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Session 12655: Introduction to Managing Mobile Devices Using Linux for System z

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Monday, February 4, 2013 11:00am-12:00am

Grand Ballroom B, Grand Ballroom Level (San Francisco Hilton)

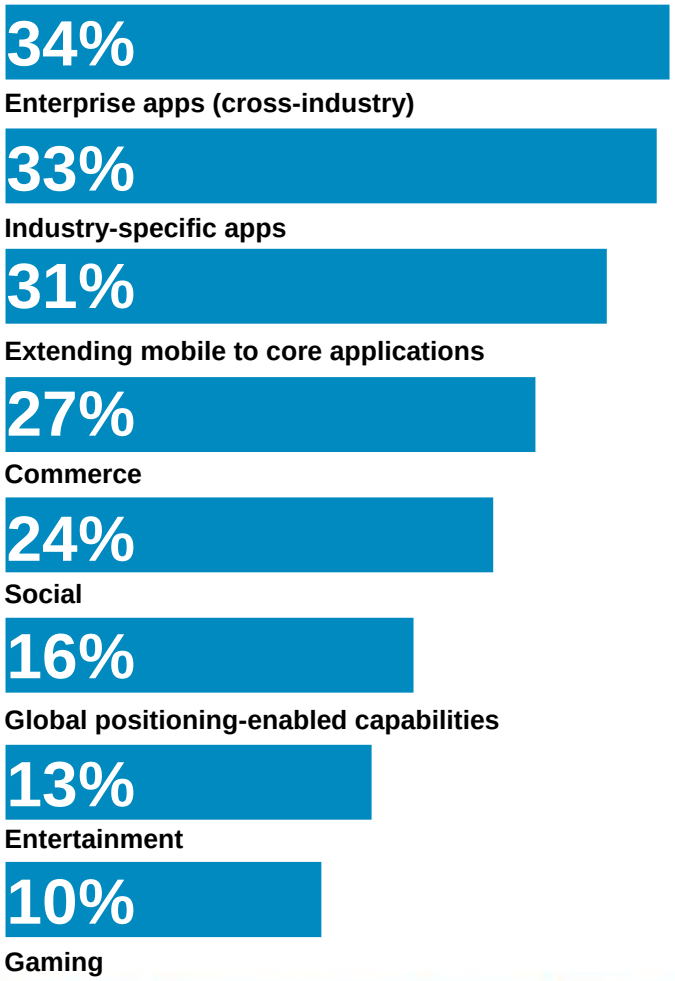
SHARE in San Francisco 2013

Session Objectives

- **A little test at the end:**
  - **Name two capabilities of IBM Worklight 5.0 and one of the pre-req runtime environments**
  - **Name the three products that make up IBM Mobile Foundation 5.0 and their high level functions**
  - **Explain: BYOD, B2C, B2E, Native, Hybrid, Push Notifications**

Mobile computing now dominates and shifts to the enterprise.

Focus areas for mobile computing



Mobile computing has a high level of penetration, with three in four survey respondents currently working in mobile computing, growing to 85 percent within the next two years.

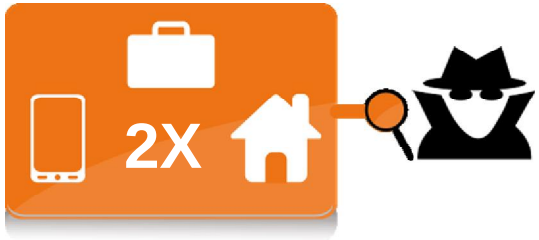
Respondents see **enterprise and industry-specific applications as top areas for adoption** within 24 months, with extending mobile capabilities to existing core applications close behind.[1]

1. Source: 2011 IBM Tech Trends Report

Businesses are starting to see the need to *carefully secure* corporate data on both company- and employee-owned mobile devices.

Percentage of IT executives who rank mobile security and privacy as a **top** concern[1]

By 2016, the number of people who will use their smartphones for **work**[2]



With both personal and business data now on mobile devices, they are **twice** as appealing to hackers[3]

Find out more: IBM's mobile device defense – "A Do-or-Die Dilemma," an infographic

[1] Source: *2011 IBM Tech Trends Report*
[2] Forrester Research, "Mobile is the New Face of Engagement," February 2012
[3] Kathleen Bela and Danielle Hamel, Risky Business: Survey Shows Smartphone Security Concerns Running High, http://www.juniper.net/us/en/company/press-center/press-releases/2010/pr_2010_10_26-10_02.html

Mobile presents an enormous set of opportunities…

Business to Enterprise (B2E)

- Increase worker productivity
- Improved claims processing
- Increase revenue through sales engagements
- Extend existing applications to mobile workers and customers
- Reducing fuel, gas, or fleet maintenance costs that are relevant in particular industries
- Increase employee responsiveness and decision making speed
- Resolve internal IT issues faster
- Reduce personnel cost (utilizing personal owned instead of corporate issued devices)

Business to Consumer (B2C)

- Improve customer satisfaction
- Deeper customer engagement and loyalty
- Drive increased sales through Personalized offers
- Customer service
- Competitive differentiator
- Improve brand perception
- Deeper insight into customer buying behavior for up sell and cross sell
- Improve in store experience with mobile concierge services

But mobile also brings business and IT challenges

- **Bring Your Own Device to Work** ("BYOD")
  - 200 Million employees do so today
- **Cross-platform Development Considerations**
  - Ability to create the user interface that you need
  - Avoiding the lowest-common-denominator pitfall
  - Learning curve of latest phone features
  - Avoiding vendor lock-in / technology that won't keep up
- **Using What the Device Has to Offer**
- **R&D Processes and Developer Teams**
- **Back-end Data Integration**
- **Security and Authentication**
- **Post-deployment control of apps**

Top Mobile Adoption Concerns:

1. Security/privacy (53%)
2. Cost of developing for multiple mobile platforms (52%)
3. Integrating cloud services to mobile devices (51%)

Source: 2011 IBM Tech Trends Report

Mobile Devices: Unique Management & Security Challenges

Mobile devices are shared more often

- Personal phones and tablets shared with family
- Enterprise tablet shared with co-workers
- Social norms of mobile apps vs. file systems

Mobile devices have multiple personas

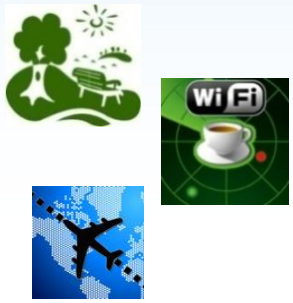
- Work tool
- Entertainment device
- Personal organization
- Security profile per persona?

Mobile devices are diverse

- OS immaturity for enterprise mgmt
- BYOD dictates multiple OSs
- Vendor / carrier control dictates multiple OS versions

Mobile devices are used in more locations

- A single location could offer public, private, and cell connections
- Anywhere, anytime
- Increasing reliance on enterprise WiFi



Mobile devices prioritize the user

- Conflicts with user experience not tolerated
- OS architecture puts the user in control
- Difficult to enforce policy, app lists

IBM mobile strategy divided in the following:

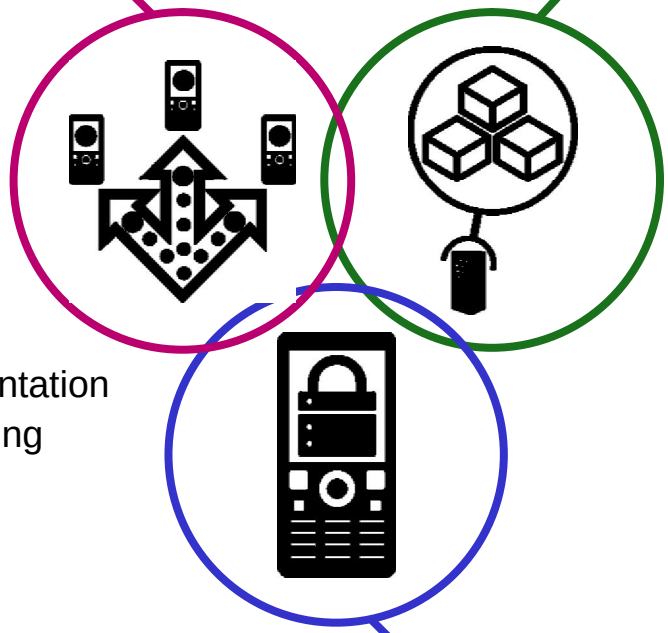
Extend & Transform

Extend *existing business capabilities to mobile devices*

Transform *the business by creating new opportunities*

Key Capabilities

- Strategy, planning and implementation
- Mobile-enabled solutions including analytics, commerce, and social business
- Mobile as a service



Build & Connect

Build *mobile applications*

Connect *to, and* ***run*** *backend systems in support of mobile*

Key Capabilities

- Multiplatform mobile web, hybrid and native app development
- Enterprise data, service, and application integration
- Life cycle management

Manage & Secure

Manage *mobile devices, services and applications*

Secure *my mobile business*

Key Capabilities

- Mobile Governance
- Device analytics and control
- Secure network communications & management

IBM Mobile Foundation

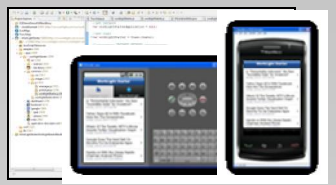
Build, connect, manage and secure your mobile enterprise

Includes

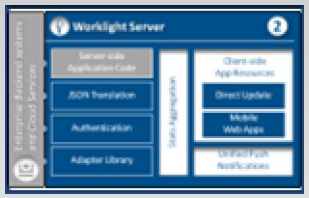
Includes:

- **IBM Worklight V5.0**
- IBM WebSphere Cast Iron
- IBM Endpoint Manager for Mobile Devices

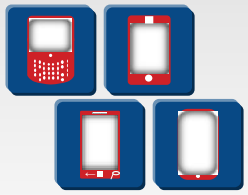
Worklight mobile platform overview



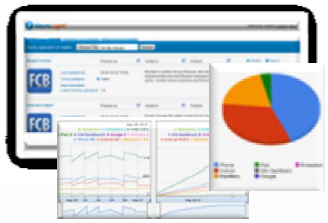
Worklight Studio
A complete, extensible environment with maximum code reuse and per-device optimization



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

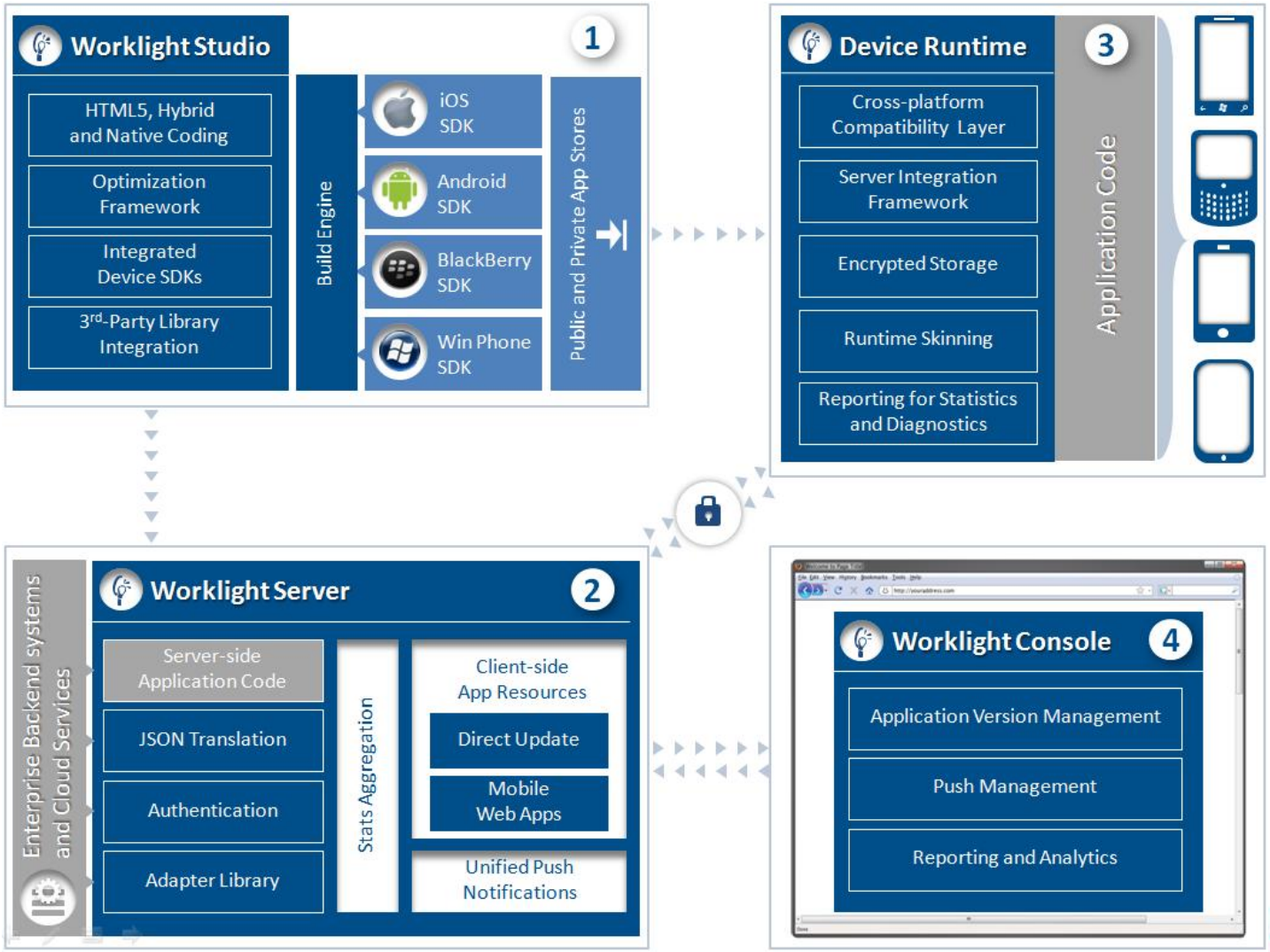


Worklight Runtime Components (i.e., device middleware)
Extensive libraries and client APIs that expose and interface with native device functionality and the Worklight server



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

Worklight Architecture Overview



Delivering for multiple mobile platforms
IBM Worklight

IBM Worklight Server V5.0 is supported on multiple environments, z highlights:

Middleware:

- **WebSphere Application Server Network Deployment V7.0 or higher and future releases, modification levels and fix packs**
- **Apache Tomcat 7.0 and future fix packs**

System z operating systems:

- **Red Hat Enterprise Linux (RHEL) 5 Update 6 Advanced Platform System z**
- **Red Hat Enterprise Linux (RHEL) Server 6 System z**
- **SUSE Linux Enterprise Server (SLES) 11 System z**
- **SUSE Linux Enterprise Server (SLES) 10 System z**

Key Capabilities

Mobile optimized middleware

- Open approach to 3rd-party integration
- Strong authentication framework
- Encrypted offline availability
- Enterprise back-end connectivity
- Unified push notifications
- Data collection for analytics
- Direct updates and remote disablement
- Packaged runtime skins

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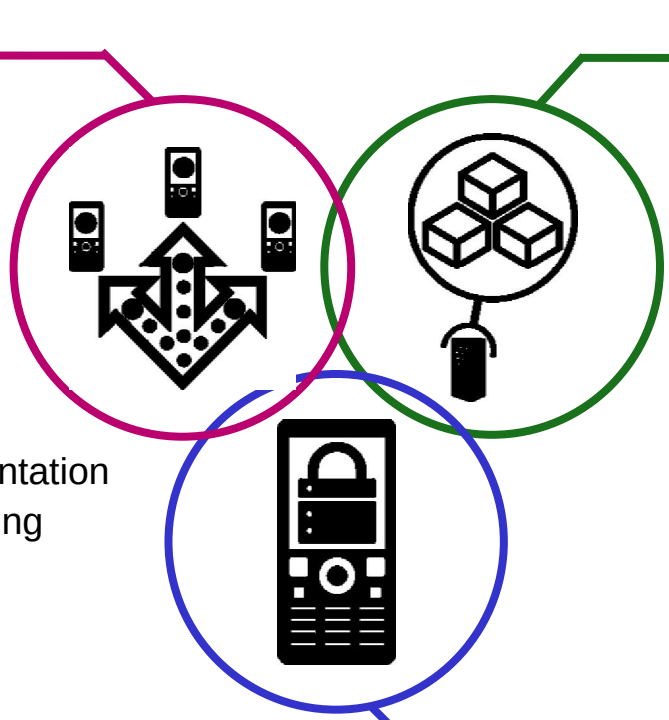

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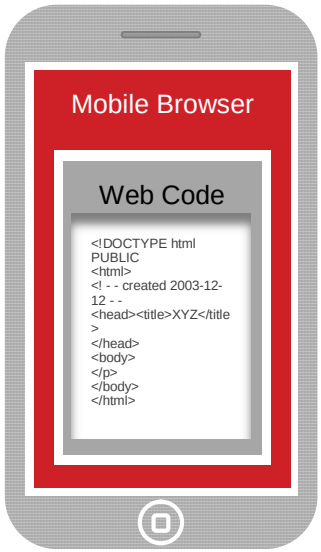
IBM Worklight application types

Browser Access

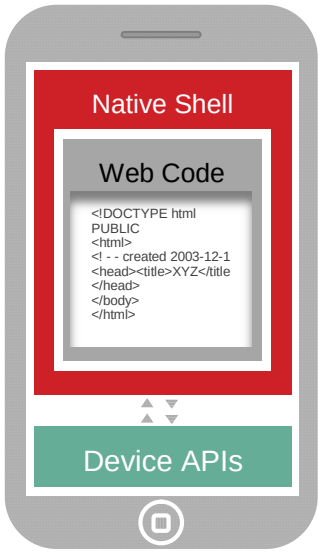
Written in HTML5 JavaScript and CSS3. Quick and cheap to develop, but less powerful than native.



Browser Access

Hybrid Apps - Web

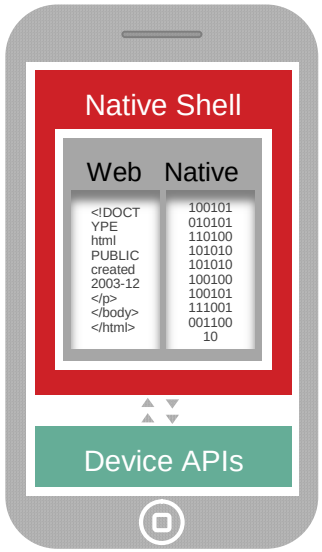
HTML5 code and IBM Worklight runtime libraries packaged within the app and executed in a native shell.



Downloadable

Hybrid Apps - Mixed

User augments web code with native language for unique needs and maximized user experience.



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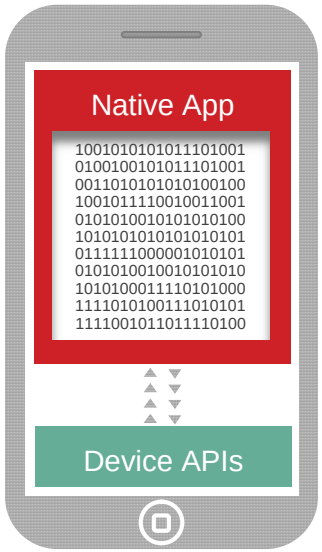
Native Apps

Platform-specific. Requires unique expertise, pricy and long to develop. Can deliver higher user experience.



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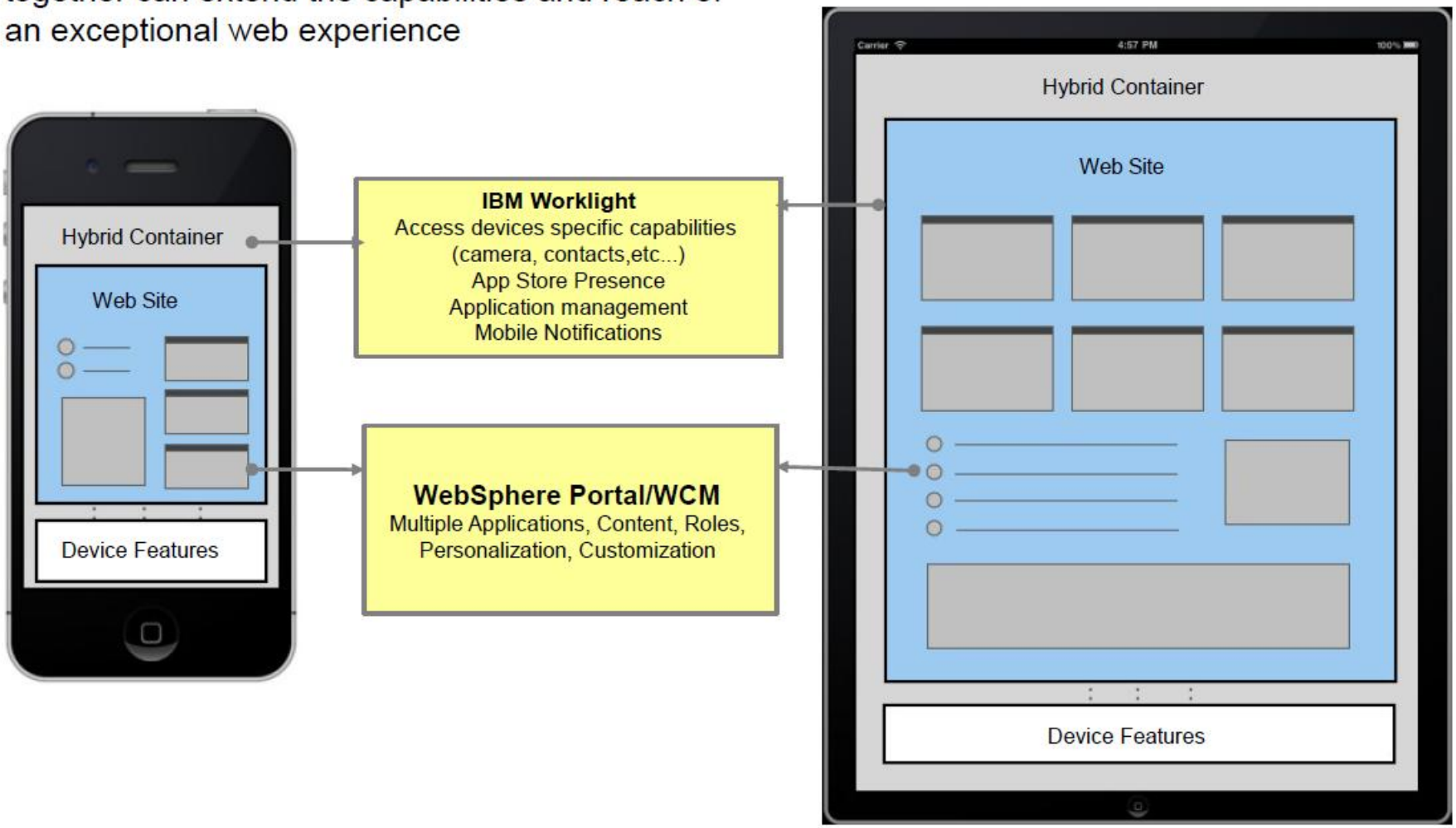
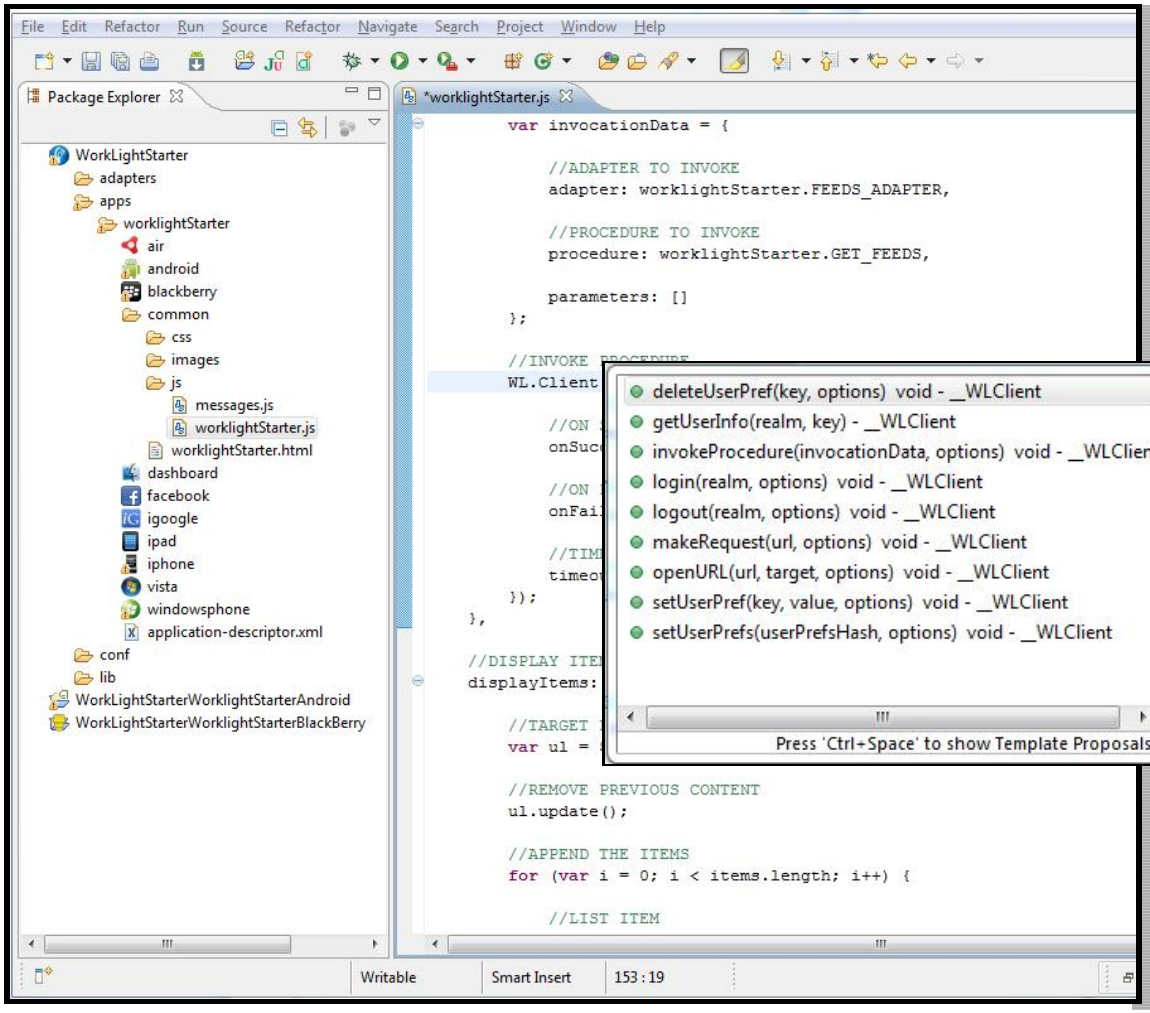
Hybrid – Worklight and WebSphere Portal

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



WCM = Web Content Manager

IBM Worklight Studio



Integrated Development Environment (Eclipse Plug-in)

Application development using native and/or familiar web technologies:

- **HTML5**
- **CSS3**
- **JavaScript**

Integrated device SDKs allow direct access from within the IDE to emulators and code debugging utilities

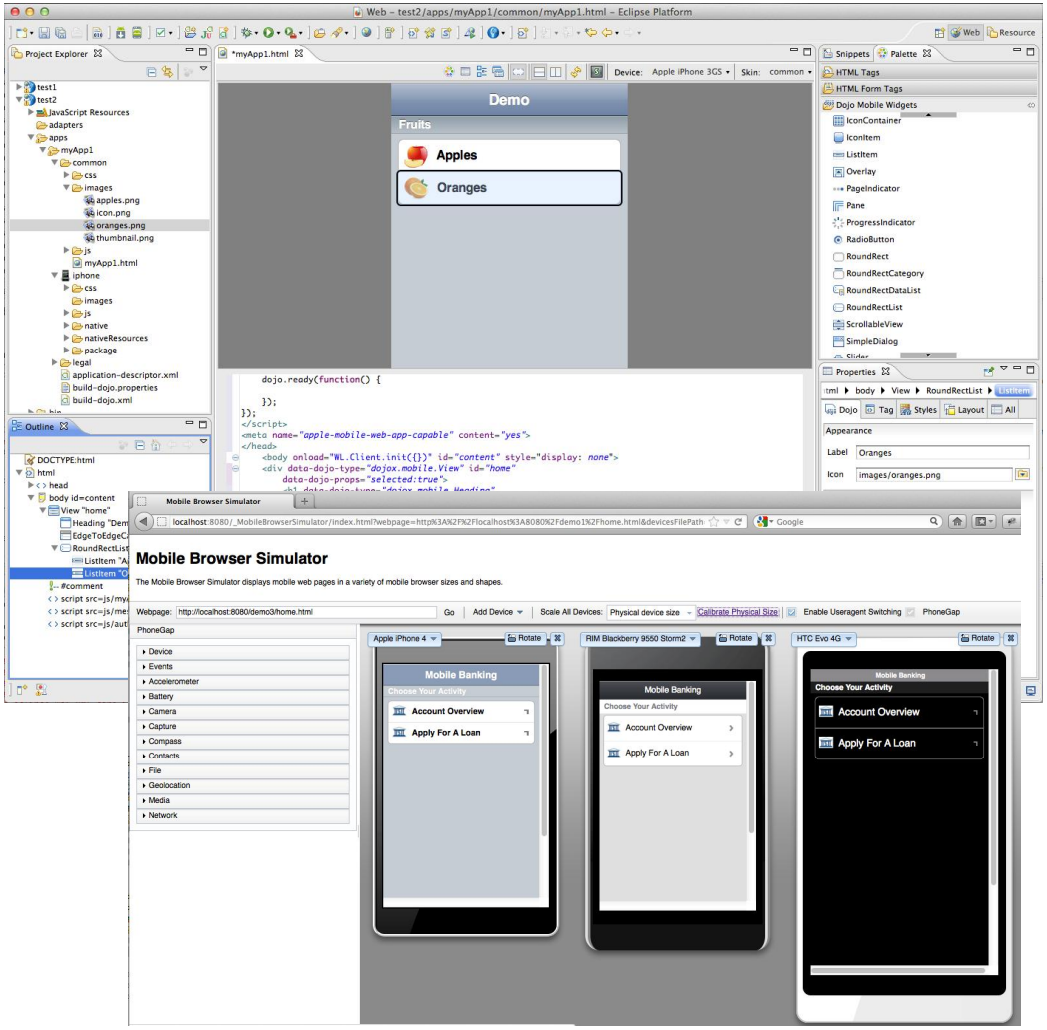
Worklight Studio V5.0

Rich page editor

- Worklight studio optimized for development of hybrid mobile applications, including a rich-page, drag-and-drop editor, palette of components, properties view, beautified outline, and raw editable source code for immediate UI customization.

Enhanced desktop preview

A new browser simulator allows the definition of the form factor of the target mobile device, concurrently displaying multiple devices on the screen, and simulating Cordova APIs.

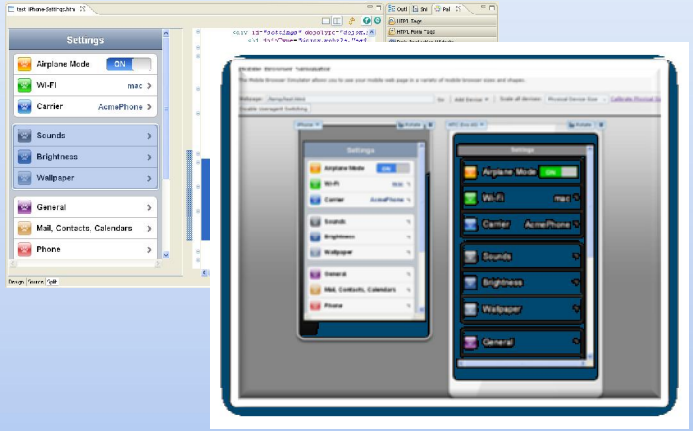


Apache Cordova is a platform for building native mobile applications using HTML, CSS (Cascading Style Sheets), and JavaScript

Rational IDEs with IBM Worklight

Design, code, build, test, and deploy mobile apps that run on a wide variety of mobile platforms; extend existing back-end services and data to mobile apps

Integrated multi-platform development environments



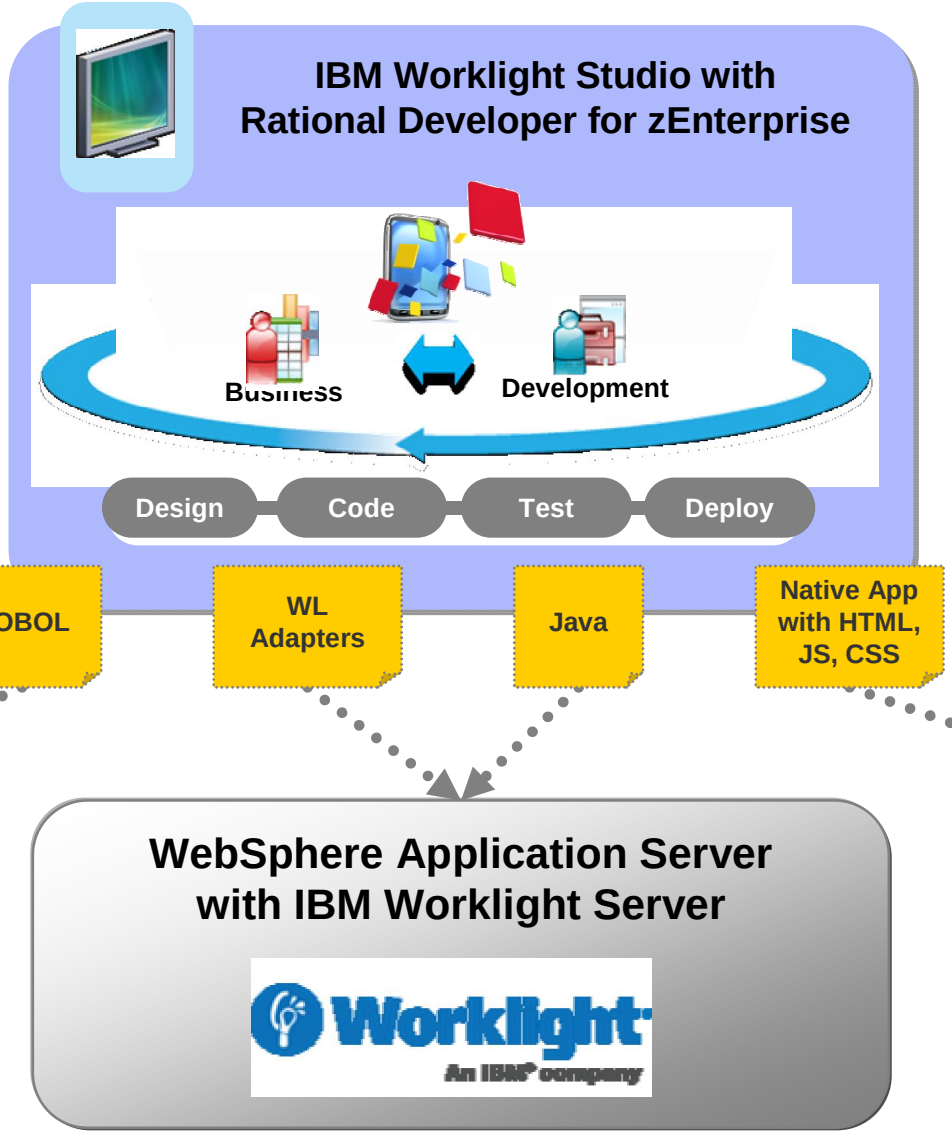
Construct, debug, and test mobile UIs

Ref… …ic on enterprise platforms (System z, Power) as mobile-consumable services

IBM Worklight 5.0 is now included in the following IDEs (for development purposes only):

- Rational Developer for **zEnterprise** v8.5
- Rational Developer for **Power Systems** v8.5
- Rational Application Developer v8.5
- Rational Software Architect v8.5

Mobile development with Rational Developer for z



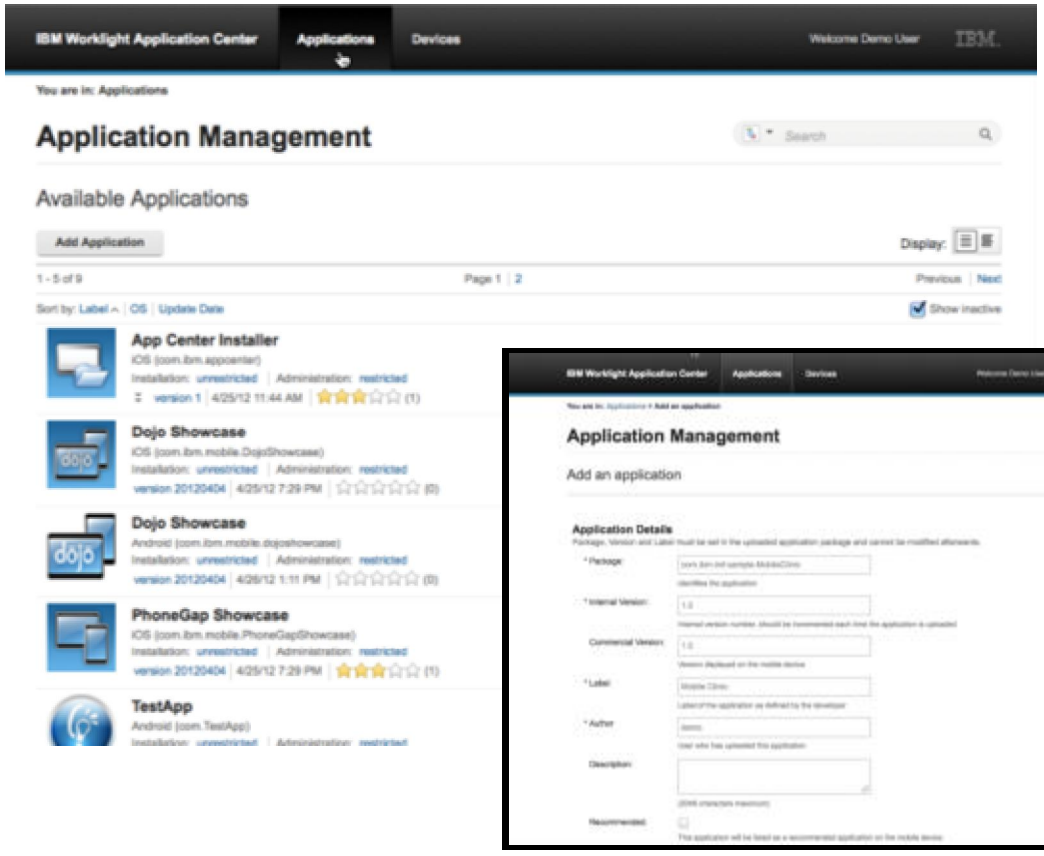
- Built on Eclipse
- Common tool set for end to end development
- Build, preview, and deploy within the IDE
- Mobile simulator (for unit test)
- End-to-end debug
- Integrate with third-party SDKs (e.g. Android Development Tools)

Application center

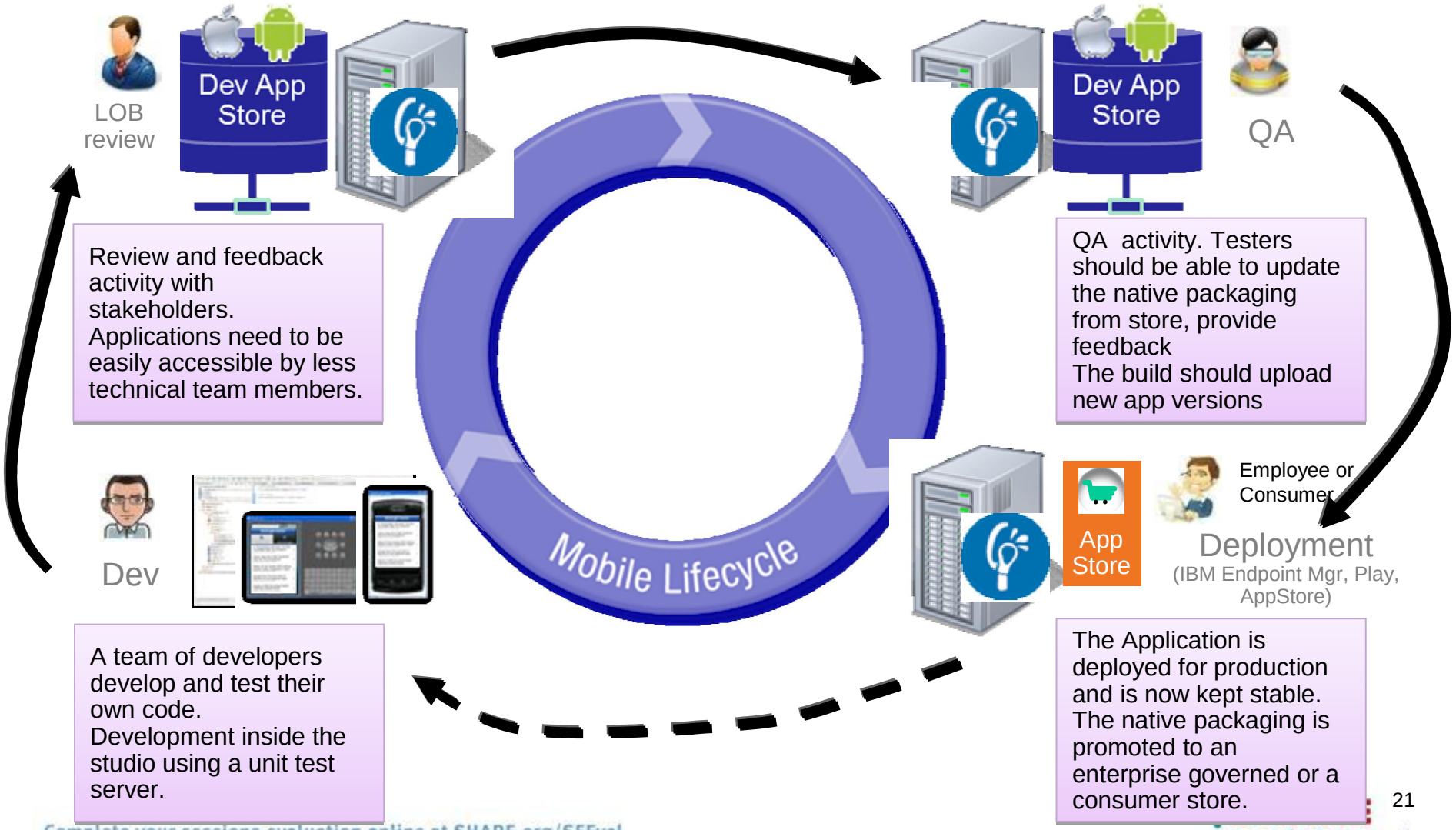
A cross platform private mobile application store similar to public app stores *but focused on the needs of an organization or a team*

- The IBM Worklight Application Center ***was created to streamline testing processes of apps*** *by enabling dev teams to share apps with testers, designers, sample users, product managers, and any other stakeholders.*

- Testers can download the apps to their devices using a special mobile client application and provide feedback on directly from their devices. Developers can then gather this feedback and consider it in future dev cycles.



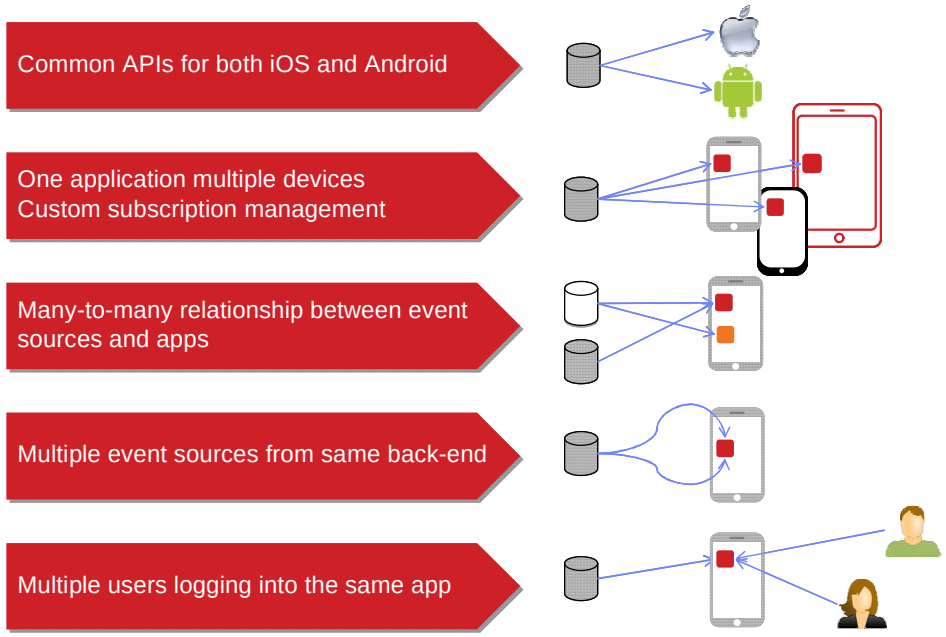
Potential App Store Usage in a (Simplified) Development Lifecycle



Flexible Push Notification Framework

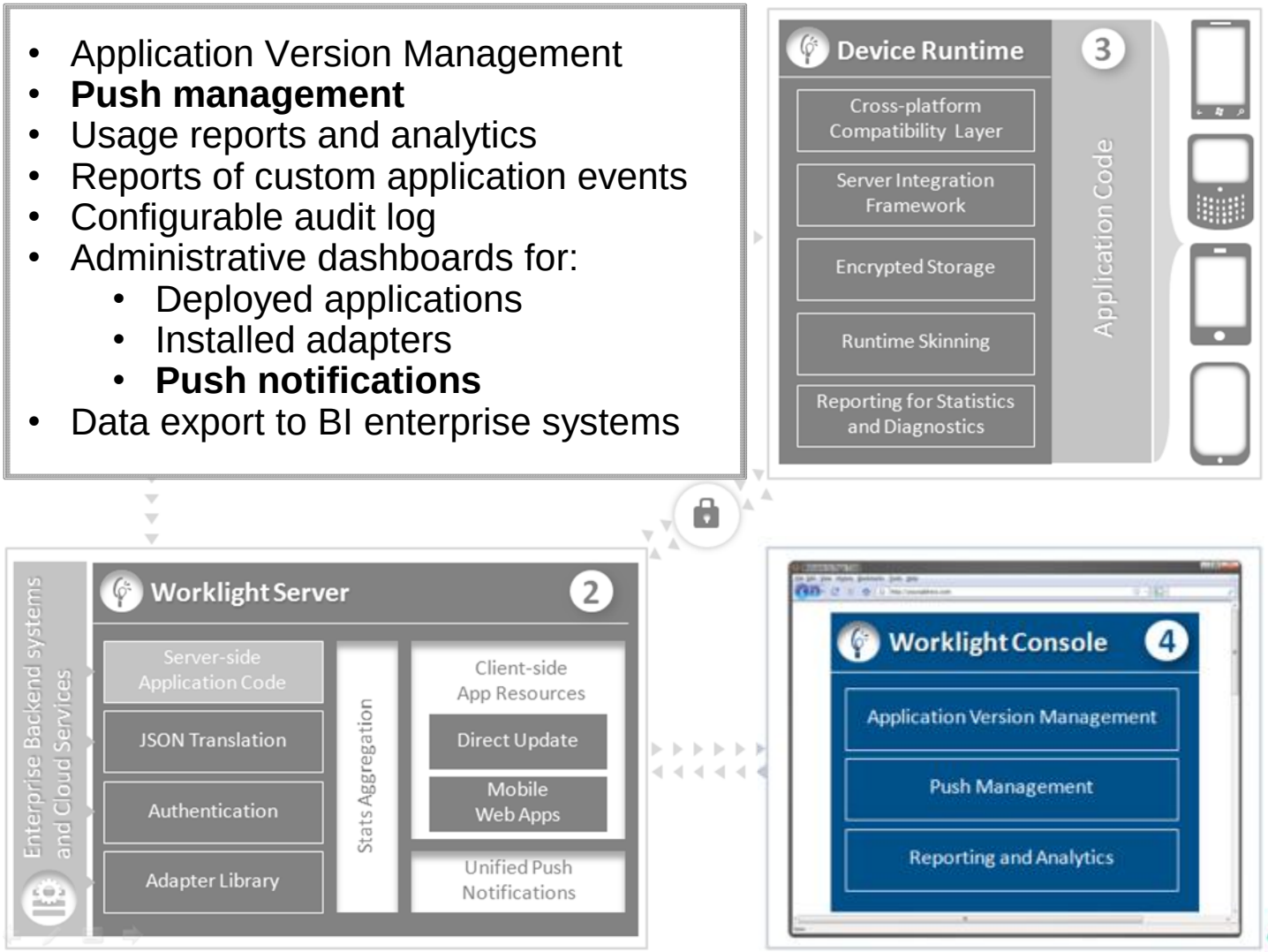
Multiple Push Options

- Pushing notifications (for end user to do something or be informed) and managing the unique device considerations
- Pushing data or messages to a device
- Pushing applications

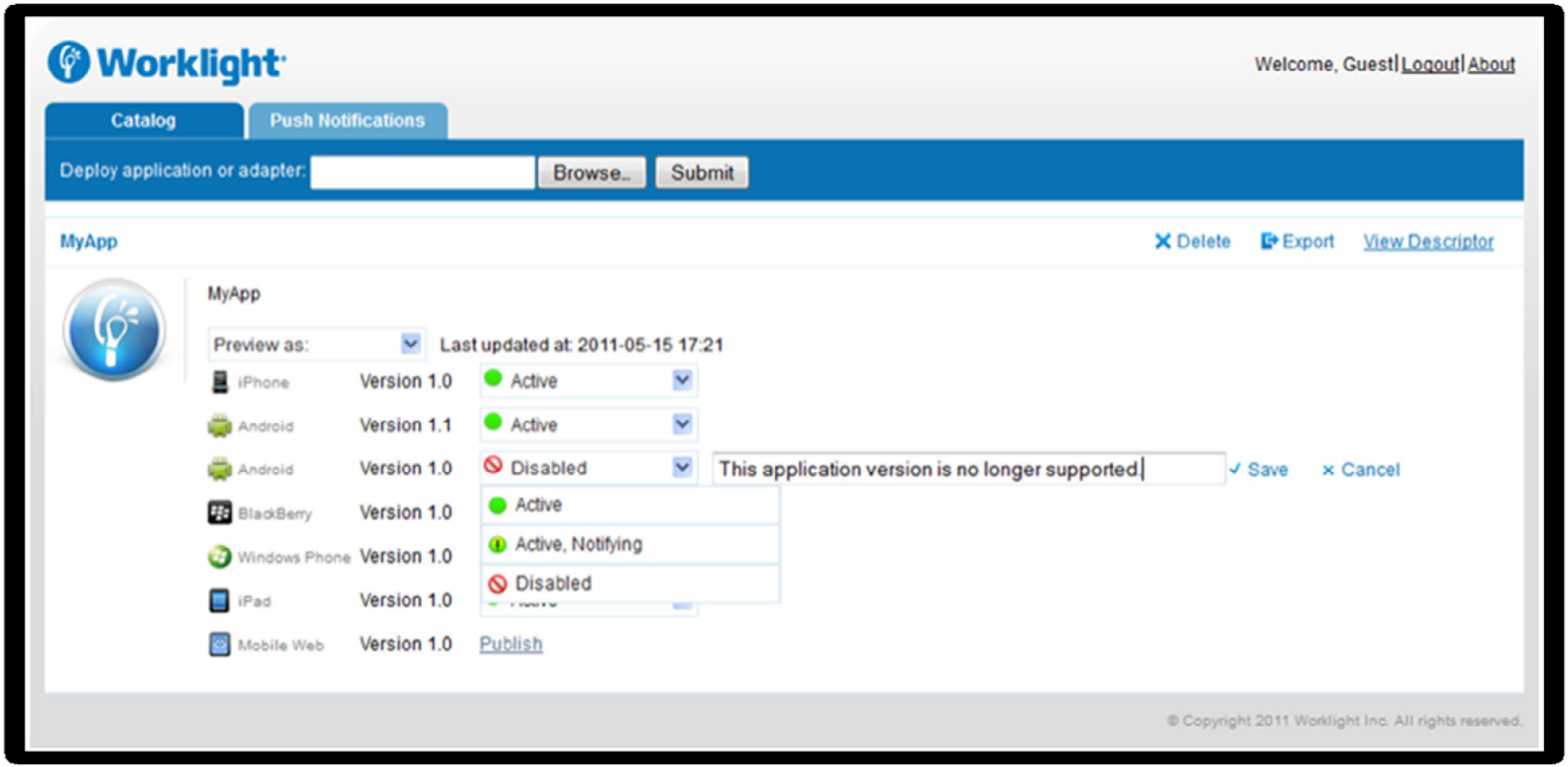


Worklight Console

- Application Version Management
- **Push management**
- Usage reports and analytics
- Reports of custom application events
- Configurable audit log
- Administrative dashboards for:
  - Deployed applications
  - Installed adapters
  - **Push notifications**
- Data export to BI enterprise systems

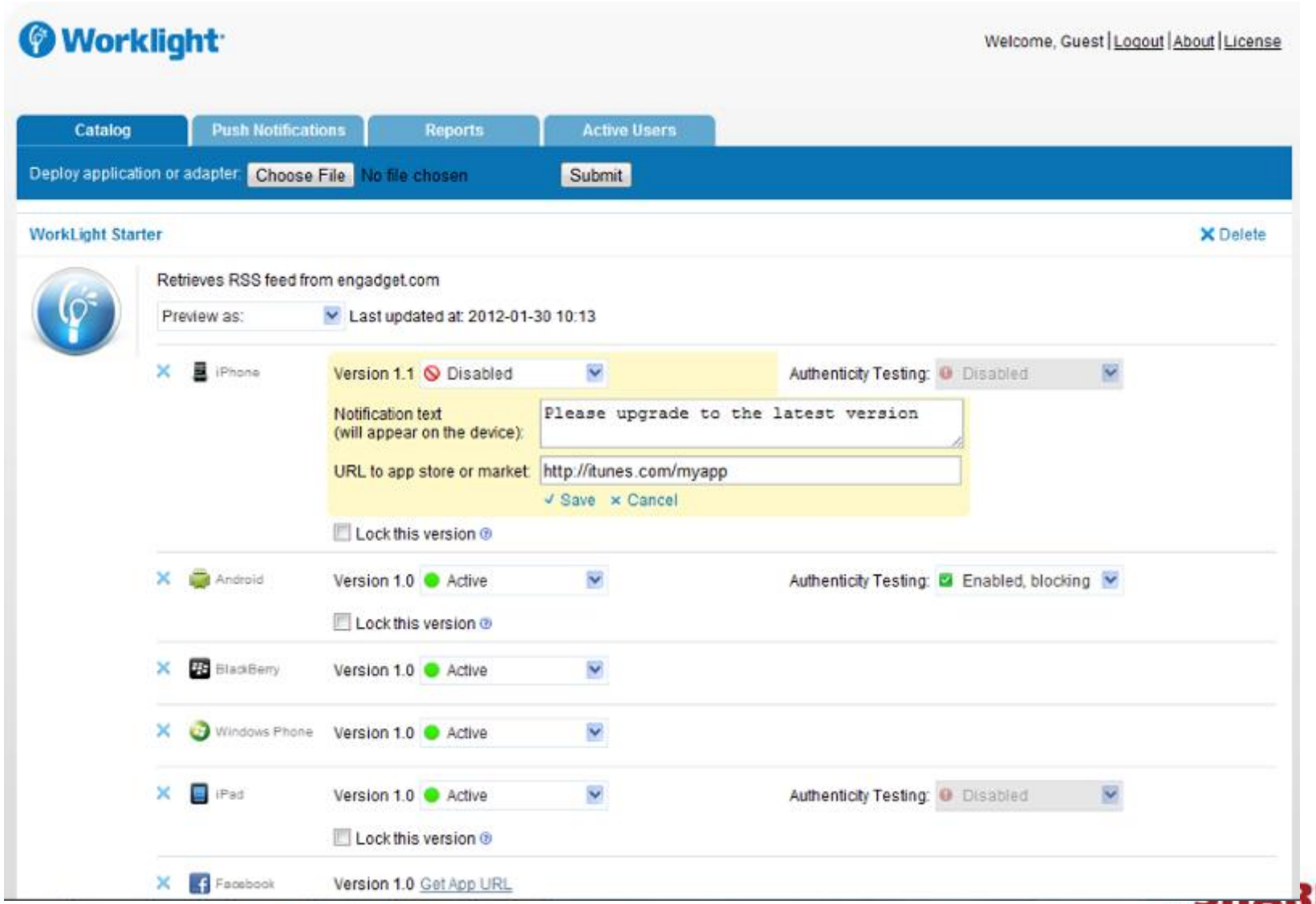


Dynamic Control of Deployed Apps



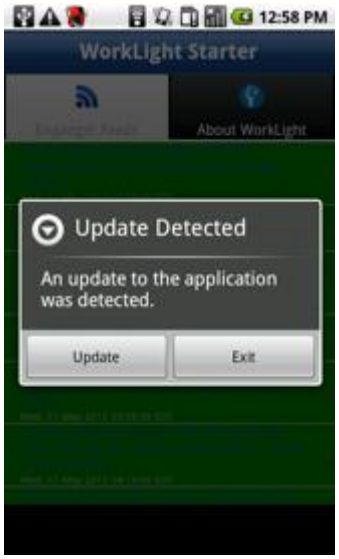
- Centralized control of all installed applications and adapters
- Remotely disable apps by device and version
- Customize user messages

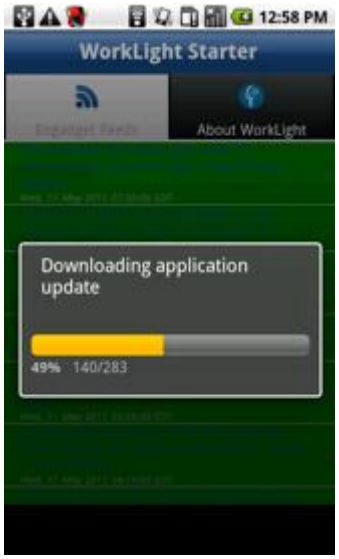
App Management



Direct Update – user experience

1. Update detection upon application re launch
2. Dialog box for easy user selection
3. Download progress bar for status tracking





4. Automatic application restart upon completion

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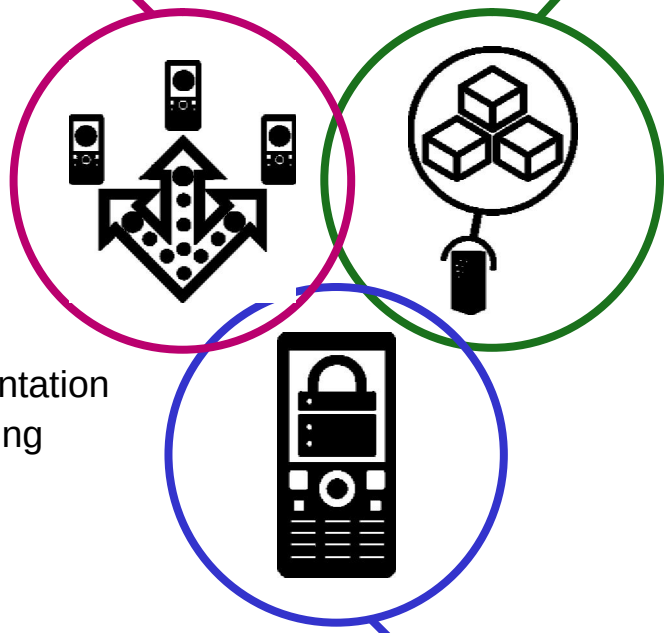

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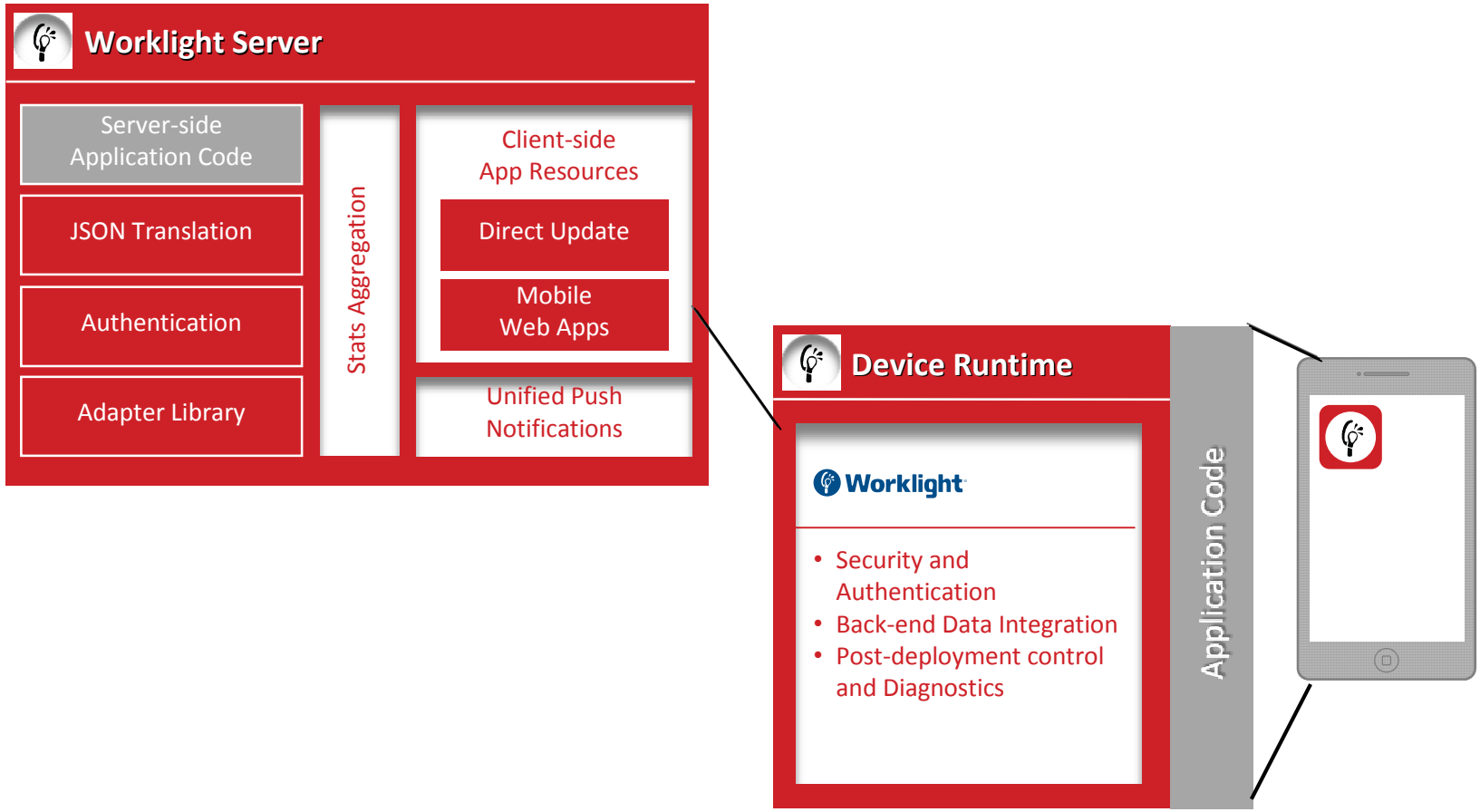
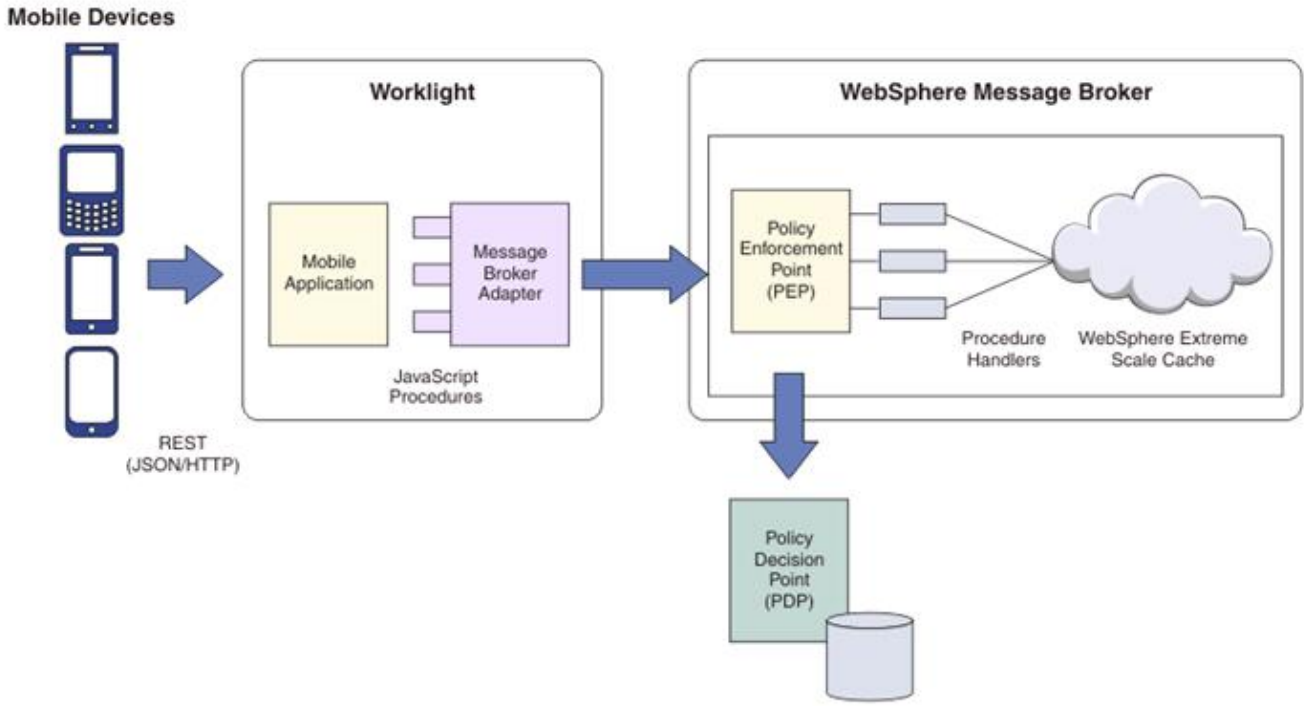
Worklight Runtime Architecture



PhoneGap is an open source framework for building cross-platform mobile applications with HTML, CSS, and JavaScript. This is an ideal solution for web developers interested in mobile development as it allows them to leverage existing skills rather than start form scratch with a device-specific compiled language.

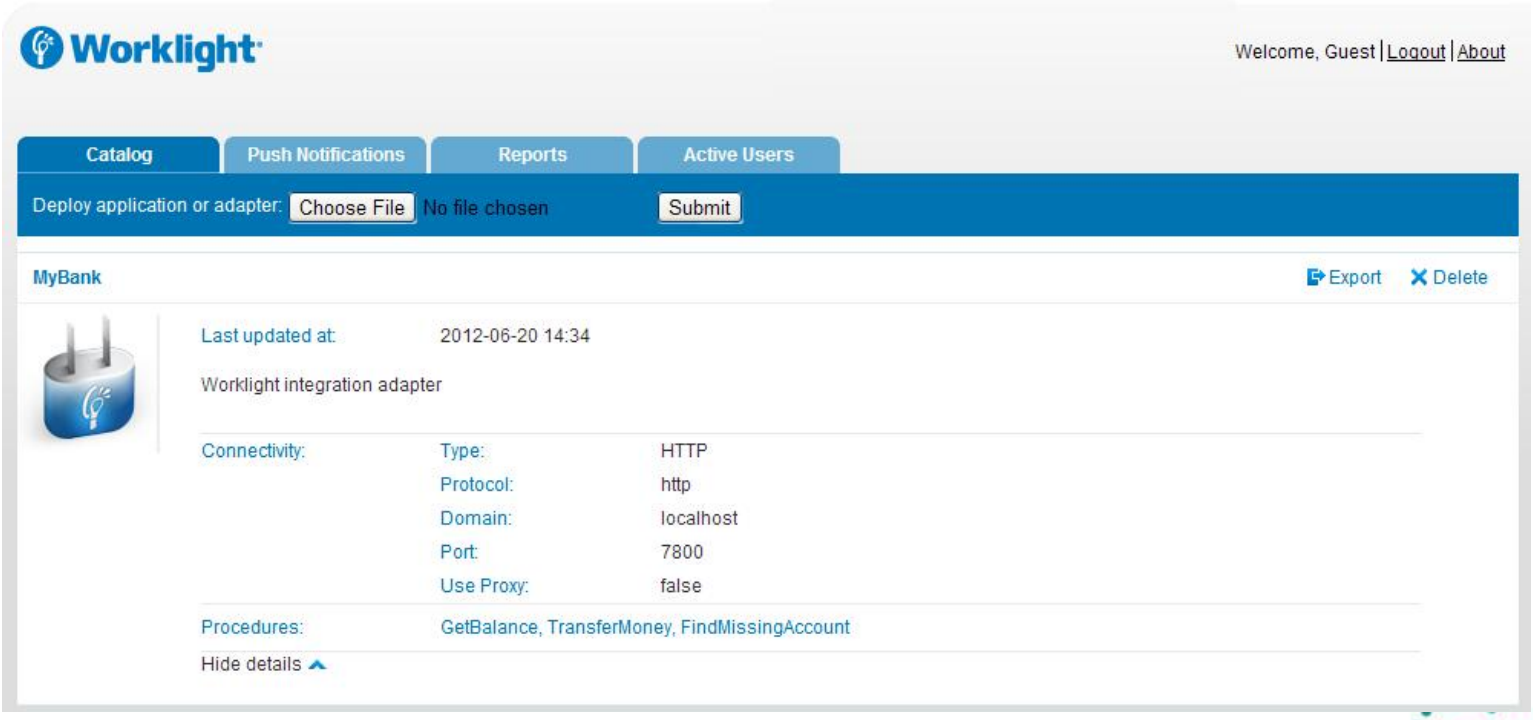
Worklight Adapters

- **Adapters provide the glue between Worklight and back-end applications**
  - Provides the extensibility mechanism for Worklight to call out to back-end systems
- **Worklight has two built-in interfaces that adapters can use (HTTP and SQL)**
  - Worklight has client-side JavaScript APIs so that applications can invoke services
  - Likewise, server-side JavaScript APIs are available to implement procedures (adapters)



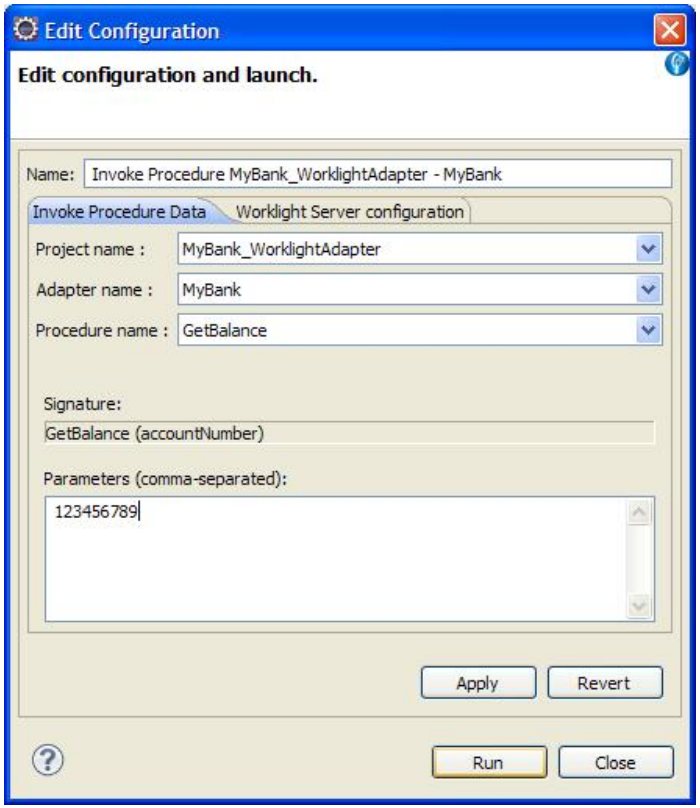
Worklight Adapters

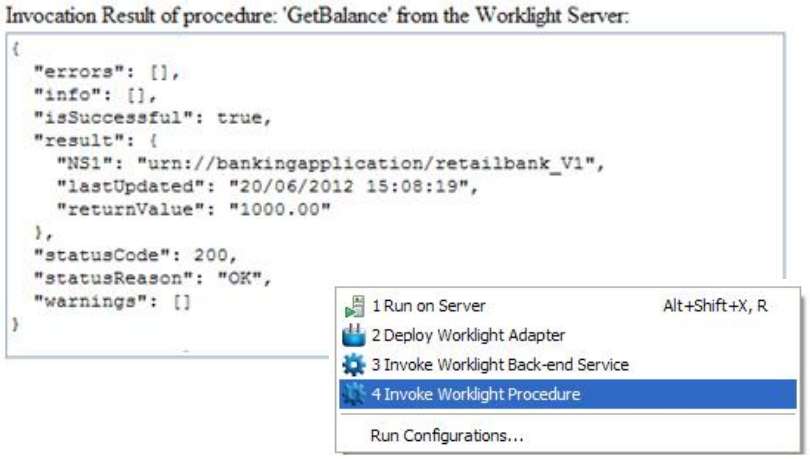
- An adapter contains two files for configuration and implementation
  - The first file is XML and contains the overall metadata (procedure names, protocol etc)
  - Second file is JavaScript and contains one function (procedure) for each entry point
- Adapters are uploaded to Worklight Server ready for mobile applications
  - Once deployed, adapters are managed through the Worklight Console



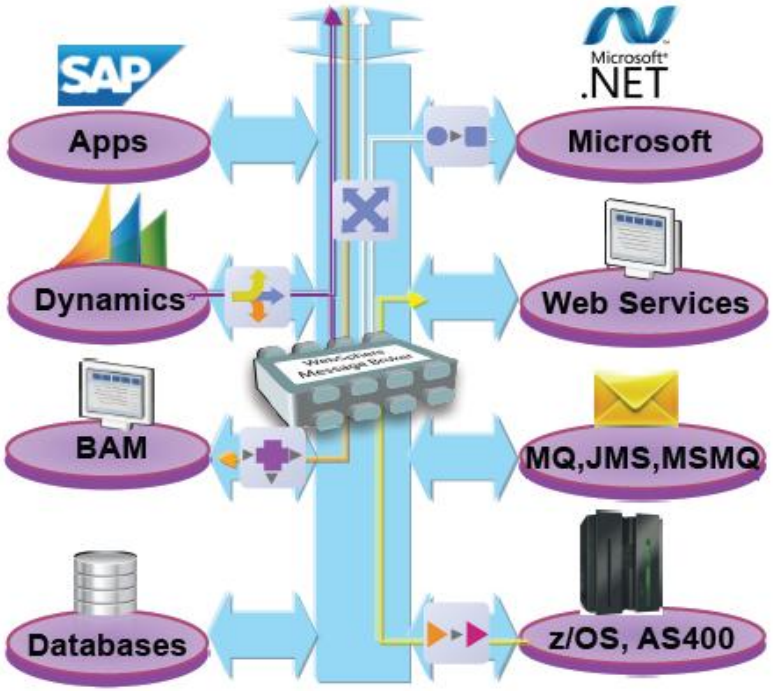
Invoking Worklight adapters

- Adapters are invoked from mobile applications using HTTP/JSON
  - This convention makes Worklight adapters easy to test using web browsers
  - Client side applications use the XMLHttpRequest object for asynchronous calls
  - Mobile toolkits (JQuery, Dojo and Sencha) wrap this in a device independent layer





Integrating Worklight and Message Broker to mobile enable your Enterprise



Simply Connect *FROM* anywhere *TO* anywhere

Simple & Easy –to Install, Learn, Develop, Deploy and Manage

Visually Map and Transform between any two message or file formats

- **Connect Everything to Everything**
- **MATCHES & ROUTES** communications between services
- **TRANSFORMS** between different data formats
- **CONVERTS** between different transport protocols
- **IDENTIFIES & DISTRIBUTES** business events

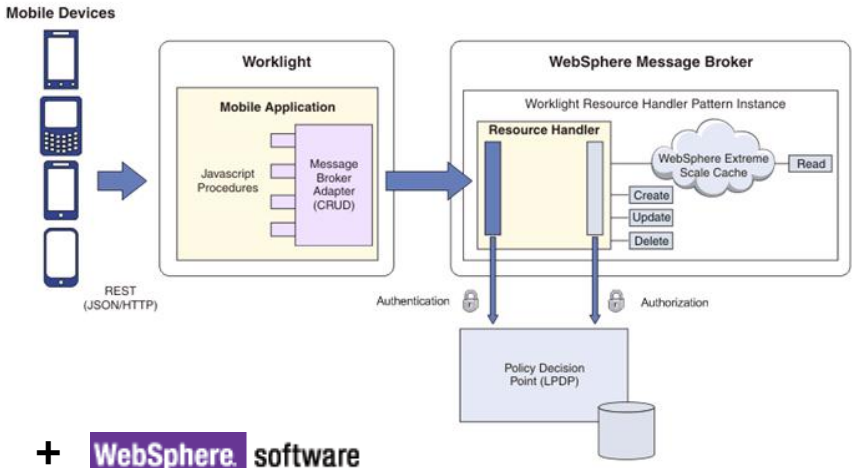
WebSphere Message Broker v8.0.0.1: Worklight mobile services patterns

- ✓ Mobile enable any enterprise service in 2 clicks !
- ✓ Build robust solutions with integrated caching and security
- ✓ Push data to mobile users from enterprise applications
- ✓ Create end-to-end mobile solutions for Microsoft .NET

- Four new WMB development patterns
  - Fully integrated in WMB toolkit
  - Generate Worklight adapter, test application and supporting WMB flows

1. Simple Service to mobile – WSDL based
   1. Resource access from mobile - Controlled access to enterprise data as a resource: methods for read create, update and delete
   2. Microsoft .Net service pattern
   3. Queue based Push Notification

- Patterns exploits value add WMB capability including policy decision point for access authorisation and WebSphere eXtreme Scale for performance



Worklight An IBM company + WebSphere. software

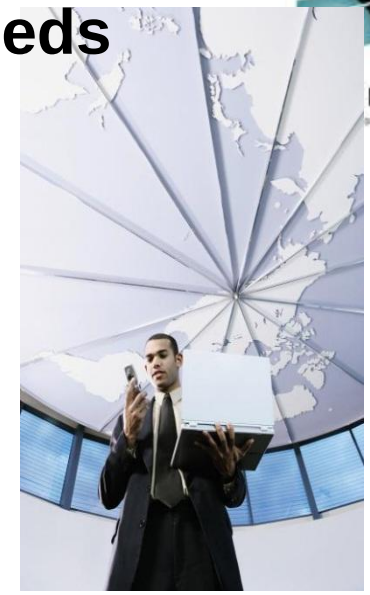
Mobile is Different from Desktop

Desktop		Mobile
Sit back and read	→	Read while moving
Document-oriented	→	Message-oriented
Large complex apps	→	Purpose-built mini-apps
Context-neutral	→	Context-aware
Task-driven	→	Notification-driven
Mains powered	→	Battery-powered
Predictable network response	→	Unpredictable network response

Mobile Has Different Enterprise Messaging Needs

- **The HTTP standard revolutionized how *we* consume data**
  - A single simple model: Send a request, read the response
  - Available via any tablet, laptop, phone, PC etc.

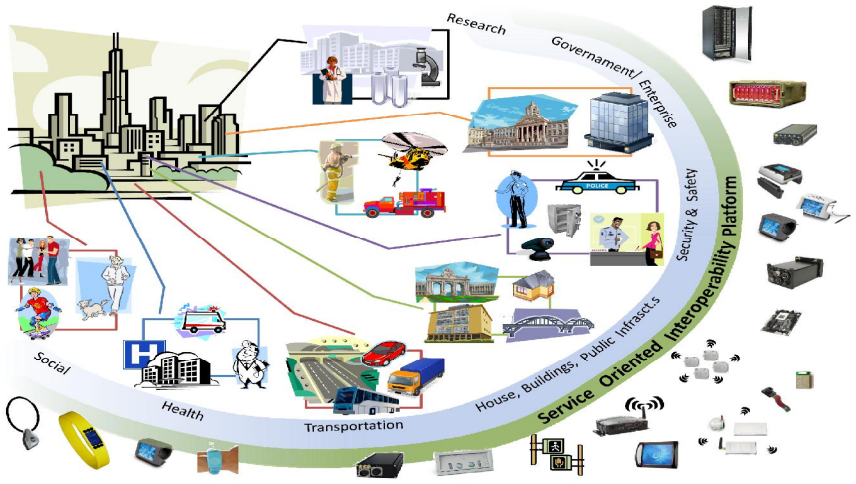
- **Mobile and the Internet of Things applications have additional challenges**
  - HTTP remains ideal for requesting data from a known source
    - Mobile user *requesting* info
  - **But we also need an event-oriented paradigm:**
    - **Emitting information *one to many***
    - **Listening for events *whenever they happen***
    - **Distributing minimal packets of data in *huge volumes***
    - ***Pushing* information over *unreliable networks***
    - **Reliably completing *mobile business transactions***



MQTT is the transport for the Internet of Things

- **WebSphere MQ Telemetry (MQTT)**
  - Messaging optimized for mobile, smart sensors and telemetry devices
  - Enables intelligent decision-making based on remote real-world events
  - Remote resource management of static or moving assets, people, locations

- **An open standard with Industry leadership & mindshare**
  - MQTT Protocol and client code contributed to open source effort
  - see MQTT.org and Eclipse Paho
  - allows development communities to provide further client code & device support



Internet of Things

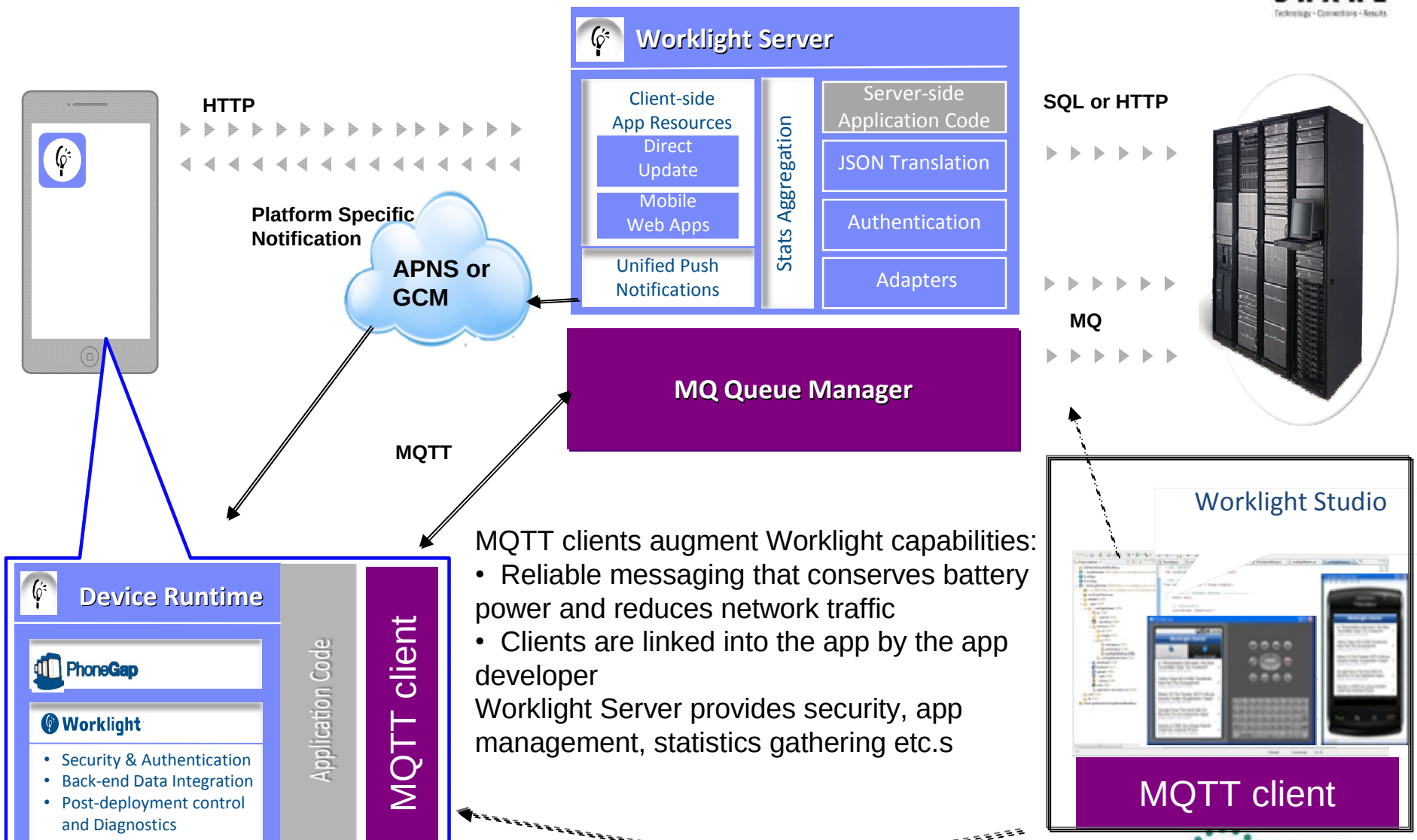
Smarter Planet

Social business

What role does MQTT fulfill in Mobile Messaging?

- **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 Key Enterprise Messaging



MQTT 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

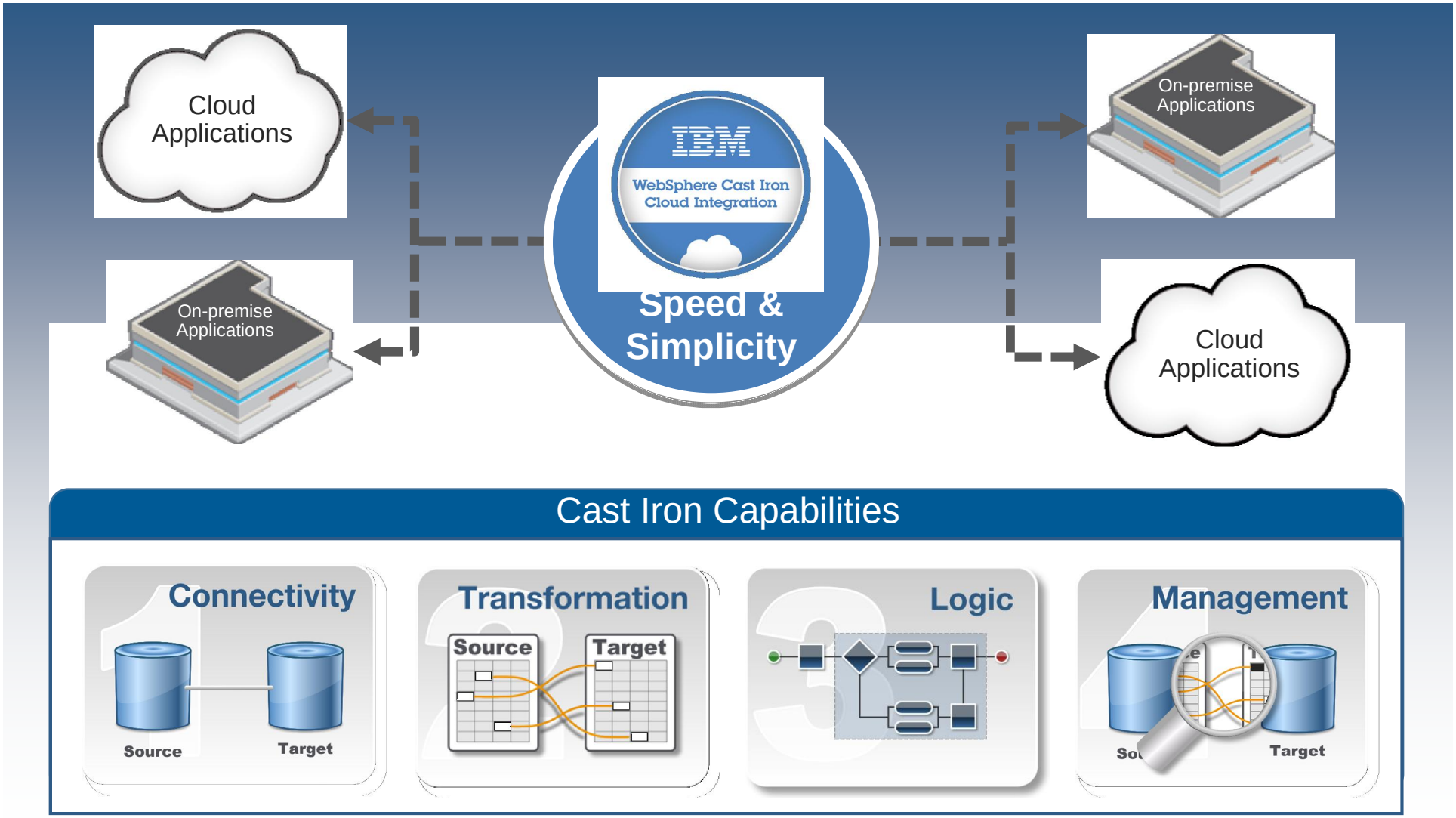
Build, connect, manage and secure your mobile enterprise

IBM Mobile Foundation

Includes

- IBM Worklight
- **IBM WebSphere Cast Iron**
- IBM Endpoint Manager for Mobile Devices

IBM Cast Iron: Simple Configuration to Packaged Apps and Cloud Services



Flexible: Maps to Your Cloud Strategy

Total Connectivity

Deployment Flexibility

Cloud Service

Physical Appliances

Virtual Appliances

Repeatable Success

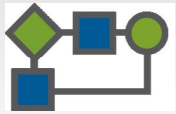
TIP Exchange

TIP Development Kit

TIP Community

For All Types of Projects

UI Mashups

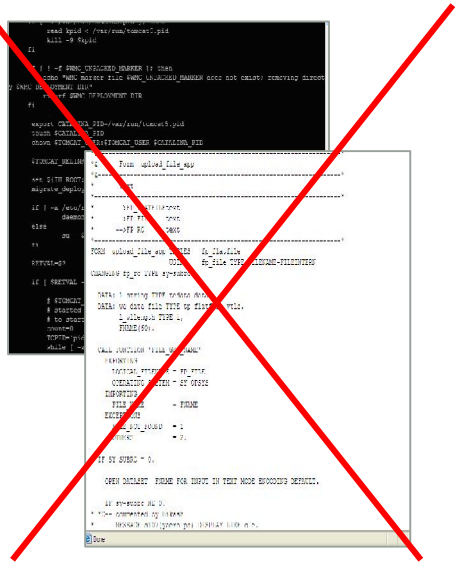


Process Integration

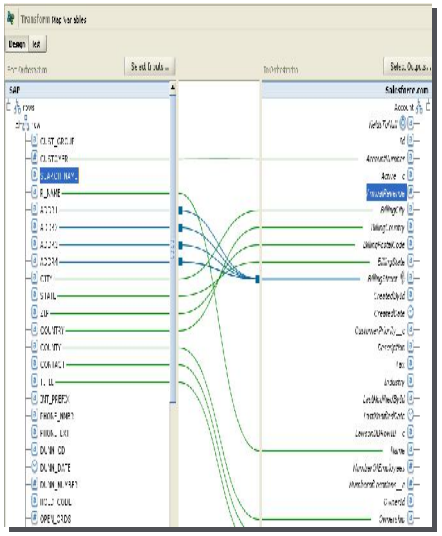
Data Migration

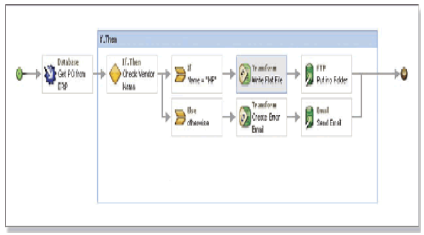
Simple: “Configuration, Not Coding” Approach

No Coding

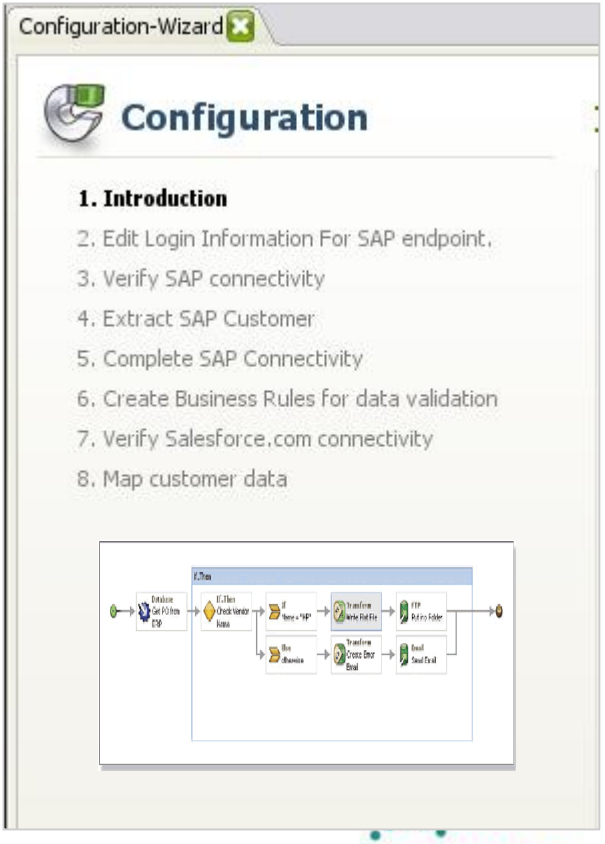


Beyond Configuration



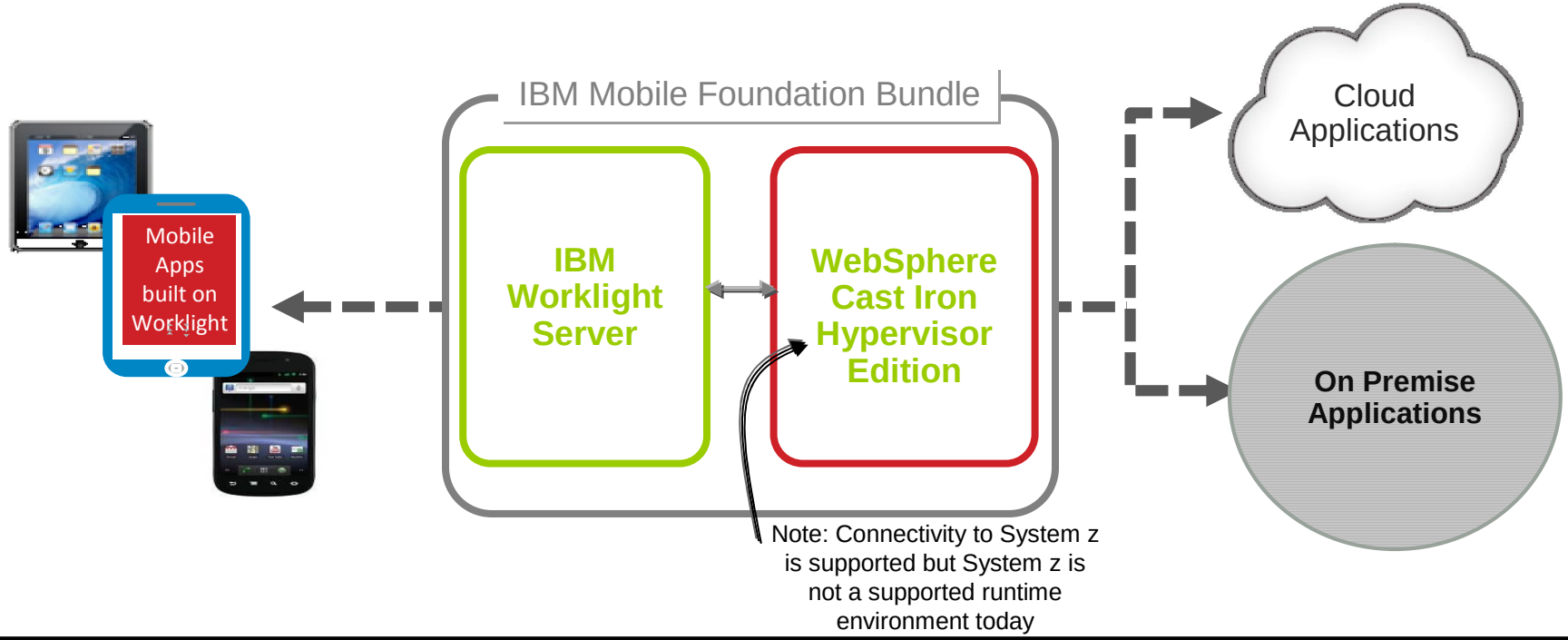


Preconfigured Templates (TIPs)



IBM Mobile Foundation – Worklight & Cast Iron Bundle

Connects Worklight Apps with Cloud & On Premise Applications in Days



	IBM Mobile Foundation – Enterprise Edition	IBM Mobile Foundation – Consumer Edition
Scenario	B2E (e.g. Enterprise building apps for their employees)	B2C (e.g. Enterprise building apps for their customers)
Bundle	Per Client Device: Worklight + End-point Mgr Per Install: Worklight Server + CI Hypervisor EE	Per App: Worklight + CI Hypervisor Edition EE

IBM mobile strategy divided in the following:

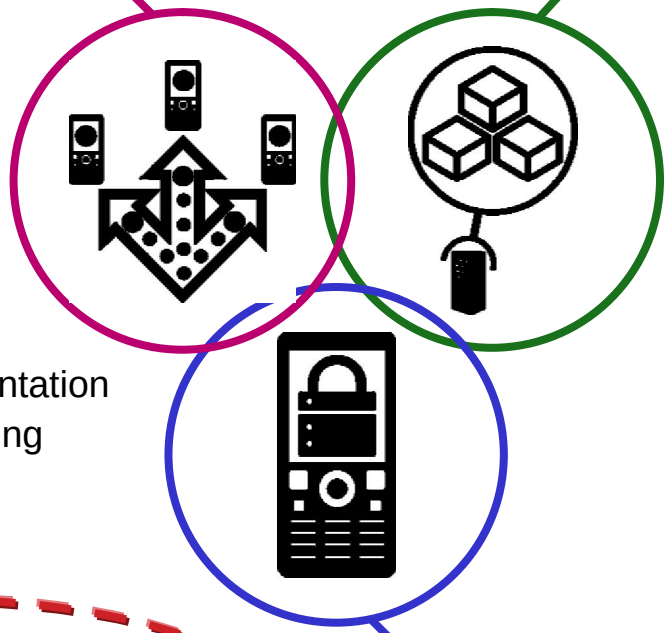
Extend & Transform

Extend *existing business capabilities to mobile devices*

Transform *the business by creating new opportunities*

Key Capabilities

- Strategy, planning and implementation
- Mobile-enabled solutions including analytics, commerce, and social business
- Mobile as a service



Build & Connect

Build *mobile applications*

Connect *to, and* ***run*** *backend systems in support of mobile*

Key Capabilities

- Multiplatform mobile web, hybrid and native app development
- Enterprise data, service, and application integration
- Life cycle management

Manage & Secure

Manage *mobile devices, services and applications*

Secure *my mobile business*

Key Capabilities

- Mobile Governance
- Device analytics and control
- Secure network communications & management

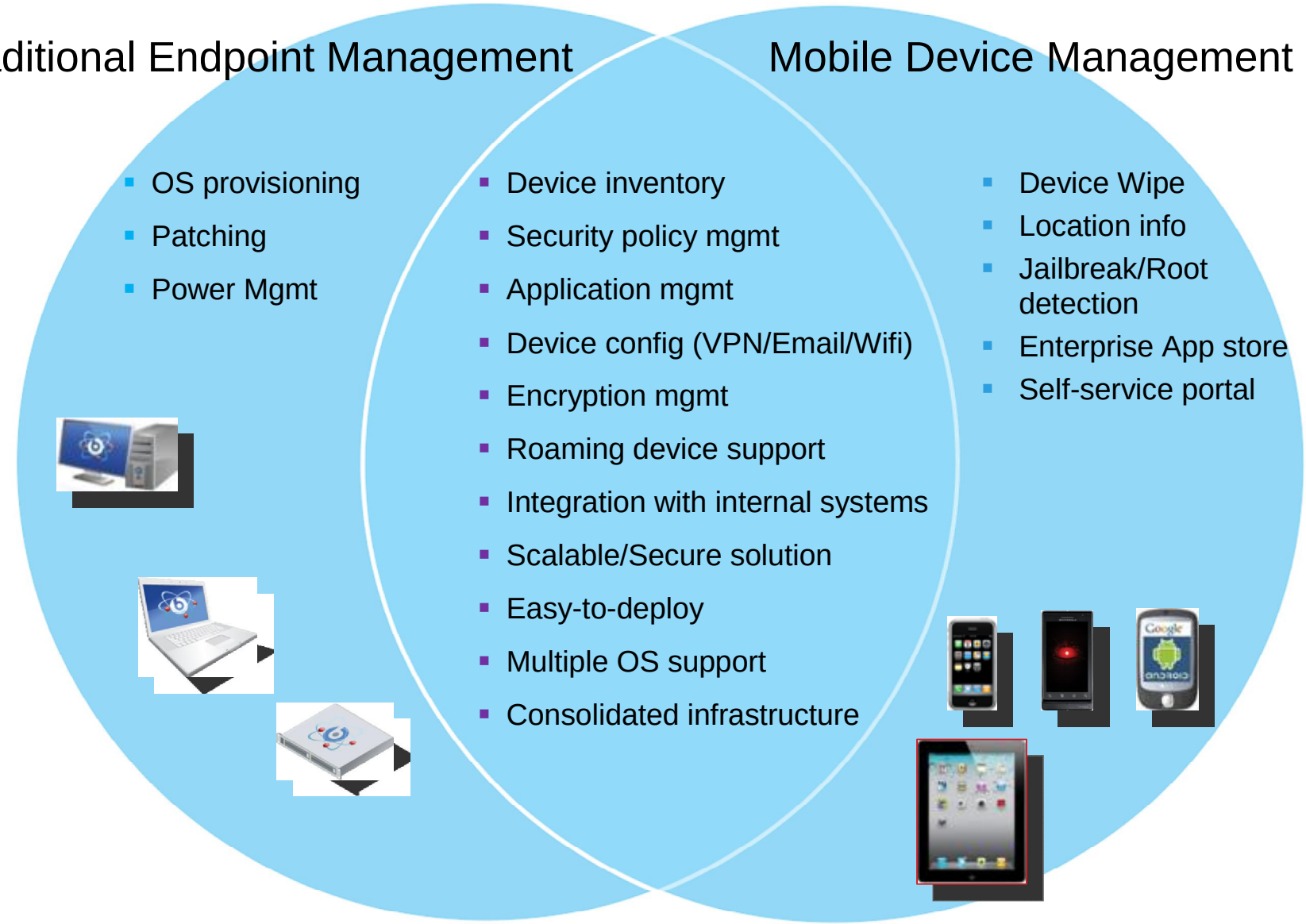
Build, connect, manage and secure your mobile enterprise

IBM Mobile Foundation

Includes

- IBM Worklight
- IBM WebSphere Cast Iron
- **IBM Endpoint Manager for Mobile Devices**

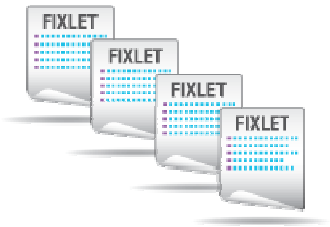
PCs and mobile devices have many of the same management needs



IBM Endpoint Manager elements

Single intelligent agent

- On workstations, servers and mobile devices
- *Continuous* self-assessment
- *Continuous* policy enforcement
- Minimal system impact (<2% CPU, <10MB RAM)



Flexible policy language (Fixlets)

- Thousands of out-of-the-box policies
- Best practices for operations and security
- Simple custom policy authoring
- Highly extensible/applicable across all platforms

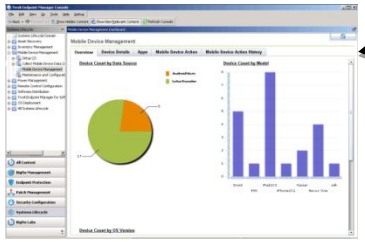
Single server and console

- Highly secure, highly available
- Aggregates data, analyses and reports
- Manages up to *250K endpoints per server*

Virtual infrastructure

- Designate Endpoint Manager agents as a relay or discovery point in minutes
- Provides built-in redundancy
- Leverages existing systems/shared infrastructure

IBM Endpoint Manager for Mobile Devices Architecture



Console / Web Reports

TEM Server

DB

http / 52311

Relay(s)

Server requirements:
Microsoft SQL Server 2005/2008
Microsoft Windows Server 2003/2008/2008 R2
Console requirements:
Microsoft Windows XP/2003/Vista/2008/2008 R2/7

Apple Push Notification Servers

Mgmt Extender for iOS

Management Extender for (Exchange or Lotus)

http / 52311

https

Email Server (Exchange/Lotus)

Apple Push Notification

Apple MDM Interaction

http / 52311

ActiveSync / IBM Sync

ActiveSync

Phones / Tablets

Desktops / Laptops

Full Agents

Servers

Full Agents

Android

Android App

w/Email

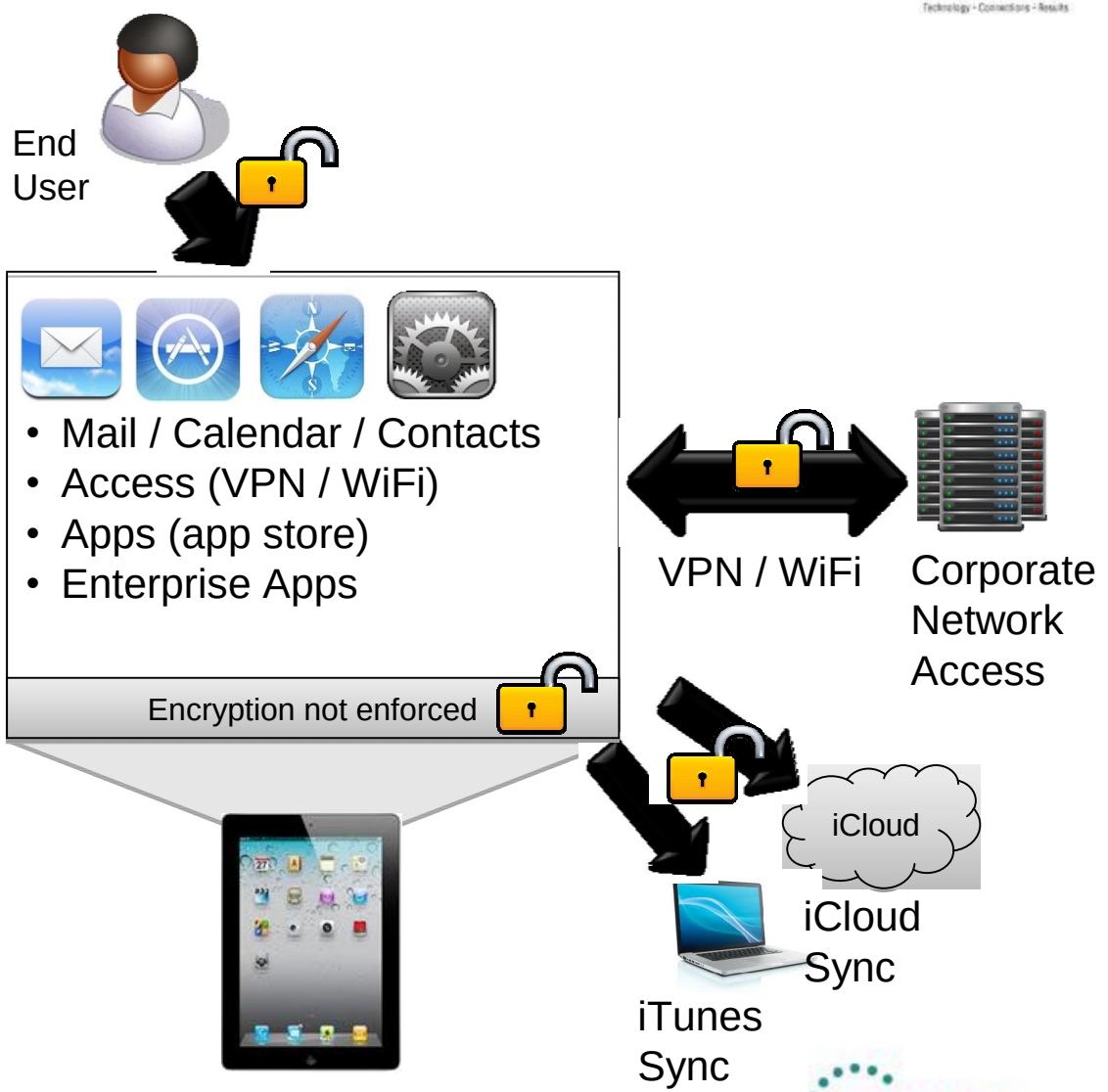
Apple

Apple App

Managing Mobile Devices – The Problem

Security & Management Challenges

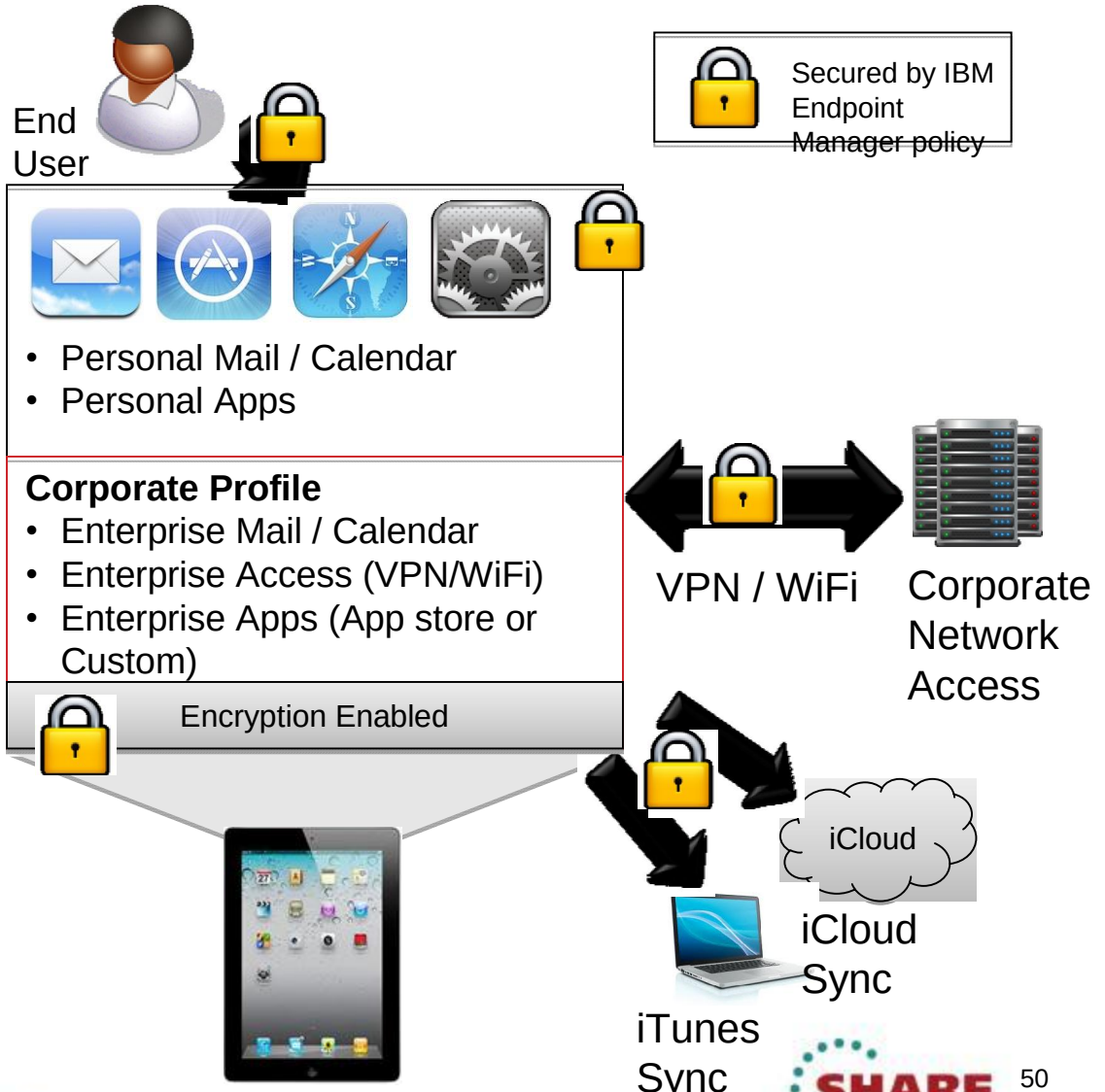
- Potential unauthorized access (lost, stolen)
- Disabled encryption
- Insecure devices connecting to network
- Corporate data leakage



Managing Mobile Devices – The Solution

Endpoint Manager for Mobile Devices

- Enable password policies
- Enable device encryption
- Force encrypted backup
- Disable iCloud sync
- Access to corporate email, apps, VPN, WiFi contingent on policy compliance!
- Selectively wipe corporate data if employee leaves company
- Fully wipe if lost or stolen
- Self service portal



Solution Sets

IBM Endpoint Manager

Lifecycle Management

- Patch Management
- Hardware, Software, Configuration Inventory
- Software Distribution
- OS Deployment
- Remote Control

Software Use Analysis

Power Management

Mobile Devices

Patch Management

Security and Compliance

- Patch Management
- Security Configuration Management
- Vulnerability Assessment
- Compliance Analytics
- 3rd Party Endpoint Protection Management

Core Protection

- Anti-Malware
- Firewall
- DLP / Device Control (add on)

How does Endpoint Manager manage mobile devices?

- **Agent-based Management**
  - **Android via native IEM agent**
  - **iOS via Apple's MDM APIs**

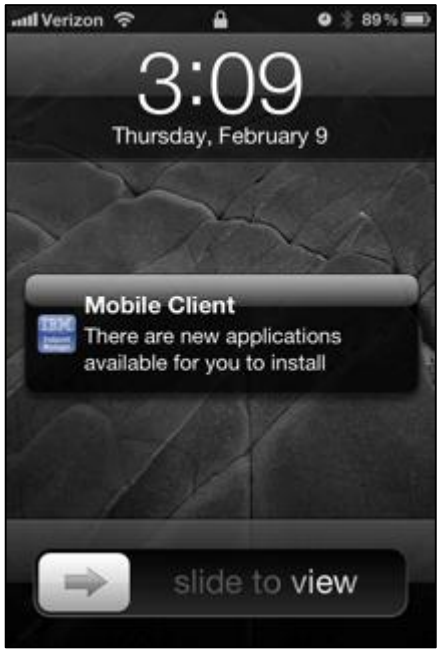
- **Email-based management through Exchange and Lotus Traveler**
  - Supported platforms: iOS, Android, Windows Phone, Windows Mobile, Symbian

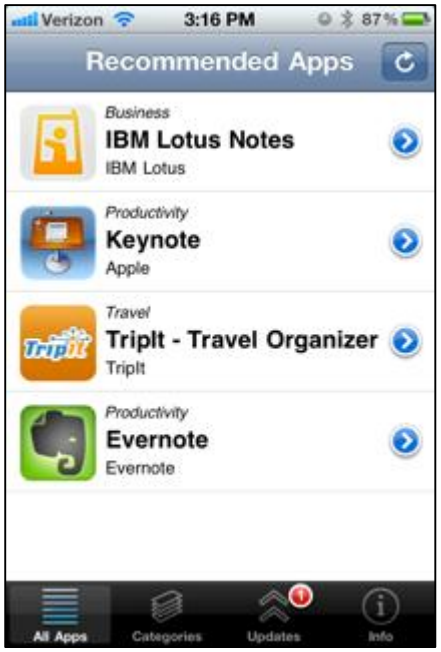
Microsoft Exchange Server

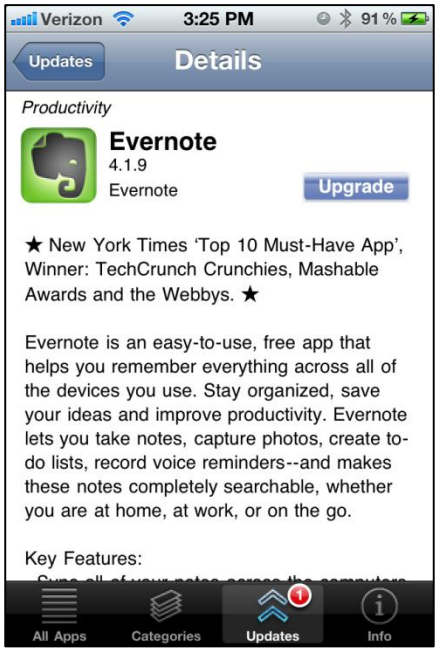
Lotus Notes

Category	Endpoint Manager Capabilities
Platform Support	Apple iOS, Google Android, Nokia Symbian, Windows Phone, Windows Mobile
Management Actions	Selective wipe, full wipe, deny email access, remote lock, user notification, clear passcode
End-User Services	Self-service portal, enterprise app store, authenticated enrollment (AD/LDAP)
Application Management	Application inventory, enterprise app store, whitelisting, blacklisting, Apple VPP
Policy & Security Management	Password policies, device encryption, jailbreak & root detection
Location Services	Track devices and locate on map
Enterprise Access Management	Configure email, VPN, and Wi-Fi; certificate management
Expense Management	Enable/disable voice and data roaming

Distribute apps using the Enterprise App Store



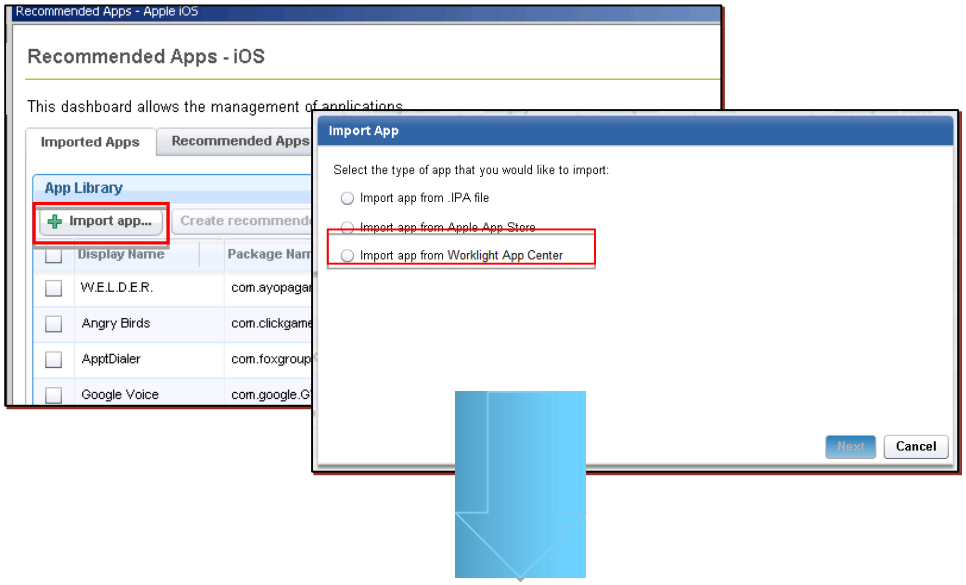




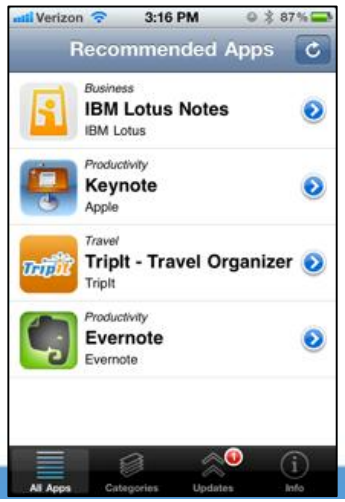
IBM Mobile Foundation Integration Scenario Streamlined App Deployment Workflow

1 **Build app in Worklight**

2 **Import into Endpoint Manager App Store**



3 **Distribute App to Employees**



Endpoint Manager customers can **directly import and distribute Worklight-built apps** via Enterprise App Store, thereby improving workflow between Development and Operations

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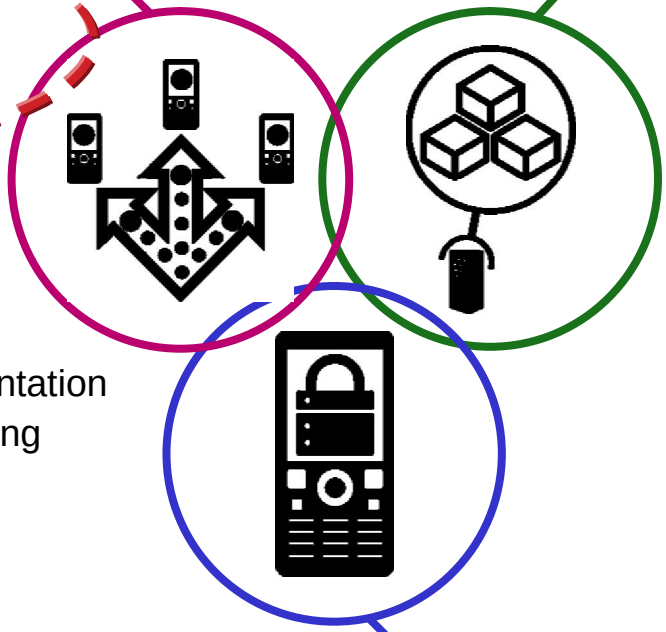

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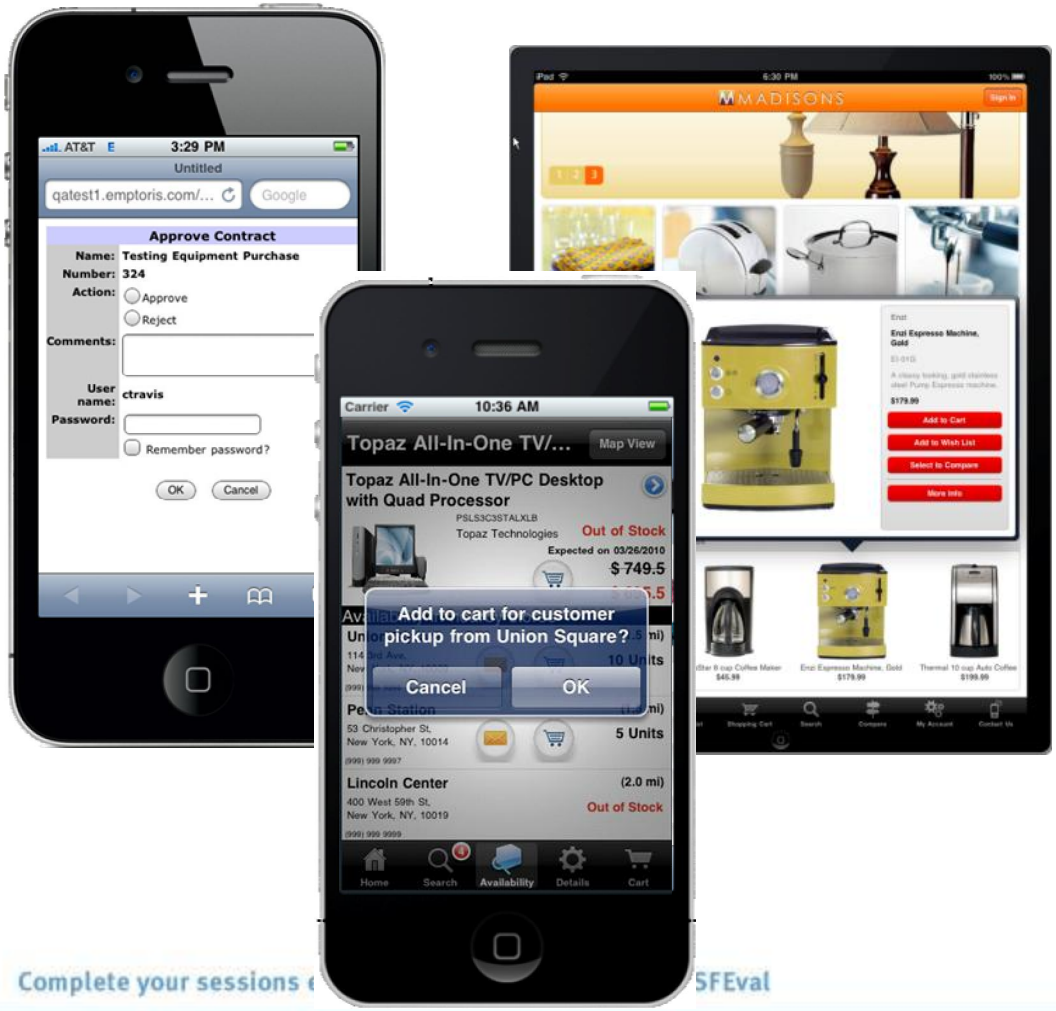
Embrace mobile across buy, market, sell, and service

IBM Smarter Commerce

Applying mobile to enhance business performance across the commerce value chain



Client Challenge

Improve engagement with customers, employees, and partners

Key Capabilities

- Empower employees and partners with extend mobile access to critical commerce processes
- Reinvent customer interactions with mobile sales and service
- Extend marketing reach with mobile campaigns and location-based services
- Refine the mobile customer experience with analysis of mobile usage

Take your business with you wherever you go

Business Process Management

IBM makes it possible to integrate BPM into your mobile strategy

Client Challenge

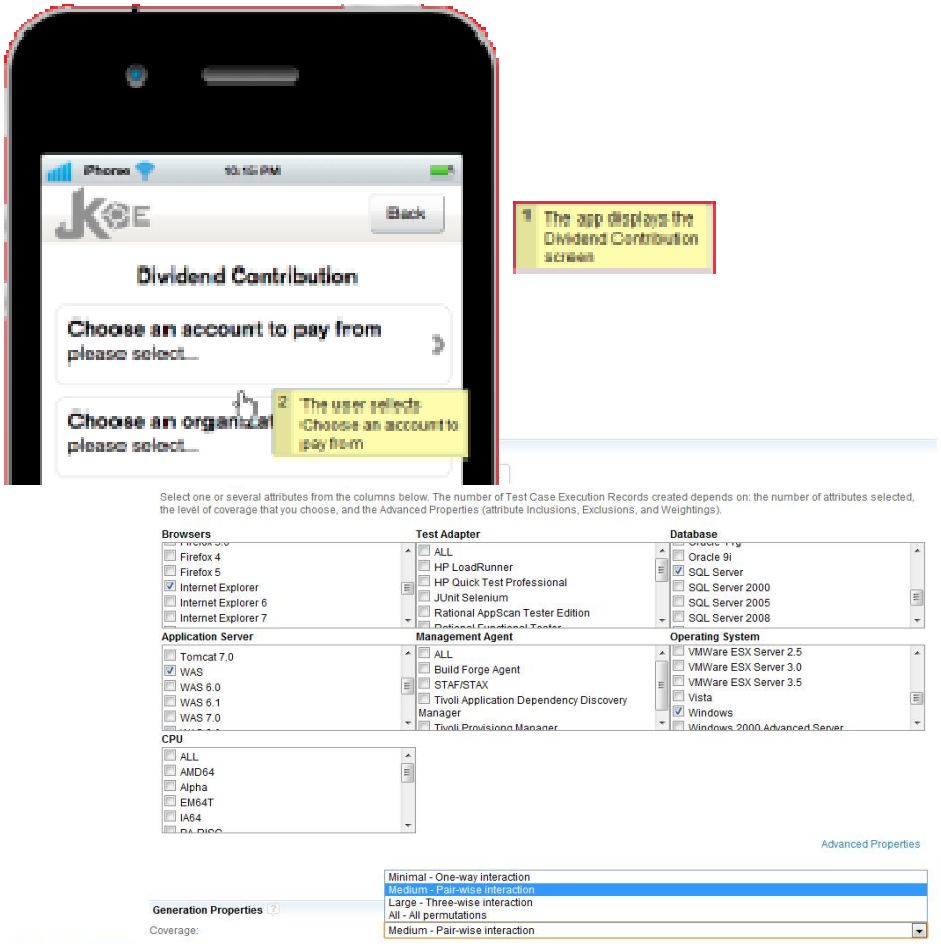
Every day you are challenged to do more, better, and faster

Key Capabilities

- Gives peace of mind that comes from knowing that important and time sensitive tasks will find employees wherever they might happen to be.
- Finding expertise is instant, and innovation doesn't have to wait for that mythical "down time".
- Provides a single view that consolidates tasks from multiple IBM process sources

Integrated requirements, planning, and quality management

IBM Rational Requirements Composer
IBM Rational Quality Manager



Client Challenge

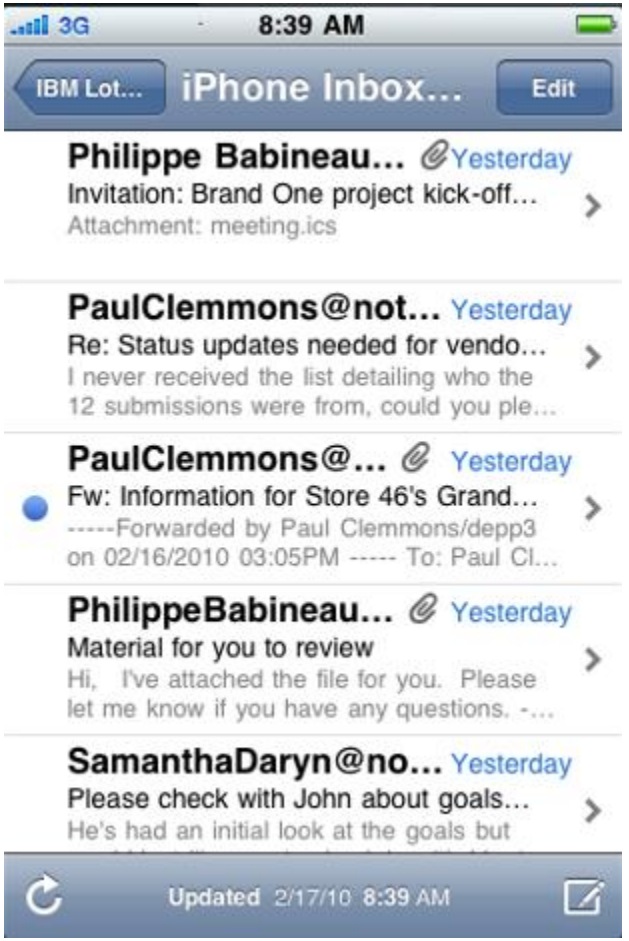
Delivering apps that align with business goals and are perceived as high quality – both from a user experience and functional point of view.

Key Capabilities

- UI sketching and storyboarding
- Lightweight requirements management
- Design reviews and approvals
- Test plan optimization to cut down on number of tests that must be executed
- Integration with mobile “Device-cloud” testing services

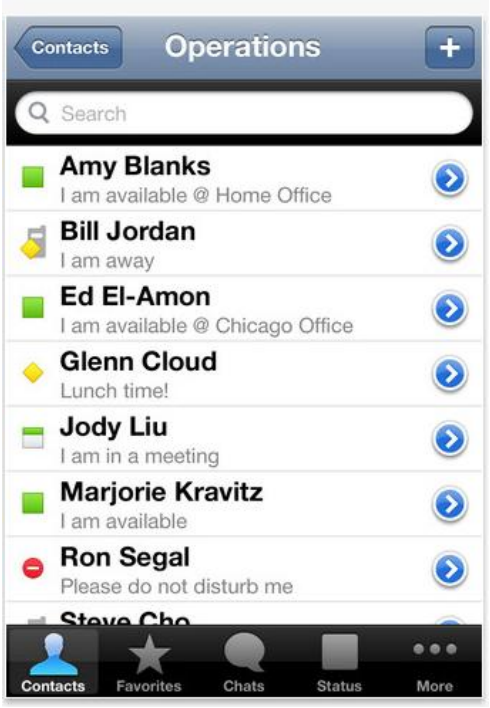
IBM Lotus Notes Traveler

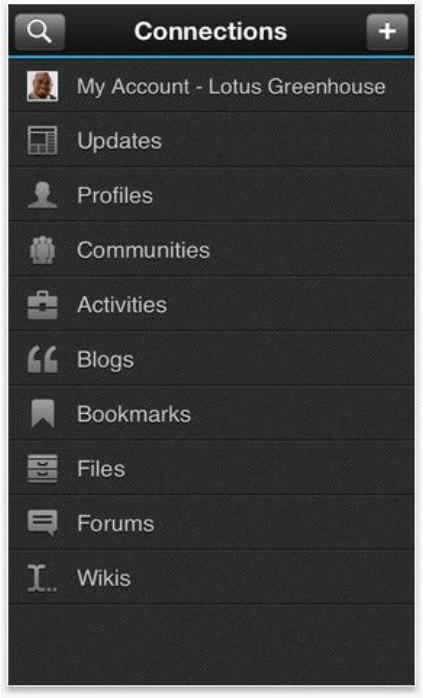
- Two way-synchronization of email, contacts and calendar
- Support for Apple iOS, Google Android, Windows Mobile and Symbian. Windows support coming



IBM Sametime and IBM Connections

- Instant messaging
- Social business
- Moving beyond e-mail





IBM is a mobile business

- **435,000** employees worldwide
- **50%** of employees work remotely

IBM's BYOD program "really is about supporting employees in the way they want to work. They will find the most appropriate tool to get their job done. I want to make sure I can enable them to do that, but in a way that safeguards the integrity of our business."

- IBM CIO Jeanette Horan

How did IBM address the challenge?

1. Deploy a secure technology framework
2. Develop a strong usage policy
3. Educate employees
4. Support personally owned devices through social software

Business outcomes

- **Increased employee productivity**
- **Increased employee satisfaction**
- **Reduced security risk and loss of corporate data for personally owned devices**
- **Over 120,000 employees using mobile devices for business with over 80,000 BYOD**

Session Objectives

- Name two capabilities of IBM Worklight 5.0 and one of the pre-req runtime environments
  - Standards based development of mobile applications
  - Client authentication
  - Worklight Server support on WebSphere V7 and above, Apache Tomcat V7.0 and above on Linux for System z

- Name the three products that make up IBM Mobile Foundation 5.0 and their high level functions
  - IBM Worklight
  - IBM WebSphere Cast Iron
  - IBM Endpoint Manager for Mobile Devices

- Explain: BYOD, B2C, B2E, Native, Hybrid, Push Notification
  - Bring Your Own Device
  - Business to Consumer/Customer
  - Business to Enterprise/Employee
  - Native apps can exploit device features
  - Hybrid apps make the best of device and web
  - Push Notification – sending of an event notification to a device

Shameless Ad for Another Session

Session 12635 Build and Connect Apps, Devices and Data: Take Your Enterprise Mobile

Monday, February 4, 2013: 4:30 PM-5:30 PM PACIFIC TIME

Grand Ballroom B, Grand Ballroom Level (San Francisco Hilton)

This will be a deeper drill down into the mobile application development capability – including a demo – showing connection to z/OS backend transactions.


Thank
You

Additional Info

- To learn more about IBM's mobile enterprise, go to: http://www-01.ibm.com/software/solutions/mobile-enterprise/
- To learn more about IBM Mobile Foundation go to: www.ibm.com/software/mobile-solutions
- WebSphere User Group webcast: http://www.websphereusergroup.org/gwcgroupsowner/go/gallery/item/1499885?type=video
- To try IBM Worklight mobile platform, register for the trial download at: www.ibm.com/worklight-trial
- Watch this informative webinar: Harnessing the Power of Mobile in the Enterprise

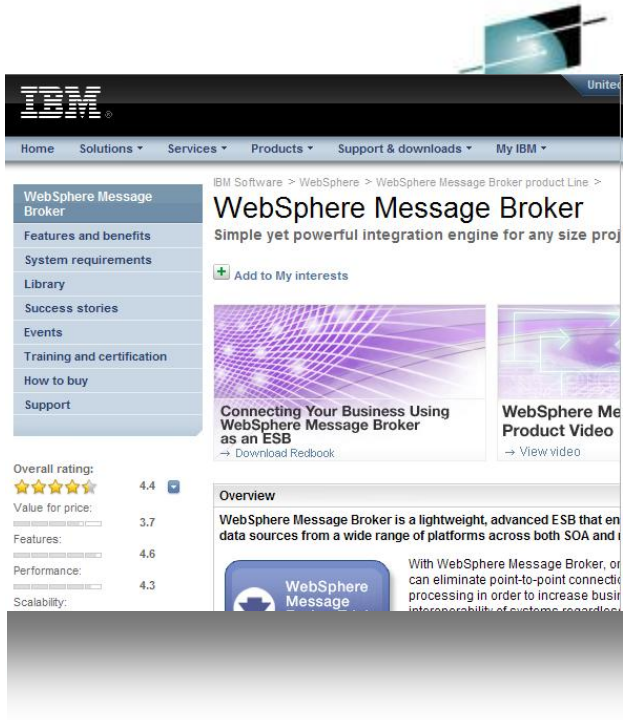
Links & Resources

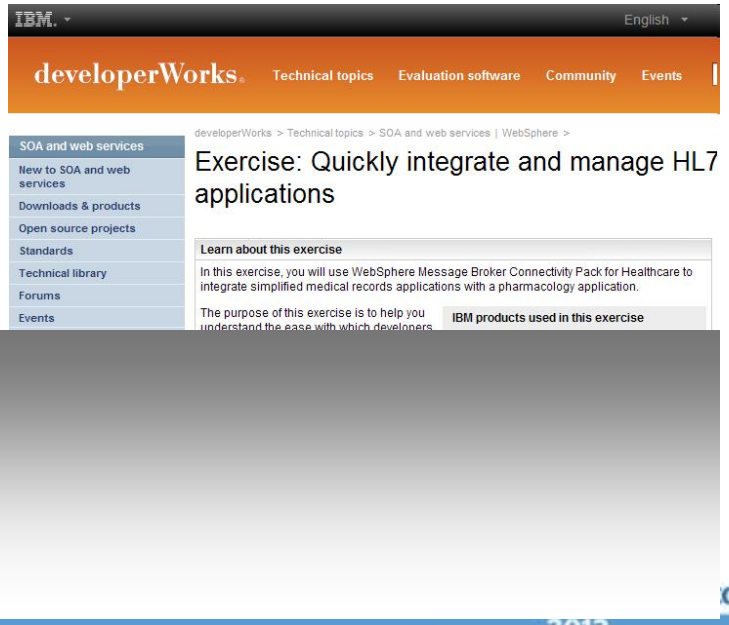
More information for you

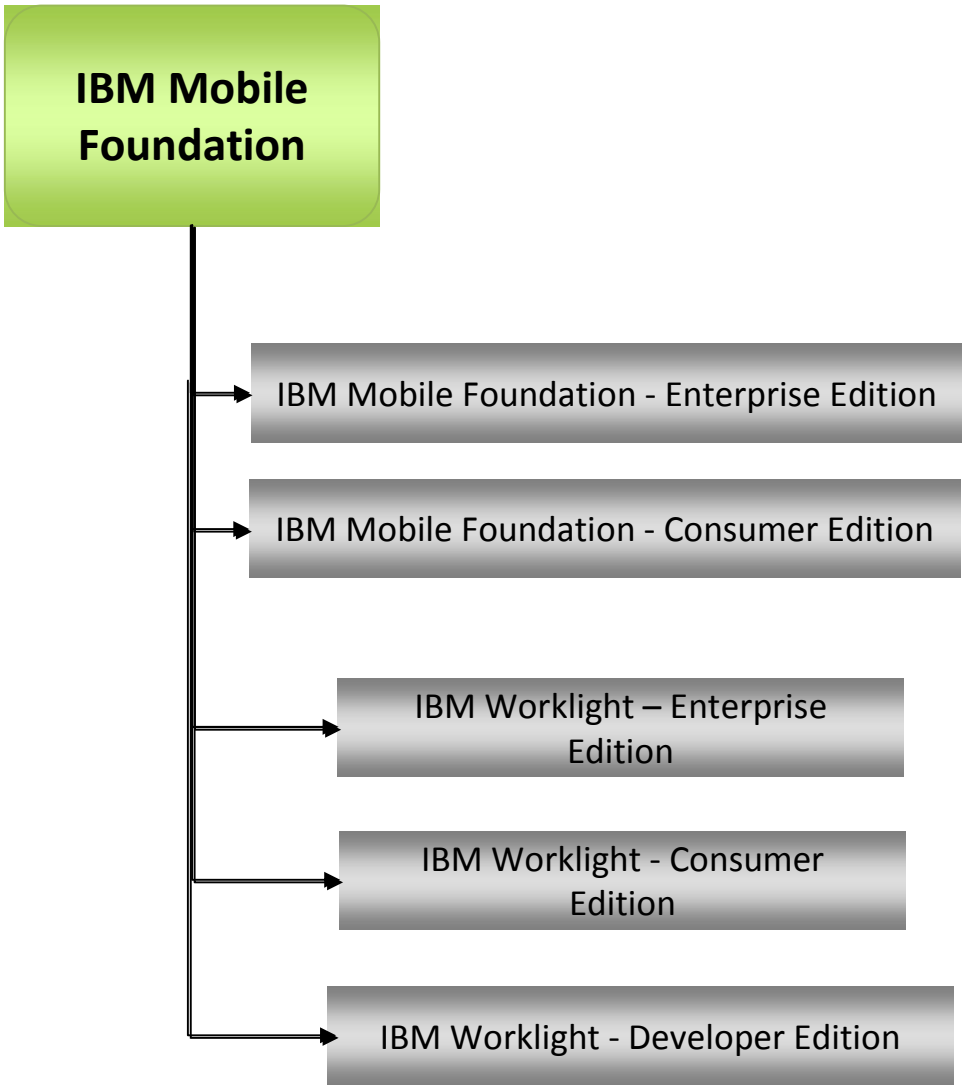
- Mobile Messaging Client Pack – http://ibm.co/145uanz
- Join our Messaging community – http://ibm.co/XI5JvM
- MQTT Specification http://ibm.co/a6jyCx
- MQTT Open Source Community http://mqtt.org/
- WebSphere MQ & Telemetry – http://ibm.co/dj15IW
- WebSphere MQ Advanced Podcast – http://ibm.co/T2CRX5
- WebSphere MQ Podcast Series – http://ibm.co/ix7Wlv
- WebSphere MQ Technical Whitepaper – http://ibm.co/OYr9Ly
- MQ Trial download – http://ibm.co/NSmKJe
- MQ Sandbox – http://ibm.co/gvDEfY
- Robust Mission Critical Messaging -- http://ibm.co/n0nOyG
- Friend us on Facebook – http://on.fb.me/SuFGRX
- Follow us on Twitter -- @IBMMessaging
- Watch us on youtube – http://bit.ly/cCt6dH
- What's New In MQ Overview WebCast 10/25 -- http://bit.ly/Qt1GyD
- MQ Advanced Announcement – http://ibm.co/UDTPAN

A range of WMB adoption options

- 90 day free trial available from the product page
  - http://www-01.ibm.com/software/integration/wbimessagebroker/
- WMB is available for many price point including Express edition for dept level projects
- See the toolkit in action - SOA sandbox provides guided exercises and access to a virtual image of WMB + Healthcare Connectivity pack
  - http://www.ibm.com/developerworks/downloads/soasandbox/brokerhcv.html
- WMB available on IBM Smart Cloud Enterprise
  - BYOL pricing







Licensing Includes

Client Device - Worklight, EndPoint Manager, Cast Iron

Per Application - Worklight, Cast Iron

Client Device - Worklight

Per Application - Worklight

No charge (IBM DeveloperWorks), includes tools only, no standard support (forum only)

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