



IBM Worklight v5 Overview

Jonathan Marshall

UK WebSphere Technical Professional and Mobile Lead

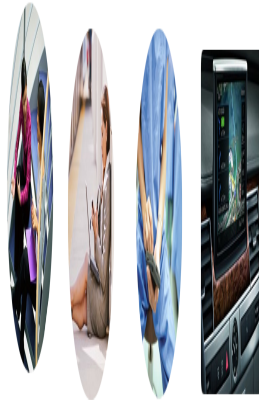


Mobile is a mandatory transformation

10 Billion devices
by 2020

61% of CIOs put
mobile as priority

45% increased productivity
with mobile apps



Mobile presents numerous opportunities...

Business to Enterprise



- Increase worker productivity
- Improved processing times
- Extend existing applications to mobile workers and customers
- Increase employee and business partner responsiveness and decisions
- Resolve internal IT issues faster
- Reduce personnel cost utilizing personal devices

Business to Consumer



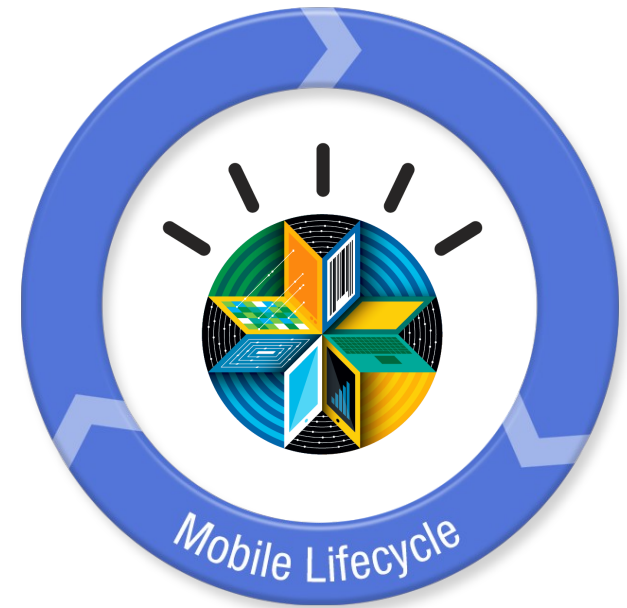
- Improve customer satisfaction
- Deeper customer engagement and loyalty
- Drive increased sales through personalized offers
- Customer service
- Competitive differentiator
- Improve brand perception
- Deeper insight into customer buying behavior for up sell and cross sell



But also with some unique challenges

How do you quickly:

- Engage with **anyone**, customers, partners or employees, no matter who owns the device
- Extend to **anything**, from instrumented machines to a broad spectrum of smart devices
- Execute business **anywhere**, with ubiquitous, trusted and secure transactions



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%)



200 Million
employees BYOD
(bring your own devices)

Source: 2011 IBM Tech Trends Report

<https://www.ibm.com/developerworks/mydeveloperworks/blogs/techtrends/entry/home?lang=en>



Comprehensive solution for mobile delivery

IBM Mobile Foundation V5.0



- A comprehensive suite that provides the essential elements needed for mobile applications development, deployment, and management.
- Mobile Foundation:
 - **IBM Worklight** for mobile application development, delivery and management
 - **IBM Endpoint Manager for Mobile Devices** for complete end-to-end Mobile Device Management (MDM)
 - **IBM WebSphere Cast Iron Hypervisor Edition** advanced connectivity to back-end and cloud systems



✓ End to end solution for mobile application development, connectivity and device management



The Worklight Mobile Platform

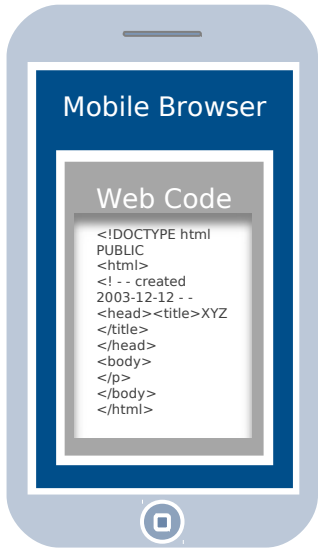
The Worklight Mobile Platform is an open, complete and advanced mobile application platform for HTML5, hybrid and native apps.



Hybrid – Benefits of developing once, but with the power of native

Browser Access

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



Browser Access

Hybrid Apps - Web

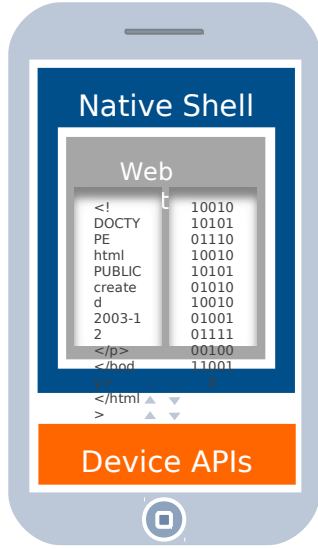
HTML5 code and Worklight runtime libraries packaged within the app and executed in a native shell.



Downloadable

Hybrid Apps - Mixed

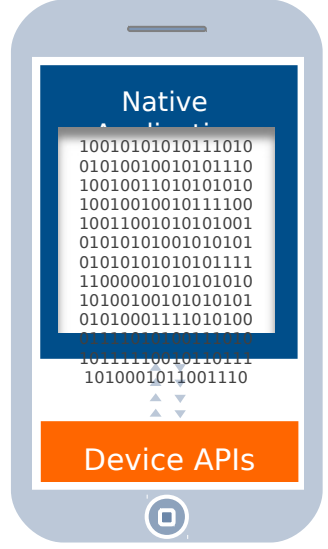
User augments web code with native language for unique needs and maximized user experience.



Downloadable

Native Apps

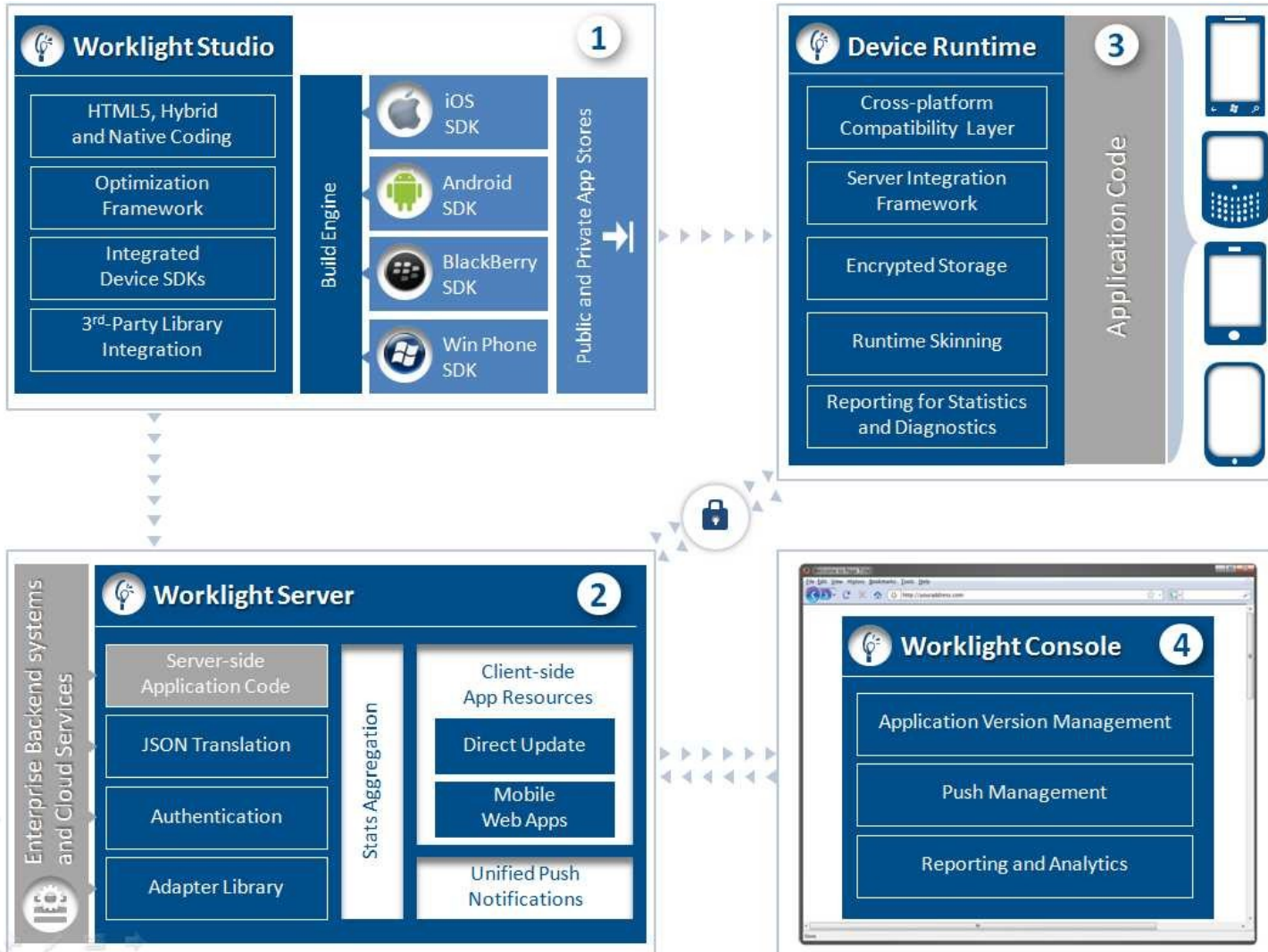
Platform-specific. Requires unique expertise, pricey and long to develop. Can deliver higher user experience.



Downloadable



Worklight Overview



Demo

How do I get started with Worklight?

- 1) Download Worklight Developers Edition for free (Eclipse + Plugin)
- 2) Install an SDK or 2
- 3) Getting started documentation



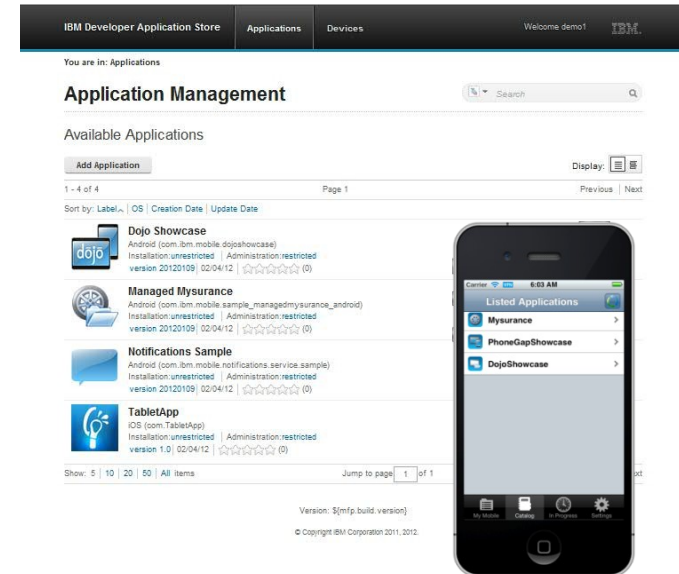
Modules and samples	
Setup	
Module 02 - Setting Up Your Development Environment (PDF, 691KB)	
Module 02.1 - Setting Up Your iOS Development Environment (PDF, 966KB)	
Module 02.2 - Setting Up Your Android Development Environment (PDF, 528KB)	
Module 02.3 - Setting Up Your BlackBerry Development Environment (PDF, 280KB)	
Module 02.4 - Setting Up Your Windows Phone Development Environment (PDF, 647KB)	
Basics	
Module 03 - Writing Your First Application (PDF, 636KB)	Exercise and code sample (ZIP, 51.6KB)
Module 03.1 - Previewing your Application in iOS environment (PDF, 729KB)	
Module 03.2 - Previewing your Application in Android environment (PDF, 725KB)	
Module 03.3 - Previewing your Application in BlackBerry environment (PDF, 902KB)	
Module 03.4 - Previewing your Application in Windows Phone environment (PDF, 660KB)	
Module 03.5 - Rich Page Editor (PDF, 417KB)	
Module 03.6 - Mobile Browser Simulator (PDF, 705KB)	
Module 04 - Worklight Client API Basics (PDF, 492KB)	Exercise and code sample (ZIP, 53.6KB)
Server-side development	
Module 05 - Integration Adapters (PDF, 518KB)	
Module 05.1 - Creating SQL Adapters (PDF, 508KB)	Exercise and code sample (ZIP, 14.7KB)
Module 05.2 - Creating HTTP Adapters (PDF, 1.31MB)	Exercise and code sample (ZIP, 14.5KB)



Mobile 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
- Ease highly iterative development process and distribution of mobile applications
- Key capabilities:
 - Delivers distribution and management of mobile applications within a company / teams
 - Easy distribution of iOS and Android apps within a team
 - Supports any mobile applications
 - Provides versioning and updates
 - Centralizes rating and feedback information
 - Controls who can modify or install an application
 - Easy to install and simple to run

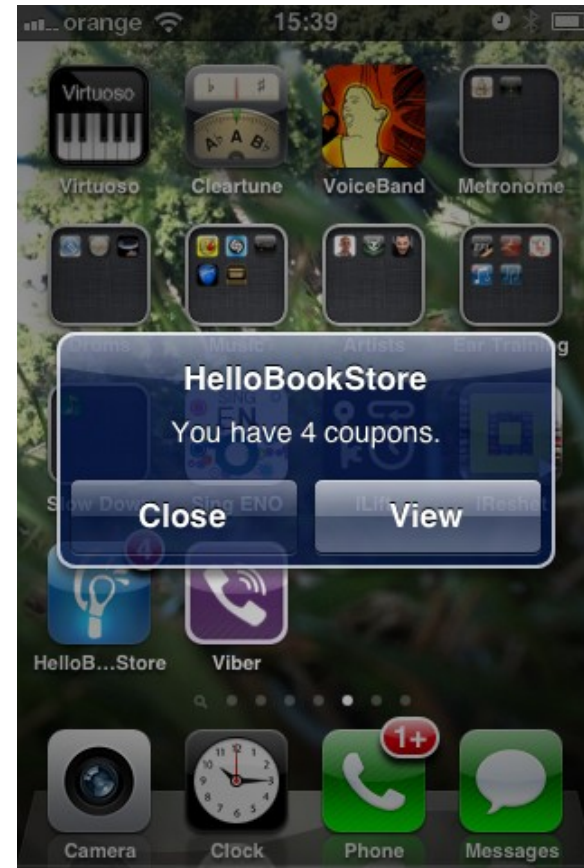


- ✓ App store supporting iterative development lifecycle to improve collaboration with application stakeholders, QA and Development teams
- ✓ Cross platform, technology agnostic mobile application store

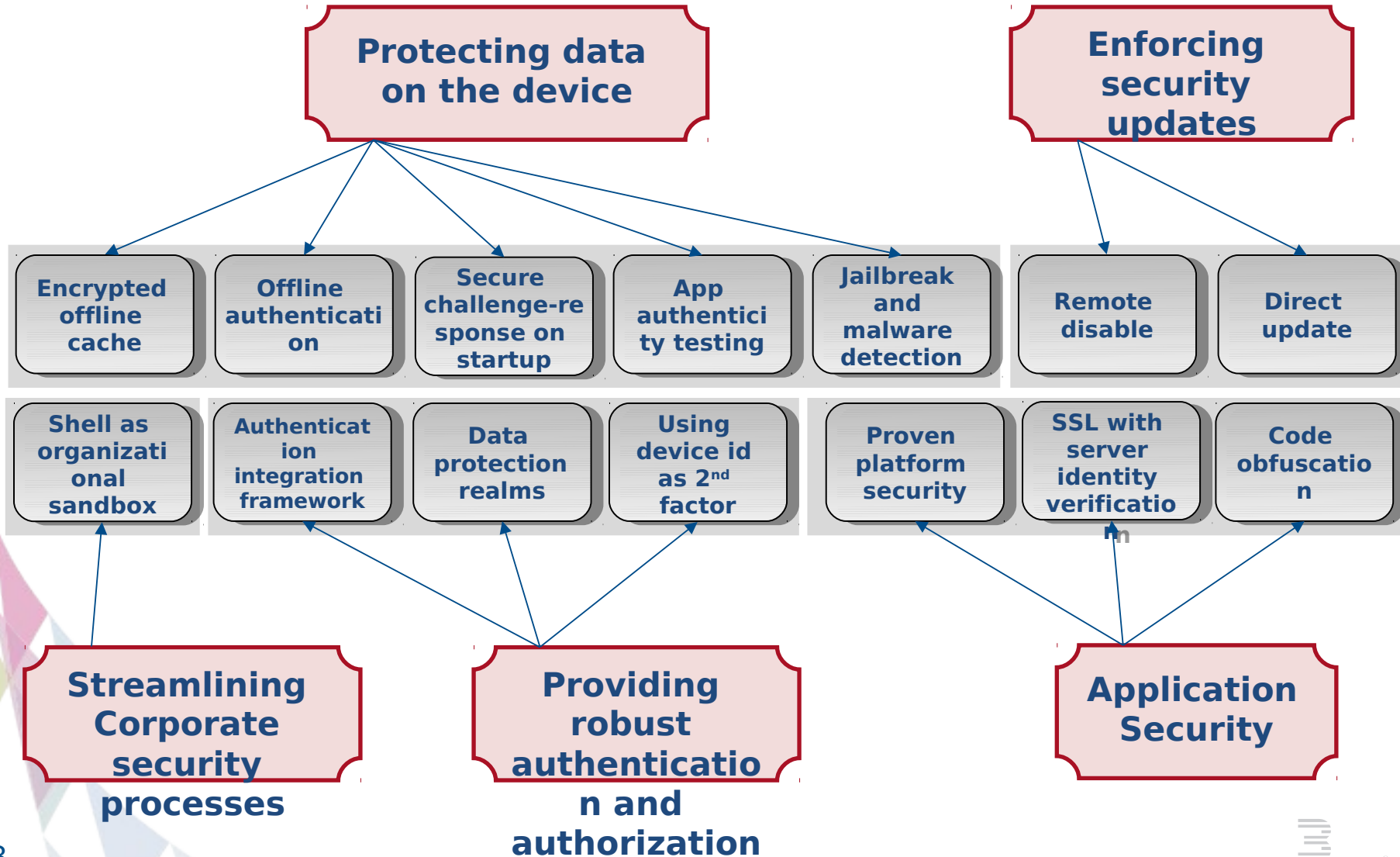


Push Notification

- Receiving Notification on the Device



Securing Mobile Apps



Data Collection and Analytics

0101101101101011011011



Welcome, Guest | [Logout](#) | [About](#)

Catalog

Reports

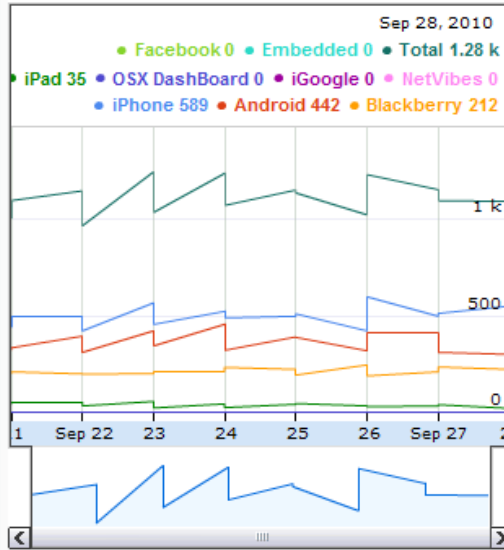
Active Users

Select Application: **Securities**

Adoption Reports

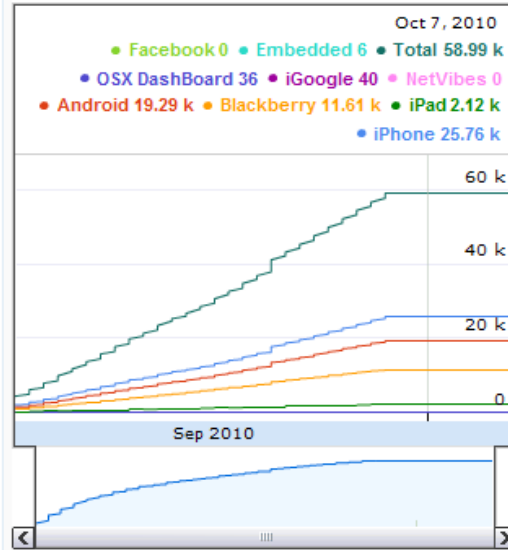
Unique Users Downloading Over Time

Start date: 21st Sep 2010
End date: 28th Sep 2010



Cumulative Unique Users Downloading Over Time

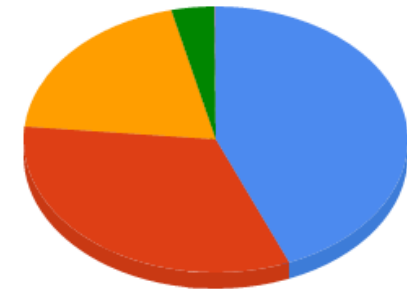
Start date: 1st Sep 2010
End date: 7th Oct 2010



Total Unique Users

Date: 30th Sep 2010

Total: 58864



iPhone iPad Embedded
Android OSX DashBoard
BlackBerry iGoogle

011011011101101011011011

Corporate
Systems

Worklight
Sole

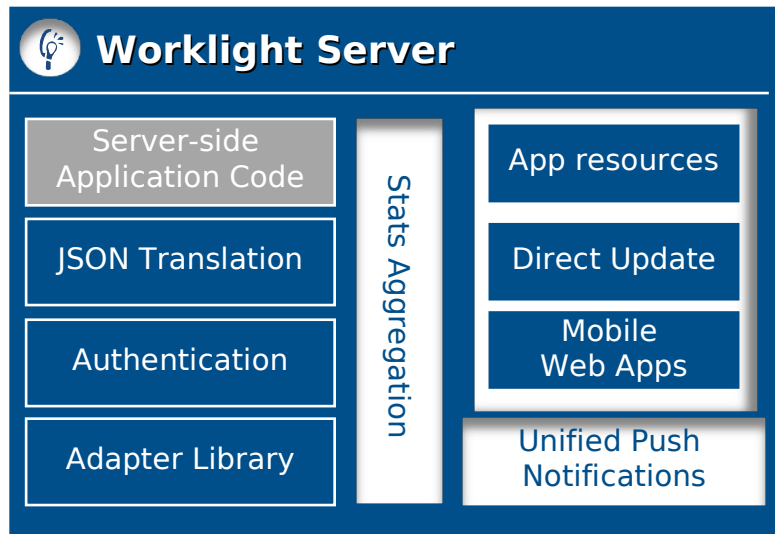
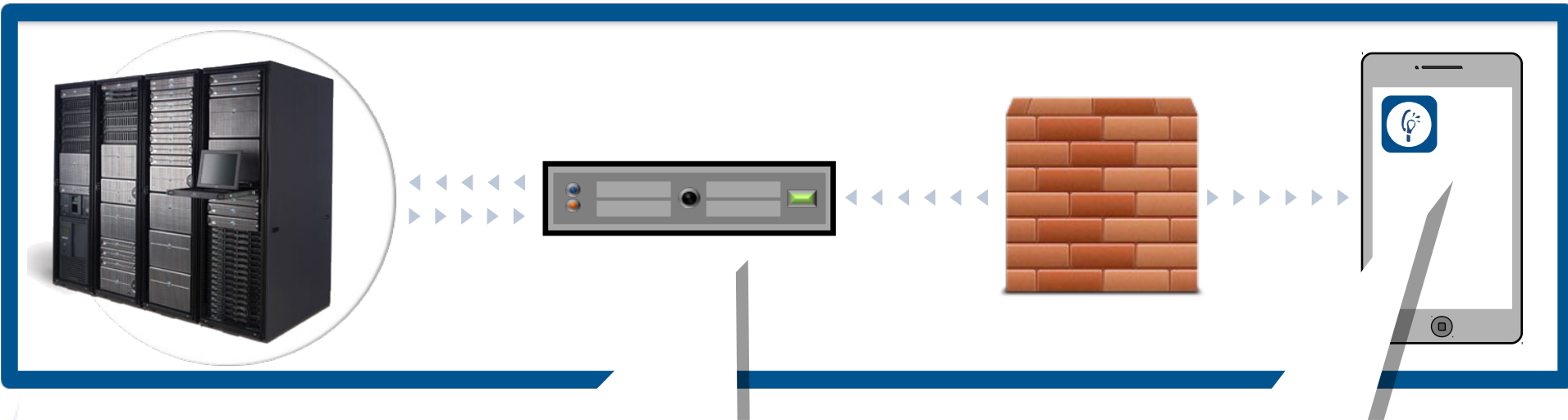
Customer Spotlight – ING Direct



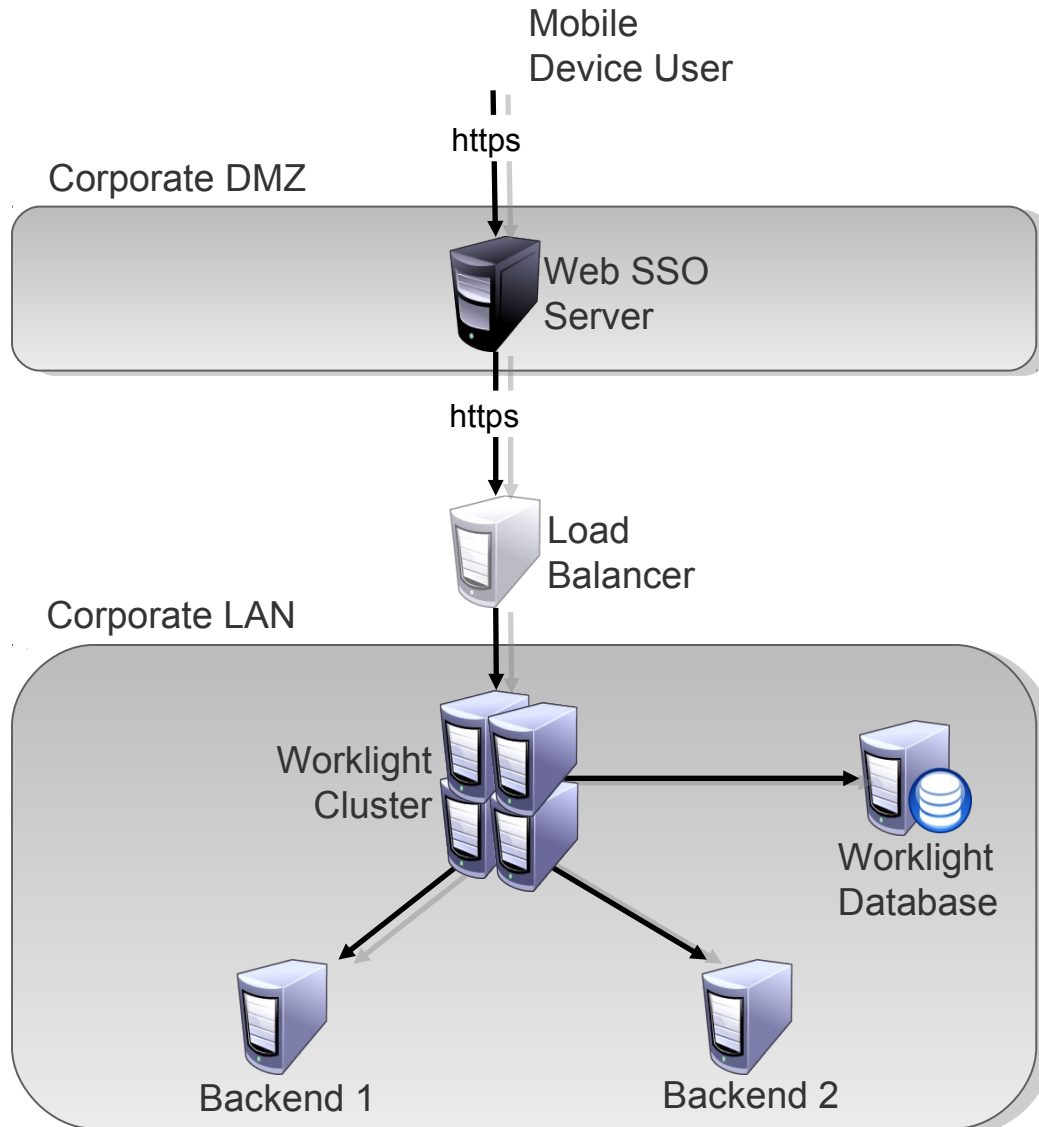
Customer Story: Lotte Card



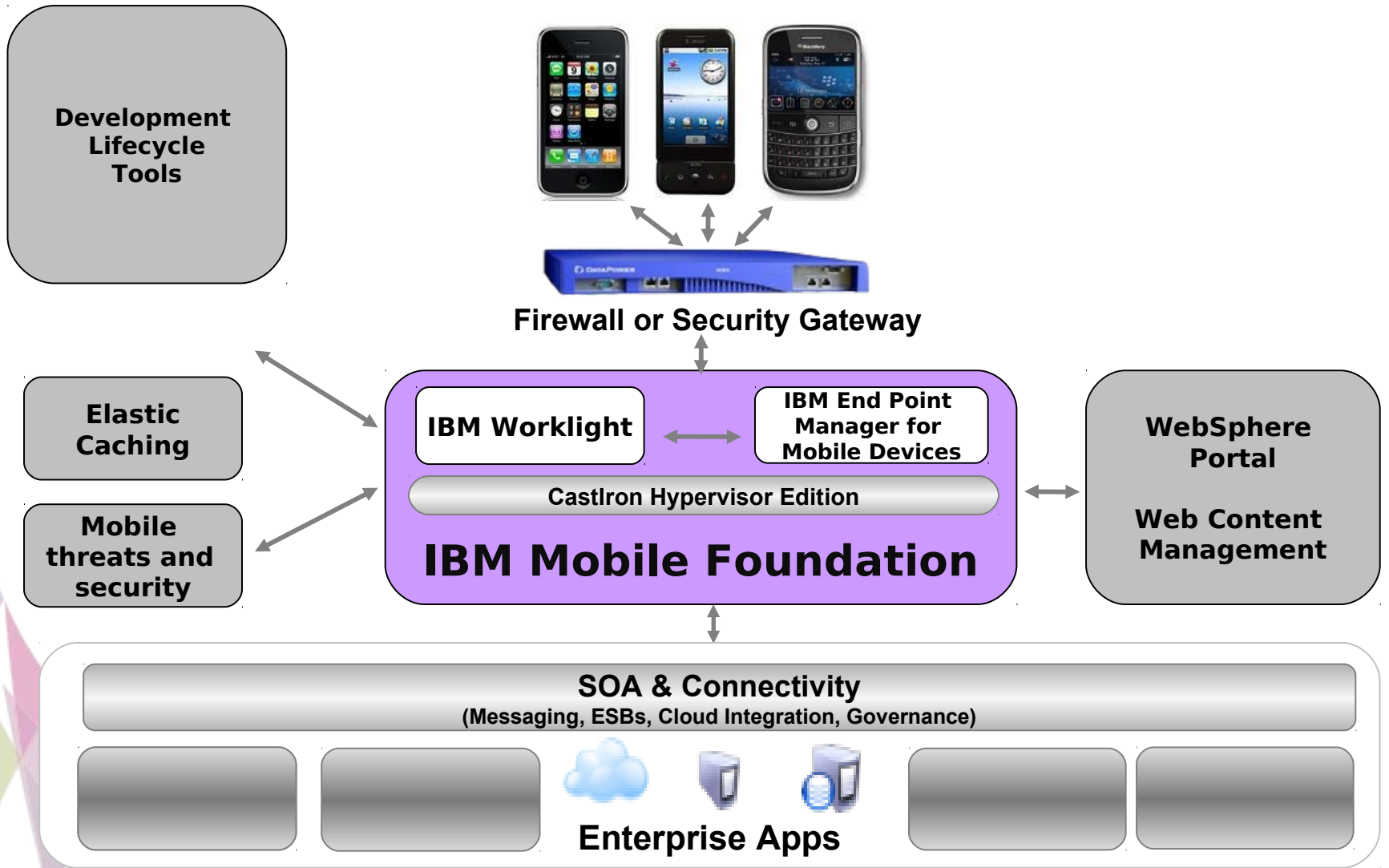
IBM Worklight Architecture



IBM Worklight typical topology



IBM Mobile Foundation



The Worklight Mobile Platform

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



Useful links

Worklight Studio download:

<http://www.ibm.com/software/mobile-solutions/worklight/>

User Documentation modules:

<https://www.ibm.com/developerworks/mobile/worklight/getting-started/index.html>

Demo of creating an app:

[http://www.youtube.com/watch?](http://www.youtube.com/watch?v=WgyX4wESPD0&lc=pLITMib6dJosMEbYvCm-IPQThEteaJBBrKsfvkJ4o)

[v=WgyX4wESPD0&lc=pLITMib6dJosMEbYvCm-IPQThEteaJBBrKsfvkJ4o](http://www.youtube.com/watch?v=WgyX4wESPD0&lc=pLITMib6dJosMEbYvCm-IPQThEteaJBBrKsfvkJ4o)



Backup

Worklight addresses a range of challenges

- Bring Your Own Device (BYOD) is forcing companies to support a range of devices.
- Mobile Development is more expensive than traditional Web App Development:

Which smartphone? Which tablet? Which form factor?

- → iOS, Android, Blackberry, Windows Phone
- → All of the above..

Skills?

- → Web or native apps? Java or Objective C? Or other?

Maintenance?

- → Separate software stacks for each major OS
- → Separate applications for each major OS
- → How do I keep software current?

Security?

- → Encryption? Authentication?
- → Response to stolen/lost devices?

Management?

- → How do I provide support and service?

Enterprise Integration?

- → How do I build cross-channel app?

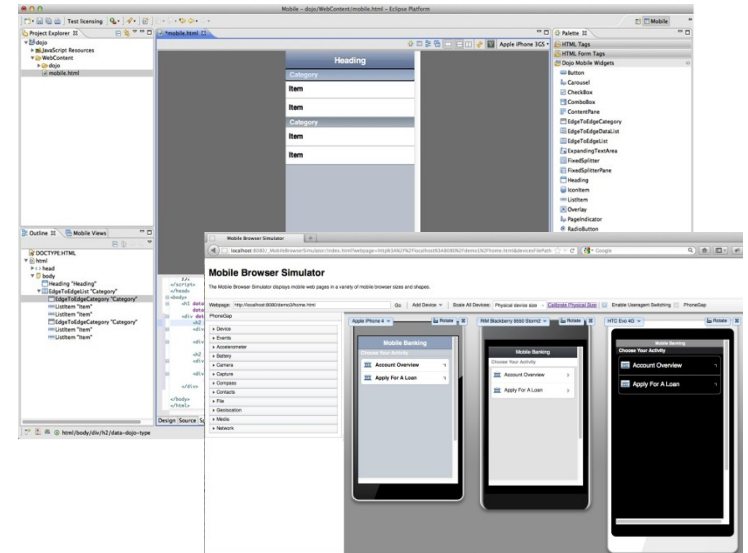
- Meanwhile, IT budgets are shrinking.



IBM Worklight Studio V 5.0



- The IBM Worklight studio provides a visual development environment for building rich mobile applications .
- Helps accelerate development time while reducing errors.
- Key capabilities:
 - WYSIWYG UI Construction
 - Drag and Drop components
 - Code Assist
 - Fast Preview in browser with device simulation
 - Integration with Native SDK
 - Integration with Rational Team Concert
 - Integration with RAD via shell sharing
 - Maximize code reuse across mobile platforms



✓ A visual mobile app development environment
✓ Helps accelerate development, rapid prototypes, fast simulation, reduces errors.



WYSIWYG UI Construction

The screenshot displays a WYSIWYG UI construction tool interface. The main window is titled "home.jsp" and shows a mobile application design on the left, source code in the center, and a widget palette on the right. The design shows a "Demo" header, a "Fruits" section with "Apples" and "Oranges" items, and a "Properties" panel at the bottom.

The source code in the center is as follows:

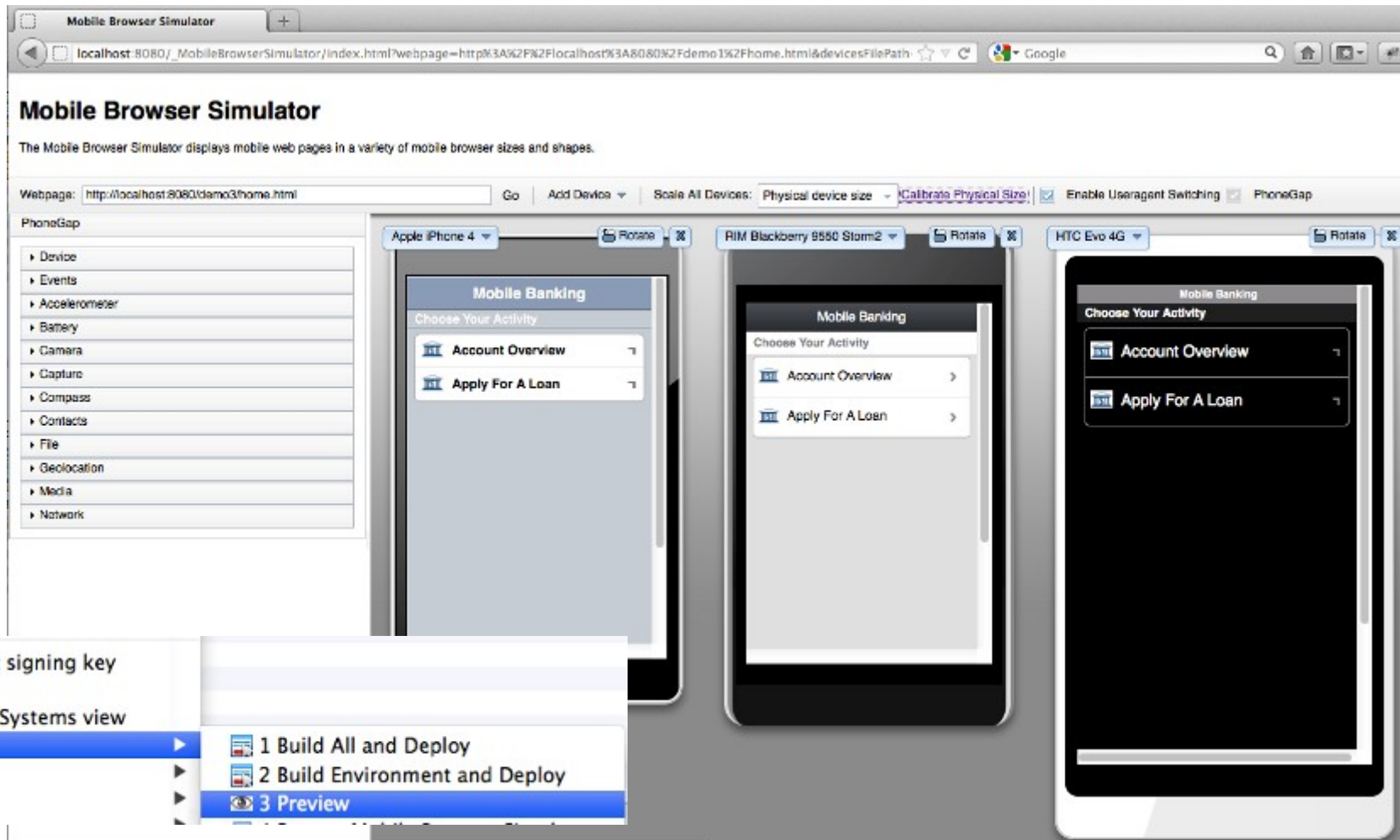
```
function(dojox/mobile/ListItem, dojox/mobile/EdgeToEdgeCategory) ],  
// Callback function, invoked on dependencies evaluation results  
function(dojox) {  
  dojox.ready(function() {  
    });  
  });  
};  
</script>  
</head>  
<body>  
  <div data-dojox-type="dojox.mobile.View" id="view0"  
    data-dojox-props="selected:true">  
    <h1 data-dojox-type="dojox.mobile.Heading"  
      data-dojox-props="label:'Demo'"></h1>  
    <div data-dojox-type="dojox.mobile.EdgeToEdgeCategory">Fruits</div>  
    <div data-dojox-type="dojox.mobile.RoundRectList">  
      <div data-dojox-type="dojox.mobile.ListItem"  
        data-dojox-props="label:'Apples',icon:'apples.png',moveTo:'apples'  
      <div data-dojox-type="dojox.mobile.ListItem"  
        data-dojox-props="label:'Oranges',icon:'oranges.png',moveTo:'oranges'  
      </div>  
    </div>  
  </div>  
  <div data-dojox-type="dojox.mobile.View" id="apples"  
    data-dojox-props="selected:false">  
    <h1 data-dojox-type="dojox.mobile.Heading"  
      data-dojox-props="label:'Apples',back:'Home',moveTo:'view0'"></h1>  
  </div>  
  <div data-dojox-type="dojox.mobile.View" id="oranges"  
    data-dojox-props="selected:false">  
    <h1 data-dojox-type="dojox.mobile.Heading"  
      data-dojox-props="label:'Oranges',back:'Home',moveTo:'view0'"></h1>  
  </div>  
</body>  
</html>
```

The "Properties" panel at the bottom shows a table for modifying items in a Round Rectangle list:

Page	Use the table below to modify the items in this Round Rectangle list						
html	Icon	Label	Right Text	Variable Height	Move To	Transition	
body	apples.png	Apples		Fixed	apples	fade	Add Remove Up Down
View	oranges.png	Oranges		Fixed	oranges	flip	
Mobile List							
List Items							

The widget palette on the right lists various Dojo widgets, including HTML Tags, Dojo Application Widgets, Dojo Data Widgets, Dojo Form Widgets, Dojo Layout Widgets, and Dojo Mobile Widgets. The "Dojo Mobile Widgets" section is expanded, showing a list of widgets such as ContentPane, EdgeToEdgeCategory, EdgeToEdgeDataList, EdgeToEdgeList, ExpandingTextArea, FixedSplitter, FixedSplitterPane, Heading, IconContainer, IconItem, ListItem, Overlay, PageIndicator, RadioButton, RoundRect, RoundRectCategory, RoundRectDataList, RoundRectList, ScrollableView, Slider, SpinWheelDatePicker, SpinWheelTimePicker, SwapView, Switch, and TabBar.

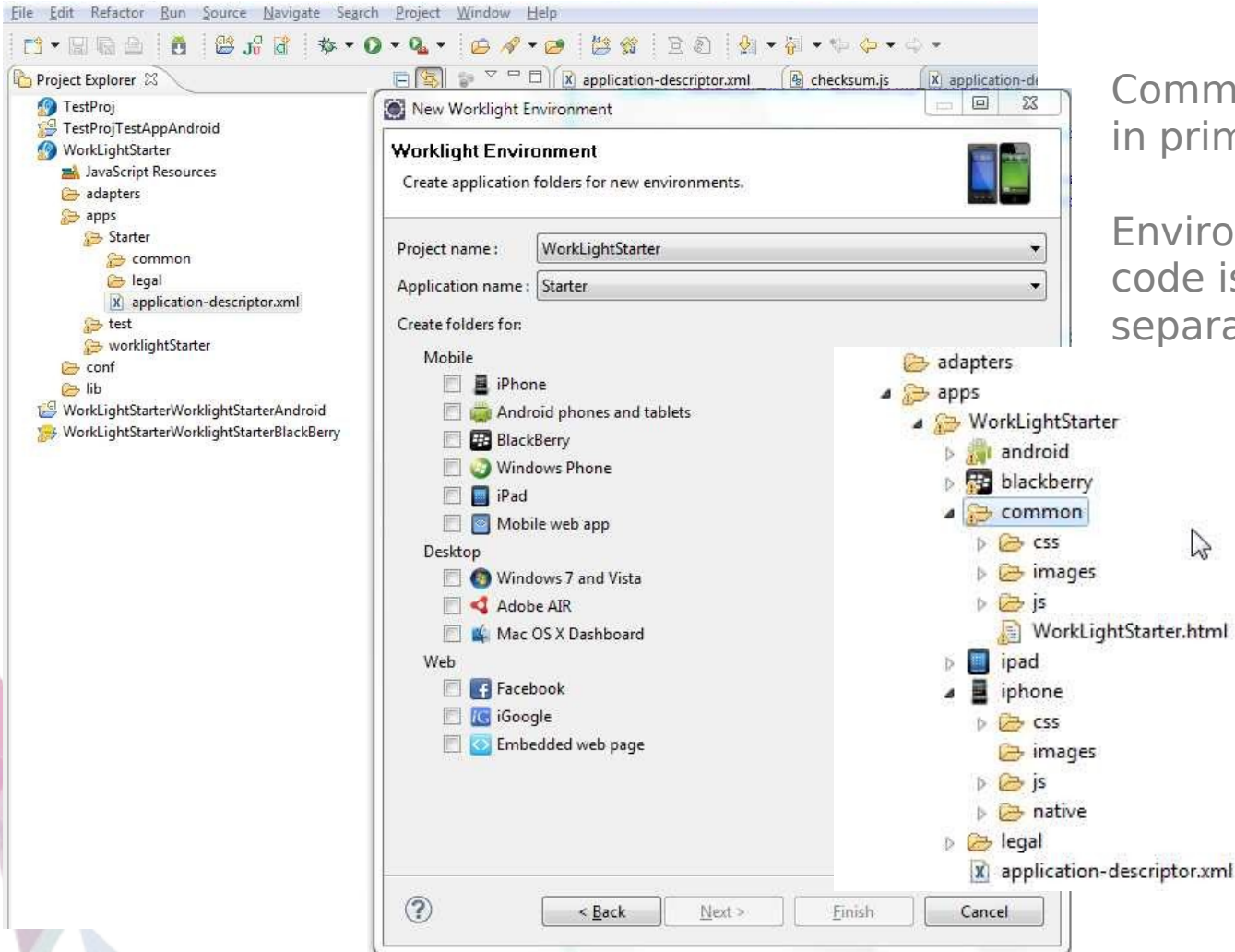
Preview in browser



Perform device specific tests in the Mobile Browser Simulator: supports PhoneGap and Worklight client API



Single Shared Codebase



Common code placed in primary file

Environment optimization code is maintained separately



Supported Application Types

- Supports a variety of application types
- Mobile
 - iPhone
 - iPad
 - Android
 - BlackBerry
 - Windows Phone
 - Mobile web app
- Desktop
 - Windows 7 and Vista
 - Adobe AIR
 - Mac OS Dashboard
- Web Applications
 - Facebook
 - iGoogle
 - Embedded web page



App Management

The screenshot displays the Worklight Admin Console interface. At the top, the Worklight logo is on the left, and the user status 'Welcome, Guest' with links for 'Logout', 'About', and 'License' is on the right. Below the header, there are navigation tabs for 'Catalog', 'Push Notifications', 'Reports', and 'Active Users'. A blue bar contains the text 'Deploy application or adapter: Choose File No file chosen Submit'. The main content area is titled 'WorkLight Starter' and includes a 'Delete' link. A lightbulb icon represents the app, with a description 'Retrieves RSS feed from engadget.com' and a 'Last updated at: 2012-01-30 10:13' timestamp. A configuration modal for the iPhone platform is open, showing 'Version 1.1' set to 'Disabled' and 'Authenticity Testing' set to 'Disabled'. The notification text is 'Please upgrade to the latest version' and the URL to the app store is 'http://itunes.com/myapp'. Other platforms listed include Android (Version 1.0, Active), BlackBerry (Version 1.0, Active), Windows Phone (Version 1.0, Active), iPad (Version 1.0, Active), and Facebook (Version 1.0, Get App URL).

Worklight Admin Console

Welcome, Guest | [Logout](#) | [About](#) | [License](#)

Catalog | Push Notifications | Reports | Active Users

Deploy application or adapter: No file chosen

WorkLight Starter ✕ Delete

Retrieves RSS feed from engadget.com

Preview as: Last updated at: 2012-01-30 10:13

✕ iPhone

Version 1.1 Disabled Authenticity Testing: Disabled

Notification text (will appear on the device):

URL to app store or market:

Lock this version

✕ Android

Version 1.0 Active Authenticity Testing: Enabled, blocking

Lock this version

✕ BlackBerry

Version 1.0 Active

✕ Windows Phone

Version 1.0 Active

✕ iPad

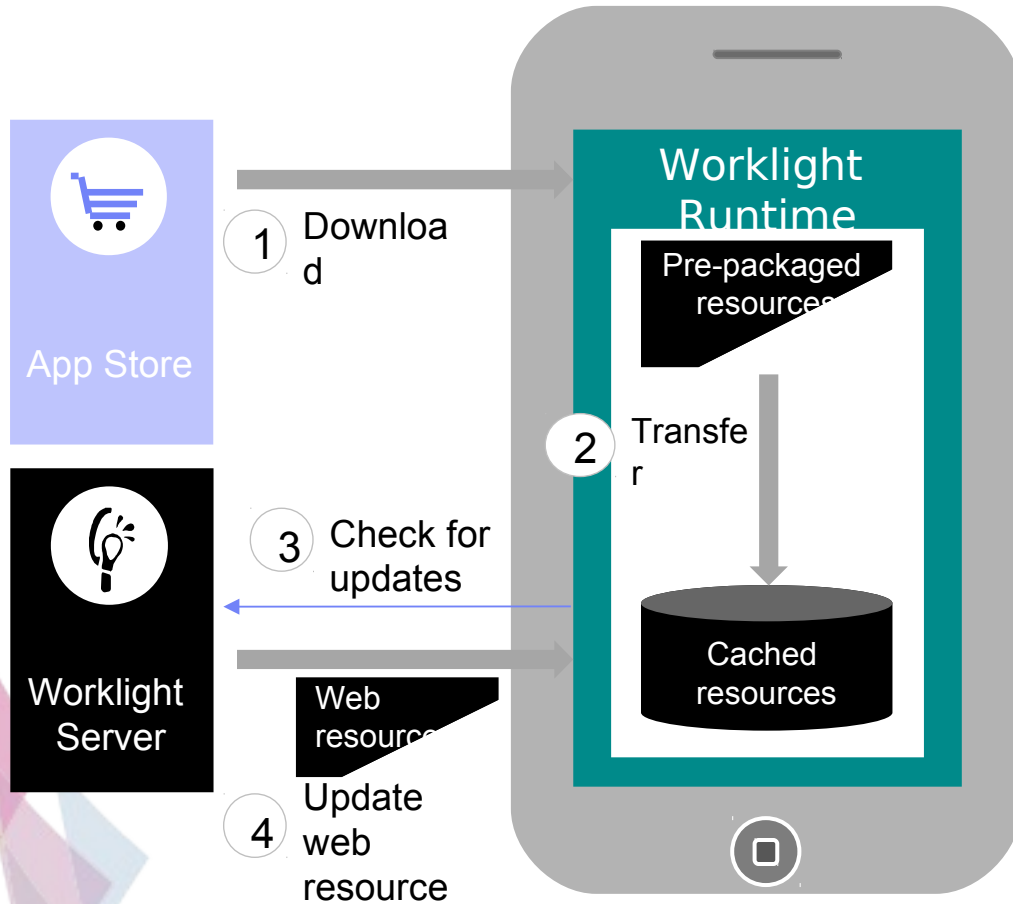
Version 1.0 Active Authenticity Testing: Disabled

Lock this version

✕ Facebook

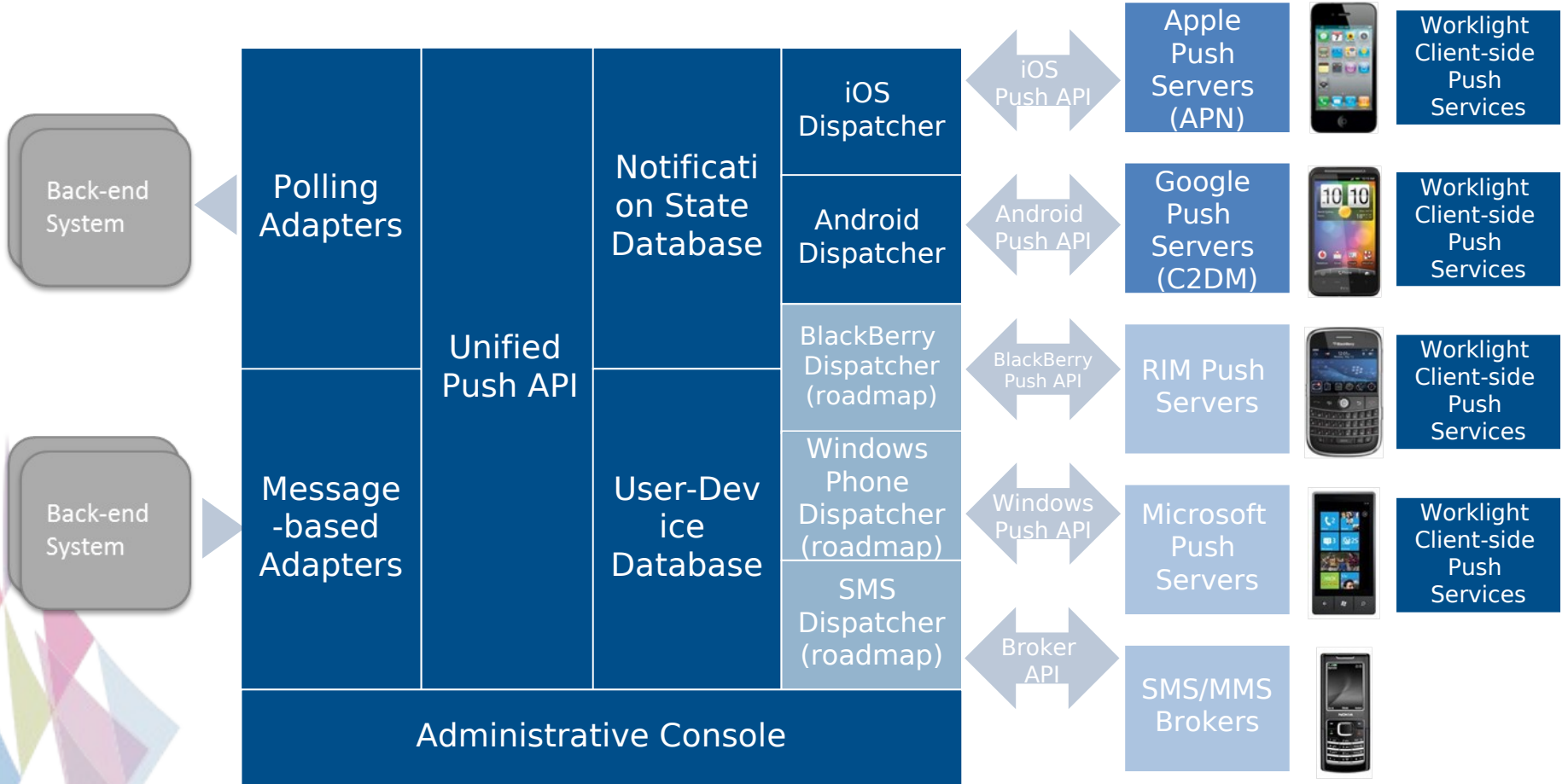
Version 1.0 [Get App URL](#)

Direct Update – On-device Logic



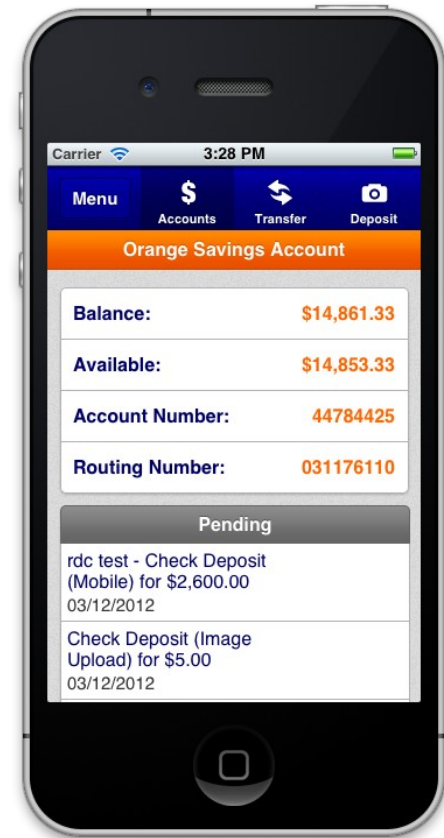
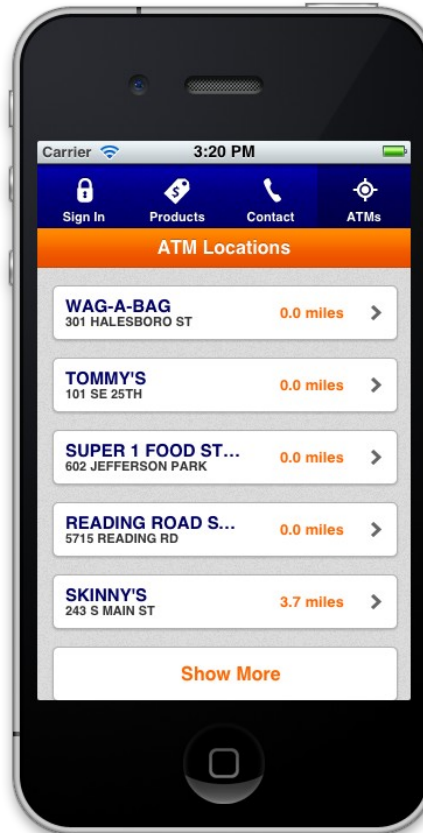
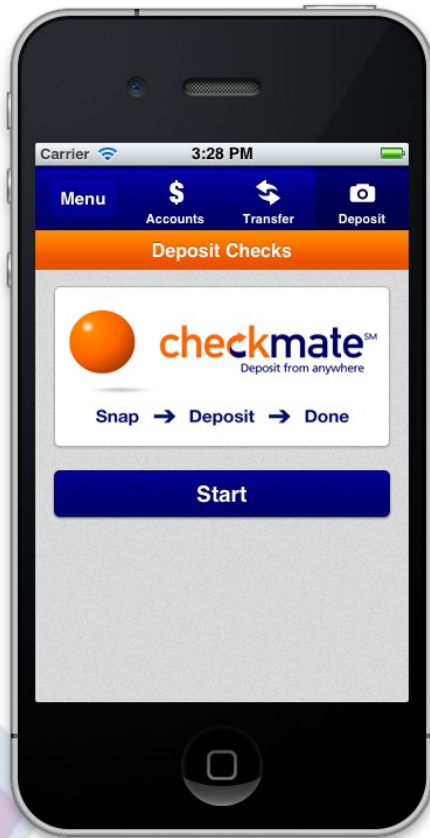
1. Web resources packaged with app to ensure initial offline availability
2. Web resources transferred to app's cache storage
3. App checks for updates
 - On startup
 - On foreground
1. Updated web resources downloaded when necessary

Unified Push Notifications



Customer Story: ING Direct US

B2C: Flexible client-side app architecture to re-use mobile website content



... and brings business and IT challenges

Enterprise Business Model Changes

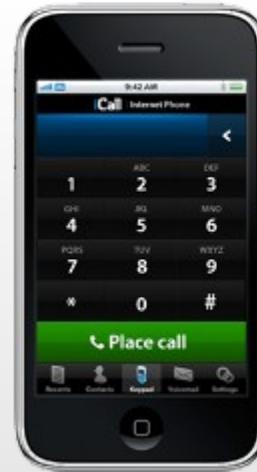
- New business opportunities based upon geo location
- Anytime, anywhere business transactions
- Importance of social business interactions

App Development Lifecycle Complexity

- Complexity of multiple device platforms with fragmented Web, native, and hybrid model landscape
- Connecting the enterprise back-end services in a secure and scalable manner
- Unique mobile requirements (user interface, connected/disconnected use, version upgrades, etc.)

Mobile Security and Management

- Protection of privacy and confidential information
- Use of client-owned smartphones and tablets
- Visibility, Security & Management of mobile platform requirements



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

<https://www.ibm.com/developerworks/mydeveloperworks/blogs/techtrends/entry/home?lang=en>

Rich, cross-platform application development

IBM Worklight V5.0



- Enables flexible development, back-end integration and ongoing management of rich, cross-platform mobile apps using native and standards-based HTML technologies and tools
- Mobile-optimized middleware delivering an enterprise-grade solution that meets the needs of mobile employees and customers
- Key capabilities:
 - Drag and Drop Visual development
 - Mobile simulator for mobile emulation and testing
 - app store for iterative development
 - Strong authentication framework
 - Encrypted offline data store
 - Enterprise back-end connectivity
 - Unified push notifications
 - Data collection for analytics
 - Direct updates and remote disablement
 - Packaged runtime skins
 - Expanded platform support



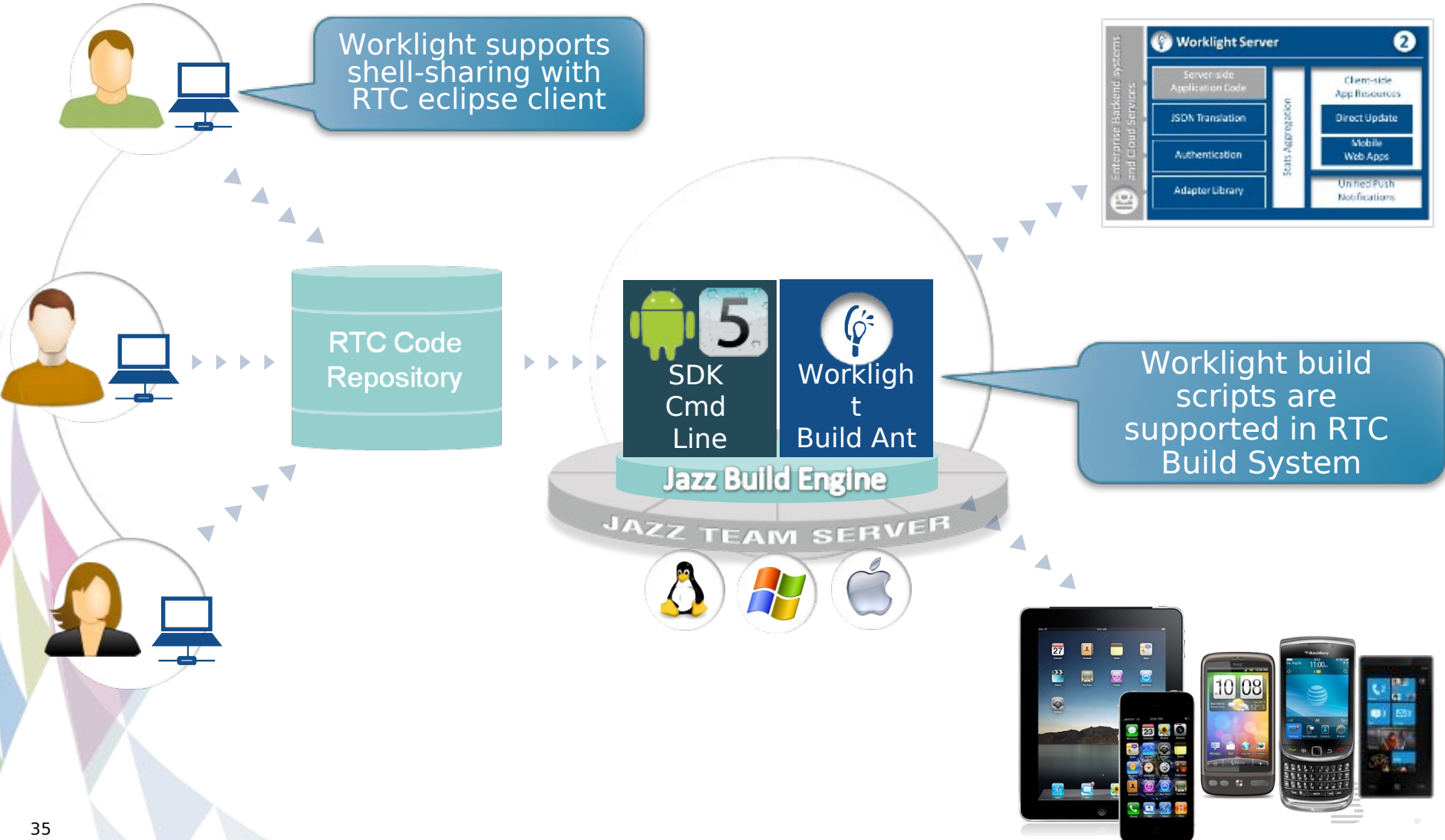
✓ *Fast and cost-effective development, integration and management of enterprise mobile applications.*

✓ *IBM Worklight, Developer edition V5.0 is licensed for development use only at no charge*

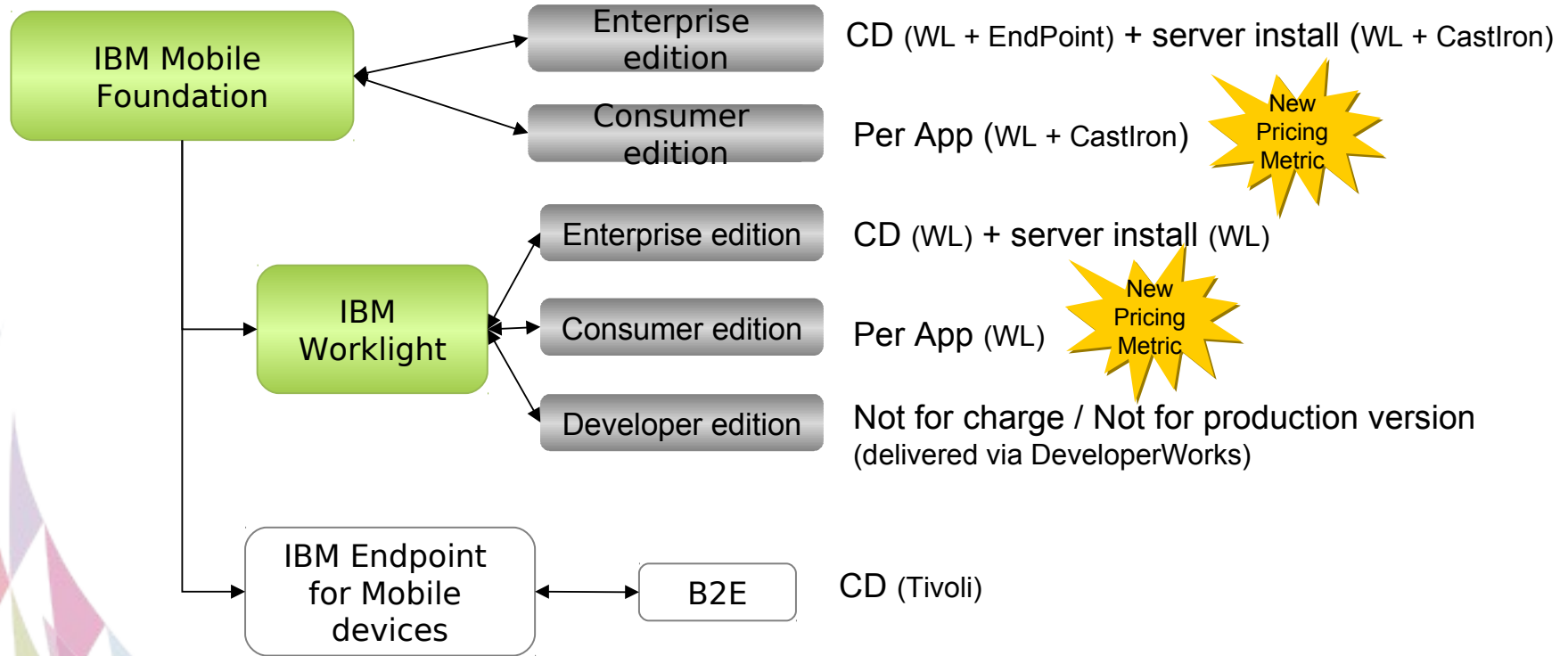


RTC integration

Improved June 15



Packaging



CD = Client Device
 WL = Worklight
 Per App = new PA metric
 EndPoint = IBM Endpoint Manager for Mobile Devices

