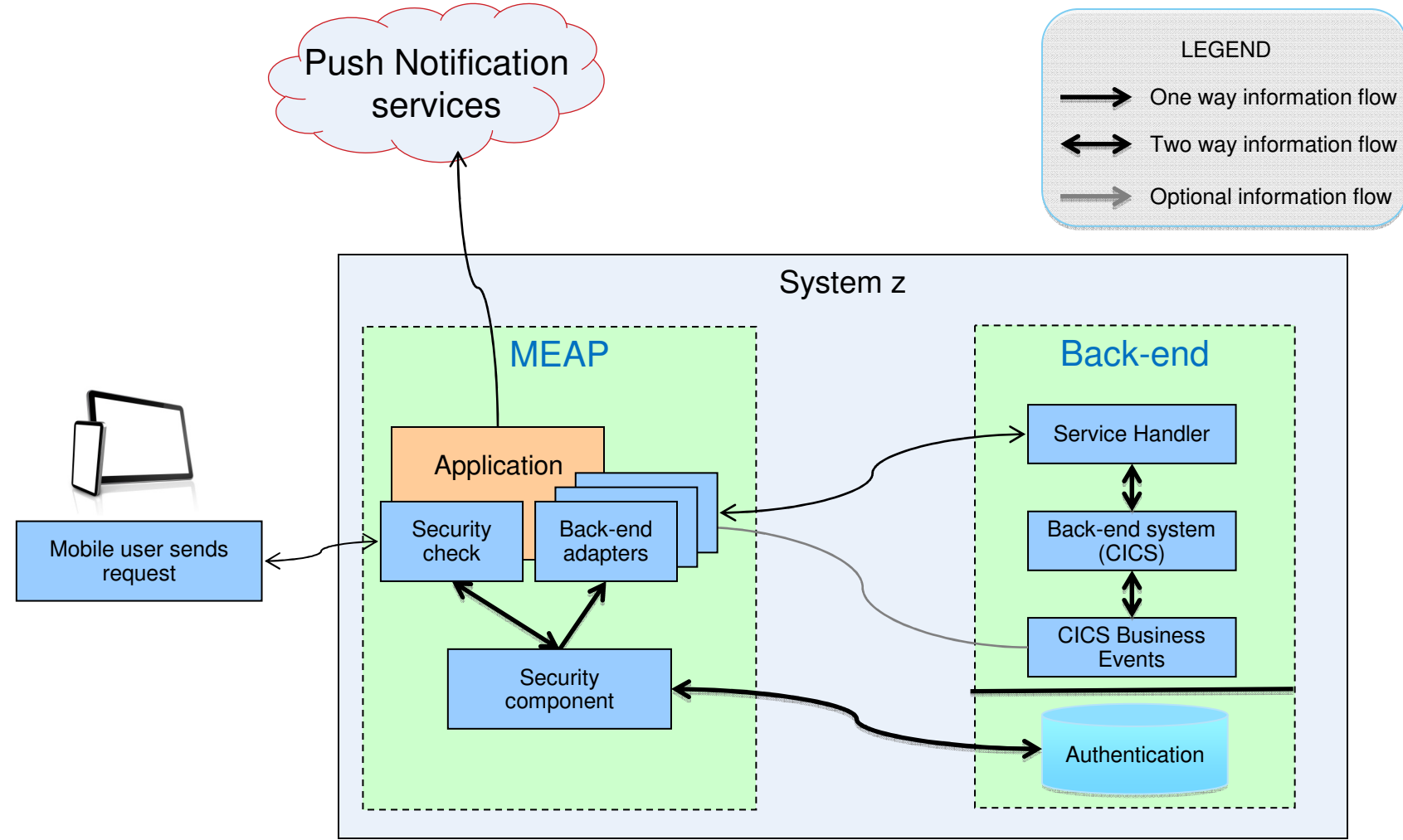
Environment Setup

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

Sizing Worklight LPAR

Performance test has shown that Worklight server scales very well with 1 IFL assigned to the guest. A second IFL can be added to get more throughput without raising the memory used by the WL JVM heap

Component	Guests	CPUs	Memory	DASD
Worklight Server on WAS ND 7+	2	1 or 2 VCPUs	4.0GB for the Linux guest. (WL JVM heap = min 1GB - max 2GB)	
DB2 LUW	1	1 VCPUs	4.0 GB	1 GB (Worklight Database)
System z Linux -- z/VM. SuSE 10+ or RHEL 5+	N/A	2 IFLs	12 GB assuming not overcommitted	

Detailed System Requirements per OS:
http://www-01.ibm.com/support/docview.wss?uid=swg27024838

Eclipse Kepler:
http://www.eclipse.org/downloads/packages/eclipse-ide-java-ee-developers/keplersr1

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

z/VM LPAR 1

z/OS LPAR

DataPower

HTTP Server

HTTP Server

Worklight Server on WAS

Worklight Server on WAS

WebSphere Cluster

DB2 Server

DB2 Server

Worklight Config Data

Worklight Config Data

HADR

Worklight Server Connectivity to z/OS services and data

IMS

CICS

DB2

z/VM LPAR 2
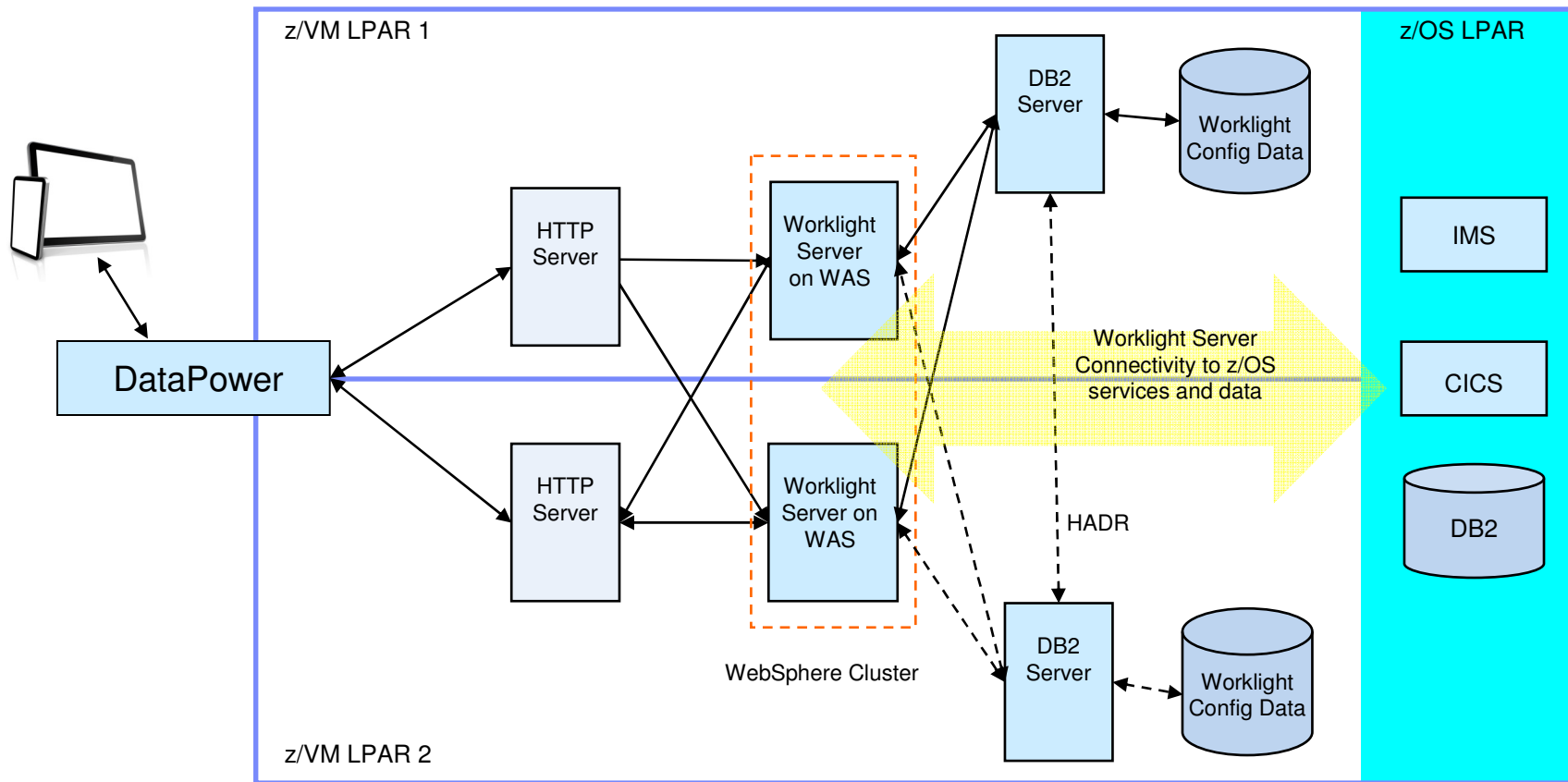
Solid Lines denote primary data path, dashed lines denote backup data path.

System z internal network alternatives
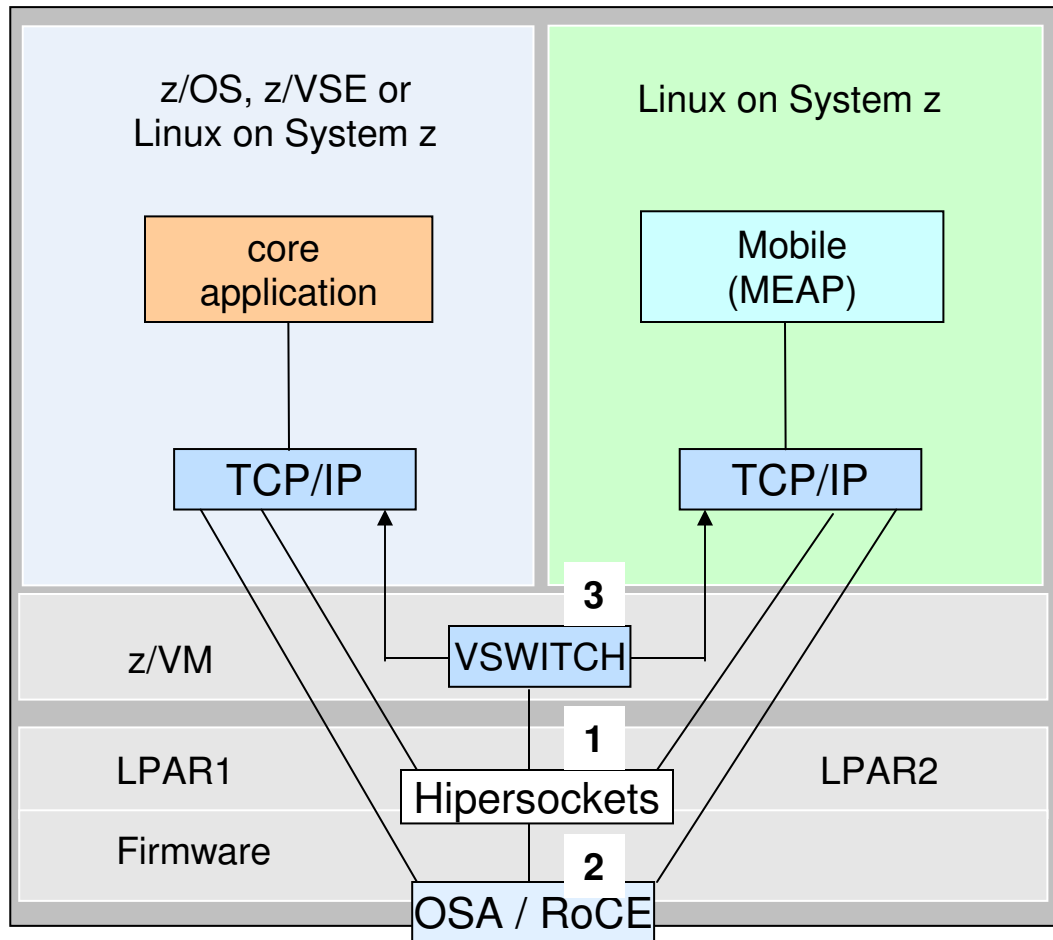
z/VM SSI and GDPS support
z/VM or LPAR Maintenance - Continuous Availability of z/VM Guests

GDPS
K-System
(Master)

GDPS
K-System
(Backup)

z/OS

z/OS

Linux13
Mobile12
Linux 1
DR proxy1
VM1

Linux23
Mobile22
Linux21
DR proxy2

Linux33
Mobile32
Linux31
DR proxy3
VM3

Linux43
Mobile42
Linux41
DR proxy4
VM4

z/VM SSI Cluster

LPAR

LPAR

LPAR

LPAR

LPAR

Metro Mirror

Production
(Site 1)

DR
(Site 2)
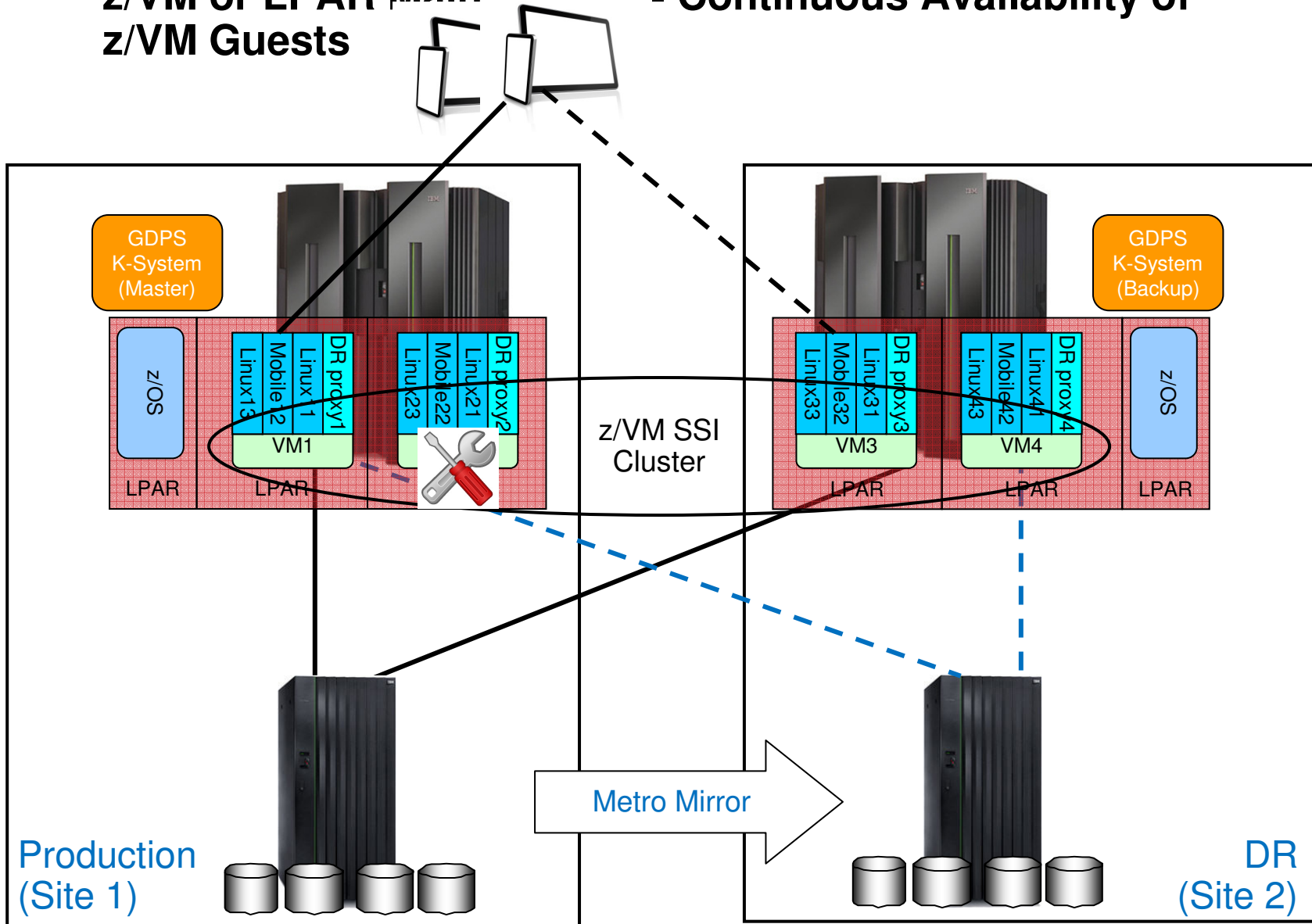
System z Ha and DR scenario

Mobile: understand IBM System z value

Business challenges

Mobile is about re-imagining your business around constantly connected customers, partners and employees. to sell products or retain customers.

Business solution & Benefits

Mobile solutions are pushing companies to rethink the user experience, from the presentation of data to the interaction.

The 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.

IT Challenges

Mobile has characteristics that causes to rethink or redefine IT architectures and implementations.

- Unpredictable workloads that can vary any minute of the day.
- Very high demanding customers that expects 24/7/365 to be serviced. With fast response times.
- The security of Mobile ranges from mobile Endpoint security to prevent malicious attacks on back end systems. And everything in between.
- Integrating mobile apps into existing application landscape.
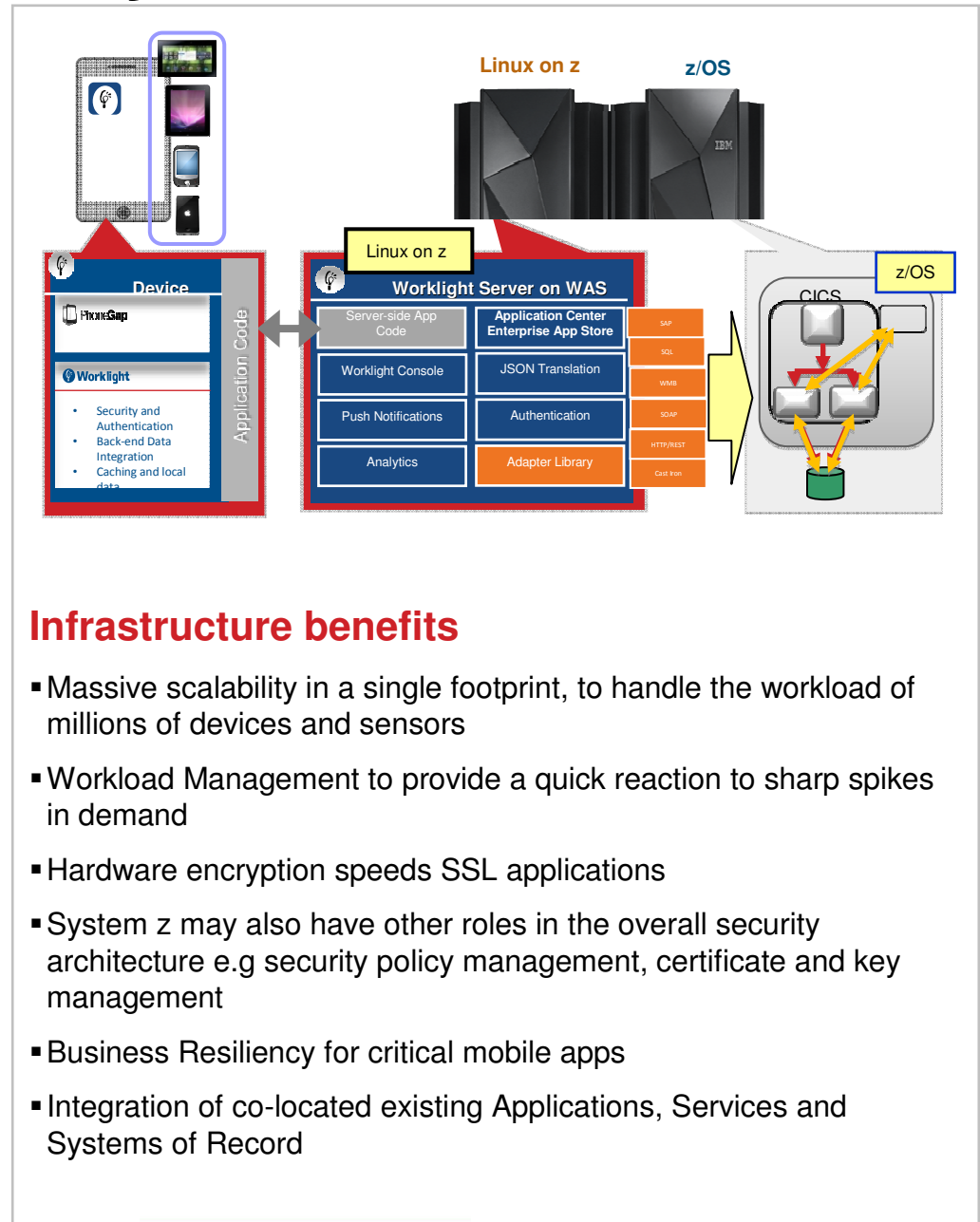
Infrastructure benefits

- 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

- Hardware encryption speeds SSL applications

- System z may also have other roles in the overall security architecture e.g security policy management, certificate and key management

- Business Resiliency for critical mobile apps

- Integration of co-located existing Applications, Services and Systems of Record

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)

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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Mobile is transforming healthcare at
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All business needs ⬍   or   All industries ⬍

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New mobile travel services cut processing transactions 80 percent
▶ Watch the video

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American National Insurance
Saving time in the field with rapid, highly secure access to data from mobile devices
🅰 Read the case study (562 KB)

Technology

Cincom Systems
Projecting a 20 percent reduction in

Telecommunications

Avea
Cutting deployment problems almost 30 percent and reducing deployment time for middleware services from four hours to ten minutes
🅰 Read the case study (659 KB)

Technology

CenterBeam
Delivering 98 percent policy

Cloud and Mobile Computing

- 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

- If you're a Nationwide® customer, **Nationwide Mobile** can help you pay your bill, contact your agent, get an auto policy quote or start the **claims process**

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

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
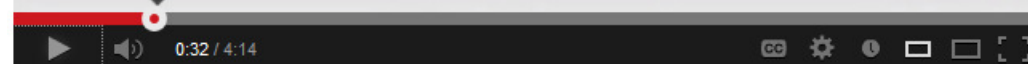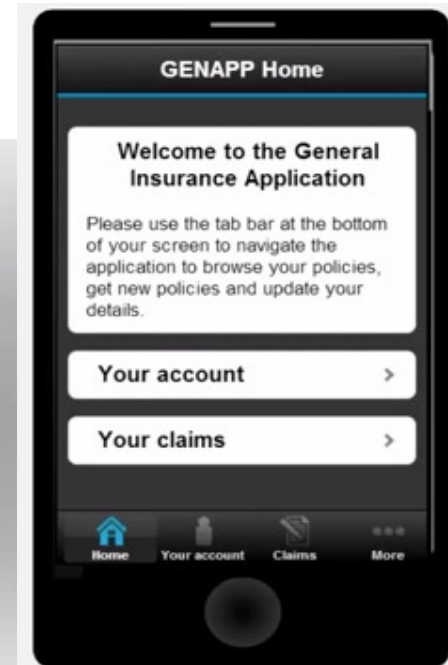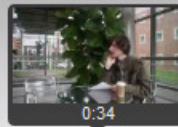
RCBC – Mobile Banking with zEnterprise

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

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

GENAPP Home

Welcome to the General Insurance Application

Please use the tab bar at the bottom of your screen to navigate the application to browse your policies, get new policies and update your details.

Your account ›

Your claims ›

Home | Your account | Claims | More

IBM CICS GenApp Mobile
An adventure with Johnny and Susan

0:34

▶ ◀)) 0:32 / 4:14   CC ⚙ ⓘ ☐ ☐ ⛶

CICS Mobile

CICS Hursley · 67 Videos

287 Aufrufe

Abonnieren 123   👍 6   👎 0

👍 Mag ich   👎   Info   Teilen   Hinzufügen

Veröffentlicht am 23.04.2013
Learn about the new CICS TS features for mobile devices in this video, made by CICS Mobile developers at the IBM Hursley Software Development Laboratory.

Mehr anzeigen

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

IBM Systems › Mainframe servers › Resources ›

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

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- Client success stories
- Automatic content updates
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- Links to more System z information on the Web
- Sign-up options for additional exciting updates via e-mail or SMS

Download now

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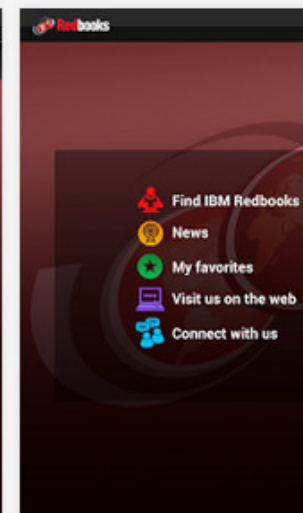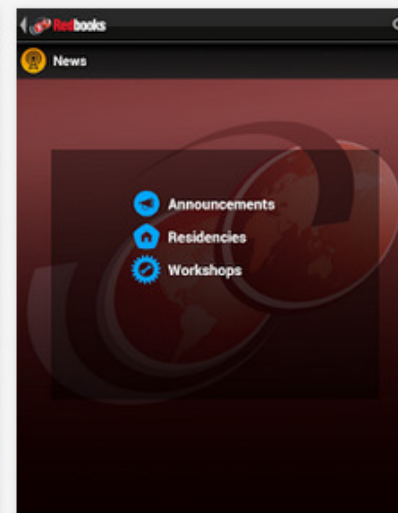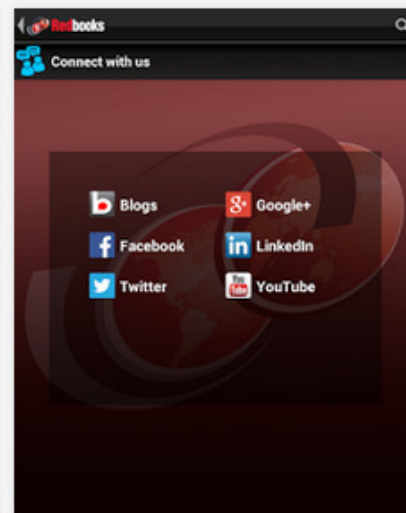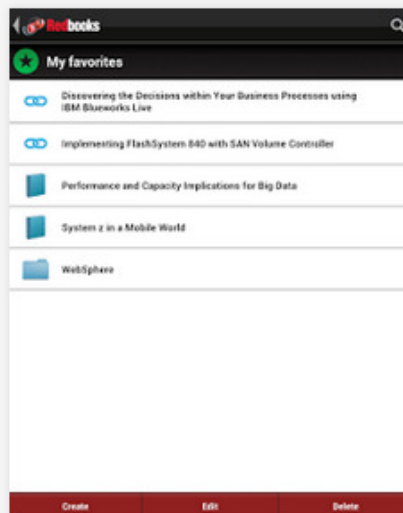
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Steven Dickens - **@StevenDickens3**
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Blogs

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Include the hashtag #mainframe in your social media activity and #mainframe50 in 50th anniversary activity

Questions?

Wilhelm Mild

IBM IT Architect

THE *Open* GROUP
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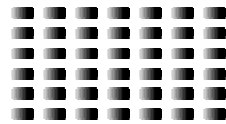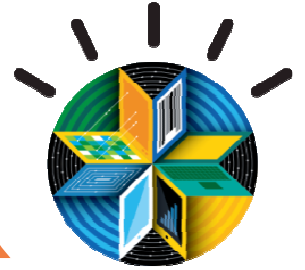Certified IT Architect

IBM Deutschland Research
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Schönaicher Strasse 220
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mildw@de.ibm.com

Wellcome to the Mobile era !

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