

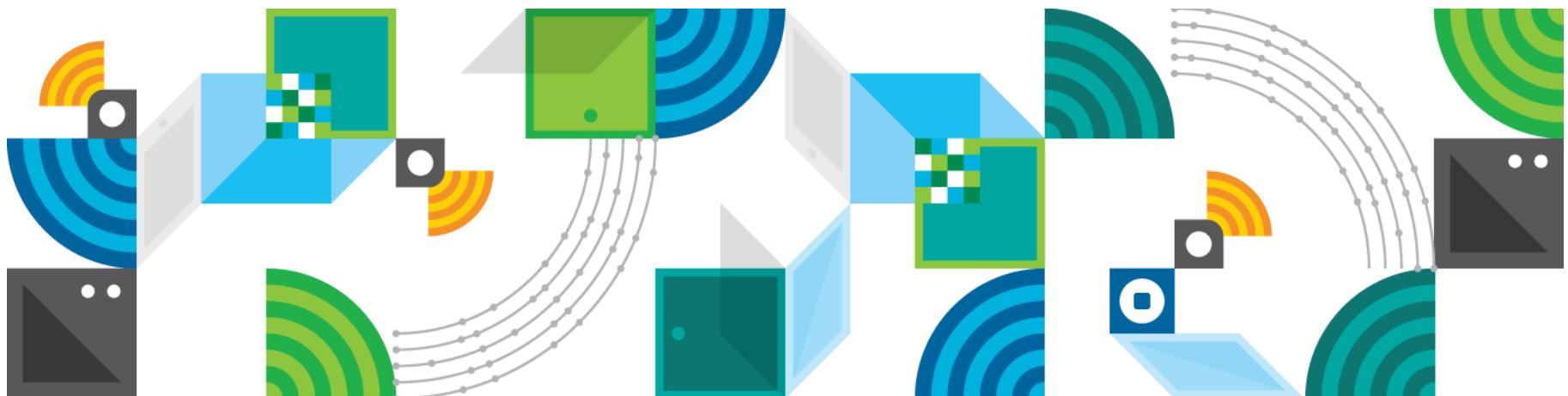


# Conviértase en una empresa móvil

## IBM Worklight



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troncoso@mx1.ibm.com





# Agenda

- MobileFirst context
- Worklight Overview
- Worklight 6.0 features





# Mobile is everywhere

## 5 Trends with significant implications for the enterprise

**1**

### Mobile is Primary

**91%** of Mobile users keep their device within arm's reach 100% of the time<sup>1</sup>

**2**

### Insights from mobile data provide new opportunities

**75%** of mobile shoppers take action after receiving a location based messages<sup>2</sup>

**3**

### Mobile is about transacting

**96%** year to year increase in mobile cyber Monday sales between 2012 and 2011<sup>3</sup>

**4**

### Mobile must create a continuous brand experience

**90%** of users use multiple screens as channels come together to create integrated experiences<sup>4</sup>

**5**

### Mobile enables the Internet of Things

Global Machine-to-machine connections will increase from 2 billion in 2011 to **18 billion** at the end of 2022<sup>5</sup>

1. Source: "China Mobile 50k survey"; Morgan Stanley Research; 2011

2. JiWire Mobile Audience Insights Report Q42011

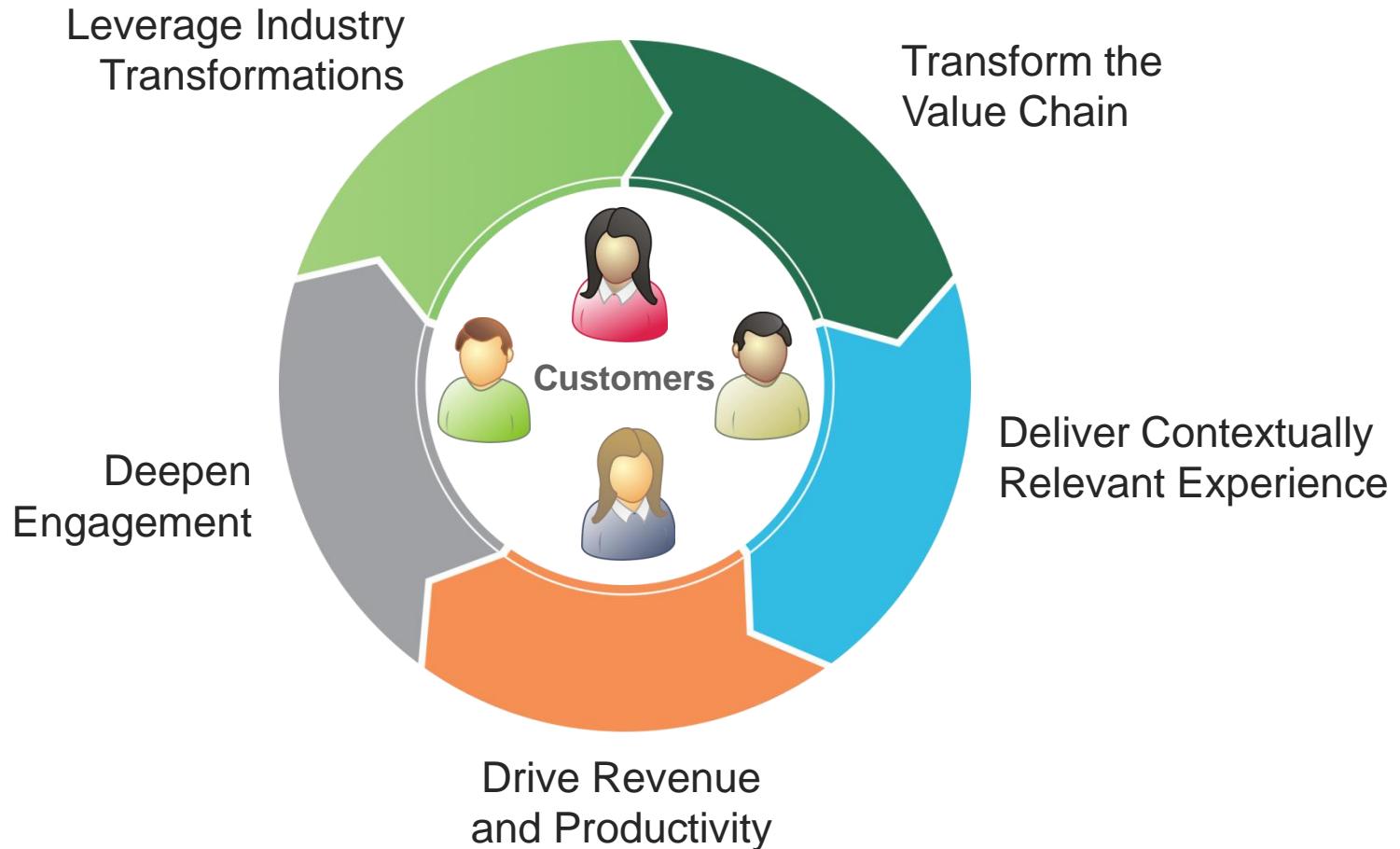
3. IBM Coremetrics Retail Data – as published in 11/24/12 IBM Press Release

4. IBM Global Technology Outlook 2013, Google

#sgvirtuaPSMA, Machina Research



# Imagine the opportunities for a mobile-first organization





Strategy &amp; Design Services

### Industry Solutions



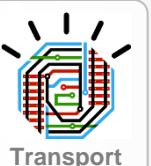
Banking



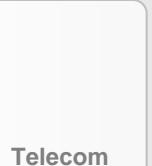
Insurance



Retail



Transport



Telecom



Government



Healthcare



Automotive

### IBM & Partner Applications



#### Application & Data Platform



#### Management



#### Security



#### Analytics

Devices

Network

Servers



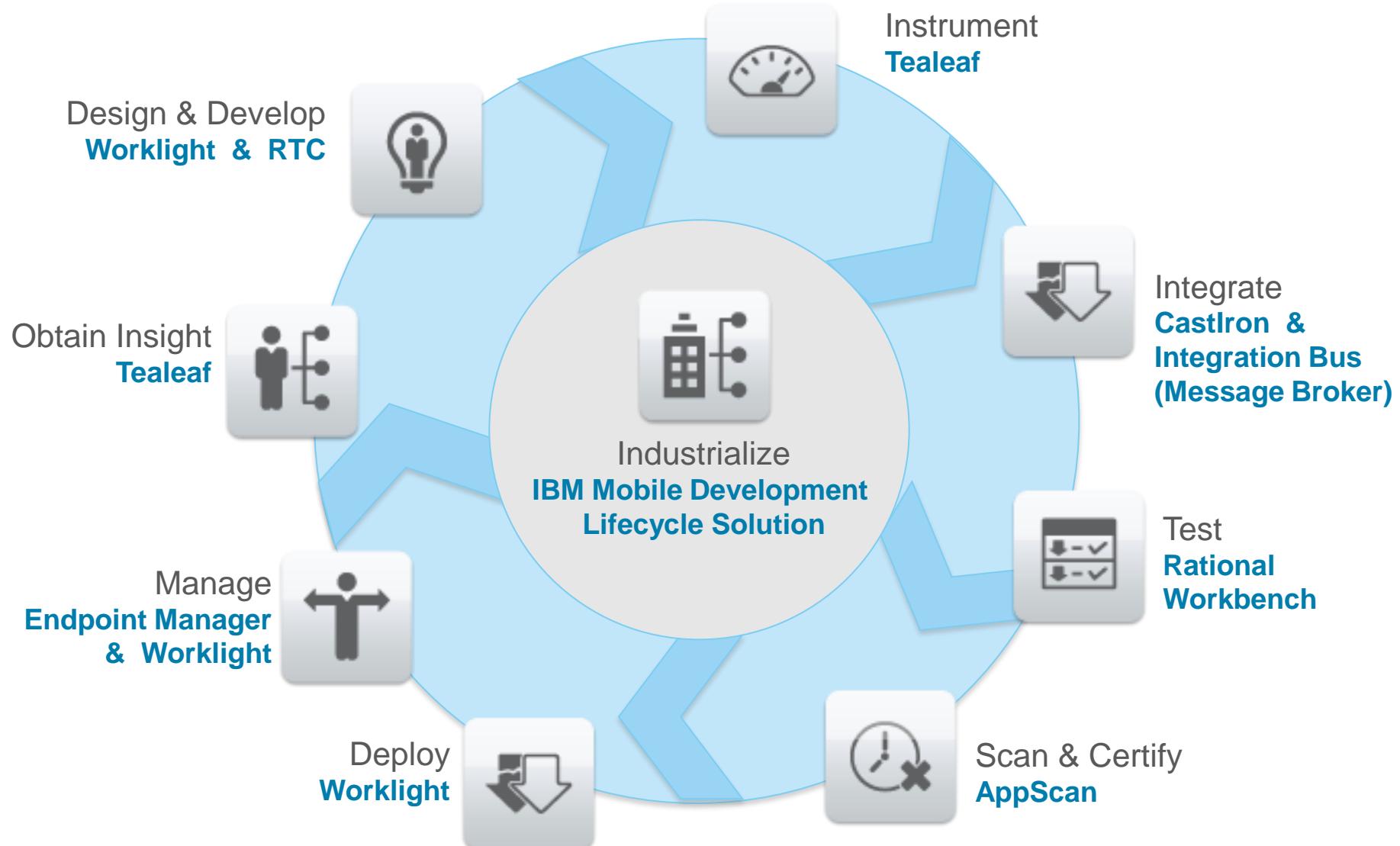
### Cloud & Managed Services



Development &amp; Integration Services

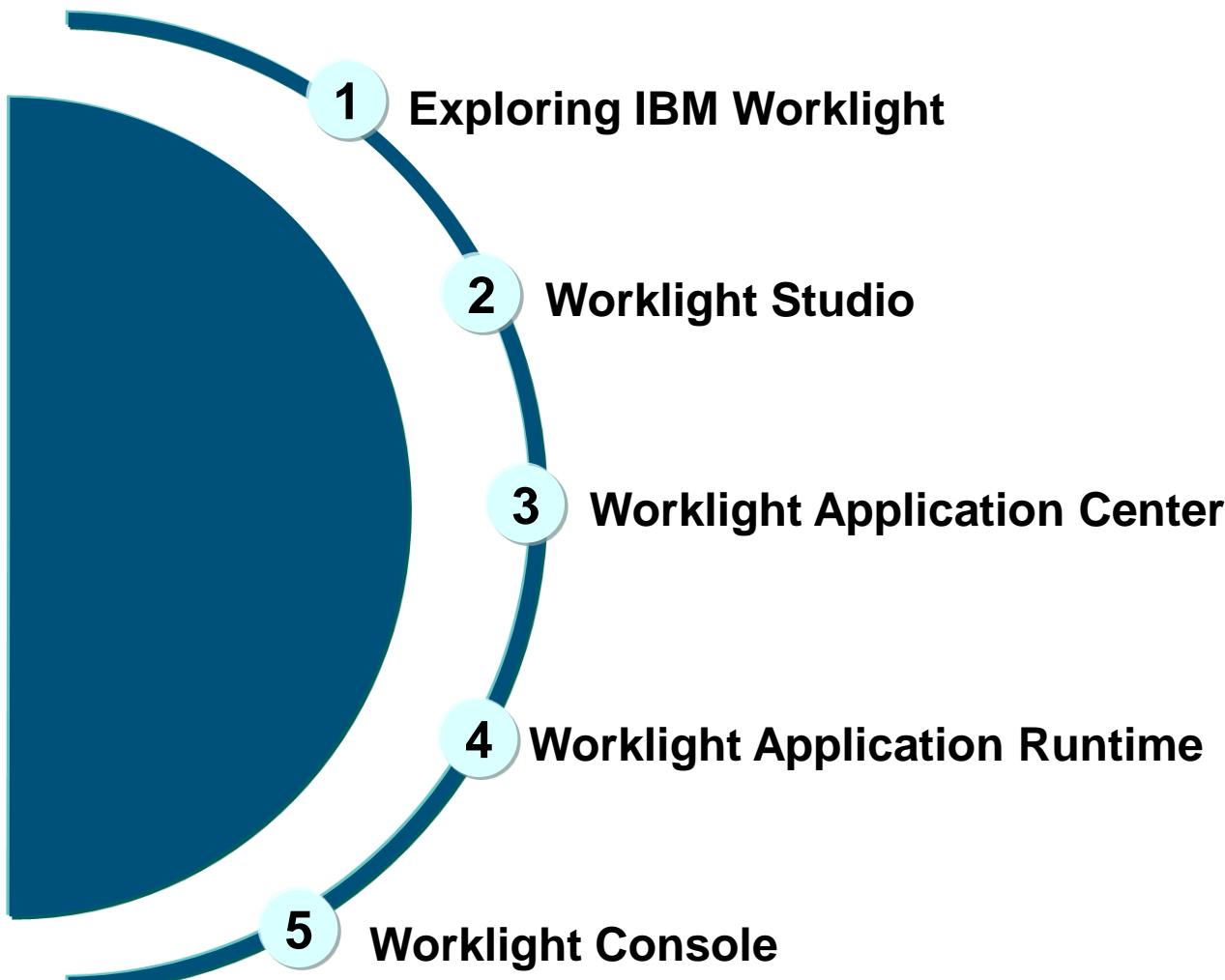


## Examples of IBM mobile offerings that align to development lifecycle





## Agenda





Worklight is an **open**, complete and advanced mobile application **platform** for HTML5, hybrid and native apps.





# IBM Worklight: A mobile application platform

*Speeding the development, integration and management of mobile applications and infrastructure*

## Accelerate Development

- Web, hybrid, and native development: open, flexible, standard-based, multi-screen/omni-channel
- Functional testing
- Development lifecycle tools and integration

## Facilitate App Security and Trust

- Server-enforced authentication
- App authenticity and user-app-device binding
- Secure and syncable on-device storage
- App version enforcement

## Enable User Engagement

- Unified push and SMS notifications
- Geolocation and context intelligence
- Mobile-friendly backend integration

## Support Mobile Analytics

- Efficient acquisition of analytics data
- Development, operational, and business analytics
- Offline and online event management integration

*IBM Worklight goes beyond mobile app UI creation to deliver mobile optimized, standards-based, middleware and tools for enterprise-grade mobile applications and services creation*





## Browser Access

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



## Browser Access

## Hybrid - Web

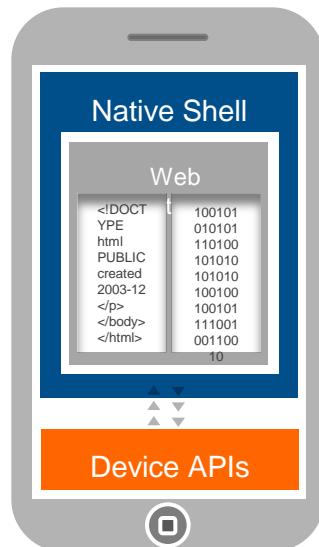
HTML5 code and Worklight runtime libraries packaged within the app and executed in a native shell.



## Downloadable

## Hybrid - Mixed

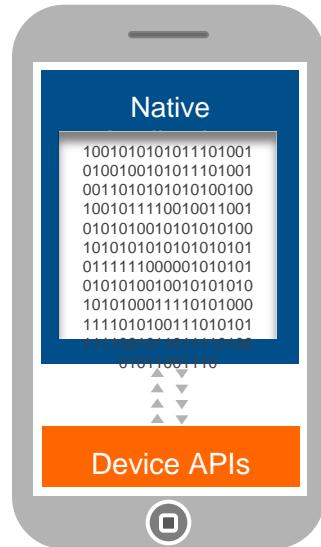
User augments web code with native language for unique needs and maximized user experience.



## Downloadable

# Native Apps

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



## Downloadable



# IBM Worklight: An Overview



## Studio

Leading tools for cross-platform hybrid development that maximize code reuse and enable per-device optimization



## Operational console

Operational management for deployments, version enforcement, and infrastructure access. Operational analytics provide real-time insight into application usage



## Application center

A cross-platform private mobile application store focused on the needs of a development organization or a team

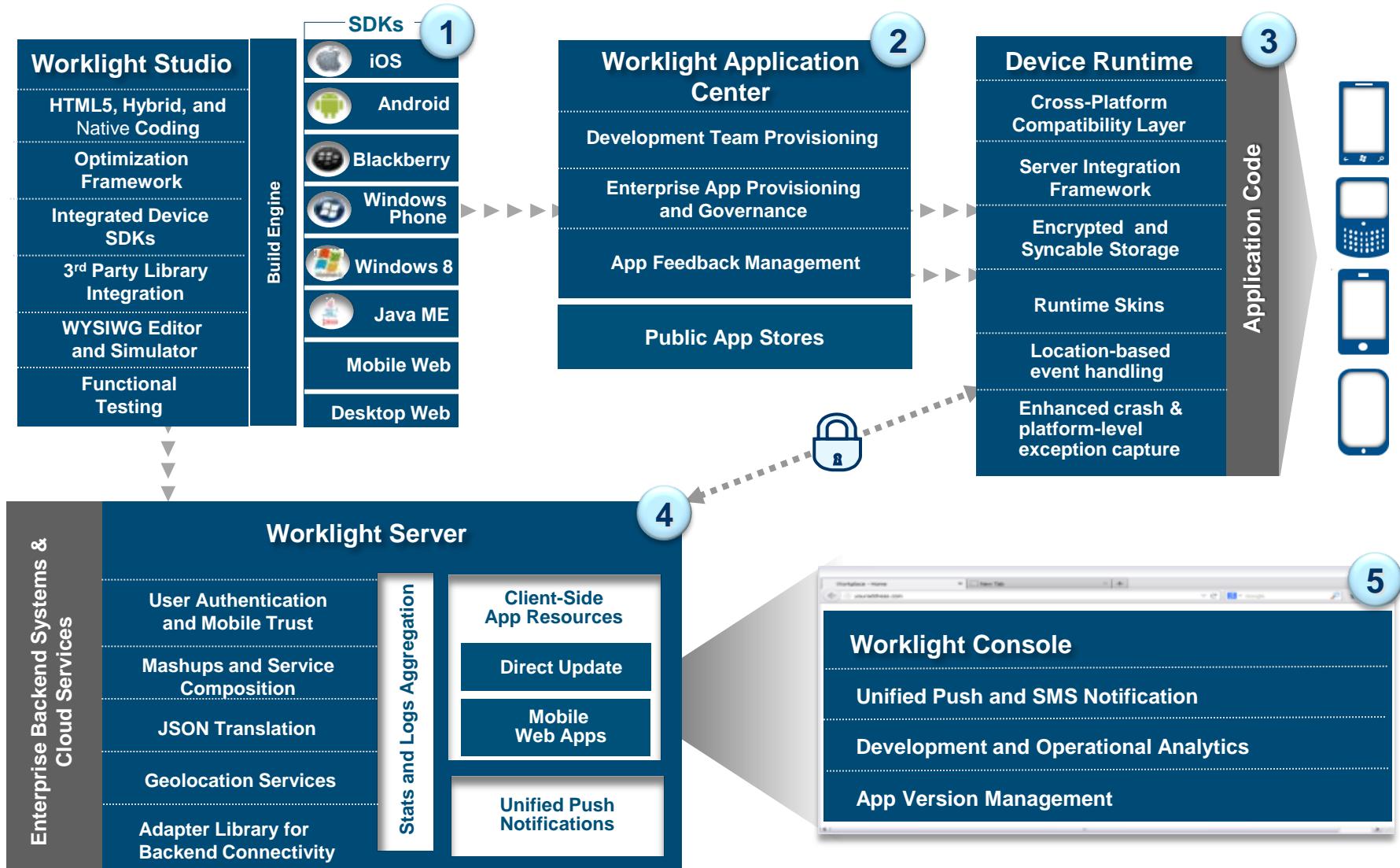


## Application runtime

Cross-platform services for the mobile channel (including client and server components). Client APIs available for both pure **native** as well as **hybrid** development



# Worklight Components





# Platform Support      Worklight v6.0

## ▪ Supported Eclipse Versions

- Juno 4.2, Indigo 3.7.2, and Helios 3.6.2
- Supported distributions: Eclipse Classic and Eclipse IDE for Java [EE] developers

## ▪ Supported Mobile OS

- Android 2.2, 2.3, 4.0, 4.1, 4.2
- iOS 5, iOS 6, iOS 6.1
- Windows 8, Windows RT, Windows Phone 7.5, 8
- BlackBerry 6, 7, 7.1, 10
- Java ME MIDP 2.0

## ▪ Third-party Library Support

- Apache Cordova (previously PhoneGap)
- Dojo Mobile
- jQuery
- Sencha

## ▪ Supported Application Servers

- WebSphere 7 & 8 (Distributed | zLinux)
- WebSphere 8.5, 8.55 Liberty Profile (included), ND/Base (not included) (Distributed | zLinux | Mac OS X [development])
- Apache Tomcat 7 (Linux | Windows | Mac OS X [development])

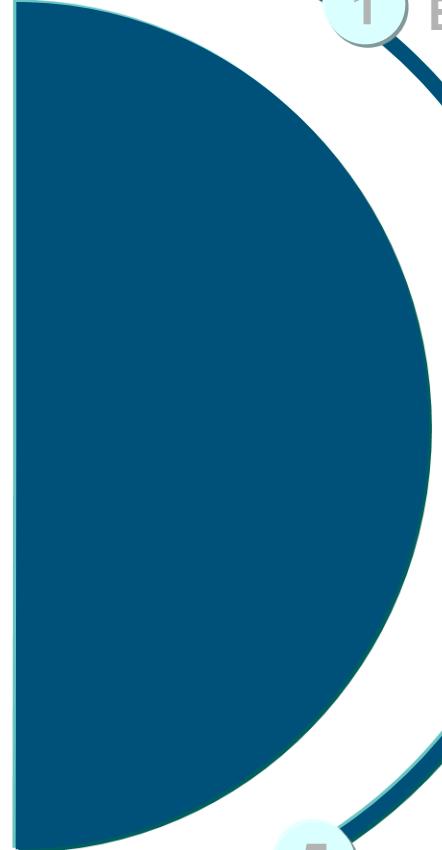
## ▪ Supported Databases

- DB2 Enterprise Server Edition v9.7, v10.1
- Apache Derby, SDK 10.8 (included), or later
- Oracle 11g Database server, Standard or Enterprise Editions, release 1 or later
- MySQL 5.1

See on-line documentation for latest version pre-reqs and platform support.



# Agenda

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1

Exploring IBM Worklight

2

**Worklight Studio**

3

Worklight Application Center

4

Worklight Application Runtime

5

Worklight Console



# Worklight Studio



## Eclipse Based IDE

- Native, hybrid and standard web development
- Environment-specific optimization
- Native development options
- Runtime skins
- 3rd-party library integration

dōjō

jQuery

Sencha



- Device SDK integration
- Access to emulators and debugging tools
- Supports auto-complete and validation



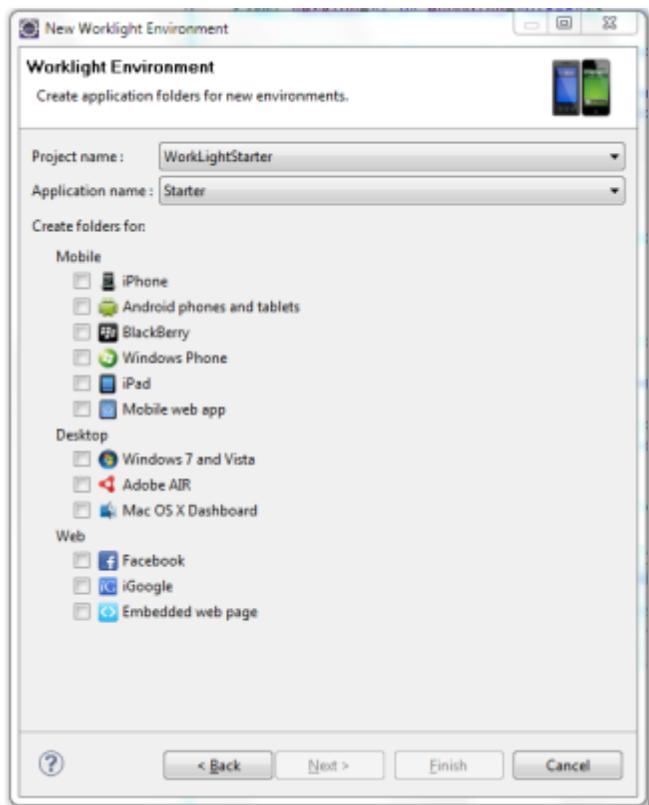
## Preview in Browser

Perform device-specific tests in the **Mobile Browser Simulator**: supports Cordova and Worklight client API

The screenshot shows the IBM Mobile Browser Simulator interface. At the top, there's a toolbar with a 'Mobile Browser Simulator' tab, a search bar containing 'localhost:8080/\_MobileBrowserSimulator/index.html?webpage=http%3A%2F%2Flocalhost%3A8080%2Fdemo1%2Fhome.html&devicesFilePath:', and various browser icons. Below the toolbar, the main area is titled 'Mobile Browser Simulator' and contains a message: 'The Mobile Browser Simulator displays mobile web pages in a variety of mobile browser sizes and shapes.' A sidebar on the left lists 'PhoneGap' APIs: Device, Events, Accelerometer, Battery, Camera, Capture, Compass, Contacts, File, Geolocation, Media, and Network. The central part of the interface shows three mobile device emulators: an Apple iPhone 4, a RIM BlackBerry 9550 Storm2, and an HTC Evo 4G. Each emulator displays a 'Mobile Banking' application with a 'Choose Your Activity' screen showing 'Account Overview' and 'Apply For A Loan' options. At the bottom left, a context menu for 'Run As' is open, showing three options: '1 Build All and Deploy', '2 Build Environment and Deploy', and '3 Preview', with '3 Preview' being the selected option.



# Worklight Studio - Environment Optimization

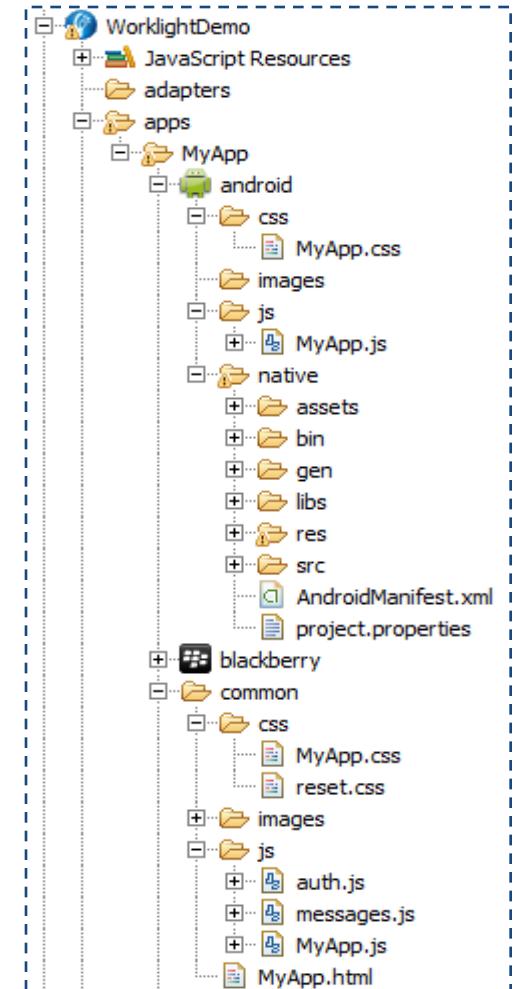


**JavaScript** from an environment folder is appended to the same file in the common folder

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

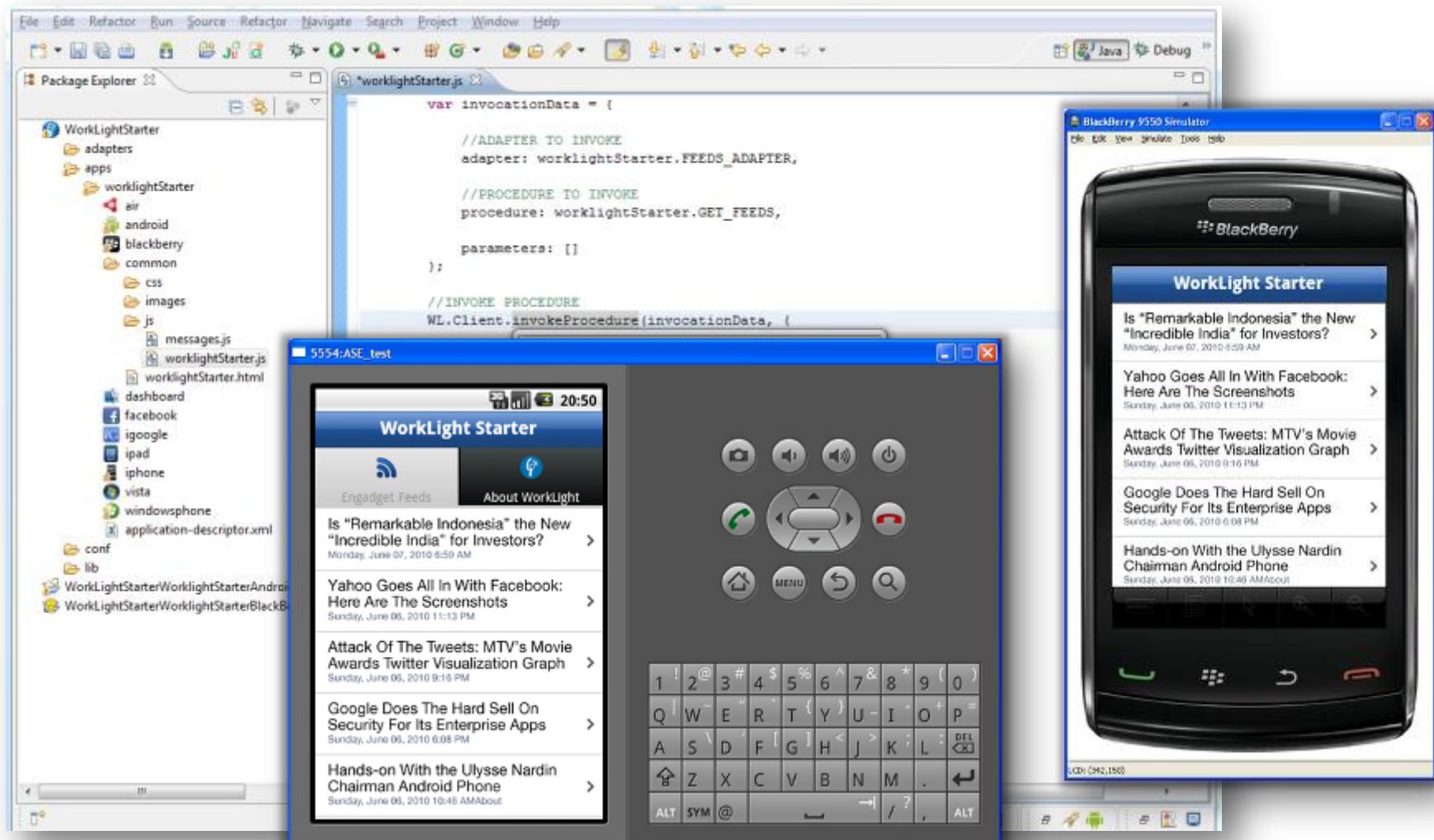
**HTML** files from an environment folder will override files in the common folder

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





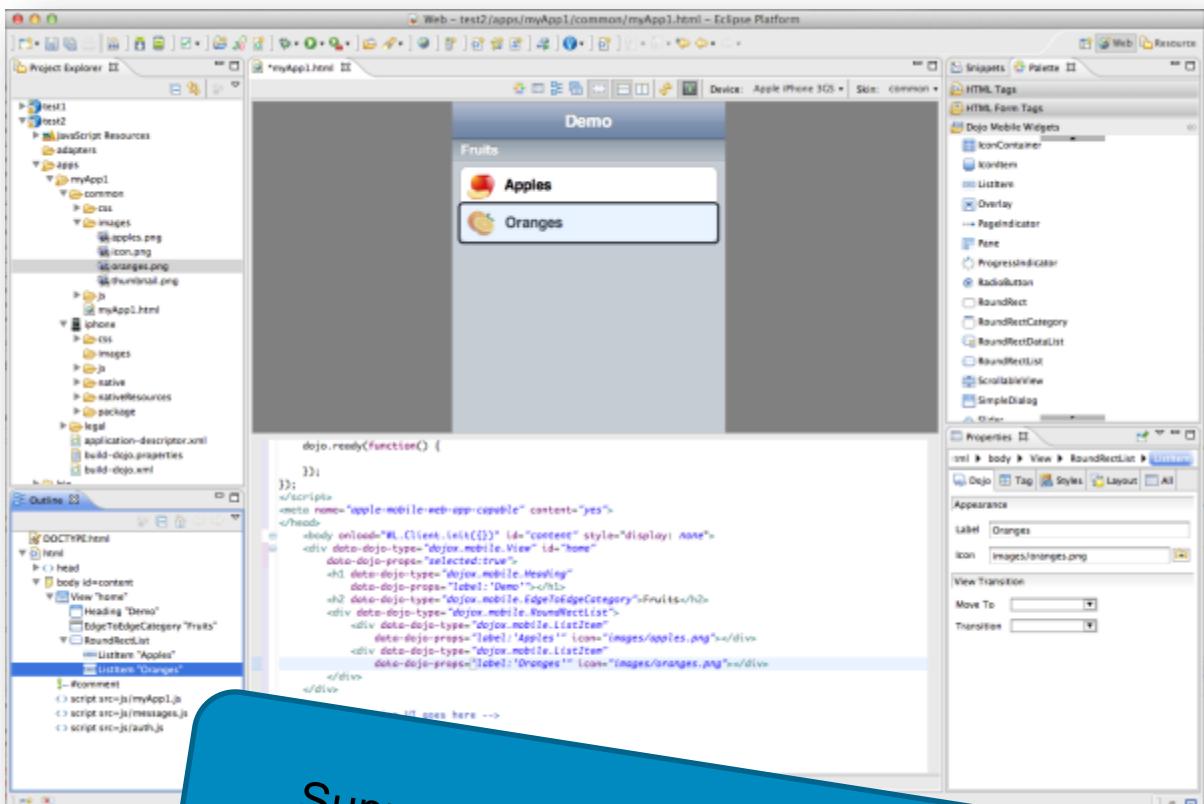
# Integrated Device SDKs





# Rich Page Editor (WYSIWYG UI Construction)

- **Eclipse perspective** for Worklight projects.
- **Optimized layout** for hybrid app development
- **Rich page editor:** drag-and-drop, palette of components, properties view, beautified outline, and raw editable source code
- **Changes to code automatically apparent in rich page editor, and vice-versa, for quick development**





New in  
Worklight 6.0

## Screen Patterns Based on Re-usable Mobile Patterns

- 40+ out-of-the-box common screen patterns
- Navigation, search, lists and tables, authentication, configuration panels
- For jQuery Mobile and Dojo Mobile
- Live preview using the underlying widget library

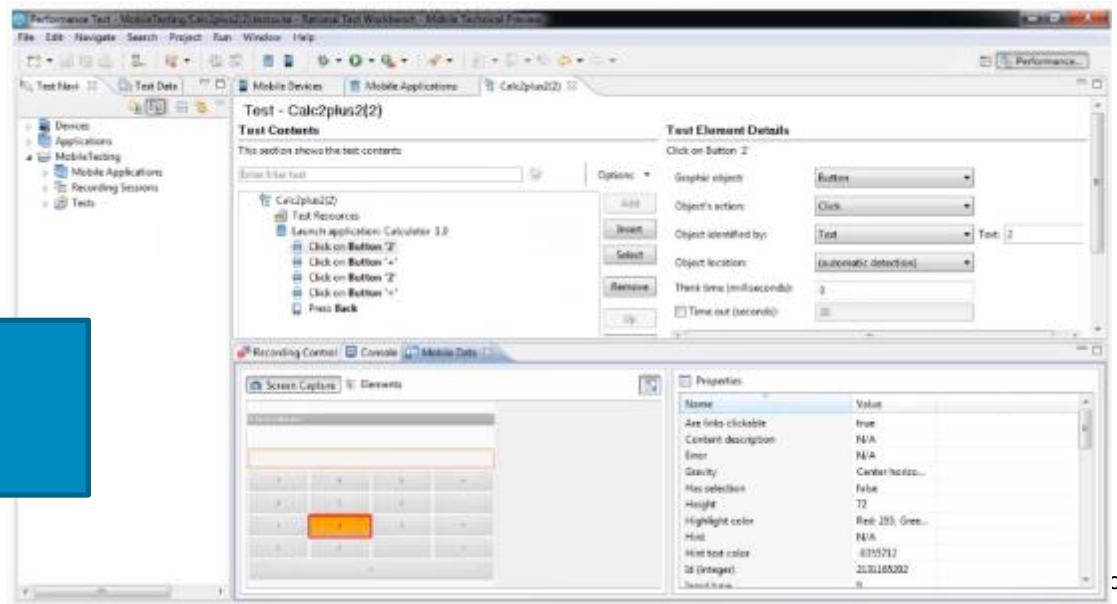
The screenshot shows the Worklight Studio interface for creating mobile applications. On the left, a sidebar titled 'Categories:' lists 'Lists', 'Authentication', 'Navigation and Search', and 'Configuration'. The main workspace displays two preview panes for an 'Apple iPhone 4S' device in 'Portrait' orientation at 50% scale. The top pane shows a 'Simple List' pattern with ten items labeled 'Item 1' through 'Item 10'. The bottom pane shows a 'Simple List with Footer' pattern, which includes a footer bar with 'Home', 'Search', and 'About' buttons. Below these preview panes are two additional components: a 'Category A' list with items 'Item 1' through 'Item 4', and a 'Text Input' field with a 'Toggle Switch' set to 'Off'.



## New to 6.0: Mobile Functional Test Tools

- Create, run, and automate tests on mobile applications
- Improve quality and time-to-value with industry-first automated testing
  - Create resilient and code-less test cases
  - Record once, play back on multiple devices
- Standardized, eclipse based
- Comprehensive – Android and iOS, Native and hybrid
- Complete – Recording, editing, and running on mobile devices
- Resilient – Same test runs across multiple devices
- Also for non-developers – Scripts in natural language description

Deliver consistently high quality across your mobile app portfolio.





# Agenda

1

Exploring IBM Worklight

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Worklight Studio

3

**Worklight Application Center**

4

Worklight Application Runtime

5

Worklight Console



# Application Center

The Worklight Application Center enables companies to easily set up an **enterprise app store** for their enterprise and development teams.

- The Application Center provides:
  - **Administrators** with fine-grained control over the distribution of mobile apps across the enterprise, including ACL and LDAP support;
  - **Employees** with a central location for the latest apps needed by their department and optimized for their device;
  - **Developers** with an easy way to distribute mobile builds and elicit feedback from development and test team members.

## Worklight Application Center

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[Development Team Provisioning](#)

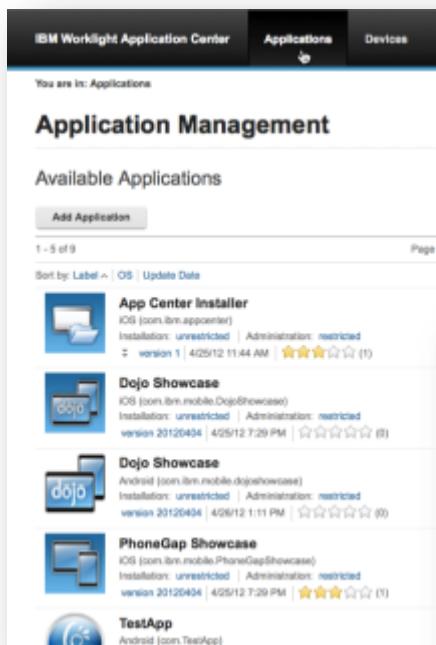

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[Enterprise App Provisioning and Governance](#)


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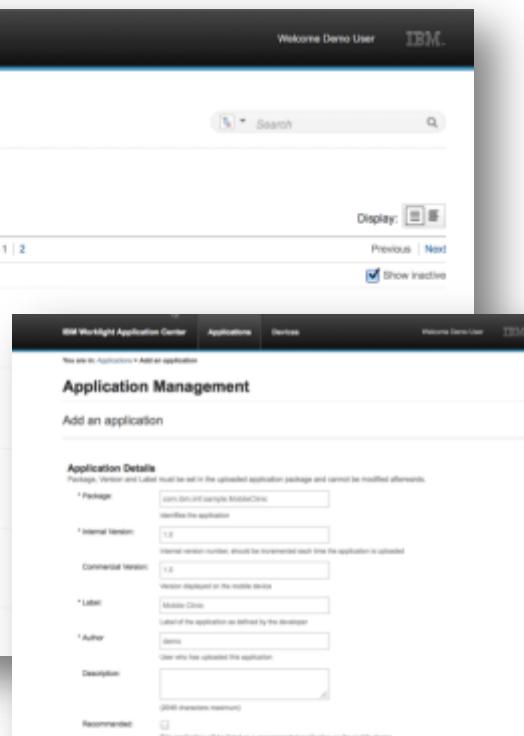
[App Feedback Management](#)

## Public App Stores



The screenshot shows the 'Available Applications' section of the Worklight Application Center. It lists several apps with their details:

- App Center Installer**: iOS, version 30120494, 4/25/12 11:44 AM, 5 stars (1)
- Dojo Showcase**: iOS, version 30120494, 4/25/12 7:29 PM, 5 stars (8)
- Dojo Showcase**: Android, version 30120494, 4/26/12 1:11 PM, 5 stars (8)
- PhoneGap Showcase**: iOS, version 30120494, 4/25/12 7:29 PM, 5 stars (1)
- TestApp**: Android, version 30120494, 4/26/12 1:11 PM, 5 stars (1)



The screenshot shows the 'Add an application' form. It includes fields for:
 

- Package**: com.ibm.mobile.sample.MobileClinic
- Internal Version**: 1.0
- Commercial Version**: 1.0
- Label**: Mobile Clinic
- Author**: Demo
- Description**: User who has uploaded this application

At the bottom, it says: "This application will be listed as a downloadable application on the mobile device." and "© 2013 IBM Corporation".



# Role Based Administration

The screenshot shows the IBM Worklight Application Center interface in Mozilla Firefox. The top navigation bar includes File, Edit, View, History, Bookmarks, Tools, and Help. Below the bar, there are tabs for IBM Worklight Application Center, Applications, Devices, and Users / Groups, with the latter being highlighted by a red box. The main content area displays the 'Application Management' section under 'Available Applications'. A circular callout highlights the 'Mobile Clinic (iOS)' application card, which shows its icon, name, version (VERSION 1.0), last modified date (09/29/12), and a star rating of 5 stars (0 reviews). A red box highlights the 'Access control: unrestricted' text next to the application card. Another circular callout highlights the 'Installation Access Control' section, which lists users with permission to install the application. It shows a checkbox for 'Access control enabled' (checked), a search input field 'Type to find user or group', and an 'Add' button. The list includes a user named 'demo' with the status 'Demo User'. At the bottom, there are pagination controls for 1 of 1 and page 1, along with item selection buttons for 20, 50, 100, and All items.

## User Groups

Groups defined in Application Center that are...

Create group...

1 of 1

Sort by: Name ▾

Test Group  
Edit members

Show: 10 | 20 | 50 | 100 | All items

## Registered Users

Registered users of the Application center: mobile users in control list.

Register user...

1 - 3 of 3

Page 1

Sort by: Name ▾

appcenteradmin  
 demo  
 guest

Show: 10 | 20 | 50 | 100 | All items



# Applications Can Be Installed and Favorited

New in  
Worklight 6.0

Catalog      ↗    ⌂

Name	Popular	Last Update
 FlightTicket 1.0	★★★★★ (0)	›
 Hello Fish3 1.0	★★★★★ (0)	›
 IBM App Center 1.0	★★★★★ (0)	›



Catalog    Favorites    Updates

◀ Details    ⌂

 Hello Fish3  
Version: 1.0  
Updated on: 4/15/13  
Size: 63.9k  
★★★★★ (0)

Install

Lore ipsum dolor sit amet, consectetur adipiscing elit. Sed nisi tortor, pulvinar vitae feugiat nec, volutpat vel arcu. Mauris purus ante, tincidunt sit amet dignissim vel, pellentesque vel massa. Pellentesque cursus vehicula nulla sed pretium. Sed lacinia tortor nec dolor luctus nec ullamcorper nibh posuere. Mauris sit amet ornare leo. Aliquam ultricies ullamcorper suscipit. Phasellus vulputate auctor lobortis.

Catalog    Favorites    Updates

◀ Details    ⌂

 Hello Fish3  
Version: 1.0  
Updated on: 4/15/13  
Size: 63.9k  
★★★★★ (0)

Install

Lore ipsum dolor sit amet, consectetur adipiscing elit. Sed nisi tortor, pulvinar vitae feugiat nec, volutpat vel arcu. Mauris purus ante, tincidunt sit amet dignissim vel, pellentesque vel massa. Pellentesque cursus vehicula nulla sed pretium. Sed lacinia tortor nec dolor luctus nec ullamcorper nibh posuere. Mauris sit amet ornare leo. Aliquam ultricies ullamcorper suscipit. Phasellus vulputate auctor lobortis.

Application is marked as favorite

Catalog    Favorites    Updates



## Users Can Review and Provide Feedback

Enhanced!

The diagram illustrates the user flow for reviewing an app. It starts with a 'Catalog' screen showing several apps. A blue arrow points down to a 'Details' screen for the 'Hello Fish3' app. From there, another blue arrow points to a review dialog box.

**Catalog Screen:**

- FlightTicket: Version 1.0, 4 stars (0 reviews)
- Hello Fish3: Version 1.0, 4 stars (1 review)
- IBM App Center: Version 1.0, 5 stars (8 reviews)
- My Android App: Version 6.0, 4 stars (0 reviews)

**Details Screen for Hello Fish3:**

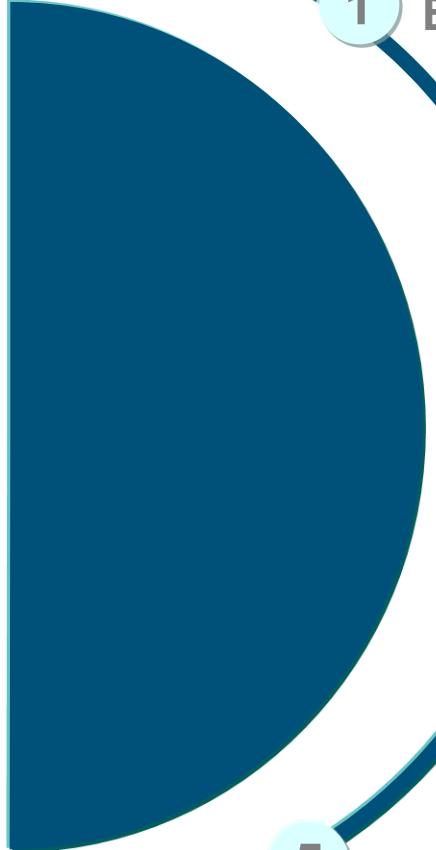
- Version: 1.0
- Updated on: 4/15/13
- Size: 63.9k
- Rating: 4 stars (1 review)

**Review Dialog Box:**

- Rate installed version (1.0)
- Rating scale from 1 to 5 stars
- Text area for review content
- Send button



# Agenda

A large, solid blue circle is positioned on the left side of the slide, partially overlapping the agenda items.

1

**Exploring IBM Worklight**

2

**Worklight Studio**

3

**Worklight Application Center**

4

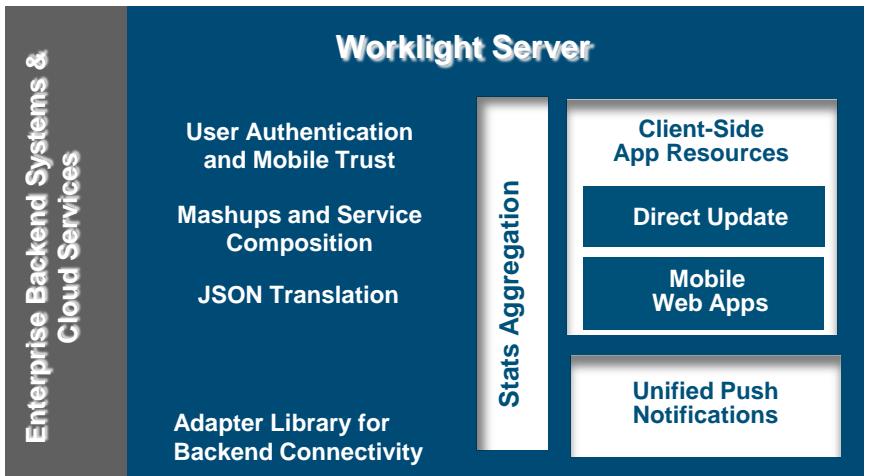
**Worklight Application Runtime**

5

**Worklight Console**



# Worklight Server



The screenshot shows the "MyFeeds" interface. It displays two feed versions for an Android application:

- Version 1.1: Active, Last updated at 2012-04-10 13:02. Authenticity Testing: Disabled.
- Version 1.0: Disabled, Last updated at 2012-04-09 13:02. Authenticity Testing: Disabled.

Notification text: "Upgrade to version 1.1". URL to app store or market: <http://www.ibm.com>.

Below the feeds, there is an "Active User Report" section showing a bar chart of active users over the past 30 days. The data is as follows:

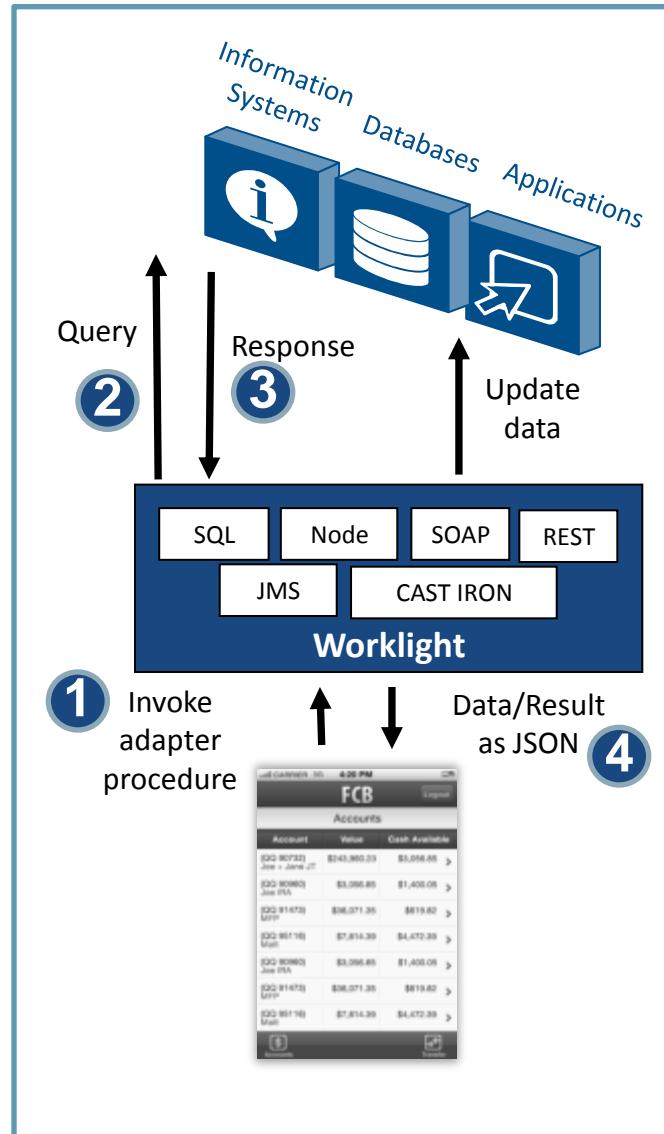
Date	# of Users
10-April-2012	10
9-April-2012	3
8-April-2012	3
7-April-2012	3
6-April-2012	7
5-April-2012	11
29-March-2012	3
28-March-2012	1
27-March-2012	5
23-March-2012	1
22-March-2012	8
21-March-2012	2
20-March-2012	1
16-March-2012	3
15-March-2012	10
12-March-2012	11
8-March-2012	1

- Adapters with support for SOAP, REST, SQL, JMS, IBM Cast Iron, and Node.js (preview in 6.0)
- Performs Data Transformation to streamline back-end data for mobile consumption – XSLT built in
- Server and device Security control
- Supports Physical Clustering for high availability
- Controls Application Deployment and Versioning
- Push Notification administration
- Analytics including user adoption, usage data, app crash and exceptions



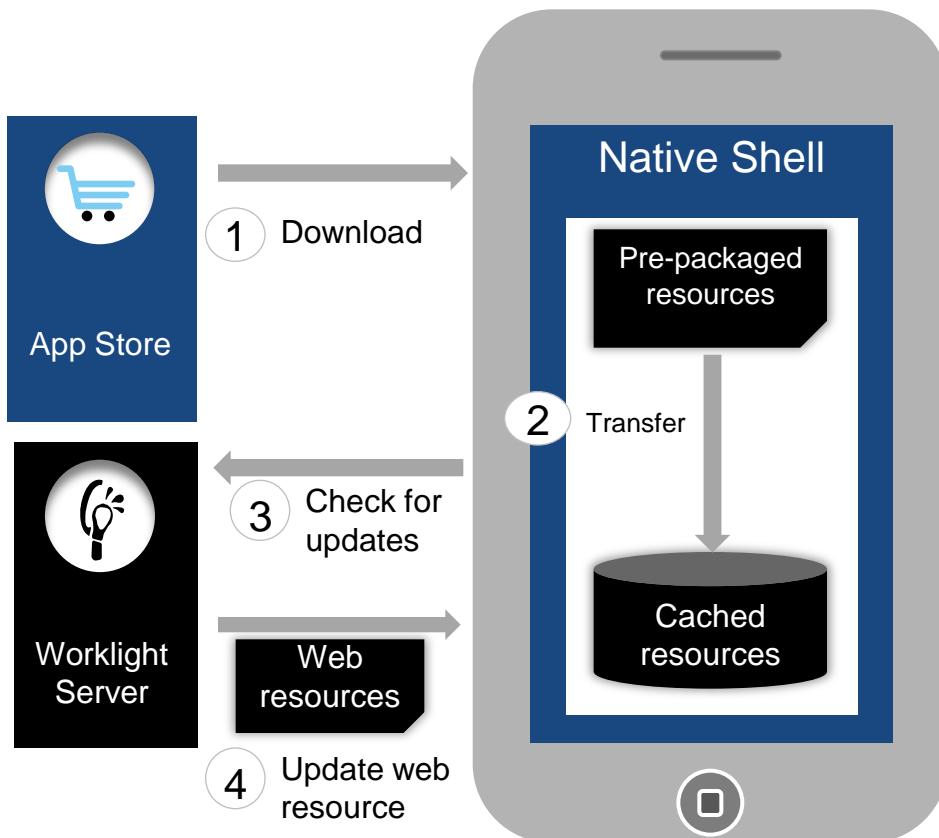
# Worklight Server: Adapters

- Simplicity and Rapid Development
  - Defined using simple XML syntax, and easily configure 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
- Transparency
  - Data retrieved from back-end applications is exposed in a uniform manner regardless of the adapter type
- Read-only as well as Transactional Capabilities
  - Adapters support read-only and transactional access modes to back-end systems





# Worklight Runtime – Direct Update On-device Logic

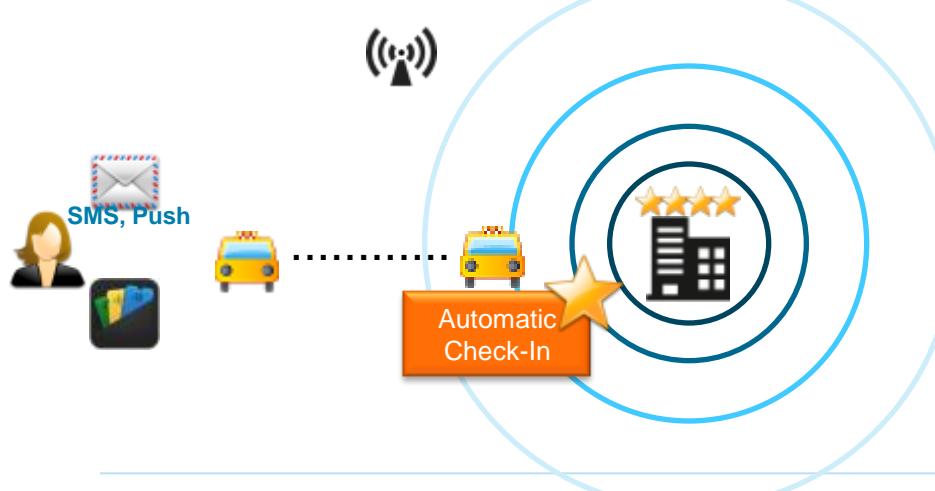


1. Web resources packaged with app to ensure initial offline availability
2. Web resources transferred to app's cache storage
3. App checks for updates on startup and foreground events
4. Updated web resources downloaded when necessary, with user confirmation or silently



## Geo-location Scenarios

Automated hotel check-in



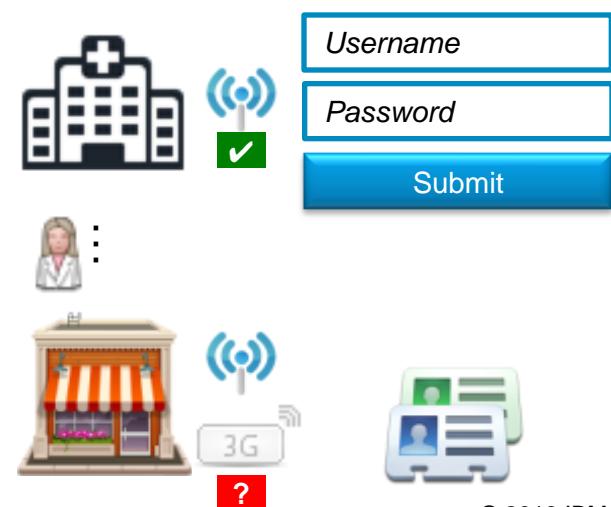
More engaging mall experience



Routing trucks arriving at warehouse



Location-aware security for hospital app

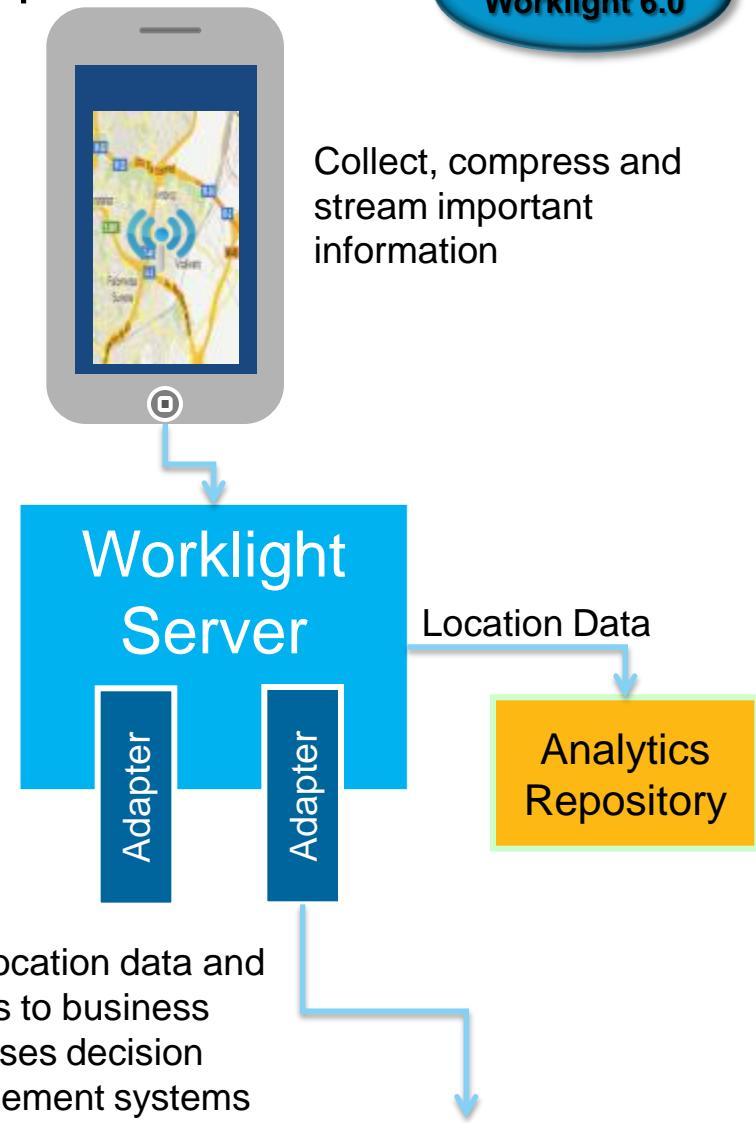




# New to 6.0: Geo-Location Sense and Response

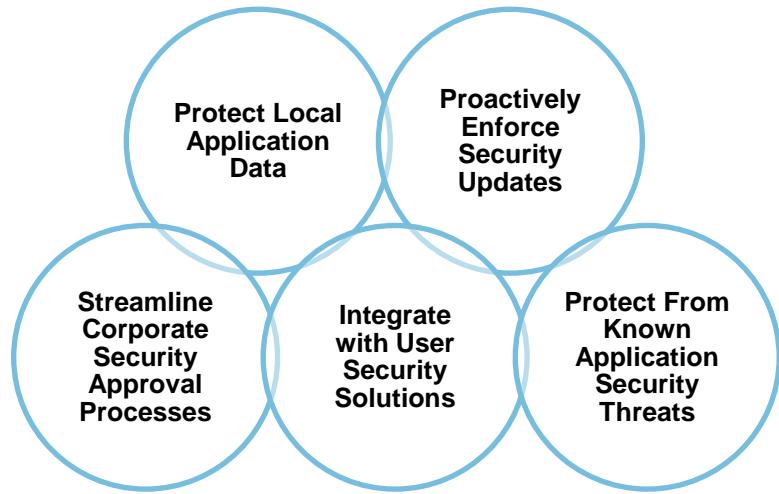
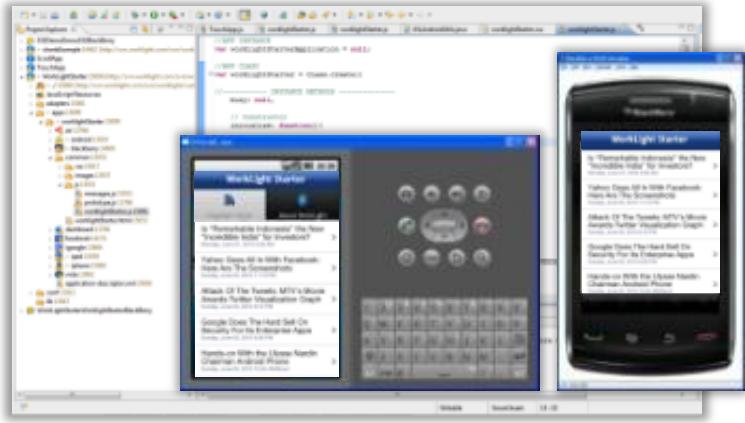
New in  
Worklight 6.0

- Client-side APIs
  - Efficiently sampling GPS, cell triangulation, and Wifi coordinates
  - Sampling while app in the foreground and in the background
  - Batch collected data and send to server
  - Available also when app is offline
  - Developer in full control
- Events based on
  - Proximity to point of interest
  - Entering, leaving a geo-fence
- Server side – maintain an evolving context that is available for all adapter procedures
  - React to important geo events
  - Enrich with business data
  - Integrate context information with business processes
  - Storage for analytics purposes





# Worklight Security



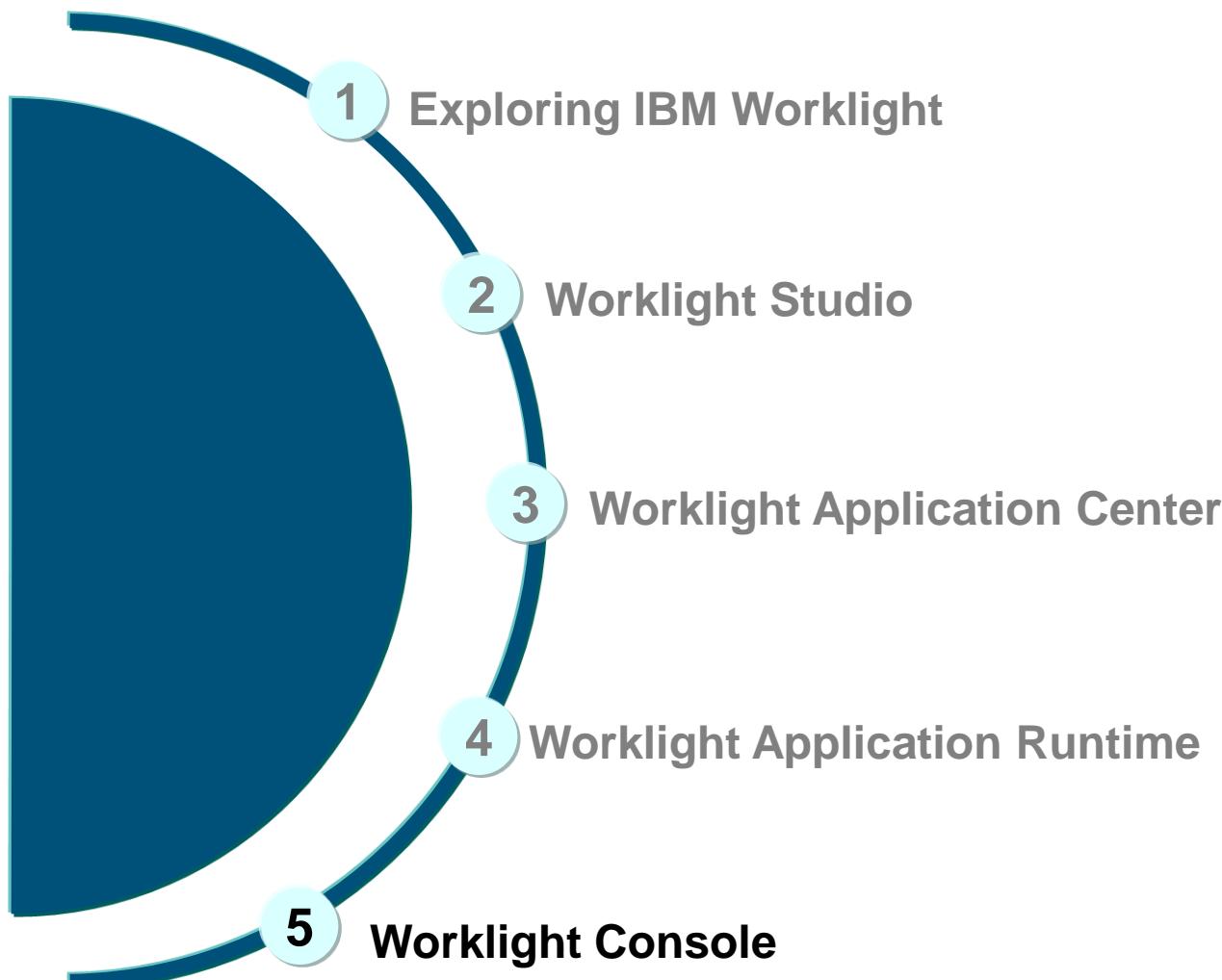
## Application Security Objectives

### Application Security Design:

- Develop secure mobile apps using corporate best practices
- Encrypted local storage for data
- Offline user access
- Challenge response on startup
- App authenticity validation
- Enforcement of organizational security policies



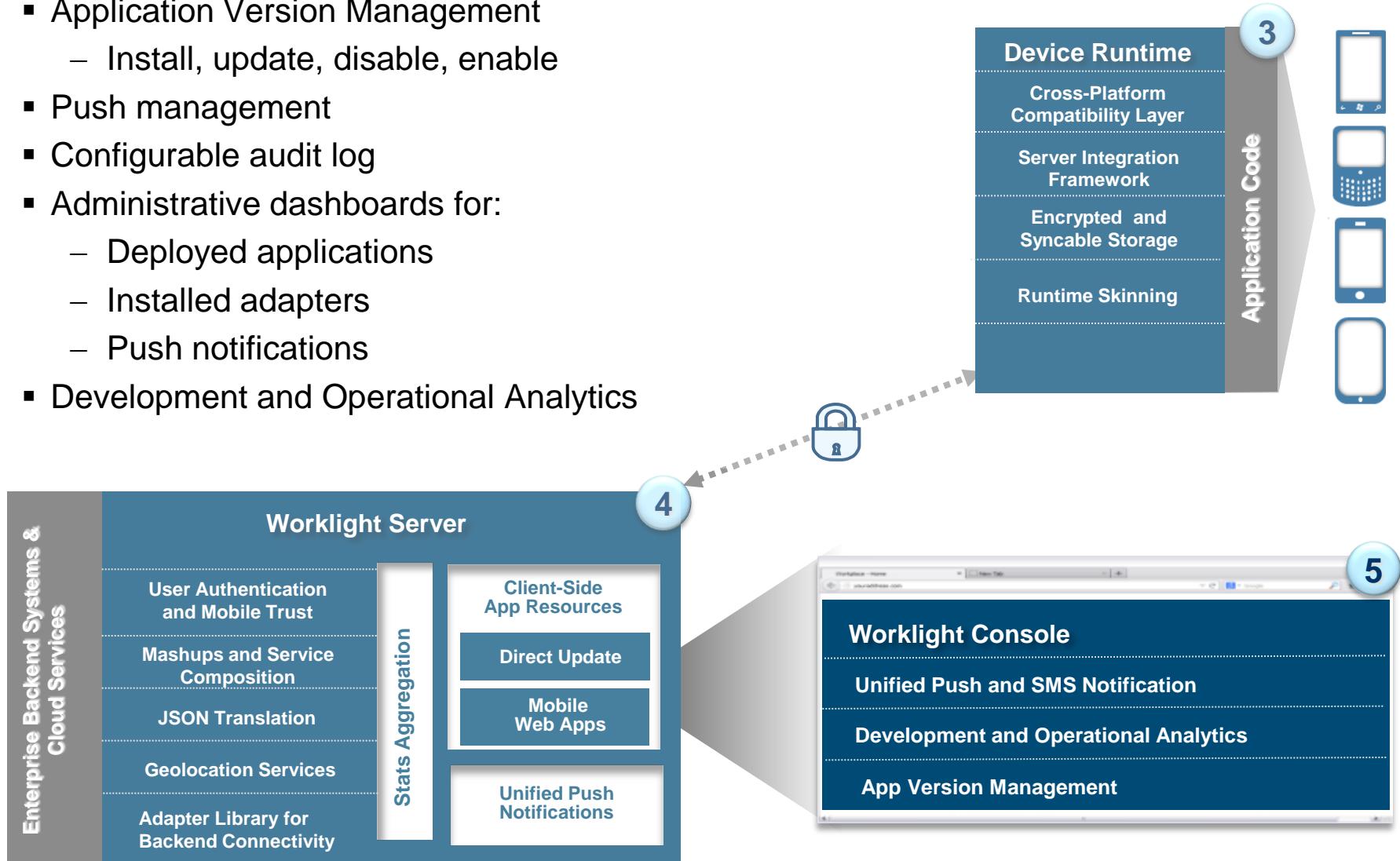
# Agenda





# Worklight Console

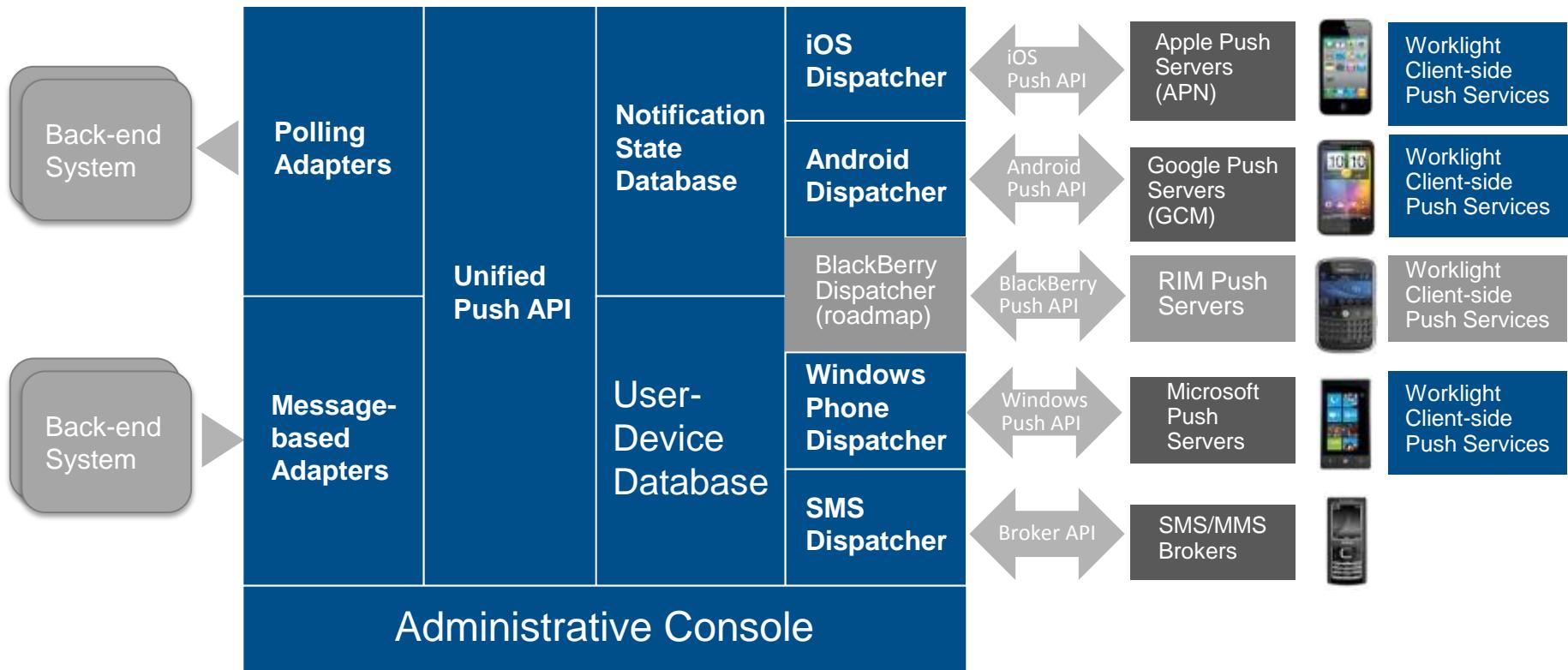
- Application Version Management
  - Install, update, disable, enable
- Push management
- Configurable audit log
- Administrative dashboards for:
  - Deployed applications
  - Installed adapters
  - Push notifications
- Development and Operational Analytics





# Unified Push Notifications

- Uniform access to push notifications providers
  - Register for, Notify and Receive a notification
- Register for and Send SMS based notifications
  - E.g., for JME





# Disable Applications

- **Remote Disable:** Deny access to an app of a specific version on a specific environment
  - Ensure users use the latest security fixes
  - Avoid using previously installed old versions that are no longer supported

**Push Store**

PushStore  
Preview as: iPhone Last updated at: 2012-03-01 21:58

iPhone Version 1.0 Disabled   Authenticity Testing: ! Disabled

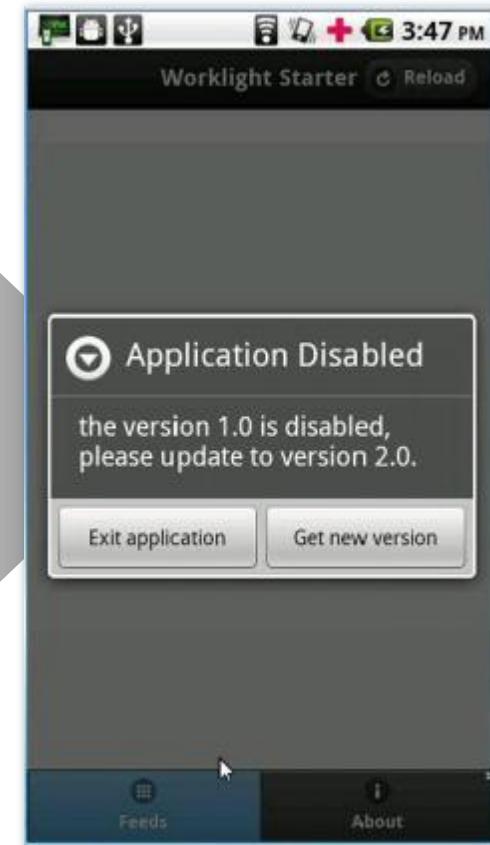
Notification text (will appear on the device): This version is no longer supported.  
Please upgrade.

URL to app store or market: <http://itunes.com/myapp>

Lock this version [?](#)

Android Version 1.0 Active   Authenticity Testing: ! Disabled

Lock this version [?](#)

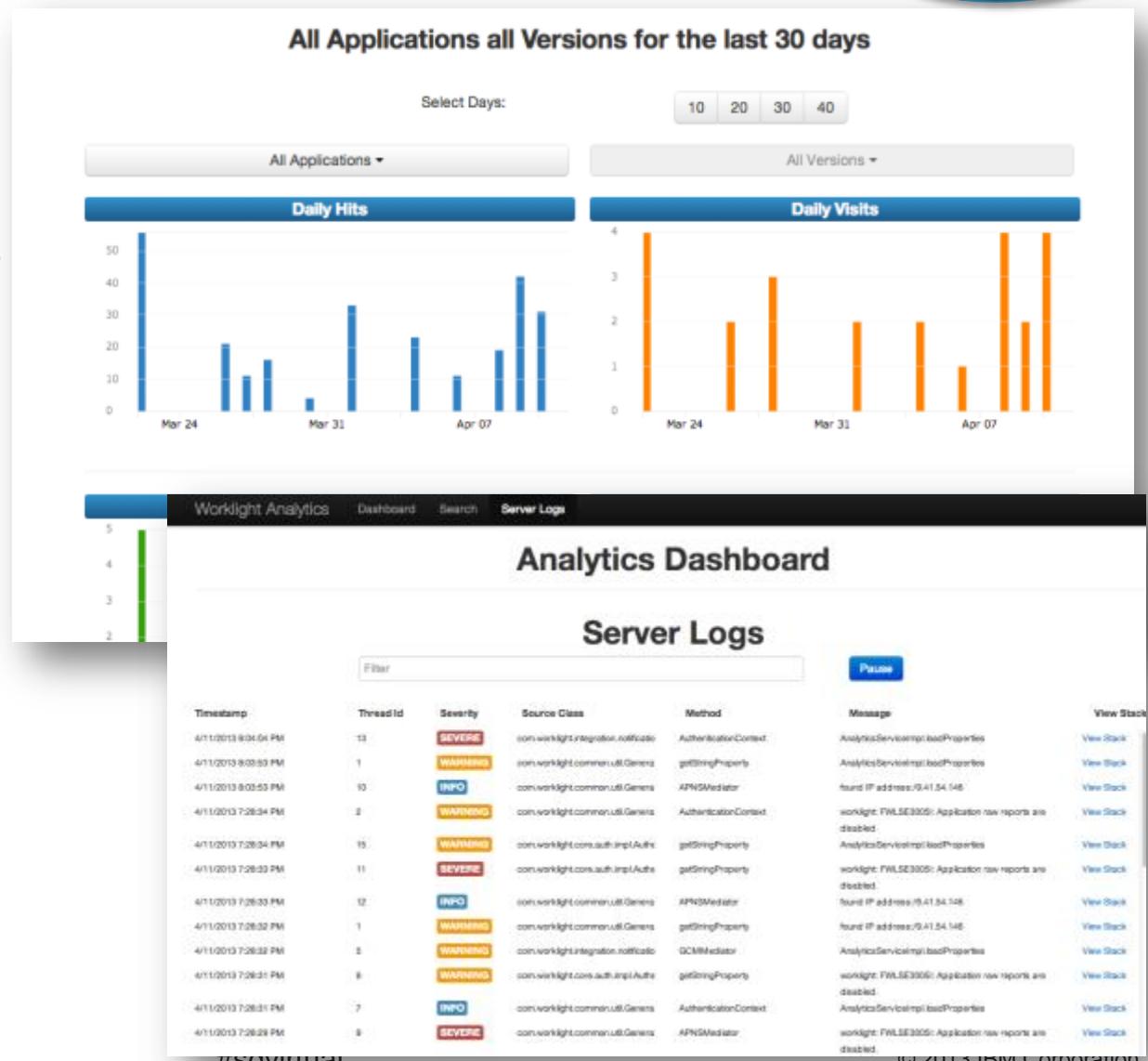




# Unified Client and Server Analytics

New in  
Worklight 6.0

- Mobile device
  - Device and app properties
  - User actions and called adapter procedures
  - Exceptions, logs, response time
  - Geo data
- Server
  - Raw analytics data
  - Log: exceptions, security issues, and generic log messages.
- Storage
  - Data is stored in a new analytics repository
  - Keeping BIRT based reports for backward compatibility





# IBM Worklight: A mobile application platform

*Speeding the development, integration and management of mobile applications and infrastructure*

## Accelerate Development

- Web, hybrid, and native development: open, flexible, standard-based, multi-screen/omni-channel
- Functional testing
- Development lifecycle tools and integration

## Facilitate App Security and Trust

- Server-enforced authentication
- App authenticity and user-app-device binding
- Secure and syncable on-device storage
- App version enforcement

## Enable User Engagement

- Unified push and SMS notifications
- Geolocation and context intelligence
- Mobile-friendly backend integration

## Support Mobile Analytics

- Efficient acquisition of analytics data
- Development, operational, and business analytics
- Offline and online event management integration

*IBM Worklight goes beyond mobile app UI creation to deliver mobile optimized, standards-based, middleware and tools for enterprise-grade mobile applications and services creation*





# RESOURCES

Product information:

<http://www-03.ibm.com/software/products/us/en/worklight/>

Getting Started:

•<http://www.ibm.com/developerworks/mobile/worklight/getting-started.html>



# Questions





धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบคุณ

Thai

Спасибо

Russian

Gracias

Spanish

Thank You

English

شُكْرًا

Arabic

Merci

French

Obrigado

Brazilian Portuguese

Grazie

Italian

多謝

Simplified Chinese

Danke

German

நன்றி

Tamil

ありがとうございました

Japanese

감사합니다

Korean