



Business Agility in Action.

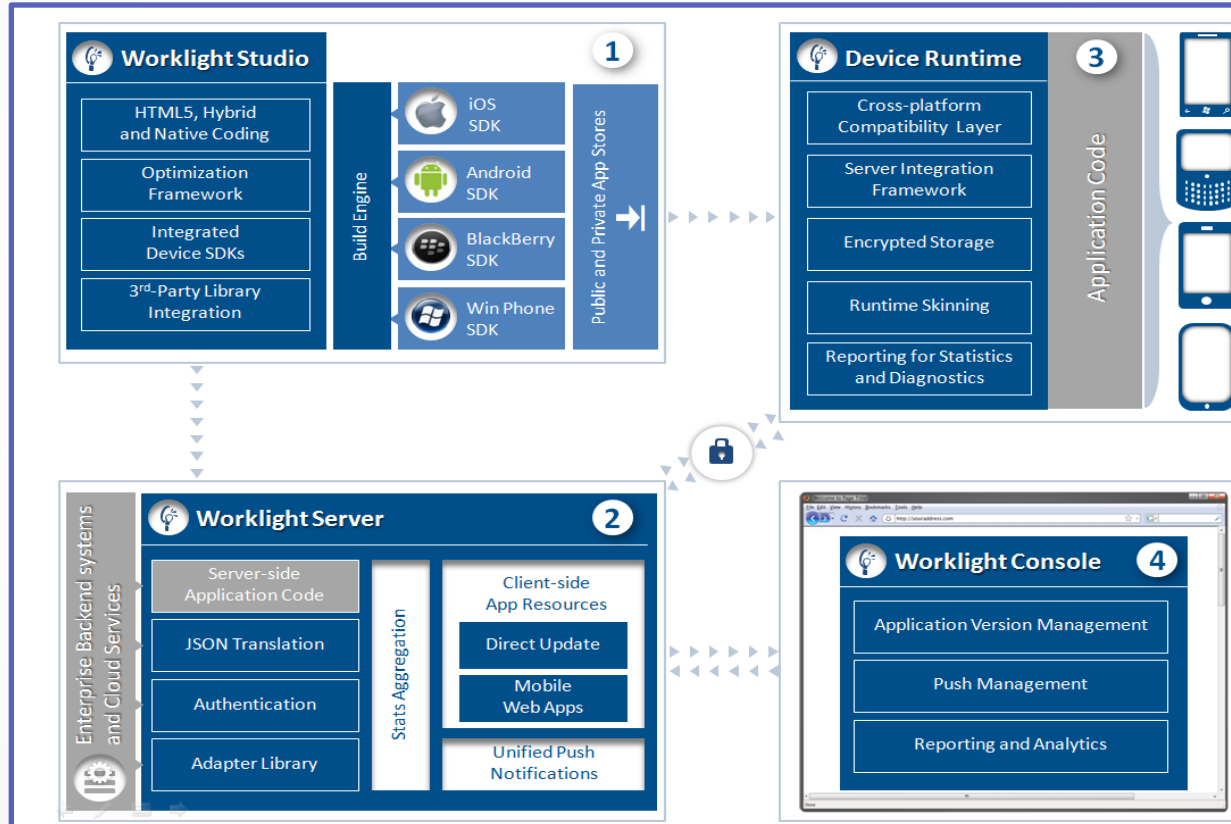
Innovate. Transform. Grow

IBM Worklight Technical Deep Dive

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Worklight Components



Worklight Studio



Eclipse/RAD Based IDE



- Native, hybrid and standard web development
- Open, familiar, standardized tooling

Environment-specific optimization

- Common code with overrides/extensions
- Native development options
- Runtime skins

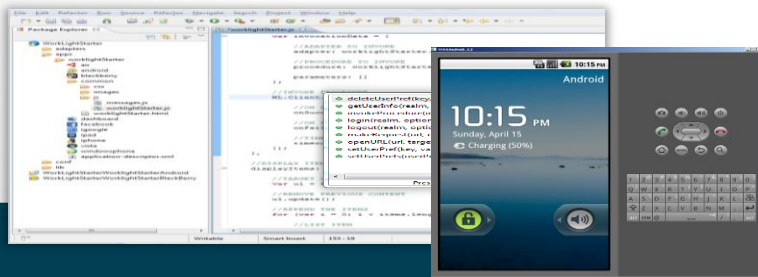
3rd-party library integration



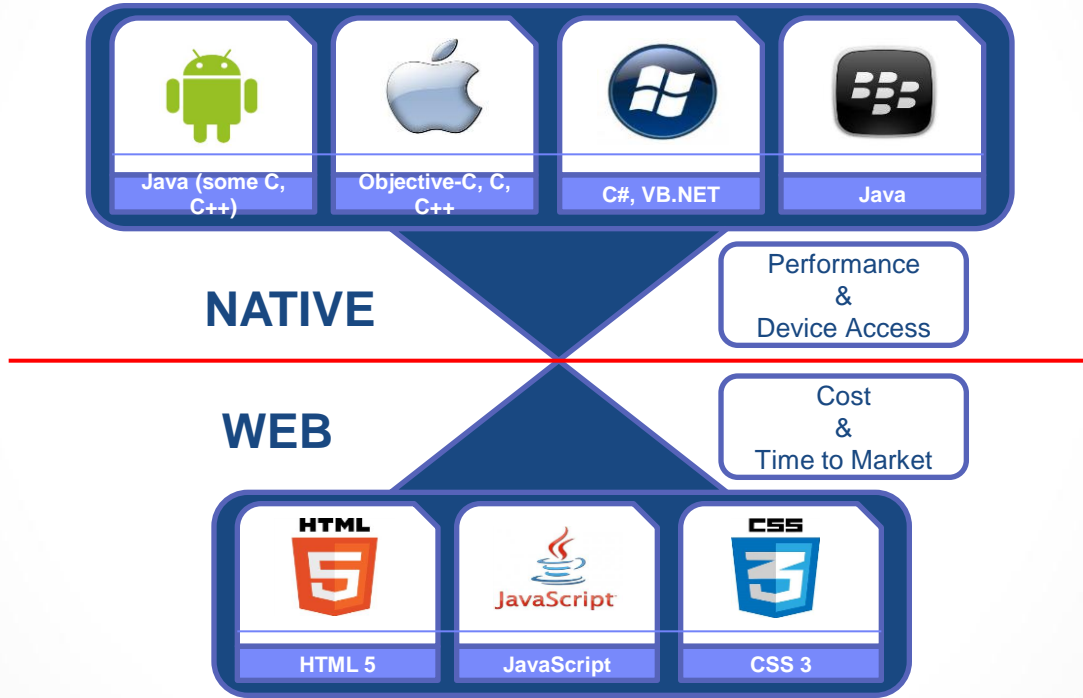
Device SDK integration

- Access to emulators and debugging tools

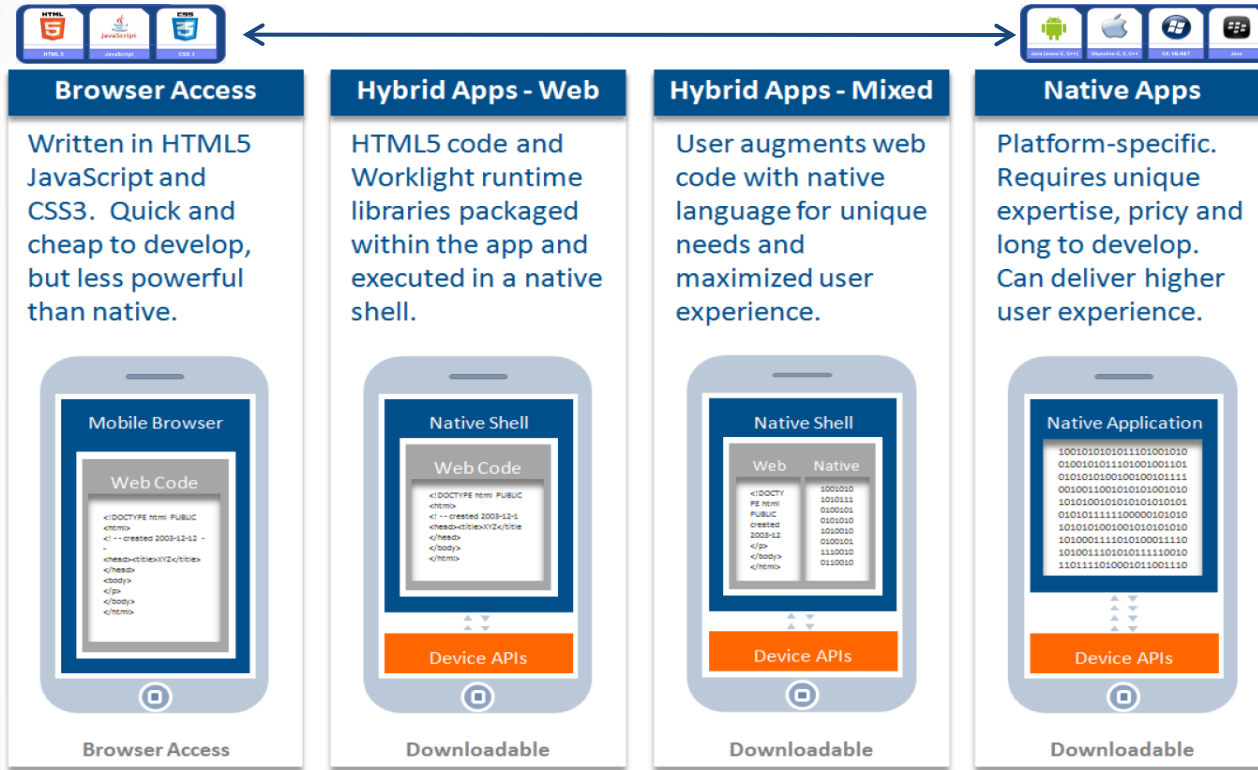
Supports auto-complete and validation



Traditional Mobile Development Models



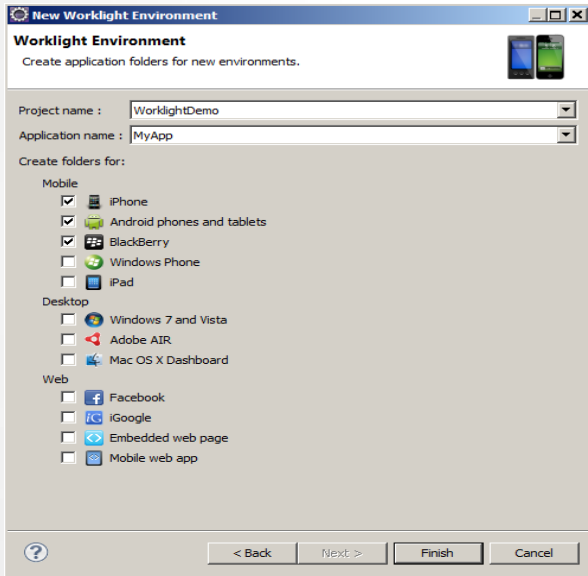
Worklight Studio Development Models





Worklight Studio

Common Code Structure and Environment Optimisation



common resources serve as the basis for the optimized environments added to the project

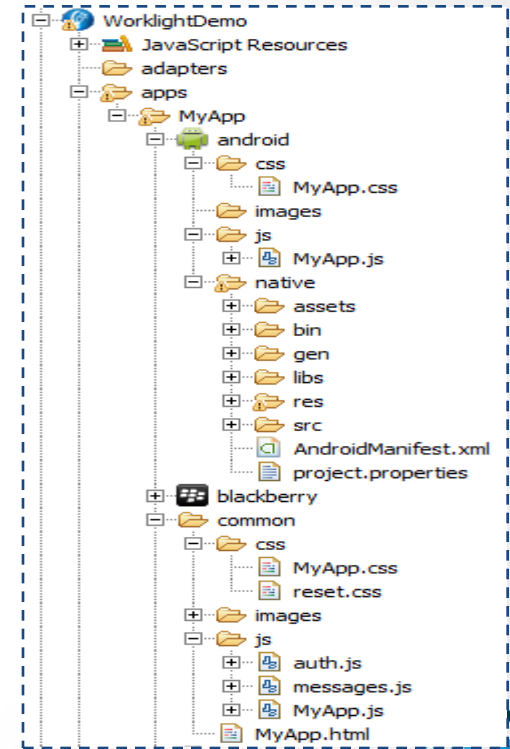
common holds resources that are shared by all environments.

JavaScript from an environment folder is appended to the same file in the common folder

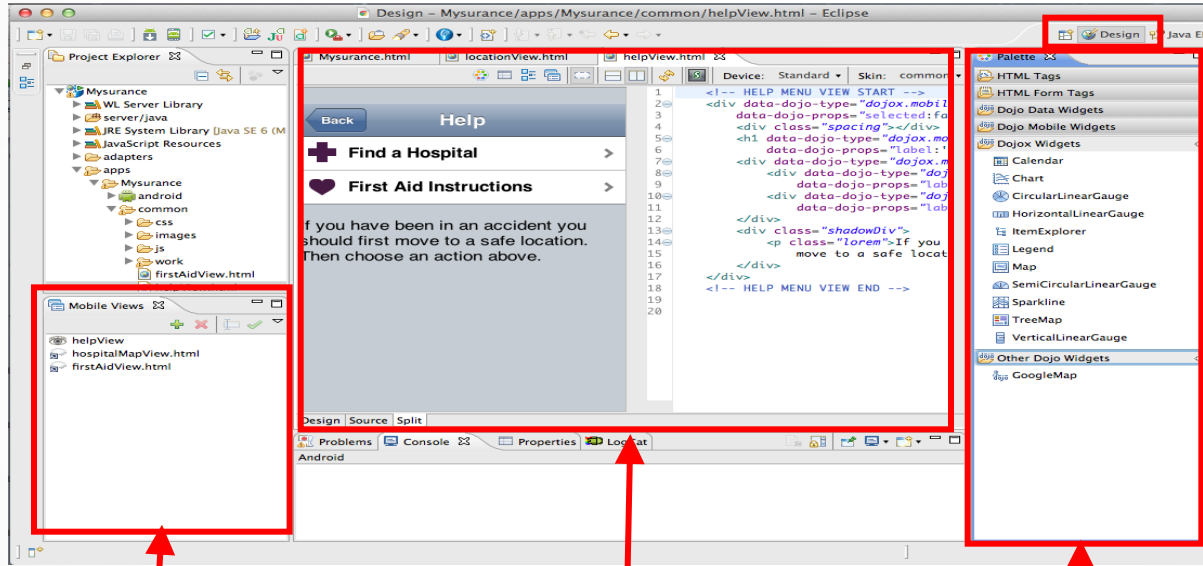
CSS files from an environment folder will be appended to the CSS files in the common folder

HTML files from an environment folder will override files in the common folder

images from an environment folder will override files in the common folder



Worklight Studio Visual UI Construction



Worklight
Design
Perspective

- Mobile Views**
- Select which view displays in design tab
 - Modify view properties
 - Create and delete mobile views

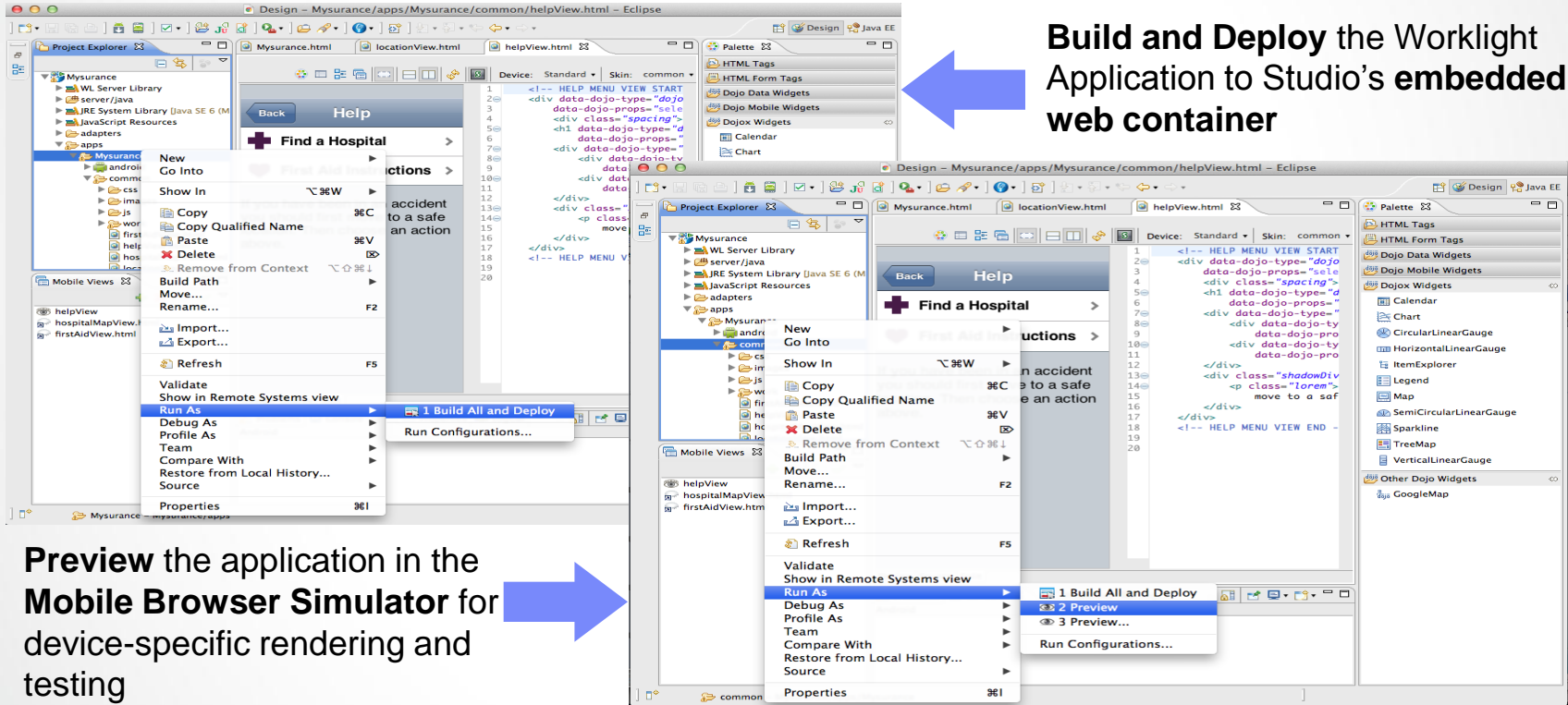
- Rich Page Editor**
- Source, Design and Split views
 - UI rendering using browser engine, synched with source pane

- Palette**
- Drag and drop visual elements into the Editor pane.
 - Offers HTML constructs and Dojo widgets

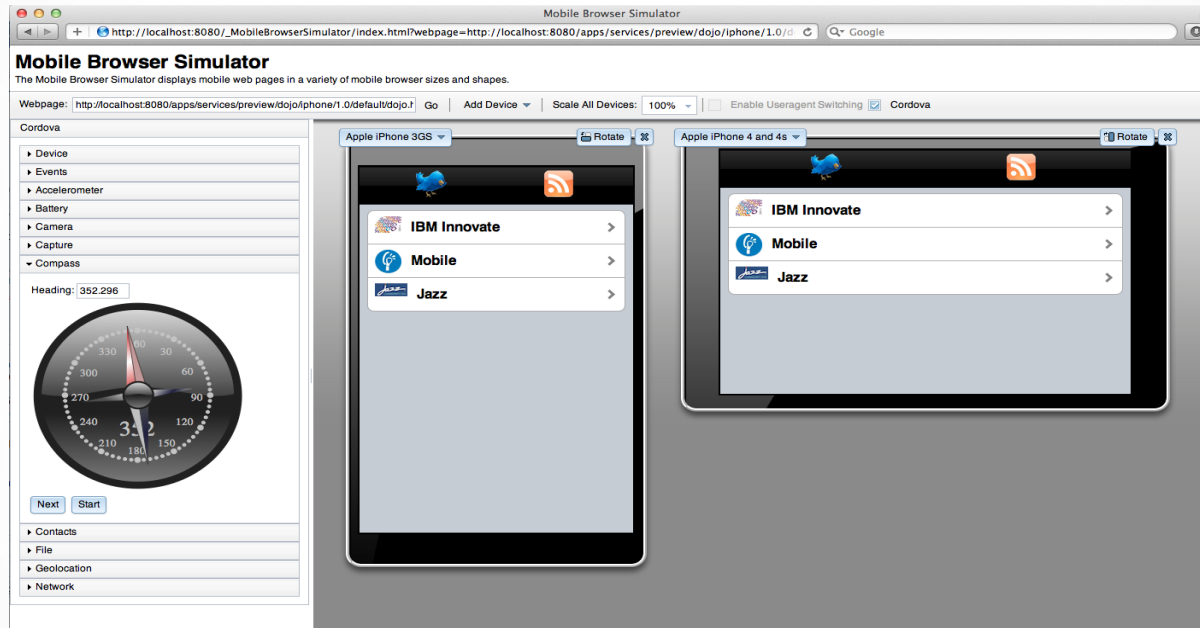


Worklight Studio

Build, Package, Deploy and Test Applications



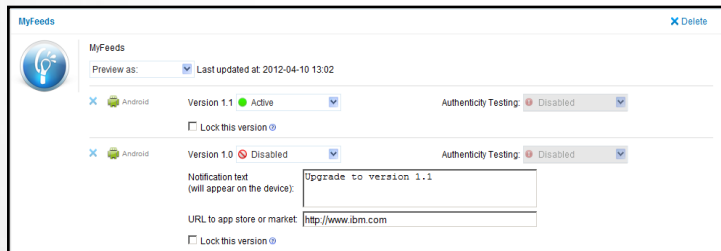
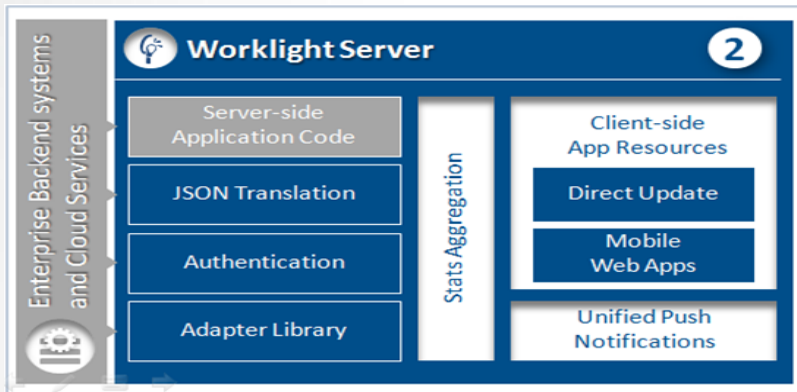
Worklight Studio Preview in Mobile Browser Simulator



- Device specific visualisation and testing on the developer desktop
- Change device types, orientation, device settings (GPS loc, compass, etc...)
- Supports Cordova and Worklight client API
- Live debug with Web Inspector/Firefox



Worklight Server



Controls **Application Deployment** and **Versioning**

Server and device **Security** control

Adapters with support for SOAP, REST, SQL, LDAP, SAP and more

Performs **Data Transformation** to streamline back-end data for mobile consumption

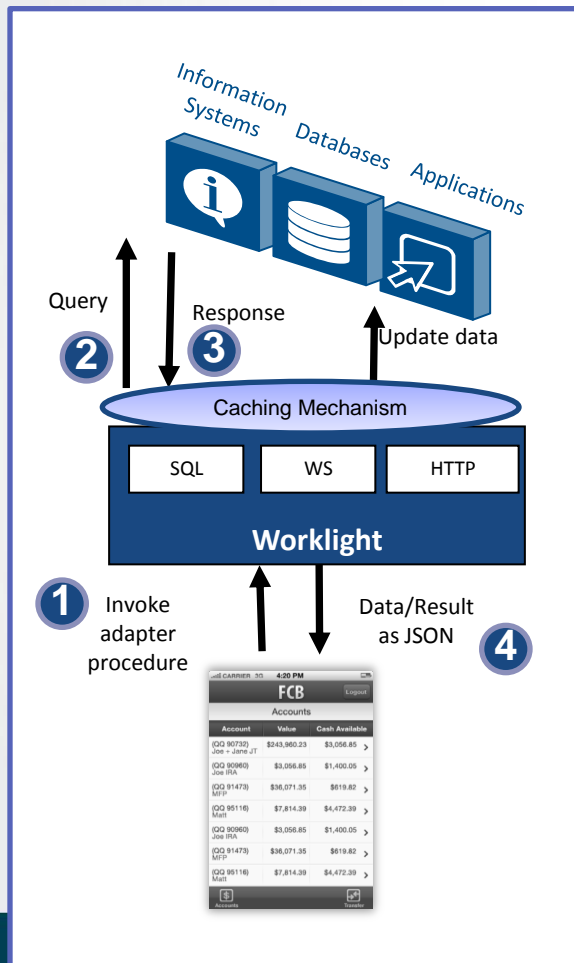
Push Notification administration

Analytics including user adoption and usage data

Runs on **WebSphere Application Server** versions 7, 8, 8.5 including the **Liberty Profile**

Supports **Physical Clustering** for high availability

Worklight Server Adapters



Universality

Supports multiple integration technologies and back-end information systems. Out of the box support for SQL, HTTP (REST and SOAP) and Cast Iron Adapters

Read-only as well as Transactional Capabilities

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

Fast Development

Defined using simple XML syntax, and easily invoked by clients with JavaScript API

Security

Use of flexible authentication facilities to create connections with back-end systems
Adapters offer control over the identity of the connected user

Caching

Caching utilized to store retrieved back-end data

Transparency

Data retrieved from back-end applications is exposed in a uniform manner regardless of the adapter type

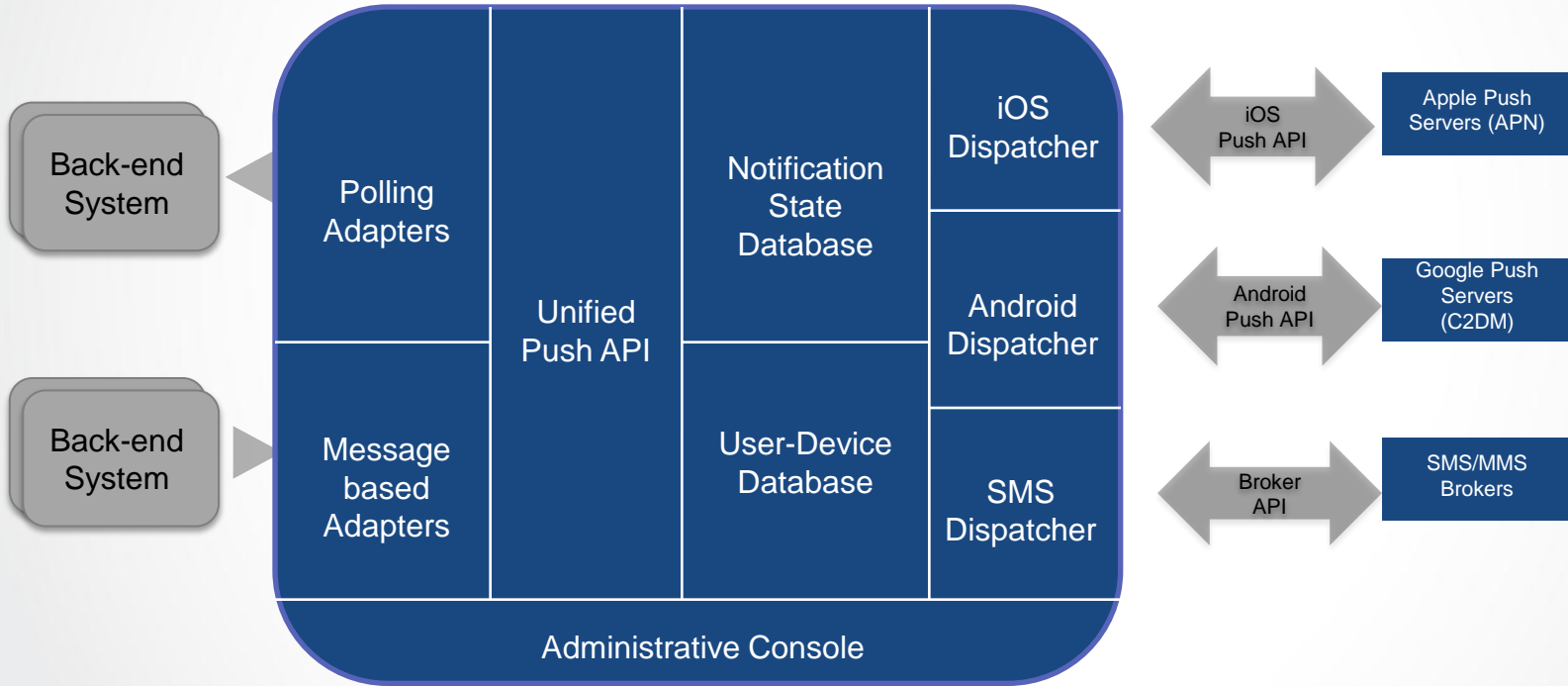
Flexibility

Open interface for custom adapter development

Worklight Server



Unified Push Notifications Architecture



Worklight Runtime Shell Approach



Inner Application:



- Common web code
- Utilizes External Shell API's
- Required to comply with shell parameters

External Shell:

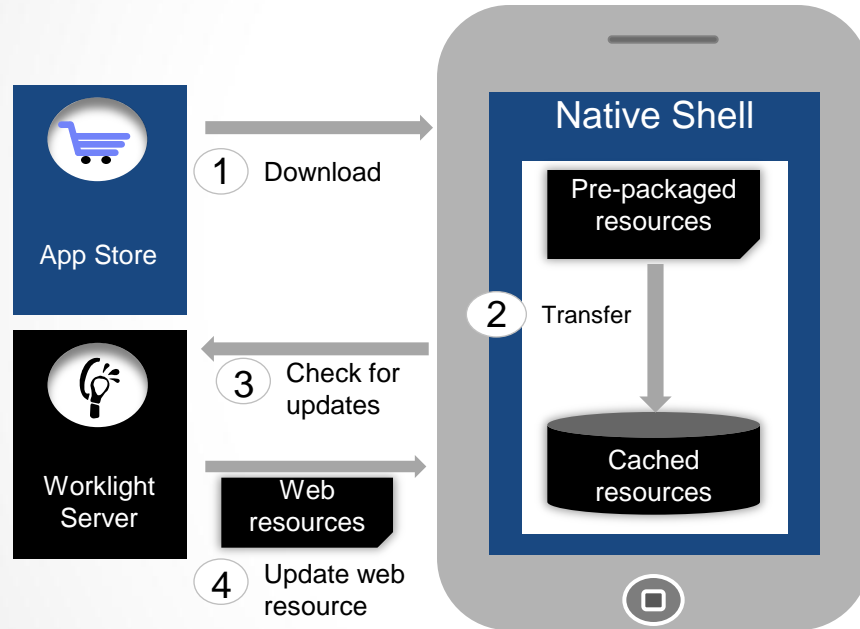


- Install as a native App (IPA/APK file)
- Customizable container
- Provides JS access to native functionality
- Branding, Security, Authentication



Worklight Runtime

Direct Update – On-device Logic



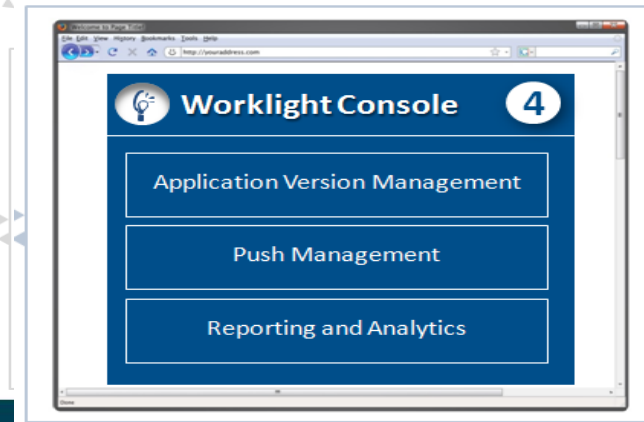
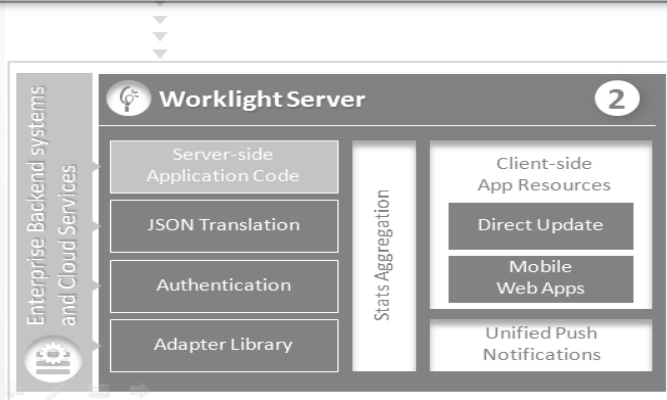
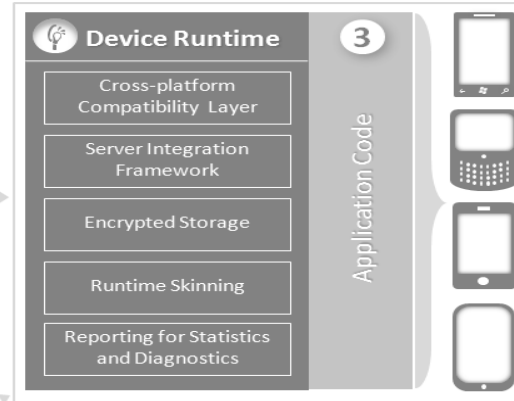
1. Web resources packaged with app to ensure initial offline availability
2. Web resources transferred to app's cache storage
3. App checks for updates on startup and foreground events
4. Updated web resources downloaded when necessary



Worklight Console



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



Worklight Console Application Versioning



Catalog Push Notifications Reports Active Users

Deploy application or adapter: Browse... Submit

MyFeeds ✕ Delete

Preview as: Last updated at: 2012-04-16 08:52

iPhone	Version 1.0 ● Active	Authenticity Testing: ⓘ Disabled
Android	Version 1.2 ● Active	Authenticity Testing: ⓘ Disabled
Android	Version 1.1 ● Active, Notifying	Authenticity Testing: ⓘ Disabled
Android	Version 1.0 ⓘ Disabled	Authenticity Testing: ⓘ Disabled
Mobile Web	Version 1.0 Get App URL	

Notification text (will appear on the device): Version 1.2 has been released

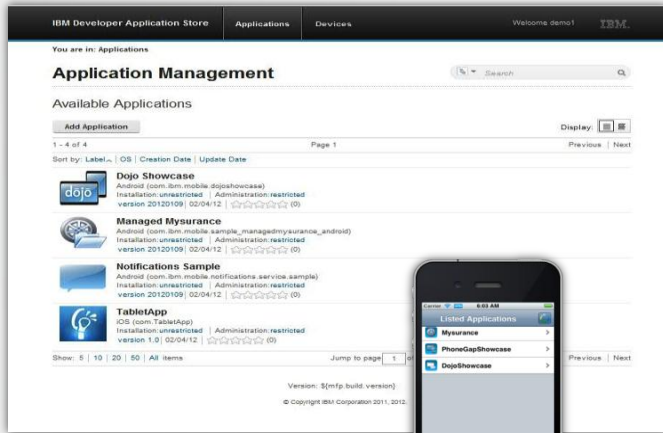
Notification text (will appear on the device): Upgrade to version 1.1

URL to app store or market: <http://www.ibm.com>

Device specific versions are uncoupled

Supports multiple versions on the same platform

Worklight Application Center Private App Store



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

Key capabilities:

- delivers distribution and management of mobile applications within a company / teams
- easy distribution of iOS and Android apps within a team
- provides versioning and updates
- centralizes rating and feedback information
- controls who can modify or install an application
- easy to install and simple to run






Worklight Getting Started Resources



<http://ibm.com/worklight>







Getting Started with IBM Worklight



IBM Worklight user documentation

→ [Access documentation](#)

Modules and samples	
Setup	
 Module 02 - Setting Up Your Development Environment (PDF, 691KB)	
 Module 02.1 - Setting Up Your iOS Development Environment (PDF, 966KB)	
 Module 02.2 - Setting Up Your Android Development Environment (PDF, 528KB)	
 Module 02.3 - Setting Up Your BlackBerry Development Environment (PDF, 280KB)	
 Module 02.4 - Setting Up Your Windows Phone Development Environment (PDF, 647KB)	
Basics	
 Module 03 - Writing Your First Application (PDF, 636KB)	 Exercise

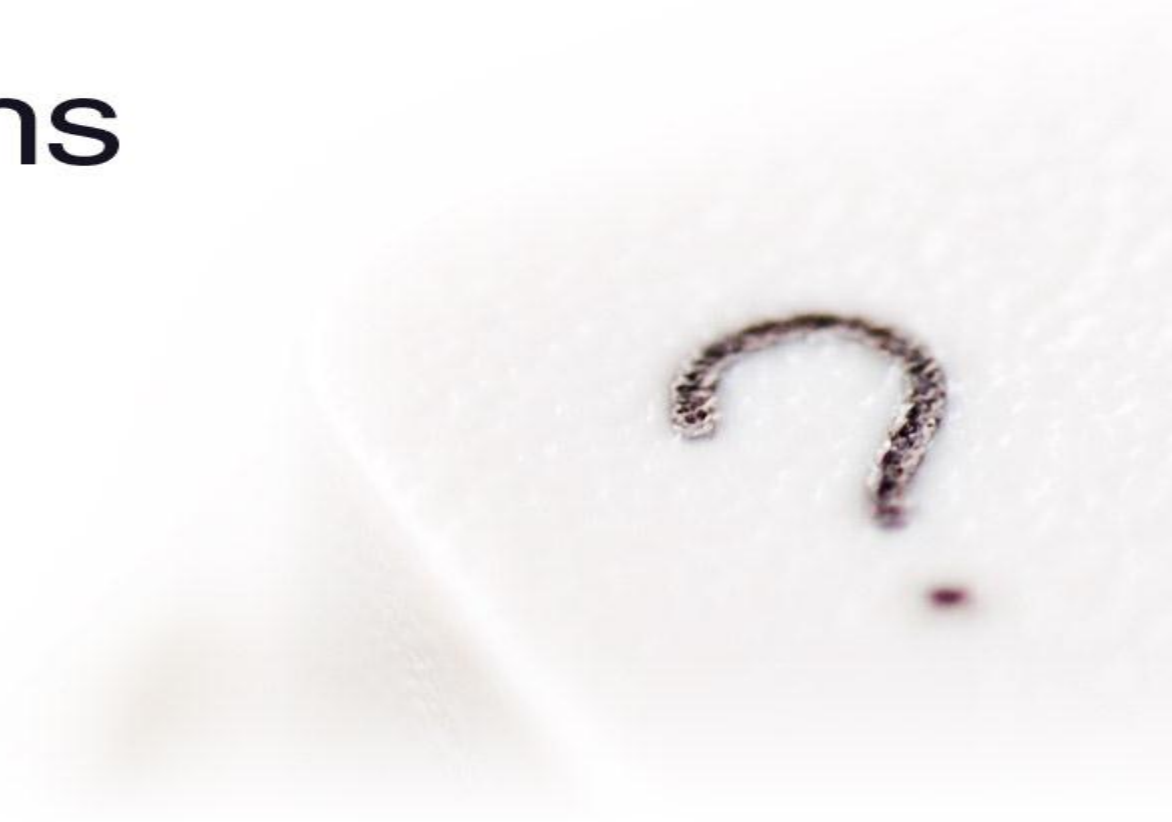
Local IBM Team

An IBM Proof of Technology



Discovering the value of the IBM Mobile Foundation – Worklight Core

Questions



IBM Mobile Foundation

Comprehensive Mobile Strategy



Extend & Transform

Extend existing business capabilities to mobile devices

Transform the business by creating new opportunities

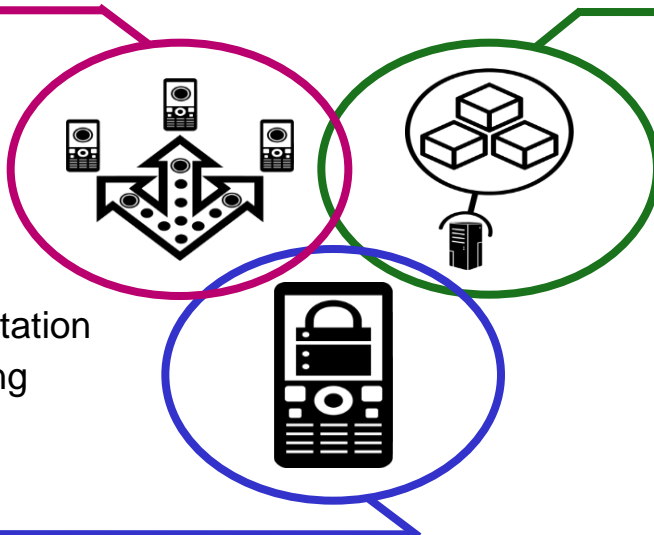
Key Capabilities

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

Manage & Secure

Manage mobile devices, services and applications

Secure my mobile business



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
- Iterative teamwork

Key Capabilities

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



IBM Mobile Foundation

IBM Endpoint Manager for Mobile Devices



Traditional Endpoint Management

- OS provisioning
- Patching
- Power Mgmt



Mobile Device Management

- Device inventory
- Security policy mgmt
- Application mgmt
- Device config (VPN/Email/Wifi)
- Encryption mgmt
- Roaming device support
- Integration with internal systems
- Scalable/Secure solution
- Easy-to-deploy
- Multiple OS support
- Consolidated infrastructure
- Device Wipe
- Location info
- Jailbreak/Root detection
- Enterprise App store
- Self-service portal



IBM Mobile Foundation IBM Endpoint Manager for Mobile Devices Device View



The screenshot displays the Tivoli Endpoint Manager Console interface. The main window is titled "Device Information" and shows details for a device named "gtruty's iPhone". The interface includes a navigation pane on the left, a central content area with a device image and details, and a right-hand panel with management actions. The status bar at the bottom indicates the user is connected to 'localhost' as 'admin'.

Tivoli Endpoint Manager Console

File Edit View Go Tools Help

Back Forward Show Hidden Content Show Non-Relevant Content Refresh Console

Mobile Device Management << Device Information

Mobile Device Overview
MDM Health Checks
Single Device View
Setup and Configuration
Mobile Device Inventory
Single Device View
Device List (5)
Device Information (5)
Data Configuration (1)
Apps Management
Installed Apps
Recommended Apps - Android
Recommended Apps - iOS
Recommended Apps Tasks (0)
Clear Recommended Apps Task
Security Policies
Android Settings
Apple iOS Profiles
Management Commands (7)
Mobile Device Action History (9)
Device Management for Windows
All Mobile Device Management C...

All Content
BigFix Management
Mobile Device Management
Systems Lifecycle

Device Information

Last Updated: 4/29/2012 11:38:55 PM

Use this dashboard to locate devices and view their details

Search

Device Name
[gtruty's iPhone](#)

User Name
gtruty@us.ibm.com

Operating System
Apple iOS 5.1

Model
iPhone 4S

Location
Location not Supported

Last Report Time 4/11/2012 5:48:42 PM

Manufacturer Apple

Carrier AT&T

Phone Number +15126539884

View Device List

Devic... Mana... iOS Pr... Securi... Install...

Name

[Device Wipe](#)

[Clear Passcode](#)

[Lock Screen](#)

[Selectively Wipe Apple iOS Device \(Deprovision\)](#)

[Enable Data Roaming - Apple iOS](#)

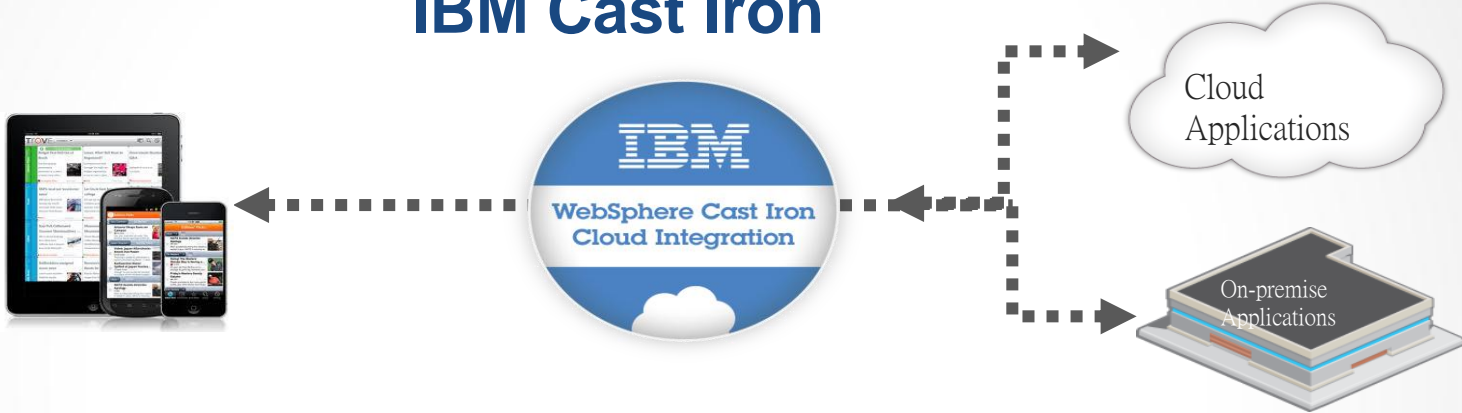
[Send Message to User - Apple iOS](#)

Connected to 'localhost' as user 'admin'



IBM Mobile Foundation

IBM Cast Iron



Flexible



WebSphere Cast Iron Live

Hypervisor Edition



Physical appliances (IBM)

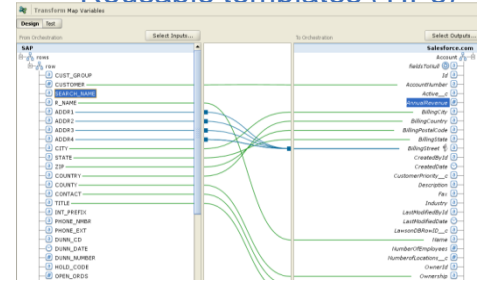
Comprehensive

Connectivity to hundreds of apps



Rapid

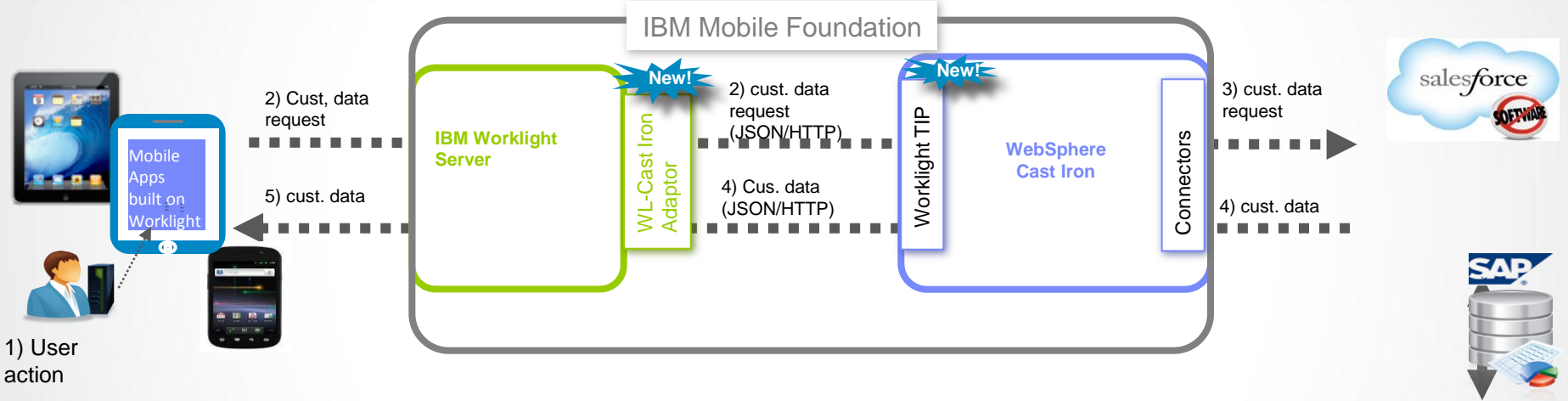
Reusable templates (TIPs)



IBM Mobile Foundation Integrating Worklight and IBM Cast Iron



Scenario: Worklight Application makes request for enterprise data



1) User action

Request from Mobile app for customer data from SAP & salesforce

- 1) User invokes action on mobile application to request data
- 2) Worklight Server invokes it's WL Cast Iron Adaptor to send customer data request to Cast Iron
- 3) Cast Iron receives request & invokes connectivity with salesforce.com and SAP to extract customer data
- 4) Cast Iron sends customer to Worklight Server
- 5) Worklight Server delivers data to mobile application on the device

