



Conviértase en una empresa móvil

IBM Worklight



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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 time¹
- 2

Insights from mobile data provide new opportunities
 75% of mobile shoppers take action after receiving a location based messages²
- 3

Mobile is about transacting
 96% year to year increase in mobile cyber Monday sales between 2012 and 2011 ³
- 4

Mobile must create a continuous brand experience
 90% of users use multiple screens as channels come together to create integrated experiences⁴
- 5

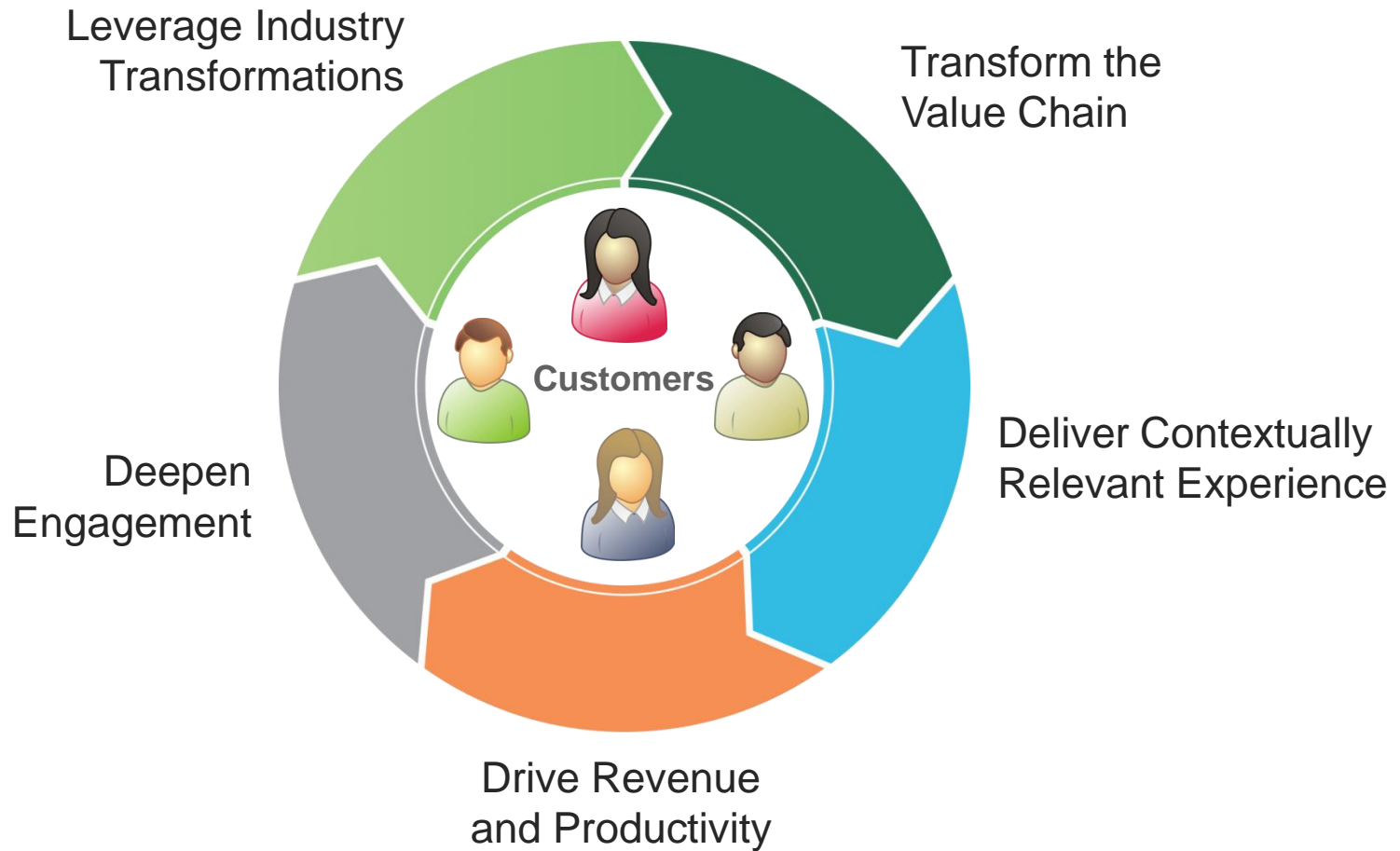
Mobile enables the Internet of Things
 Global Machine-to-machine connections will increase from 2 billion in 2011 to **18 billion** at the end of 2022⁵

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
 #sgvirtual GSMA, Machina Research



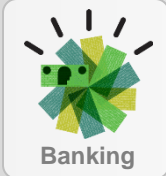
Imagine the opportunities for a mobile-first organization





Strategy & Design Services

Industry Solutions



Banking



Insurance



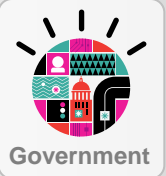
Retail



Transport



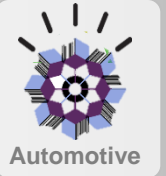
Telecom



Government



Healthcare



Automotive

IBM & Partner Applications



Application & Data Platform



Management



Security



Analytics

Devices

Network

Servers



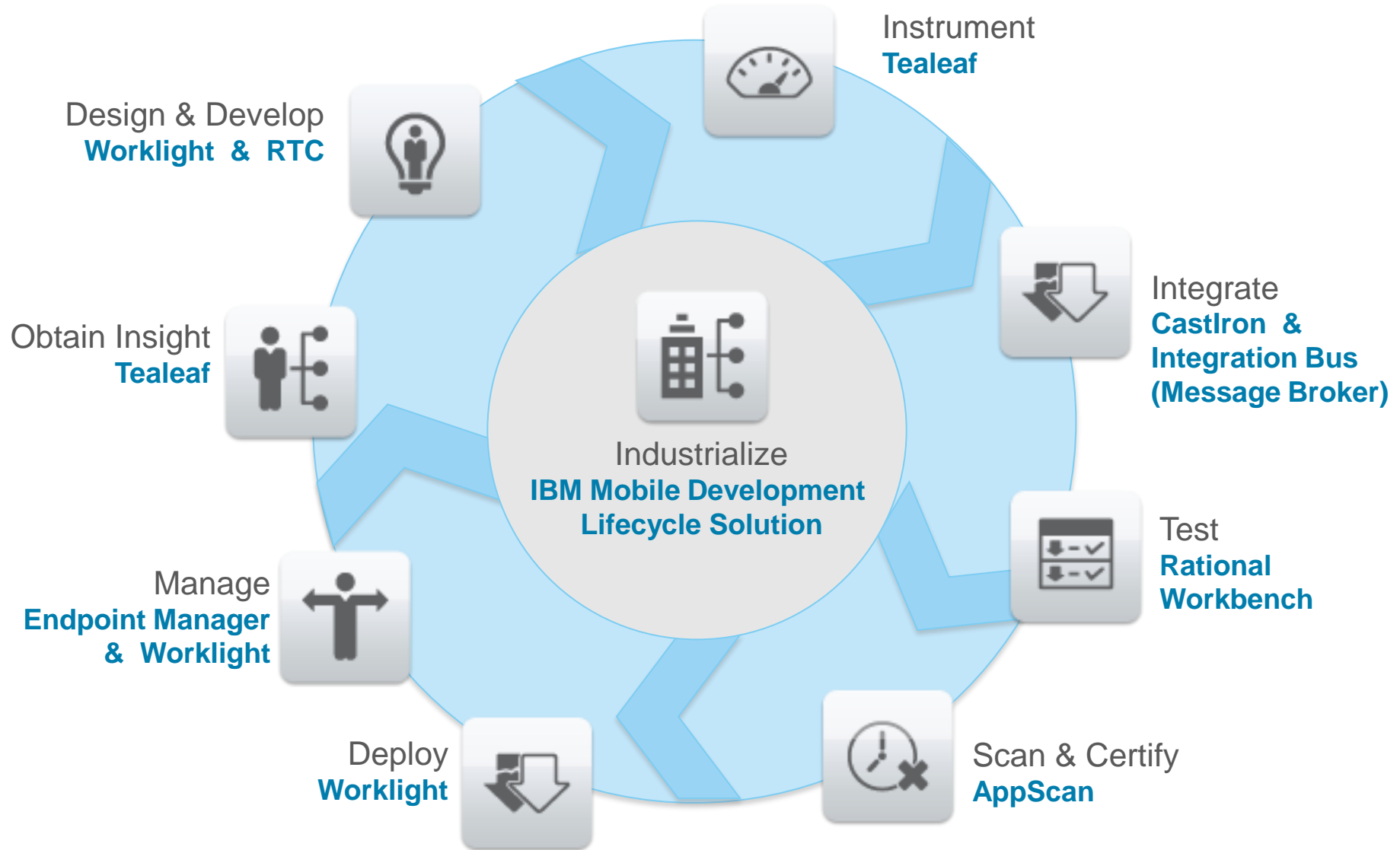
Cloud & Managed Services



Development & Integration Services

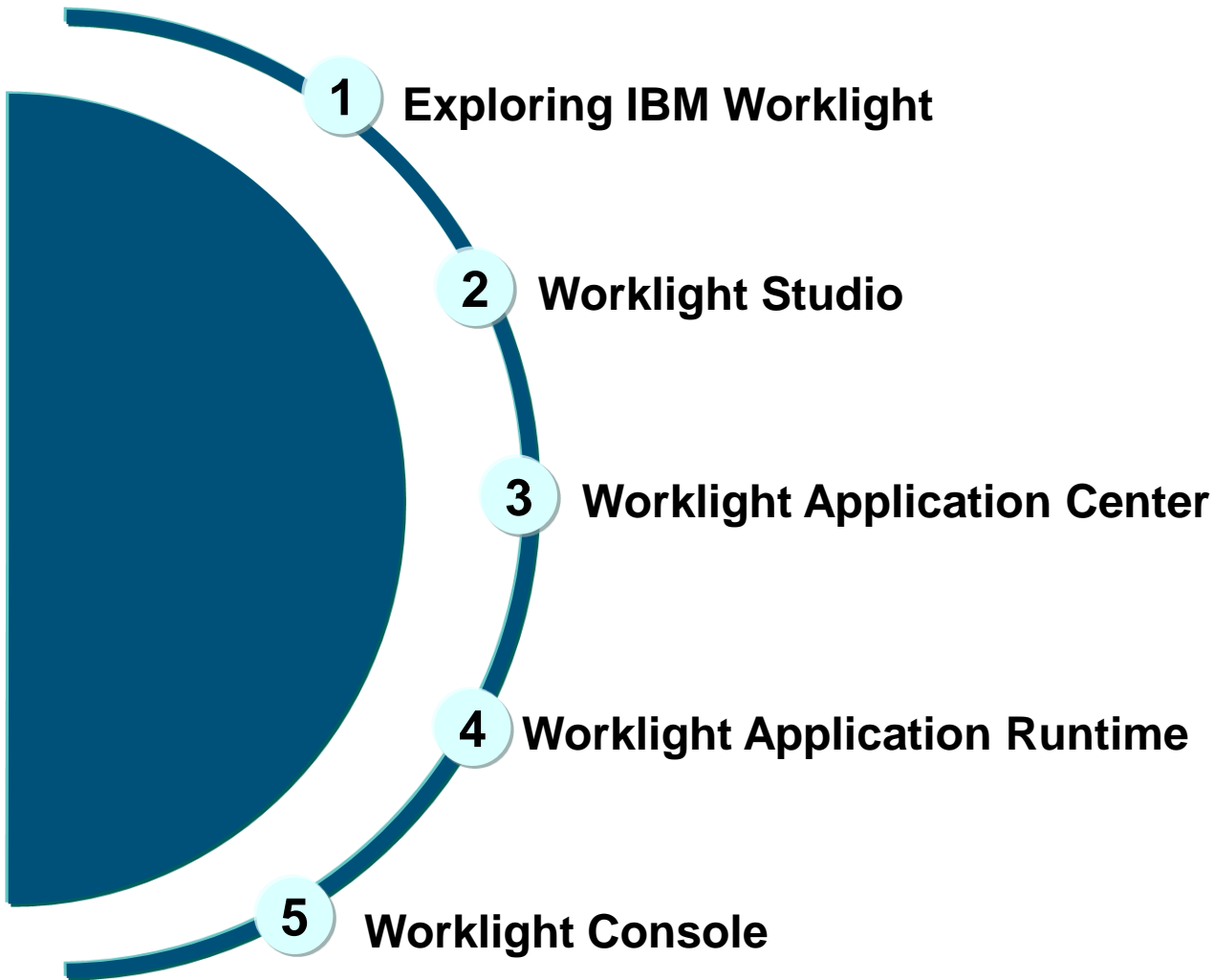


Examples of IBM mobile offerings that align to development lifecycle





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

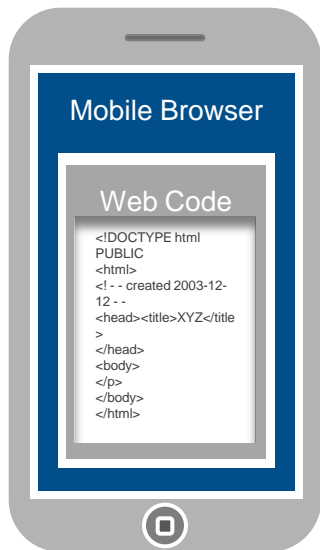
IBM Worklight goes beyond mobile app UI creation to deliver mobile optimized, standards-based, middleware and tools for enterprise-grade mobile applications and services creation





Browser Access

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



Browser Access

Hybrid - Web

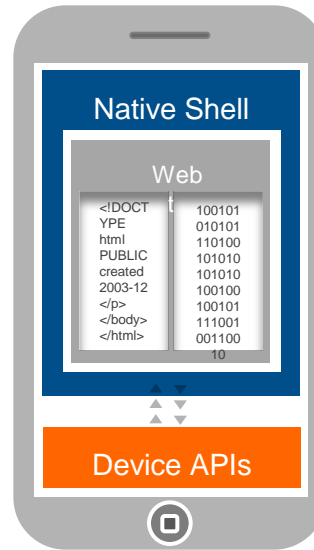
HTML5 code and Worklight runtime libraries packaged within the app and executed in a native shell.



Downloadable

Hybrid - Mixed

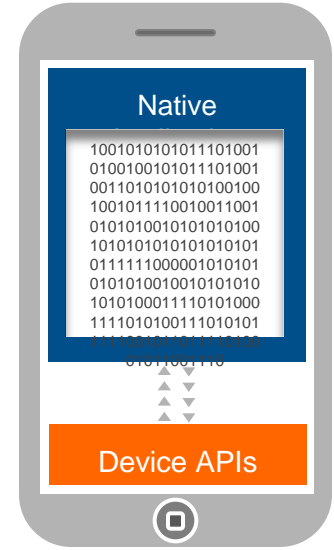
User augments web code with native language for unique needs and maximized user experience.



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

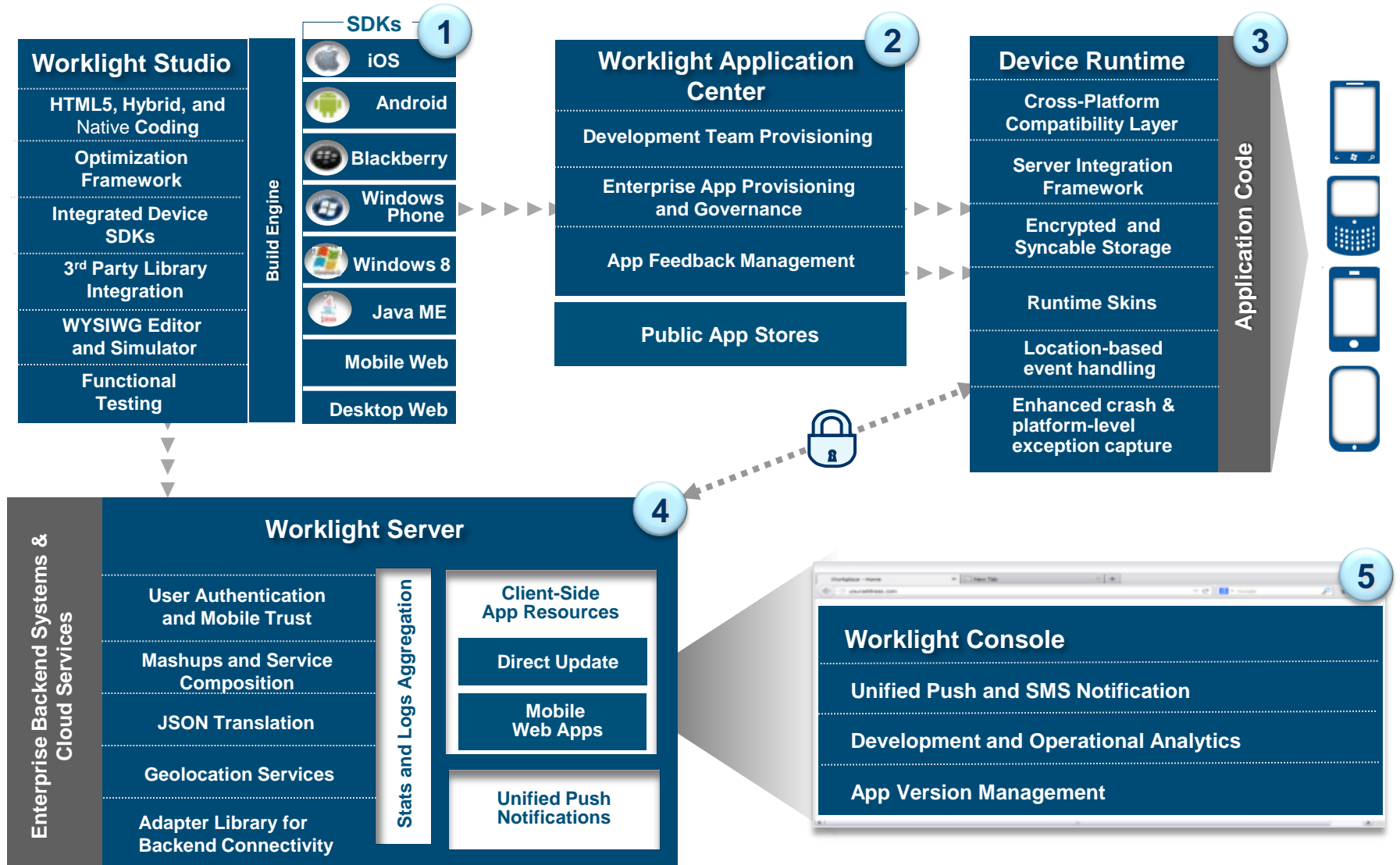
Application runtime



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])

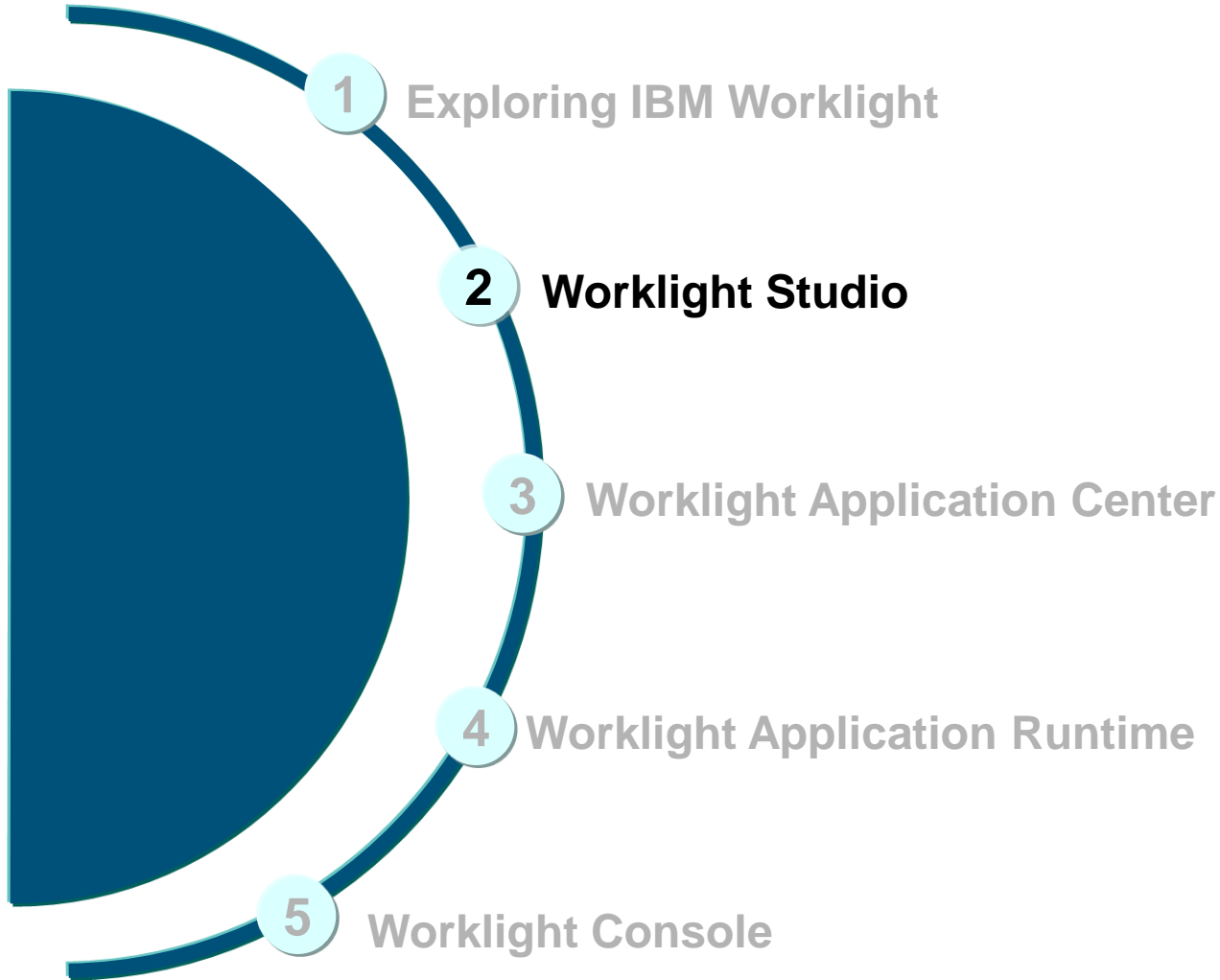
▪ Supported Databases

- 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.



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Worklight Studio



Eclipse Based IDE

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



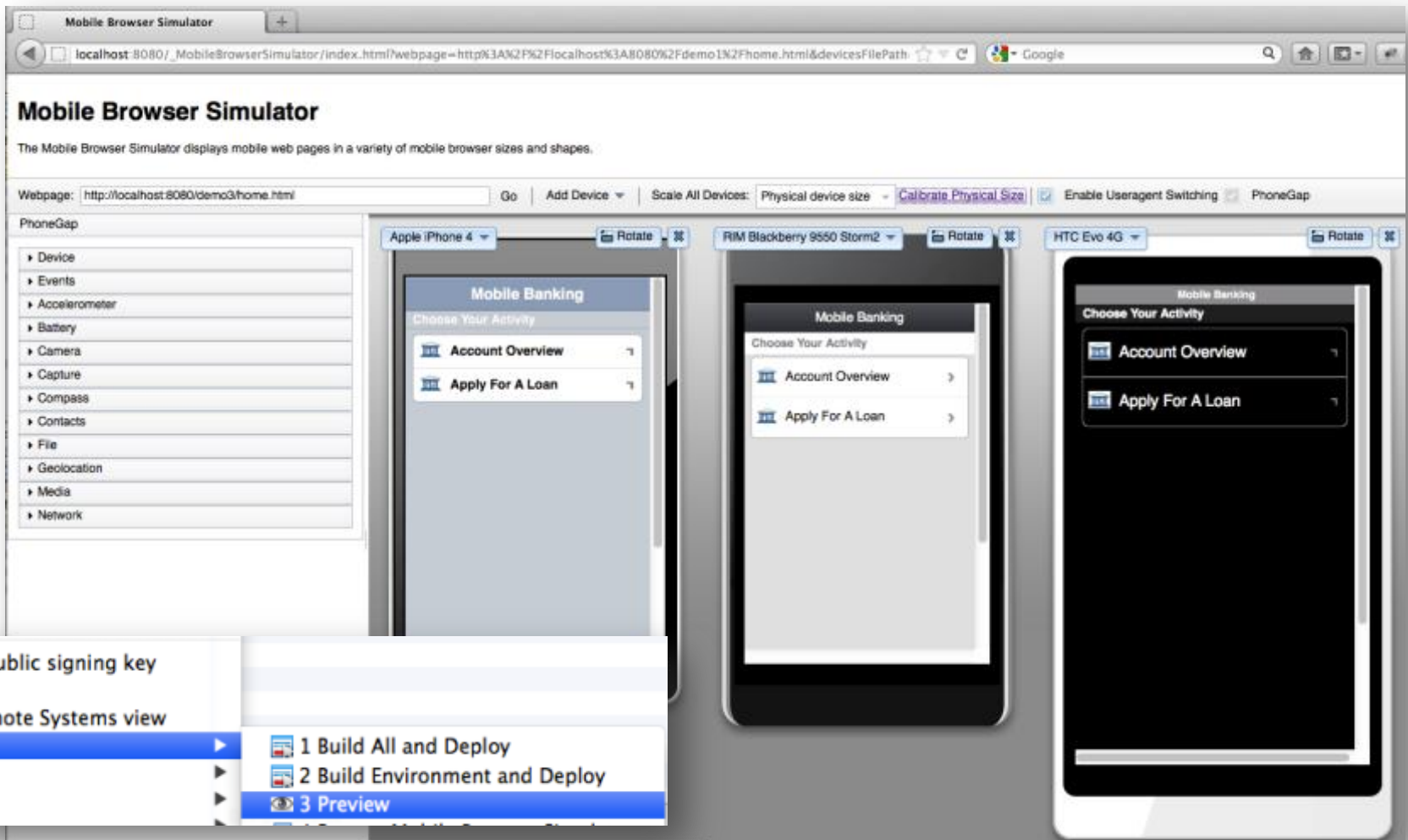
- Device SDK integration
- Access to emulators and debugging tools
- Supports auto-complete and validation





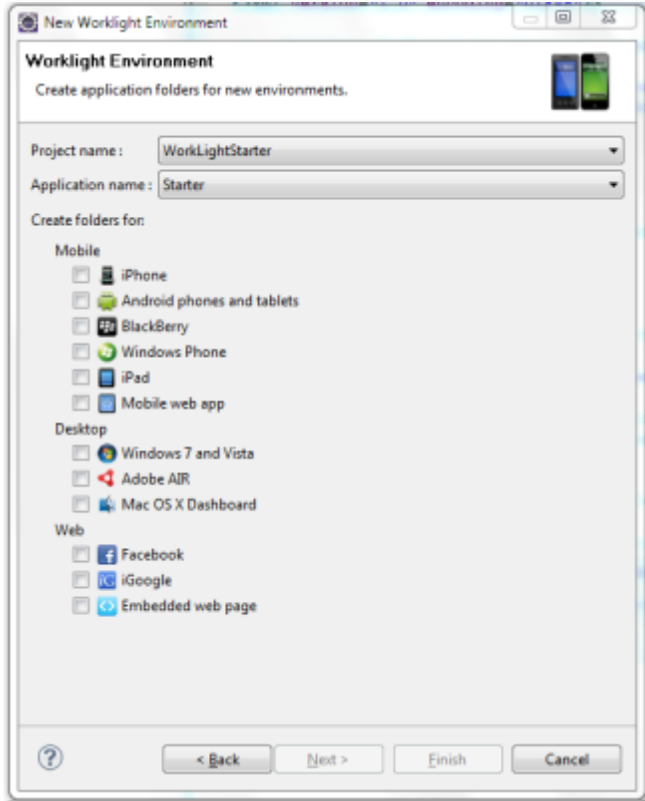
Preview in Browser

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





Worklight Studio - Environment Optimization

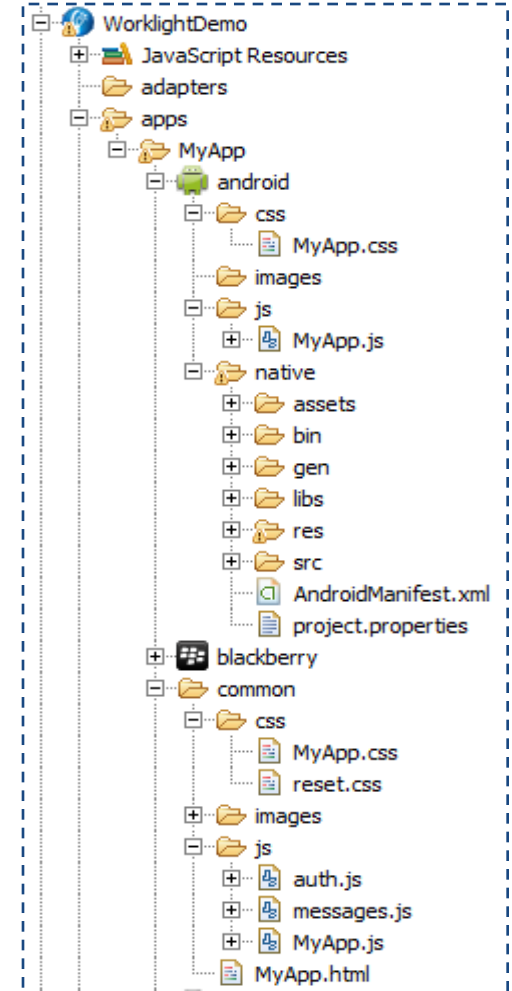


JavaScript from an environment folder is appended to the same file in the common folder

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

The image displays an IDE environment with the following components:

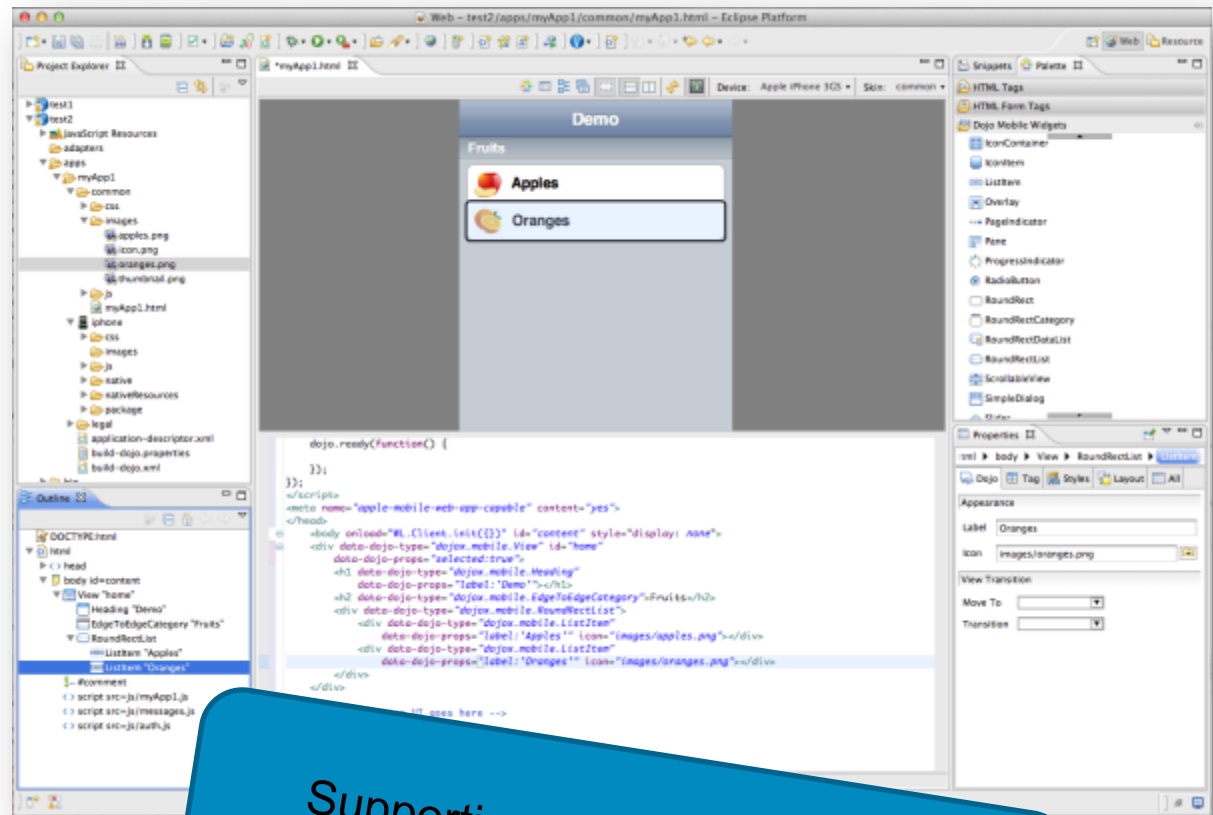
- Package Explorer:** Shows a project structure for 'WorkLightStarter' with subfolders for 'adapters', 'apps', and various device-specific folders like 'android', 'blackberry', 'ios', 'vista', and 'windowsphone'.
- Code Editor:** Displays the 'worklightStarter.js' file with the following code:

```
var invocationData = {  
    //ADAPTER TO INVOKE  
    adapter: worklightStarter.FEEDS_ADAPTER,  
  
    //PROCEDURE TO INVOKE  
    procedure: worklightStarter.GET_FEEDS,  
  
    parameters: []  
};  
  
//INVOKE PROCEDURE  
WL.Client.invokeProcedure(invocationData, {
```
- 5554:ASE_test Simulator:** Shows a mobile device interface with a status bar at 20:50, a 'WorkLight Starter' header, and a list of news items:
 - Is "Remarkable Indonesia" the New "Incredible India" for Investors? (Monday, June 07, 2010 8:50 AM)
 - Yahoo Goes All In With Facebook: Here Are The Screenshots (Sunday, June 06, 2010 11:13 PM)
 - Attack Of The Tweets: MTV's Movie Awards Twitter Visualization Graph (Sunday, June 06, 2010 9:16 PM)
 - Google Does The Hard Sell On Security For Its Enterprise Apps (Sunday, June 06, 2010 6:08 PM)
 - Hands-on With the Ulysse Nardin Chairman Android Phone (Sunday, June 06, 2010 10:48 AM/About)
- BlackBerry 9550 Simulator:** Shows a BlackBerry-style mobile device interface displaying the same 'WorkLight Starter' application with the same list of news items.



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



Supporting JQuery Mobile and dojox.mobile with a Visual UI Editor



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

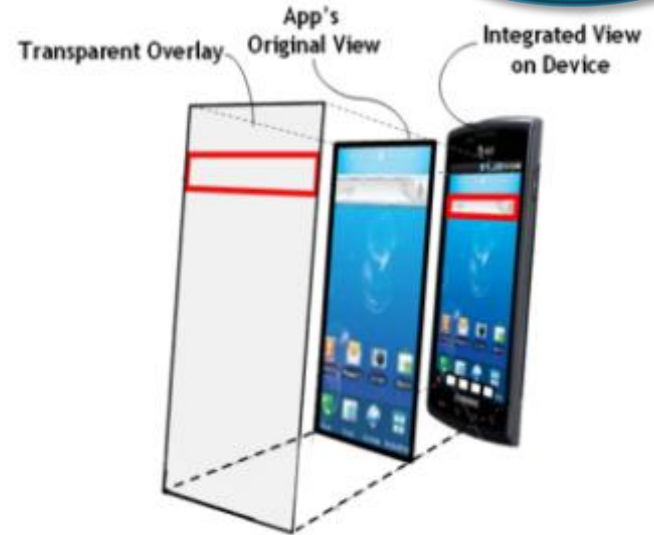
The screenshot displays the IBM MobileFirst design tool interface. On the left, under 'Categories:', there is a list of pattern types: Lists, Authentication, Navigation and Search, and Configuration. The main area, labeled 'Patterns:', shows a live preview of a mobile application on an iPhone 4S. The preview includes a 'Simple List' with 10 items, a 'Simple List with Footer' with 10 items and a bottom navigation bar (Home, Search, About), a list with two categories (A and B), and a form with a text input field and a toggle switch.



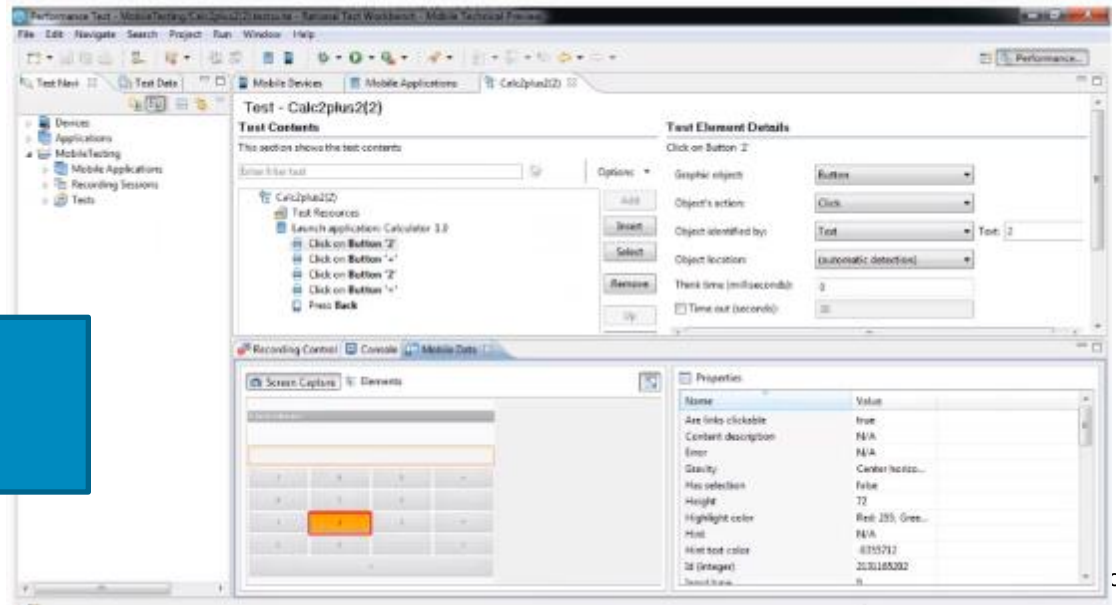
New to 6.0: Mobile Functional Test Tools

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

New in Worklight 6.0

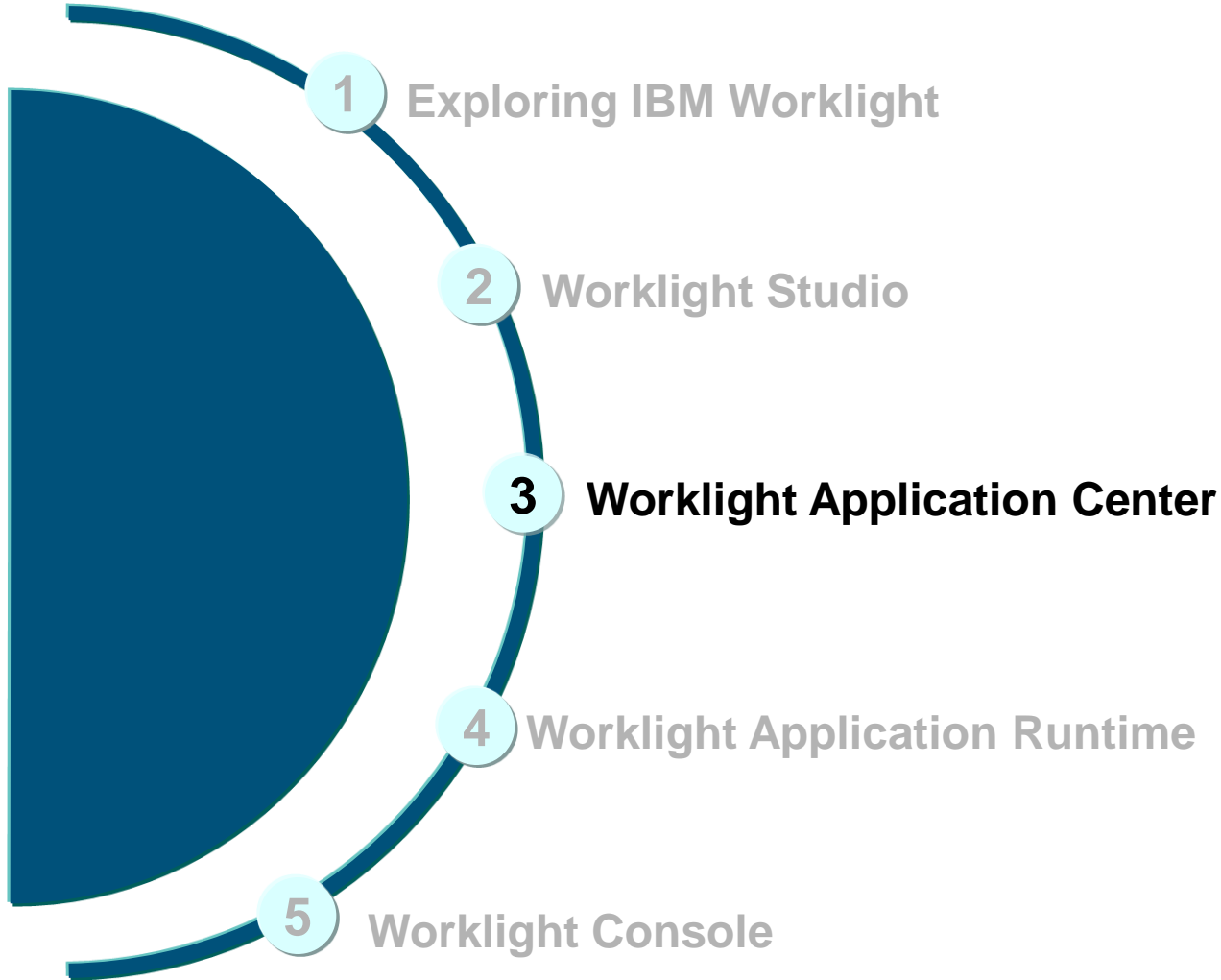


Deliver consistently high quality across your mobile app portfolio.





Agenda





Application Center

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

2

Worklight Application Center

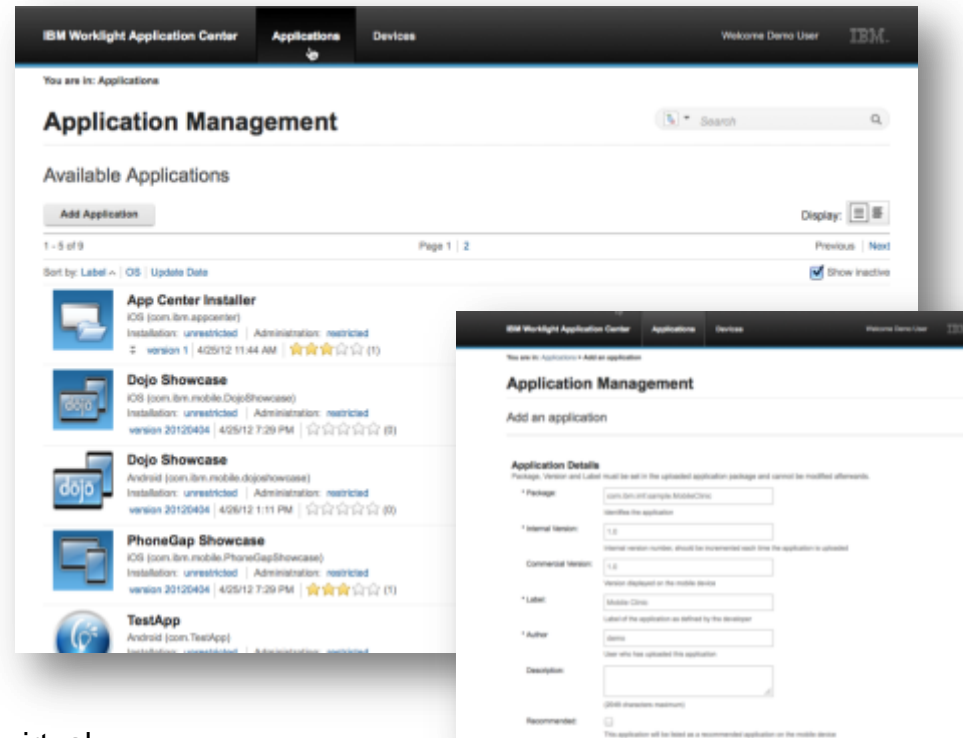
Development Team Provisioning

Enterprise App Provisioning and Governance

App Feedback Management

Public App Stores

- 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.





Role Based Administration

The screenshot shows the IBM Worklight Application Center interface in a Mozilla Firefox browser. The browser address bar shows `http://localhost:9080/applicationcenter/applications/Applications.html`. The navigation menu includes "Applications", "Devices", and "Users / Groups", with "Users / Groups" highlighted in a red box. The main content area is titled "Application Management" and shows "Available Applications". One application, "Mobile Clinic (iOS)", is highlighted in a blue circle. Below the application name, the "Installation Access Control" section is visible, with a checkbox for "Access control enabled" checked. A search input field is present with the placeholder text "Type to find user or group" and an "Add" button. Below the search field, there is a list of users, with "demo" and "Demo User" visible. The "Mobile Clinic" application card also has a red box around the "Access control: unrestricted" text.

The "User Groups" interface shows a list of groups defined in the Application Center. A "Create group..." button is at the top. Below it, there is a search bar and a list of groups. One group, "Test Group", is shown with a user icon and an "Edit members" link. The interface also includes pagination controls (1 of 1) and a "Show:" dropdown menu with options for 10, 20, 50, 100, and All items.

The "Registered Users" interface shows a list of registered users for the Application Center. A "Register user..." button is at the top. Below it, there is a search bar and a list of users. Three users are listed: "appcenteradmin", "demo", and "guest". The interface also includes pagination controls (1 - 3 of 3) and a "Show:" dropdown menu with options for 10, 20, 50, 100, and All items.



Applications Can Be Installed and Favorited



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

Lorem 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

Lorem 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.

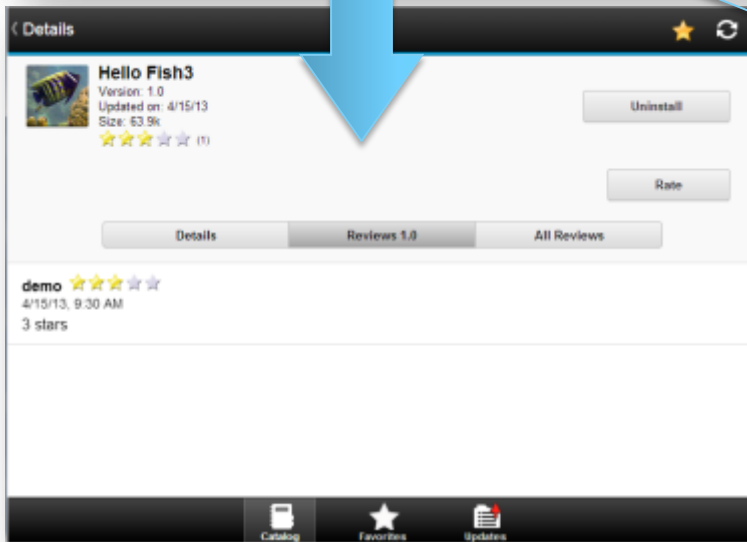
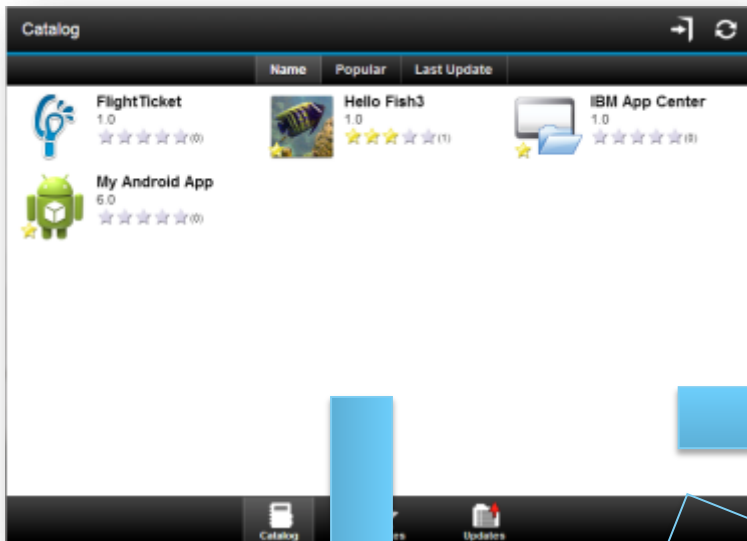
Application is marked as favorite

Catalog **Favorites** **Updates**



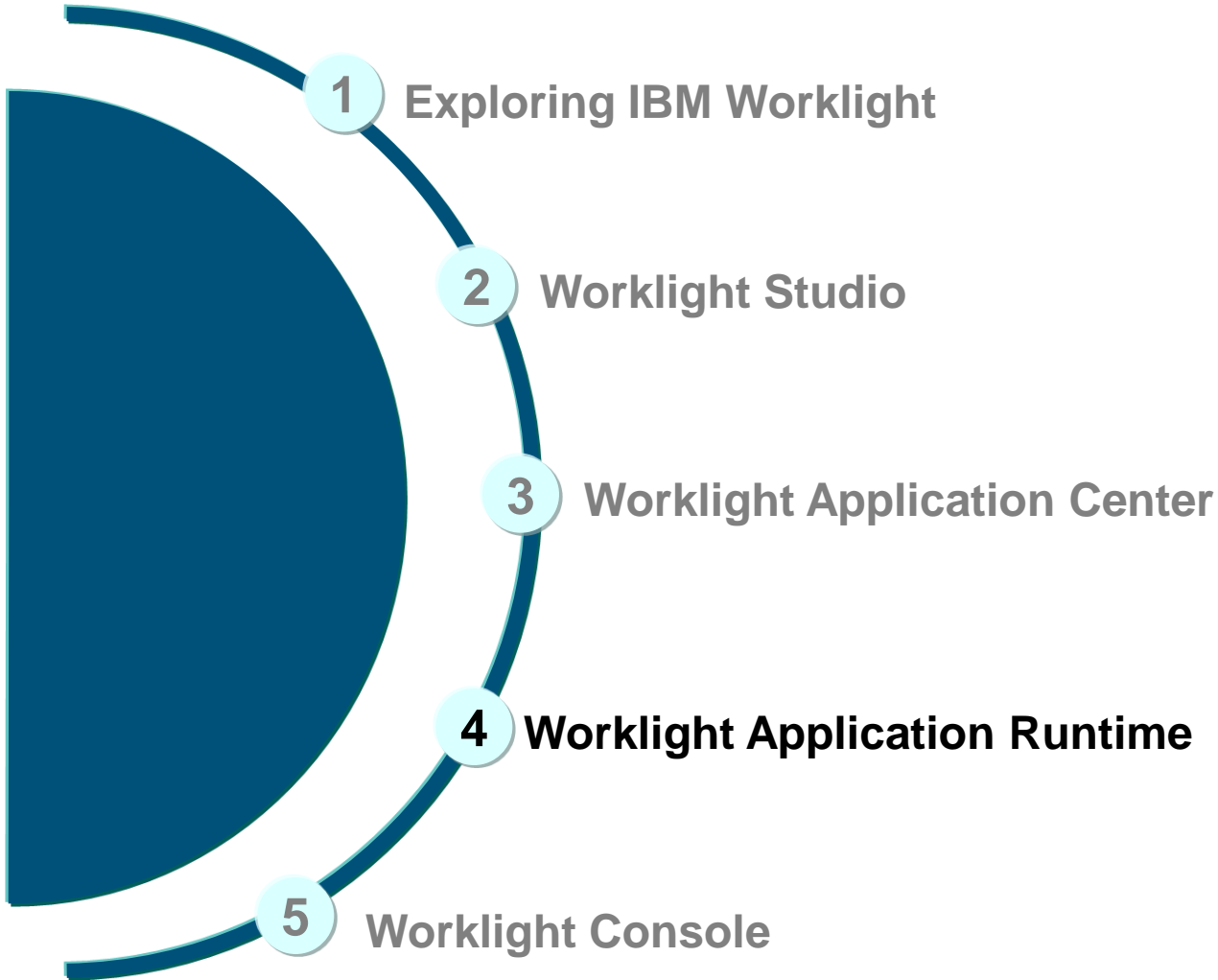
Users Can Review and Provide Feedback

Enhanced!



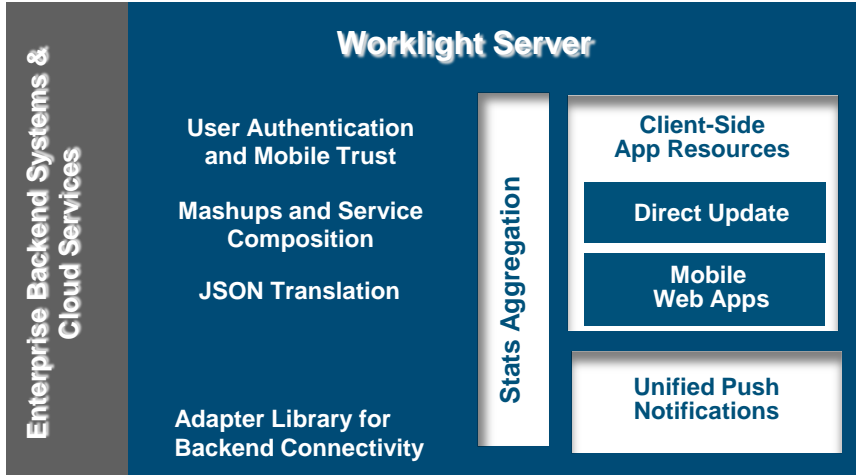


Agenda





Worklight Server



- 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

MyFeeds

Preview as: Last updated at: 2012-04-10 13:02

- Android Version 1.1 Active Authenticity Testing: Disabled
- Android Version 1.0 Disabled Authenticity Testing: Disabled

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

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

Active User Report

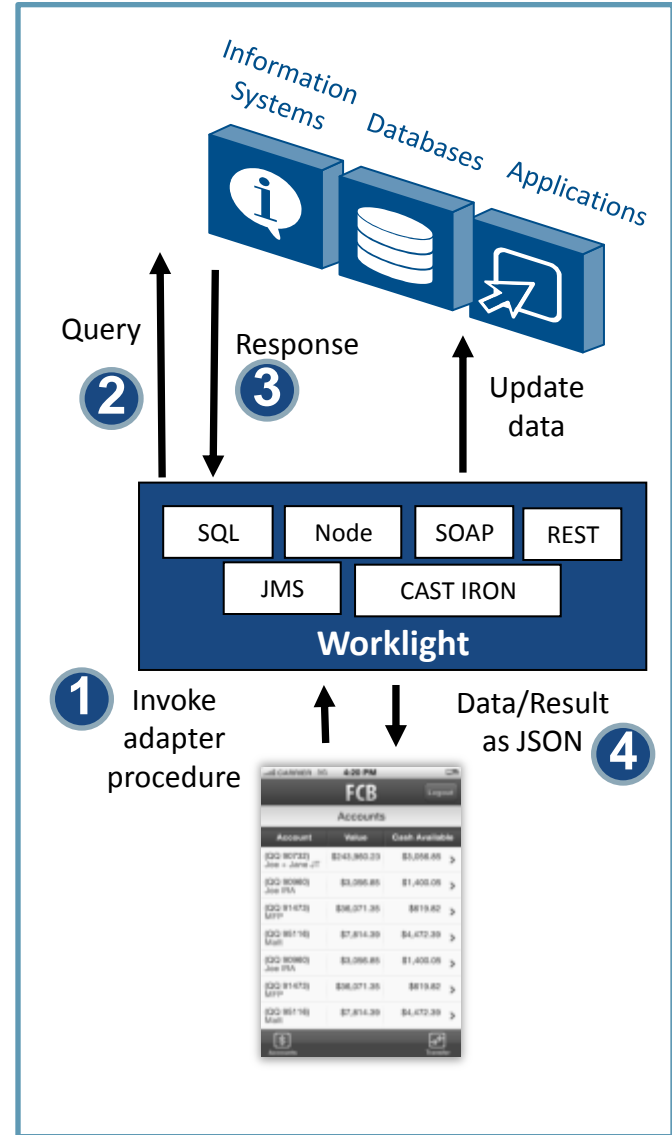
For each day, the report displays the number of active users - users who logged in to Worklight at least once in the past 30 days.

Date	# of Users
10-April-2012	10
9-April-2012	3
5-April-2012	3
4-April-2012	5
3-April-2012	7
2-April-2012	11
29-March-2012	3
28-March-2012	1
27-March-2012	5
25-March-2012	1
22-March-2012	8
21-March-2012	2
20-March-2012	1
14-March-2012	3
13-March-2012	10
12-March-2012	11
9-March-2012	1



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

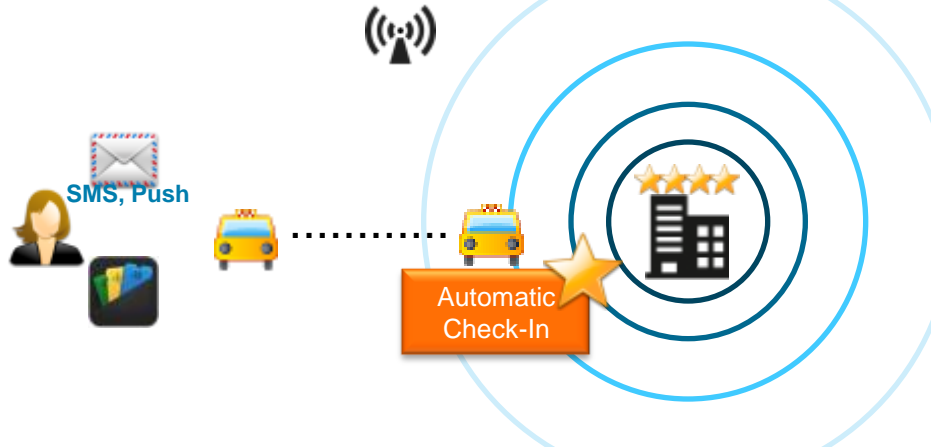


1. Web resources packaged with app to ensure initial offline availability
2. Web resources transferred to app's cache storage
3. App checks for updates on startup and foreground events
4. Updated web resources downloaded when necessary, with user confirmation or silently



Geo-location Scenarios

Automated hotel check-in



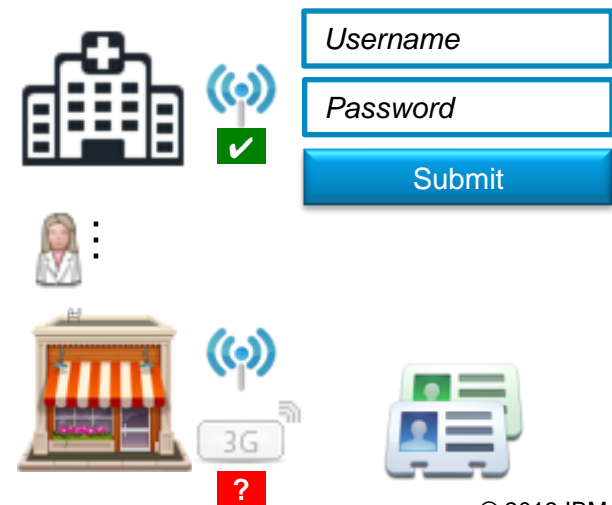
Routing trucks arriving at warehouse



More engaging mall experience



Location-aware security for hospital app

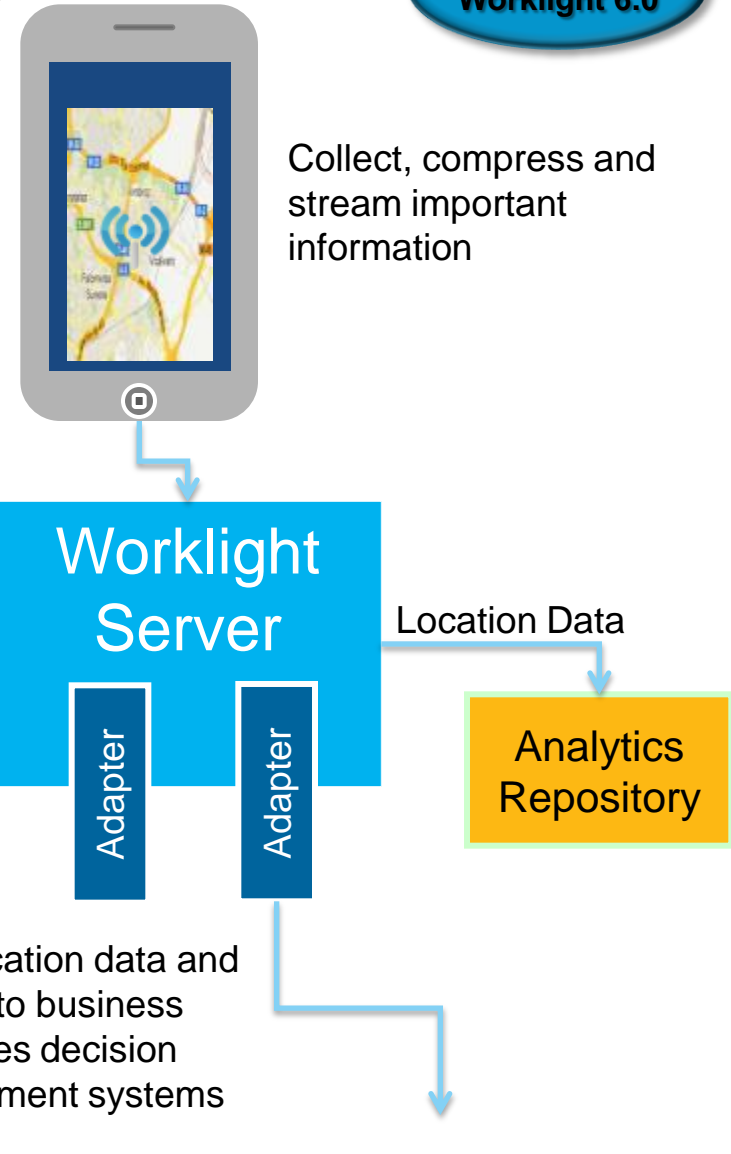




New to 6.0: Geo-Location Sense and Response

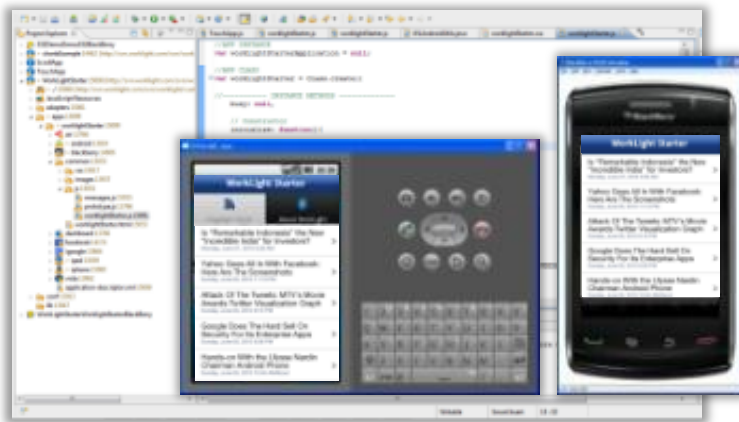
New in Worklight 6.0

- 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



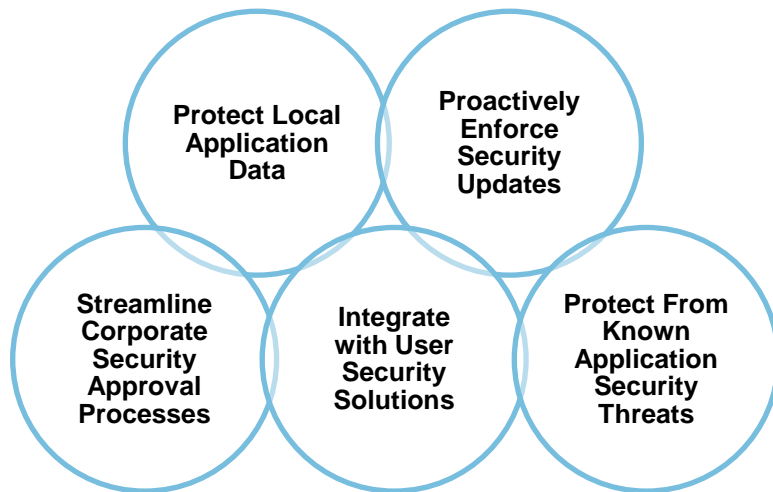


Worklight Security



Application Security Design:

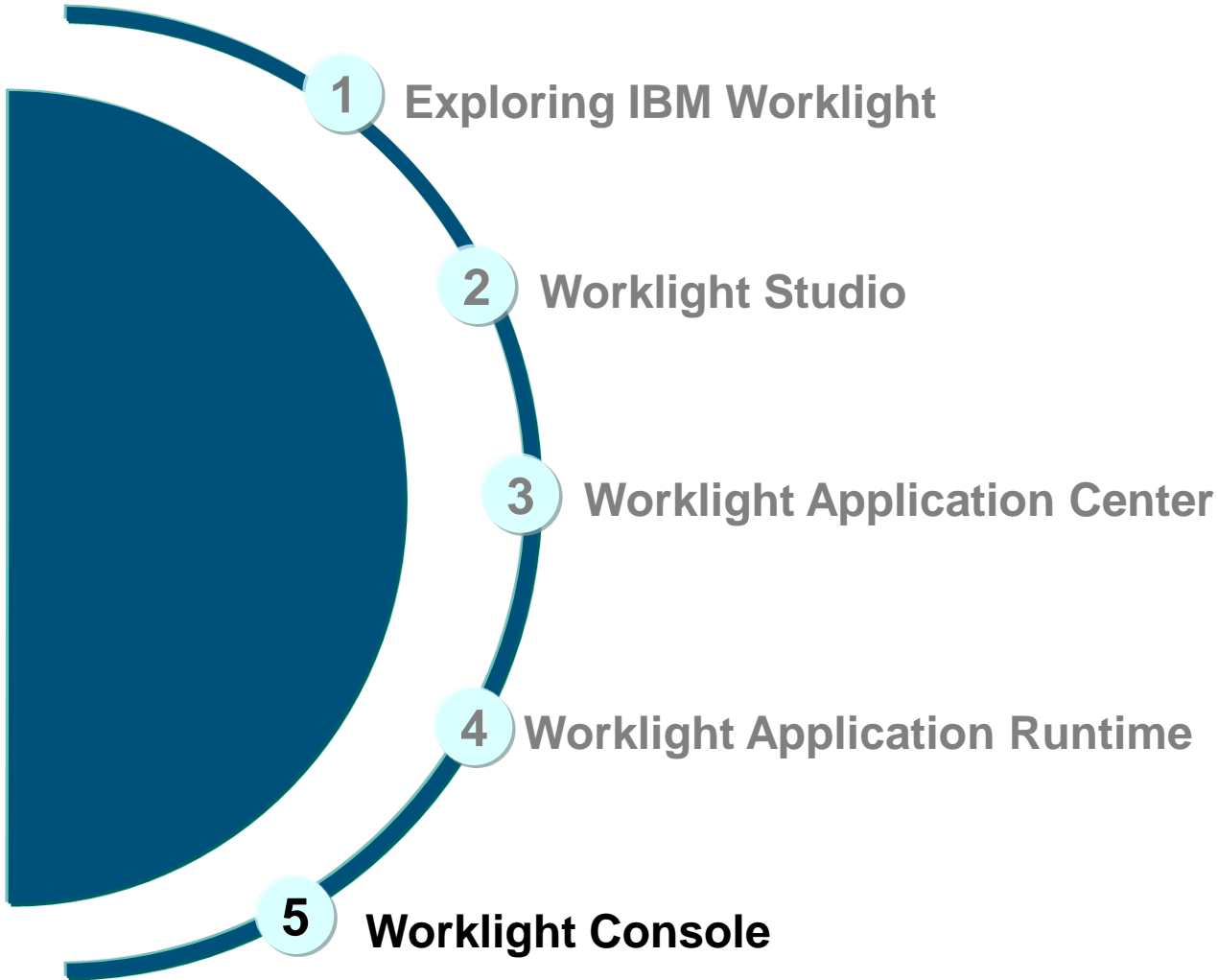
- Develop secure mobile apps using corporate best practices
- Encrypted local storage for data
- Offline user access
- Challenge response on startup
- App authenticity validation
- Enforcement of organizational security policies



Application Security Objectives



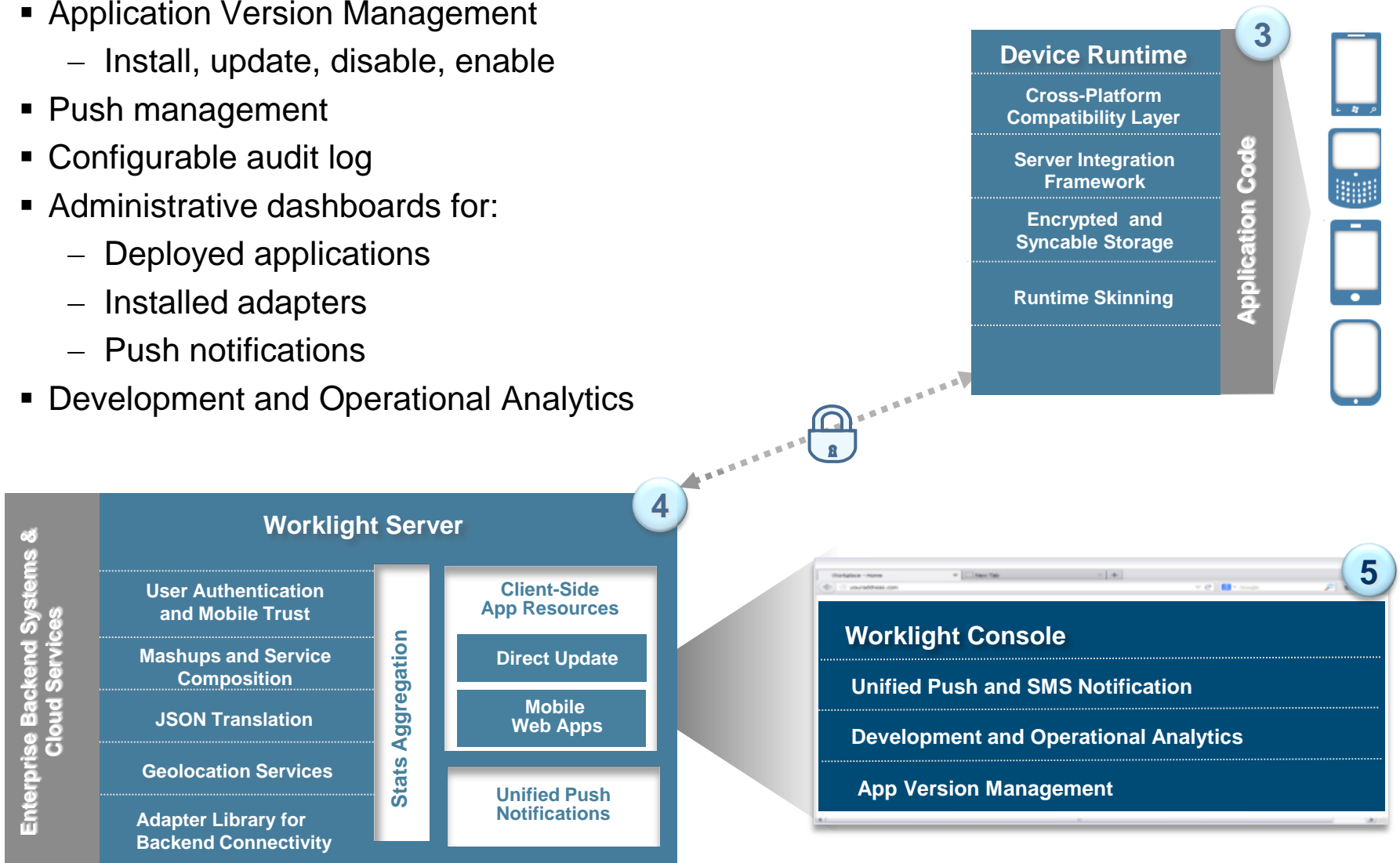
Agenda





Worklight Console

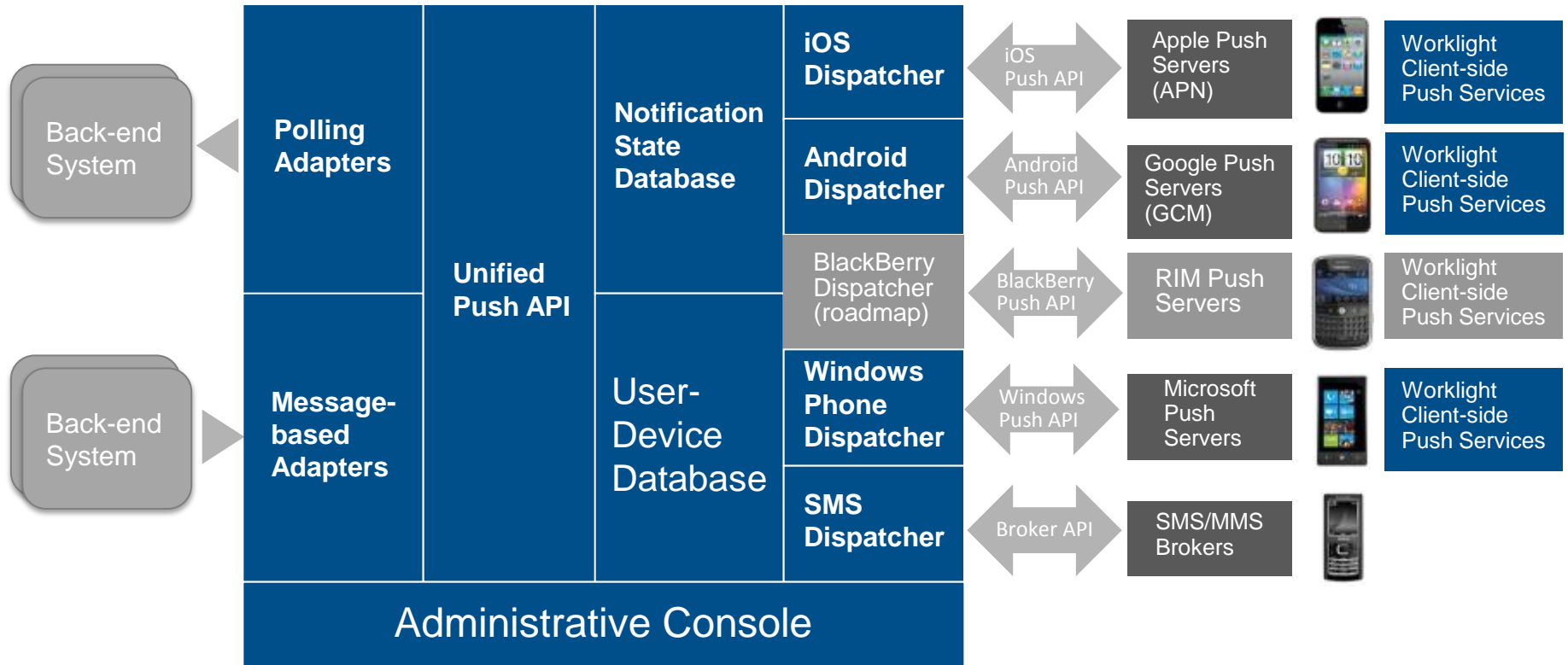
- Application Version Management
 - Install, update, disable, enable
- Push management
- Configurable audit log
- Administrative dashboards for:
 - Deployed applications
 - Installed adapters
 - Push notifications
- Development and Operational Analytics





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: [dropdown] Last updated at: 2012-03-01 21:58

✕ iPhone
 Version 1.0 ⊘ Disabled [dropdown] Authenticity Testing: ⓘ Dis

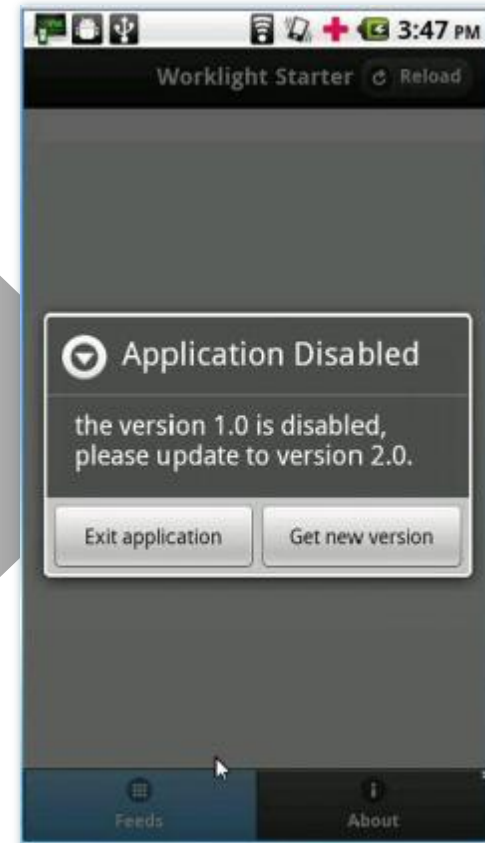
Notification text (will appear on the device): `This version is no longer supported. Please upgrade.`

URL to app store or market: `http://itunes.com/myapp`
 ✓ Save ✕ Cancel

Lock this version ⓘ

✕ Android
 Version 1.0 ● Active [dropdown] Authenticity Testing: ⓘ Dis

Lock this version ⓘ

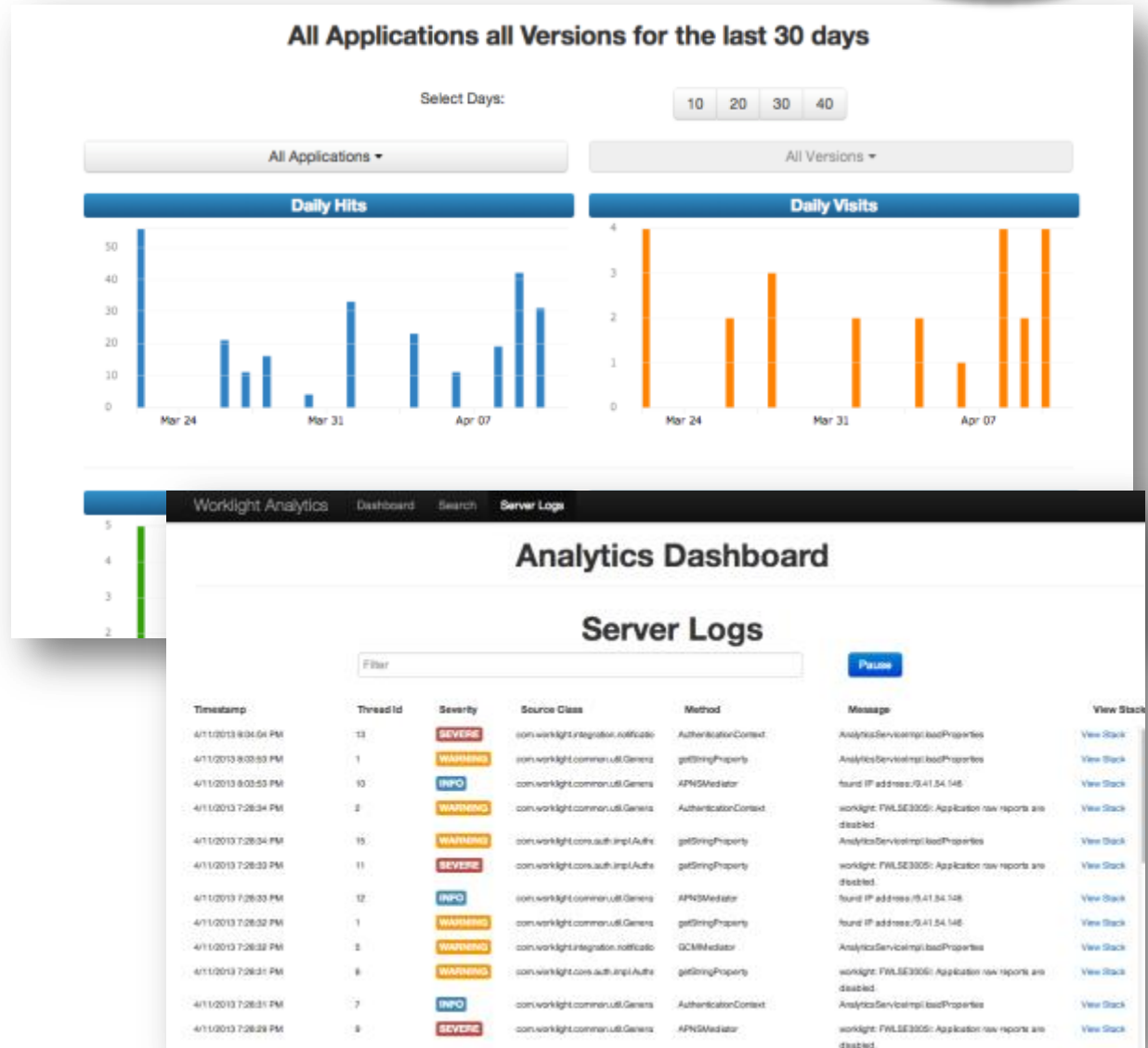




Unified Client and Server Analytics



- 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

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- 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

شكراً
Arabic

Merci
French

Obrigado
Brazilian
Portuguese

Grazie
Italian

多谢
Simplified
Chinese

Danke
German

நன்றி
Tamil

ありがとうございました
Japanese

감사합니다
Korean