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IBM MobileFirst Platform Development

# IBM MobileFirst Platform:

Develop and Integrate Mobile Apps to Drive ROI





# 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
- 2 Insights from mobile data provide new opportunities**  
75% of mobile shoppers take action after receiving a location based messages
- 3 Mobile is about transacting**  
96% year to year increase in mobile cyber Monday sales between 2012 and 2011
- 4 Mobile must create a continuous brand experience**  
90% of users use multiple screens as channels come together to create integrated experiences
- 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



## What people are doing in B2C: Mobile fundamentally integrates the digital experience in new ways, transforming supporting business processes



*Expanded reach*

### The Interactive Invoice

delivered digitally to any device

Illustrations and video content informs and educates inspiring trust

Digital record management - no paper - nothing to remember (or forget)

Sig Capture for purchase approval via mobile device decreases time wasted in checkout lines

Full access to transactional history means greater resale potential when selling the vehicle



*Better informed interaction*



*New levels of convenience (driven by contextual personalization)*



*Changing the end-to-end servicing experience*



# IBM introduces the IBM MobileFirst offering portfolio

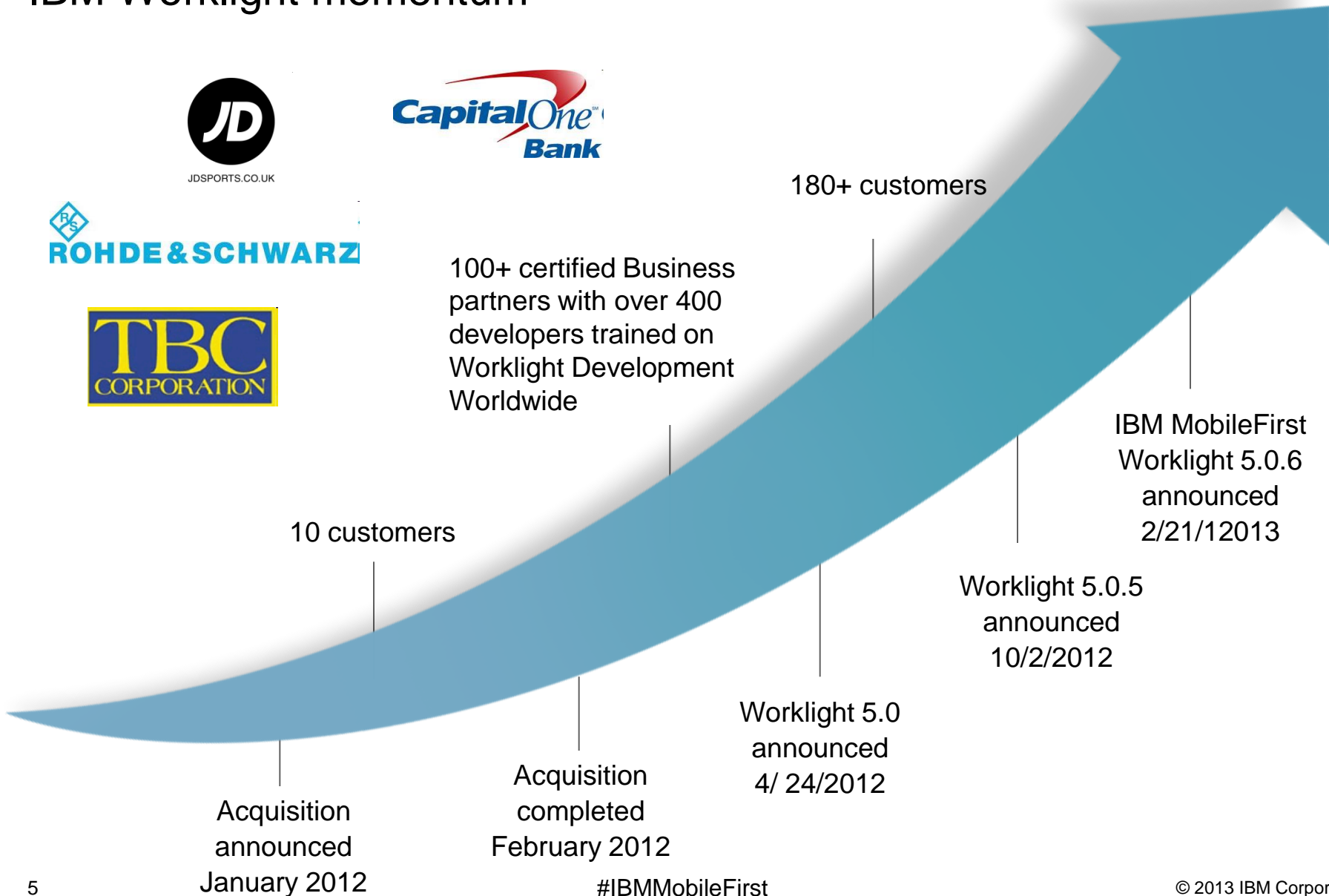




## IBM Worklight momentum



JDSports.co.uk





# Why mobile development is different

## Mobile apps are different.

- **They are more strategic** – Greater urgency and immediacy of engagement
- **They are context-aware** – know where you are and what you are doing
- **They run on unstable networks** – interruption is the norm, not the exception
- **Smaller footprint** – More challenging to make compelling and easy to use
- **Always on** – An opportunity to deliver greater value

## Management is different.

- Smaller screens pulling content from more sources: **need to choreograph** content from multiple repositories and applications, both on premises and in the cloud
- Greater challenges of application **governance, distribution, and version management**
- **AppStore Terms of Service** present challenges for managing B2C apps

## Development is different.

- **Faster development cycles**
- **More devices** to support, each with its own set of capabilities, OS and UI behaviors
- **More development approaches** to choose from – Web, HTML, Native
- More **third-party and open-source tools, frameworks and libraries** to choose from

## Security is different.

- **Greater risks** of exposing applications and data on small, light and always on portable devices
- **Greater authentication challenges** associated with content mashups
- **AppStore Terms of Service** can limit security options





# The IBM Mobile Enterprise Development Lifecycle





## IBM MobileFirst Platform

### For clients that need to:

- Quickly develop and deploy high quality mobile apps across multiple platforms
- Seamlessly connect rich mobile applications to enterprise data and services

### IBM MobileFirst Platform offers:

- ✓ Native, web, or hybrid app development
- ✓ Tools to build & test high quality apps for many devices
- ✓ Management, security, continuous delivery & distribution of apps
- ✓ Easy connectivity to existing data & services for mobile usage
- ✓ On-premises or managed service delivery

### Available Today!

- Automated testing for high quality mobile apps (planned beta in 1Q)
- Streamlined deployment for private clouds on PureApplication System
- Single sign-on across multiple apps on a device
- Latest versions of all major mobile OS's (iOS, Android, Windows, and BlackBerry)

IBM Worklight

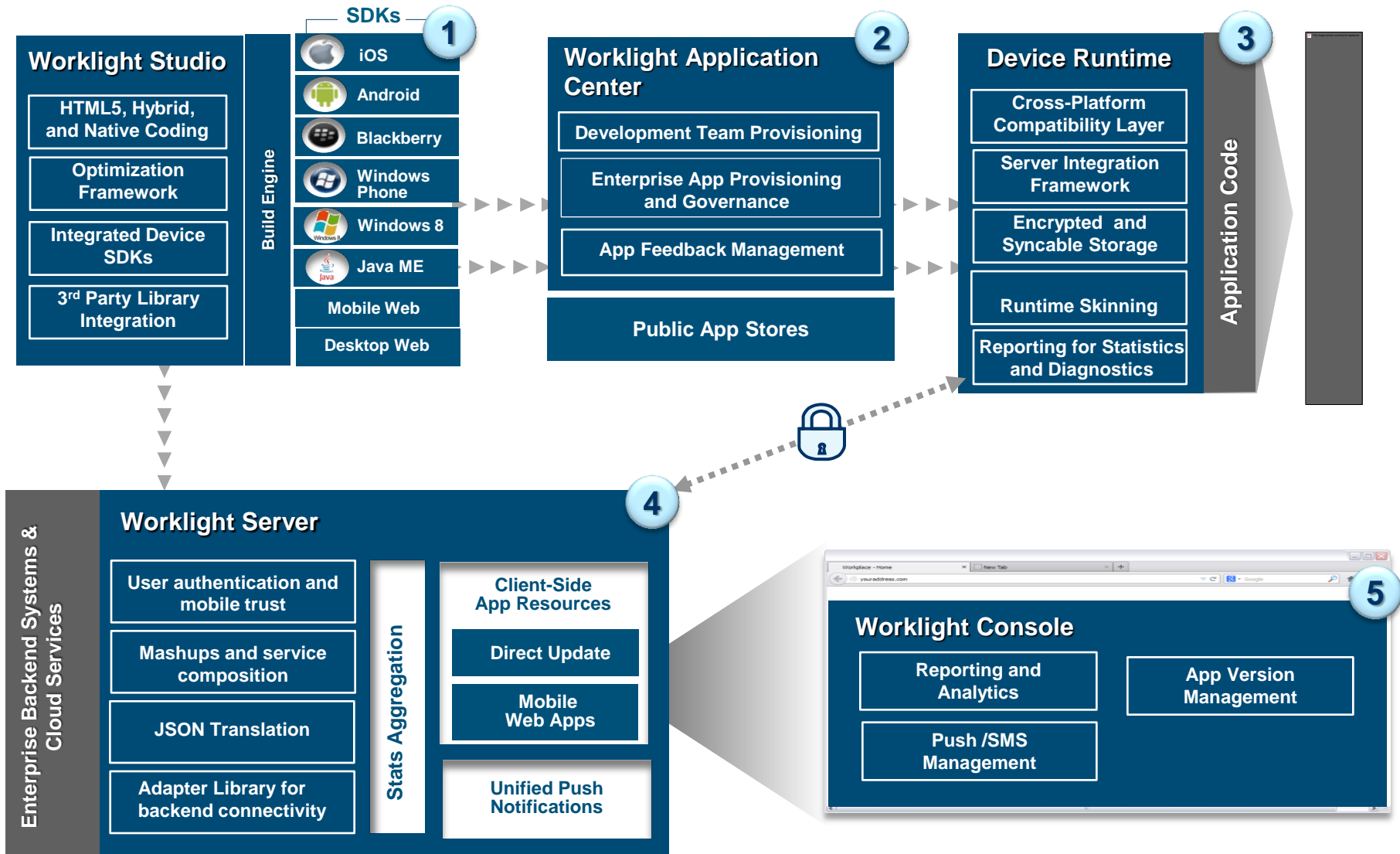
IBM Rational Test Workbench

IBM Mobile Application Platform Management





# IBM Worklight Components overview





## Studio – WYSIWYG UI Construction (*HTML, JQuery or Dojo*)

Portrait/Landscape orientations

Scale the editing surface to fit to window

jQuery mobile widgets in the Palette

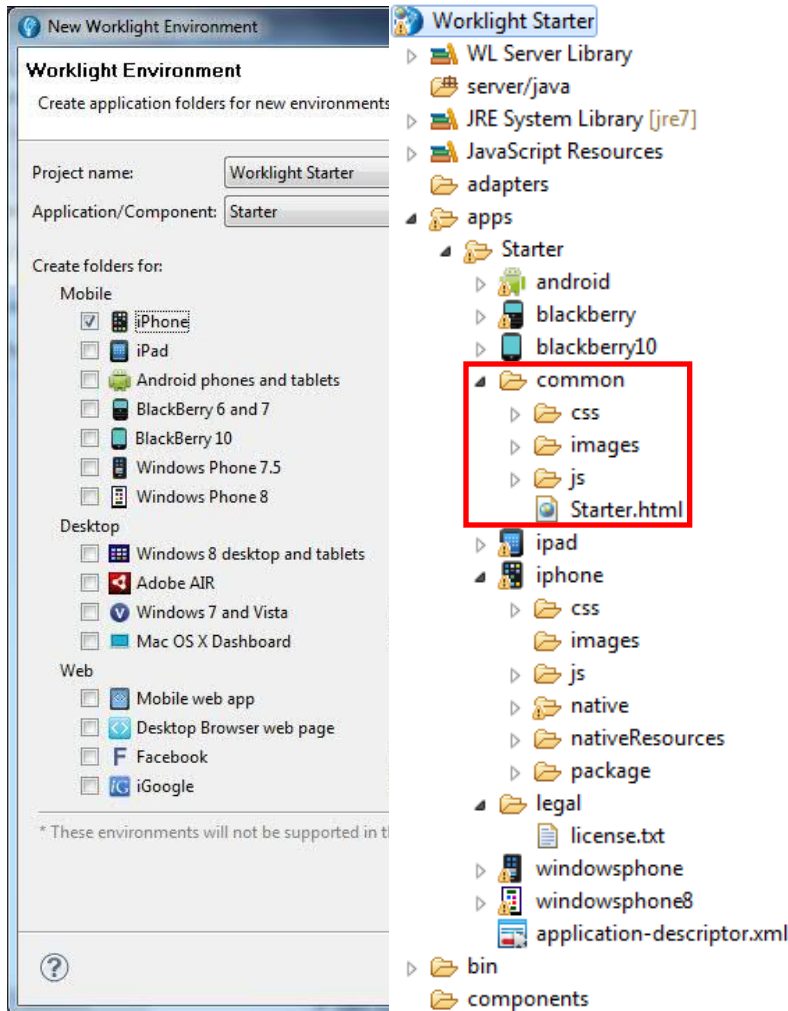
Mobile Navigation view to create and manage jQuery Mobile "page" instances

Property sheets to configure jQuery mobile widgets

```
</div>  
< a href="#headline" data-role="button" data-icon="arrow-r" data-theme="b" data-corne  
< a href="#worldmap" data-role="button" data-icon="arrow-r" data-theme="b" data-mini-  
< a href="#us" data-role="button" data-icon="arrow-r" data-theme="b" data-mini="true"  
< a href="#local" data-role="button" data-icon="arrow-r" data-theme="b" data-mini="tr  
  
<div data-role="footer" data-position="fixed"  
  <div data-role="navbar">  
    < a href="#facebook" >  </a> < a  
    < a href="#twitter" >  </a> < a  
    < a href="#youtube" >  </a>  
  </div>  
< a href="#" data-role="button" data-icon="gear" class="ui-btn-right" Options </a>  
</div>
```



# Common web codebase facilitates reuse



Common code placed in primary file

Environment optimization code is maintained separately



# Runtime skins

Different Screen Sizes



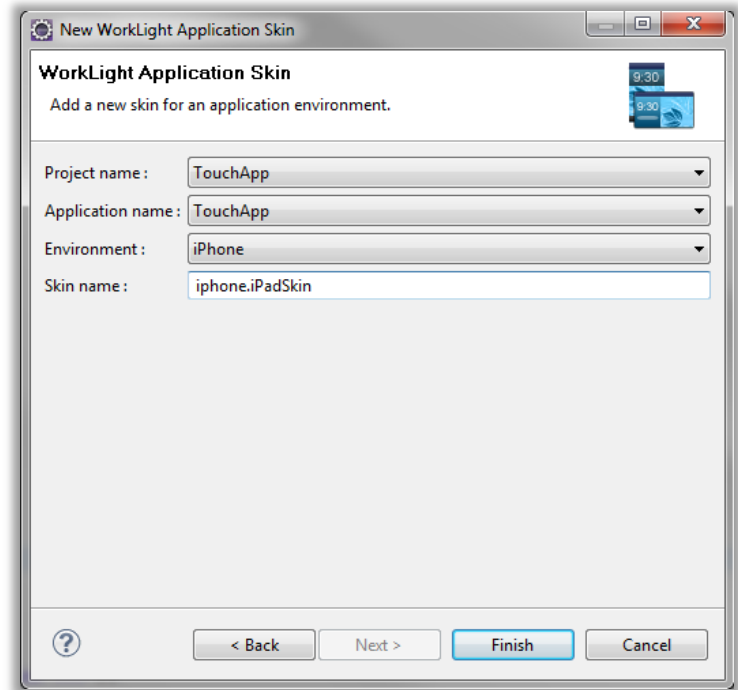
Different Screen Densities



Different Input Method



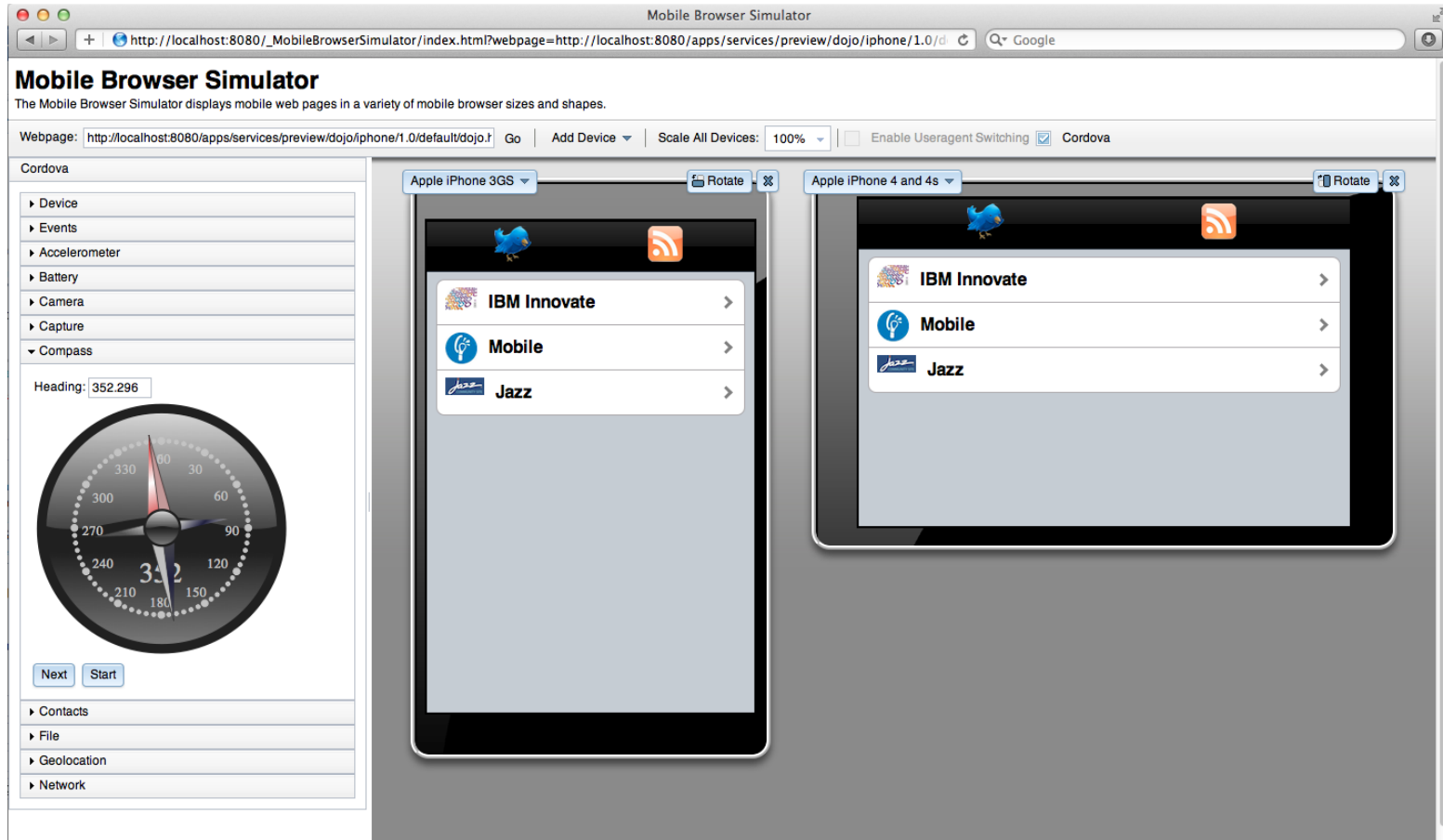
Support for HTML5



Single application App Store presence for smartphone and tablets



# Rich mobile simulator for hybrid applications



- Device specific tests early during development.
- Change device types, orientation, device settings (GPS, accelerometer, etc...)
- Supports Cordova and Worklight client API



# Incorporated Device SDKs

The image displays an IDE environment with the following components:

- IDE Package Explorer:** Shows a project structure for 'WorkLightStarter' with folders for 'adapters', 'apps', 'air', 'android', 'blackberry', 'common', 'css', 'images', 'js', 'messages.js', 'worklightStarter.js', 'worklightStarter.html', 'dashboard', 'facebook', 'igoogle', 'ipad', 'iphone', 'vista', 'windowsphone', 'application-descriptor.xml', 'conf', and 'lib'. Specific files include 'WorkLightStarterWorklightStarterAndroid' and 'WorkLightStarterWorklightStarterBlackBerry'.
- Code Editor:** Shows a JavaScript file named 'worklightStarter.js' with the following code:
 

```

var invocationData = {
    //ADAPTER TO INVOKE
    adapter: worklightStarter.FEEDS_ADAPTER,

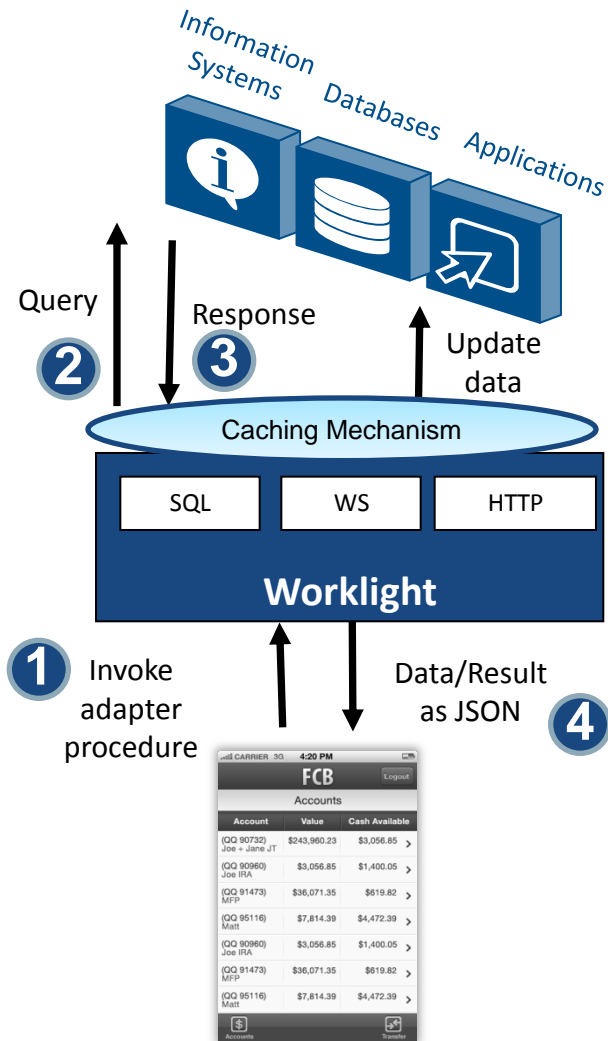
    //PROCEDURE TO INVOKE
    procedure: worklightStarter.GET_FEEDS,

    parameters: []
};

//INVOKE PROCEDURE
WL.Client.invokeProcedure(invocationData, {
            
```
- iPhone Simulator (5554:ASE\_test):** Displays the 'WorkLight Starter' application interface with a feed of news items:
  - Is "Remarkable Indonesia" the New "Incredible India" for Investors? (Monday, June 07, 2010 6:59 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 10:46 AM) About
- BlackBerry 9550 Simulator:** Displays the same 'WorkLight Starter' application interface on a BlackBerry device, showing the same news feed.



# Worklight Server- Adapters



## Universality

- Supports multiple integration technologies and back-end information systems

## Read-only & Transactional Capabilities

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

## Fast Development

- Defined using simple XML syntax
- Easily configured with JavaScript APIs

## Security

- Flexible authentication APIs for back-end connections
- Connected user identity control

## Caching

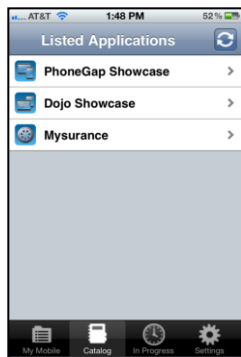
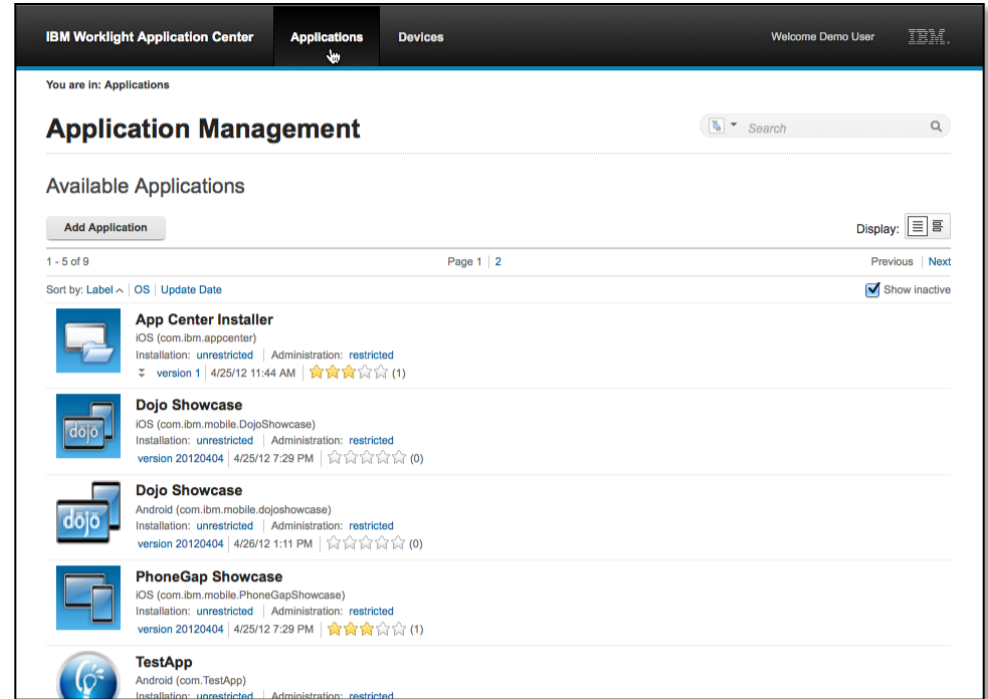
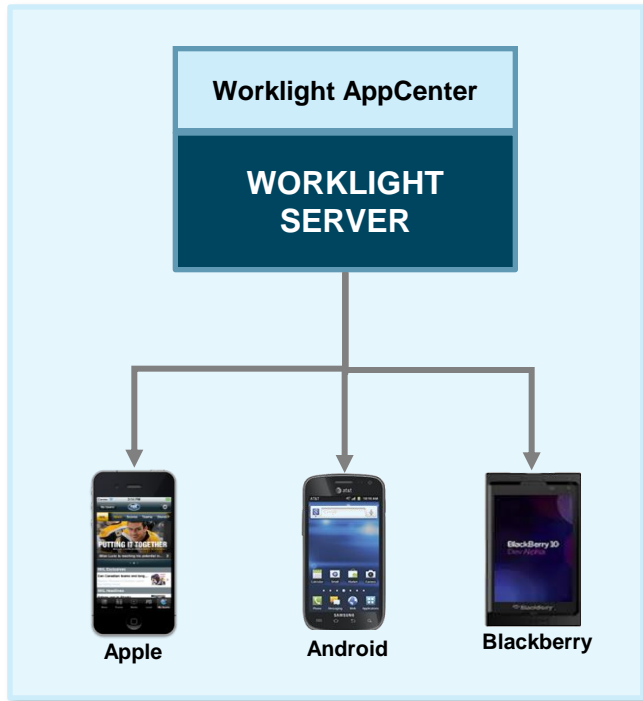
- Leveraged to store data retrieved from back-end

## Transparency

- Uniform exposure of back-end data for all adapter types



## One App Store for all of your devices

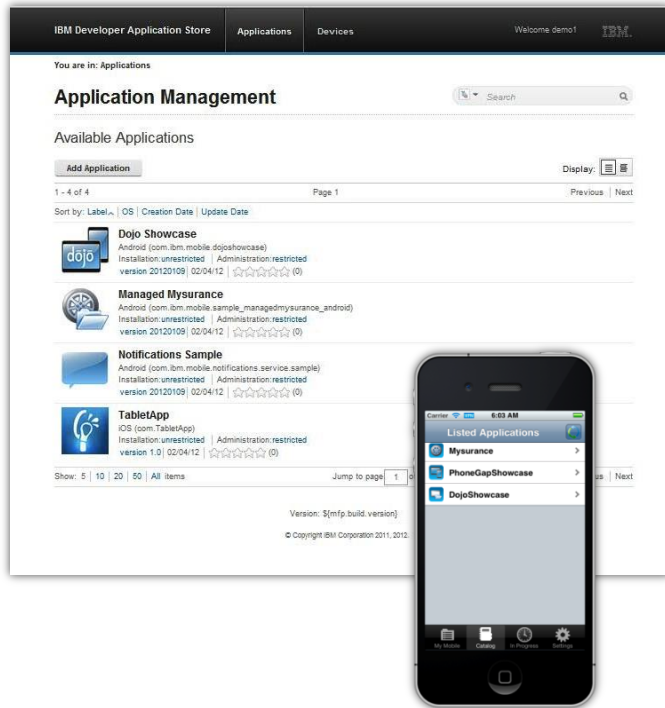


- Efficient deployment of development artifacts to stakeholders for test and feed-back
- Easier employees enablement for up to date mobile apps access
- Advanced control via ACL and LDAP support





# Application Management – Application Center

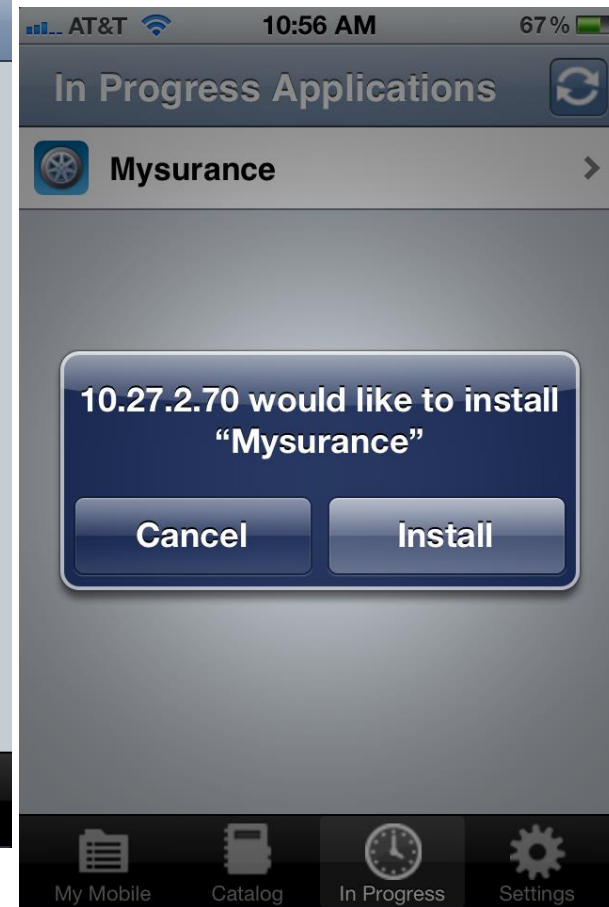
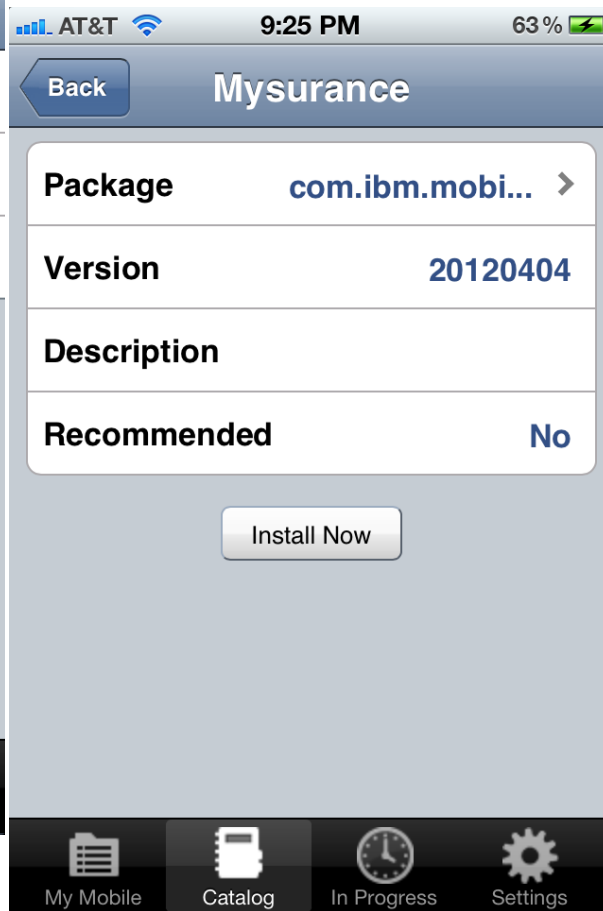
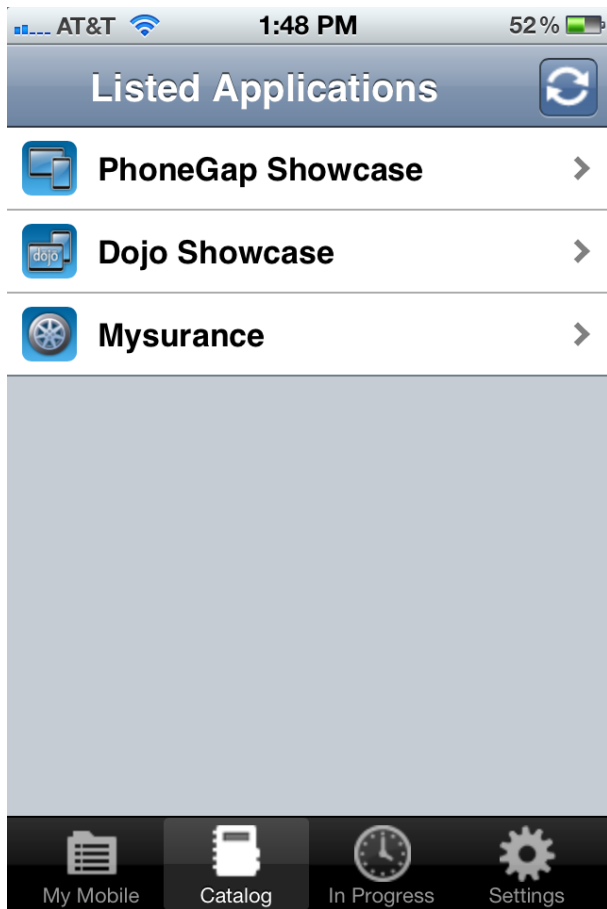


A cross-platform, private mobile app store:

- During development for early builds feed-back and reviews from stakeholders
- Production-ready for deployment to employees
- Supports versioning and updates
- Centralizes rating and feed-back
- LDAP integration of users and groups for access lists and app review, management and installation
- Easy to integrate and simple to run
- Integrates with IBM EndPoint Manager for Mobile Device for production deployment




# Over-the-air (OTA) installation





# App Center console feed-back views




**Mobile Clinic**  
 iOS (com.ibm.imf.sample.MobileClinic)  
 Installation: **unrestricted** | Administration: **restricted**

version 3.0	4/25/12 5:14 PM	★★★★★ (1)
version 2.0	4/25/12 4:54 PM	☆☆☆☆☆ (0)
version 1.0	4/25/12 10:32 AM	★★★☆☆ (3)

IBM Worklight Application Center
Applications
Devices
Welcome Demo User

You are in: Applications > Mobile Clinic



## Mobile Clinic 3.0 on iOS

Search Q

Properties

**Feedback**

### Application Feedback

Average rating: ★★★★★ Display:

1 of 1
Page 1
Previous | Next

Sort by: Rating | Creation Date
Refresh list

**demo** commented on 4/25/12 5:15 PM ★★★★★

Greg's iPad 2 | Apple iPad | iOS iPhone OS/5.1 (9B176)

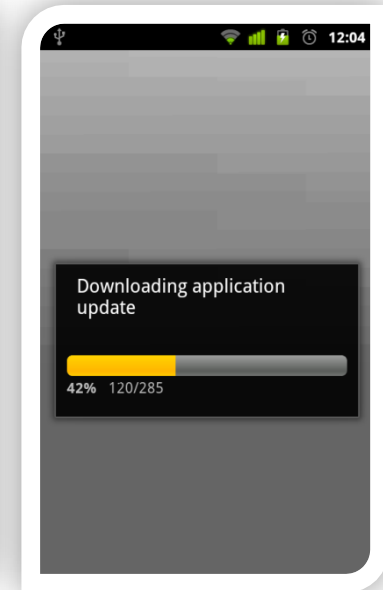
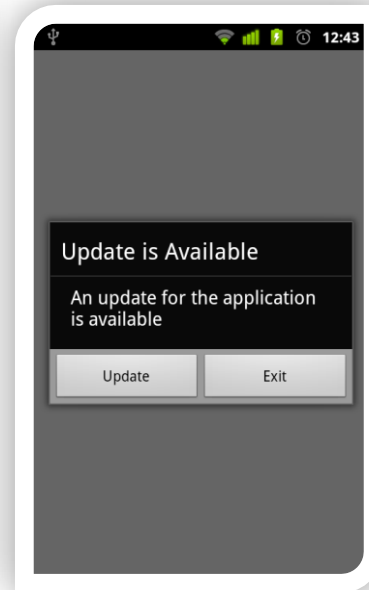
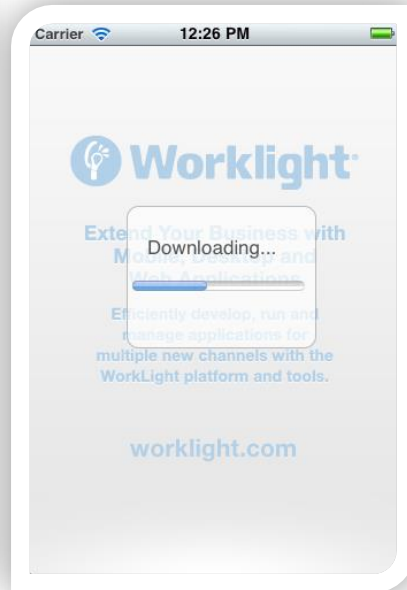
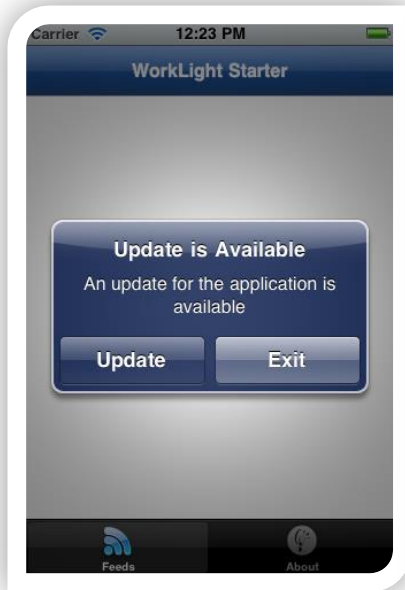
Looks good

Show: 5 | 10 | 20 | 50 | 100 | All items
Jump to page  of 1
Previous | Next



## Direct update – client user experience

1. Detection upon startup and foreground
2. Dialog for easy user selection
3. App download progress bar



4. Application restarts automatically



# App Management: Worklight console

**Remote Disable:** you can use the Worklight Console to deny access to an app of a specific version on a specific environment

	Version 2.0 <span style="color: green;">●</span> Active	Security Test: Default App Authentication: Disabled Device Authentication: Default User Authentication: Default
<input type="checkbox"/> Lock this version		
	Version 1.0 <span style="color: red;">⊘</span> Disabled	Security Test: Default App Authentication: Disabled Device Authentication: Default User Authentication: Default
<input type="checkbox"/> Lock this version	Notification text (will appear on the device): the version 1.0 is disabled, please update to version 2.0.	
	URL of the latest application version (public or private app store or mobile device management app):	
	<input type="text"/>	
	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	
	Version 1.0 <span style="color: green;">●</span> Active	
	Version 1.0 <span style="color: green;">●</span> Active	
	Version 1.0	





## Centralized push notifications

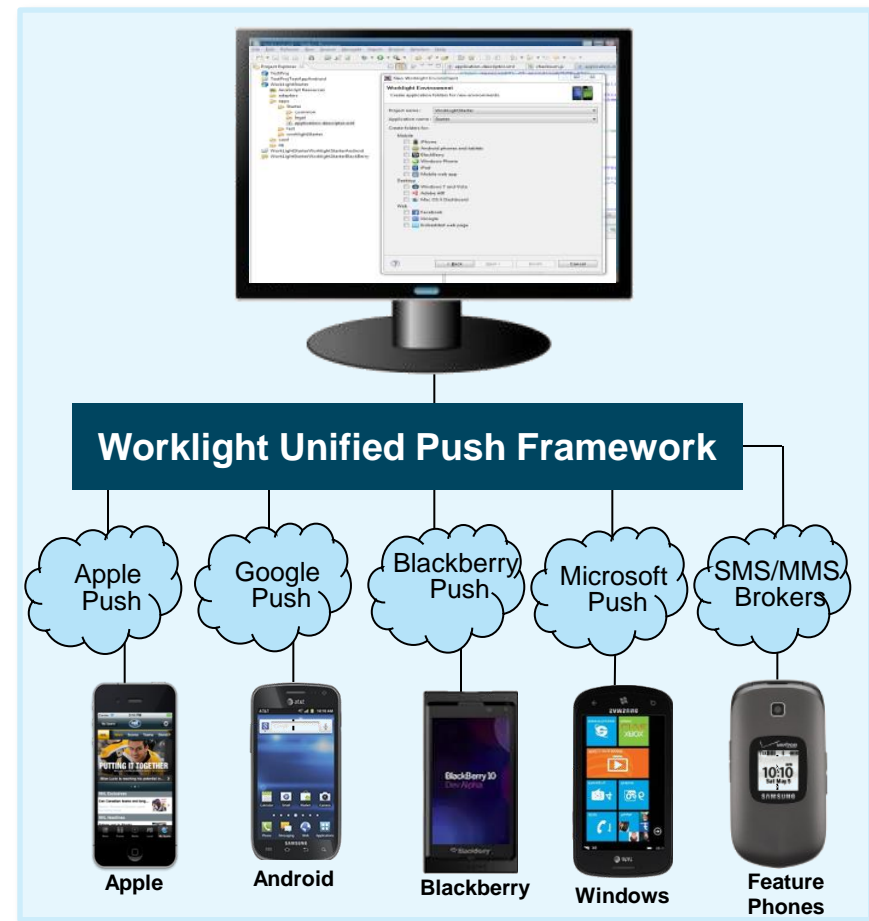
From the complexity of many...

Multiple sets of push services to manage



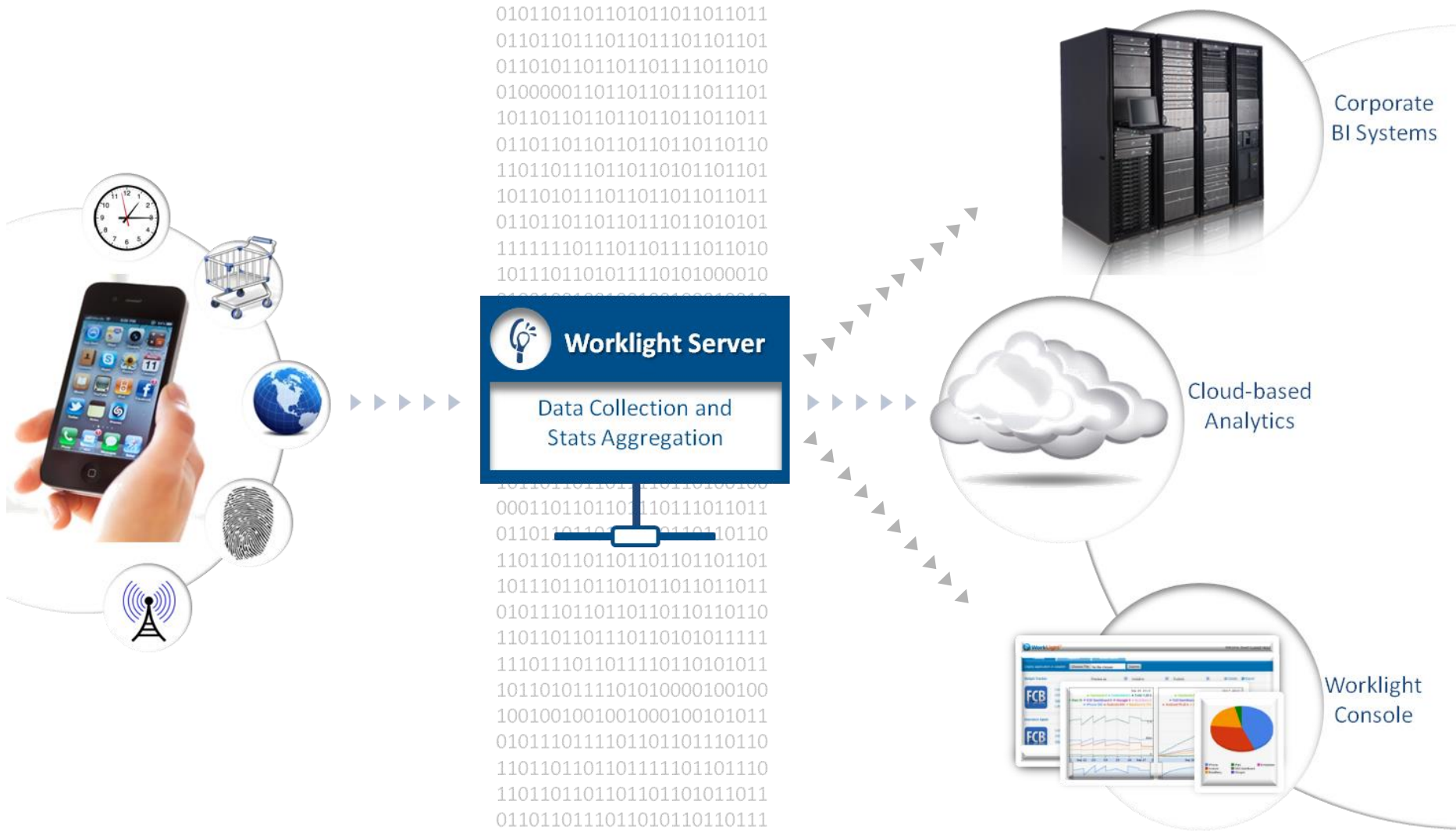
To the simplicity of one...

Unified push management



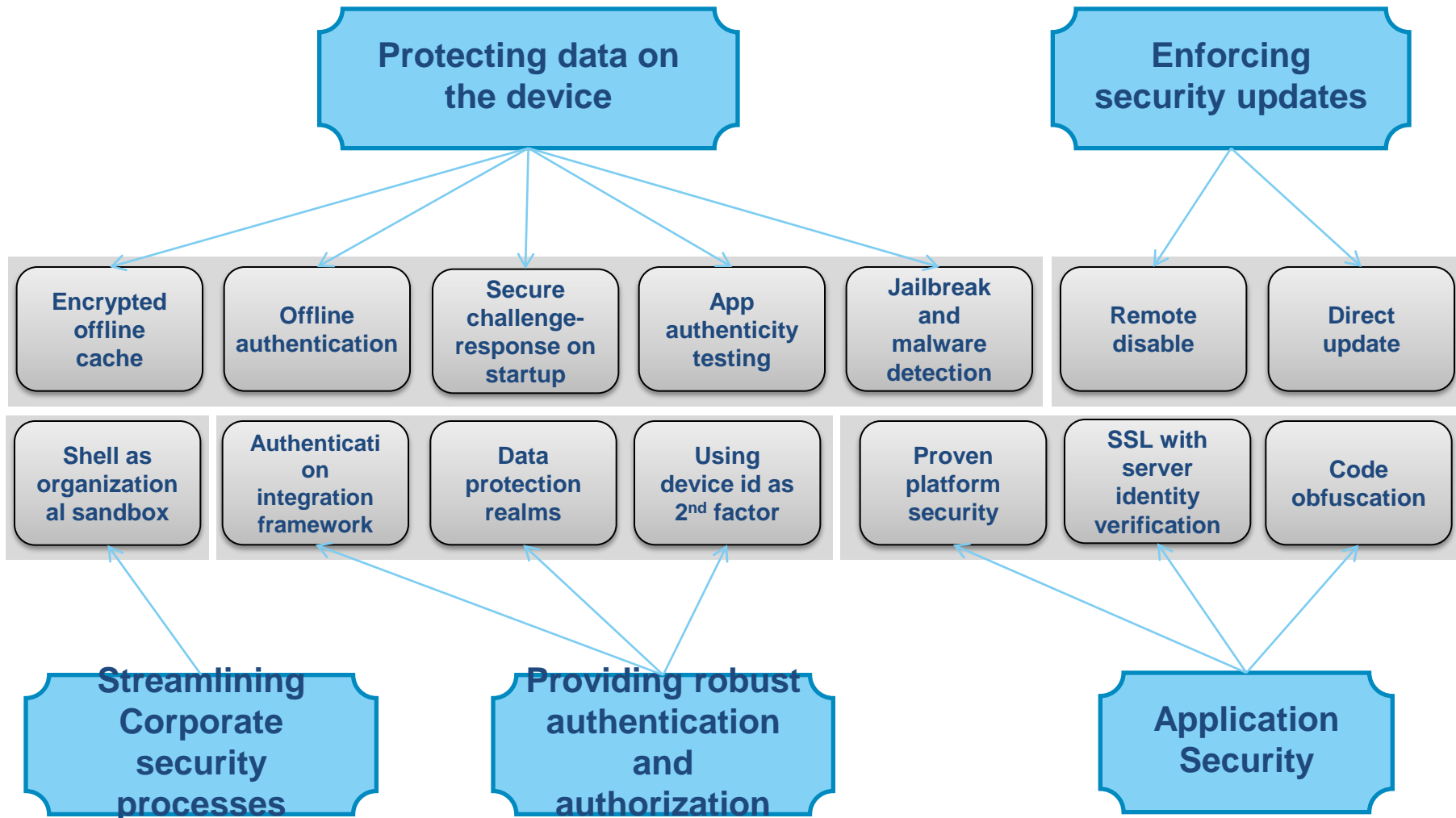


# Data Collection and Analytics





# Securing Mobile Apps







# How Worklight Is Different

## Standards-based

- Tooling for HTML 5 development and device adaptation
- Application lifecycle management of HTML5 artifacts
- Leveraging de-facto standards to provide added value for developers

## Flexibility and choice

- Native / hybrid / web
- Full coverage of the hybrid spectrum
- Full leverage of HTML5 and native ecosystems

## Consumability

- For developers: steep (quick) learning curve, small number of programming models, JS anywhere, small footprint
- Collaborative development
- Installation and deployment

## Security

- Flexible security model
- Portfolio integration
- Advanced in-app security features

## Ecosystem

- IBM products already leveraging Worklight as a mobile standard
- Starting to build a catalog for third-party APIs



## Next steps

✓ *Download the free Worklight Developer Edition*

IBM Worklight Developer Edition download:

<http://www.ibm.com/developerworks/mobile/worklight.html>

✓ *Evaluate software and build skills thru training and code examples*

IBM developerWorks Mobile Site:

<http://www.ibm.com/developerworks/mobile/>

✓ *Expand your knowledge and interact with IBM SMEs*

IBM tech talk series for Mobile Enterprise:

<http://www.ibm.com/developerworks/mobile/mobile-techtalks/>



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