

IBM Business Connect

Business Without Limits.

July 18 | Sandton Convention Centre, Johannesburg

Mobility

Michael Lackerbauer

18 July 2013



<https://www.facebook.com/IBMSouthAfrica/events>



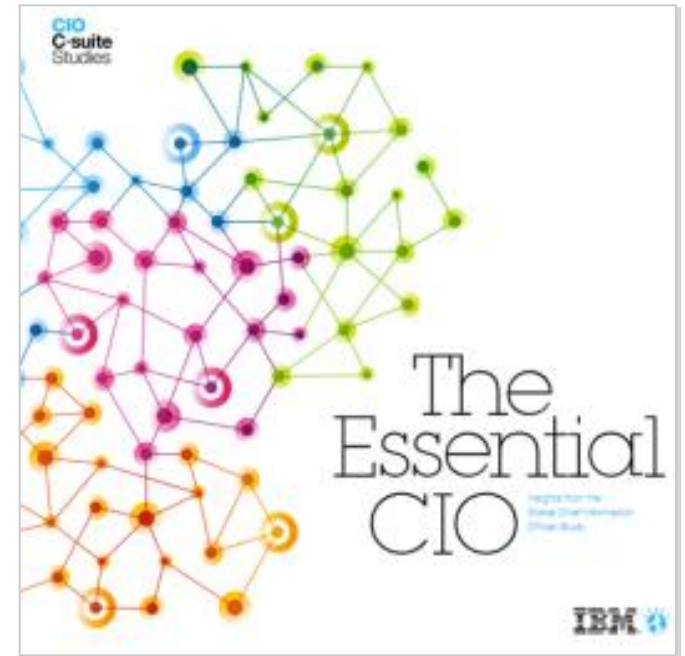
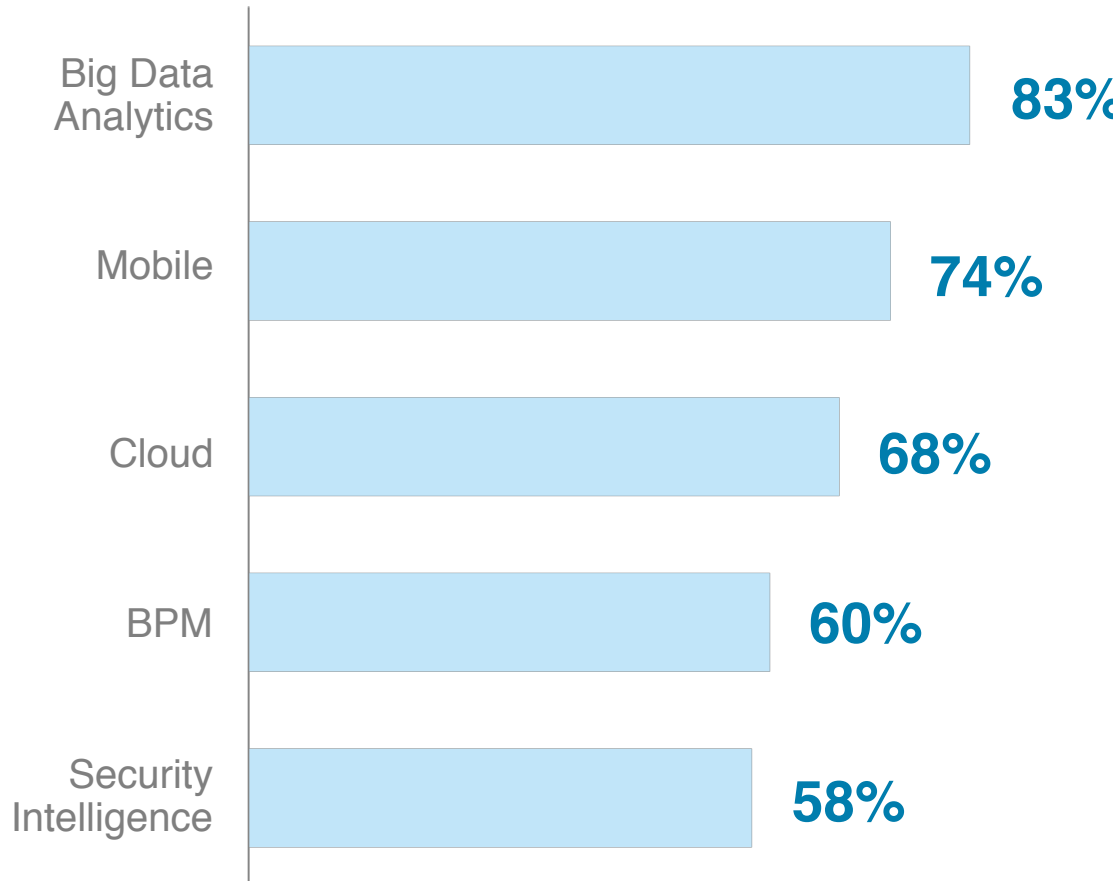
#IBMBC2013



CIOs prioritize analytics and mobile



Technologies for Innovation and Solving Specific Business Challenges



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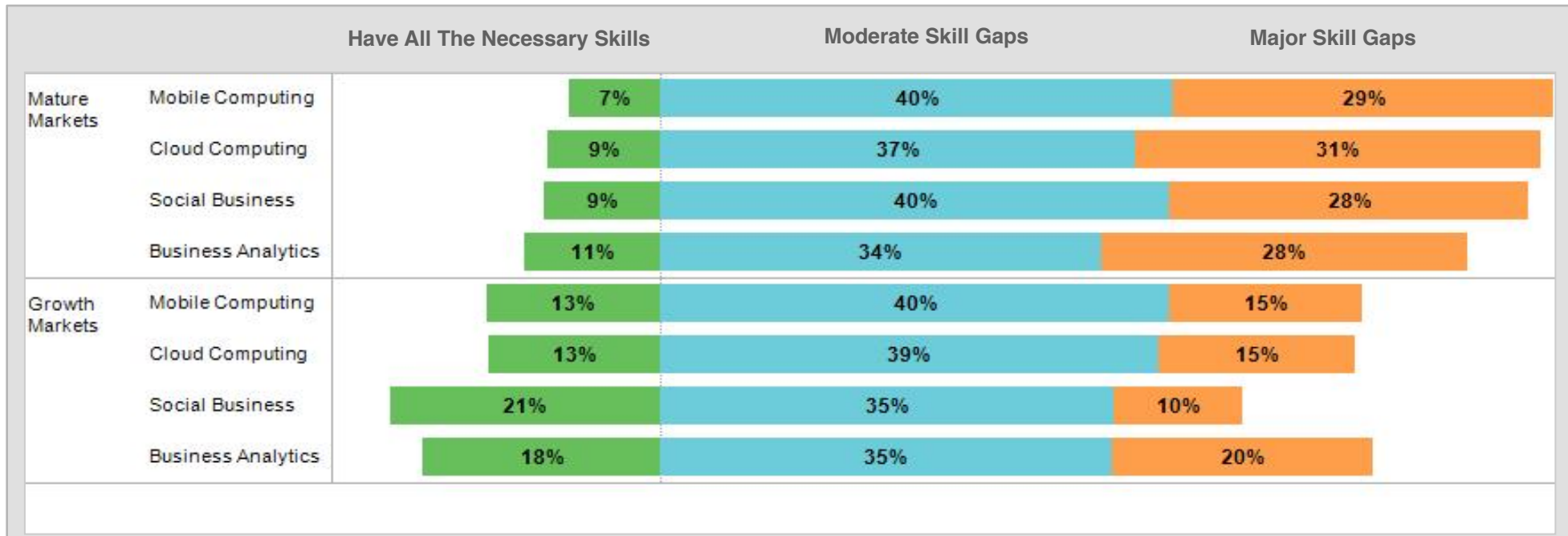
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Enterprises are lagging in adequate mobile skill sets



The IT Skill Gap: Mature vs Growth Markets



Source: 2012 Tech Trends Study, IBM developerWorks and IBM Center for Applied Insights, November 2012..
Growth Markets including Brazil, Russia, China, India and South Africa.

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Mobile has enormous opportunities



Business to Enterprise



- Increase worker productivity
- Improved claims processing
- Increase revenue with sales engagements
- Extend existing applications to mobile workers and customers
- Reducing fuel, gas, or fleet maintenance costs where relevant
- Increase employee and business partner responsiveness and decision making speed
- Resolve internal IT issues faster
- Reduce personnel cost (utilizing personal devices instead of corporate 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
- Improve in store experience with mobile concierge services

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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



Expanding our mobile portfolio with new capabilities



125+ patents for wireless inventions in 2012, bringing the total to 270

2012
1H



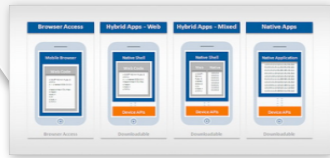
IBM Endpoint Manager



IBM Cast Iron



IBM acquired:
Emptoris Rivermine Telecom
Expense Management



IBM announced:
IBM Mobile Foundation

IBM INTERACTIVE

Named leader in
interactive design

2013
1H



IBM announced:

IBM MobileFirst

urban{code}

IBM acquired:
Urban Code DevOps
Platform

2H



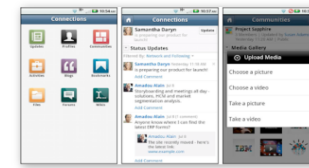
IBM acquired:
Tealeaf CX Mobile



IBM announced:
Managed Mobility
and MAPM Services
and
IBM Security Access Manager
for Cloud and Mobile



IBM announced:
IBM Mobile
Development
Lifecycle Solution



IBM announced:
IBM Connections Mobile

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IBM introduces the IBM MobileFirst offering portfolio



IBM MobileFirst: Application Development



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

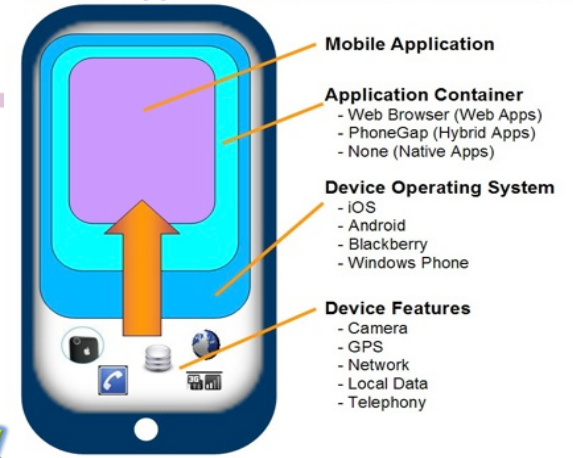
Security is different.

- **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



What to consider: Native, Web, Hybrid

Mobile Application Runtime Environment



- Easy to develop and manage
- Only browser specifics
- Compromise
- Depending on functionality of development environment
- High Performance
- Best Usability
- Always limited to specific devices

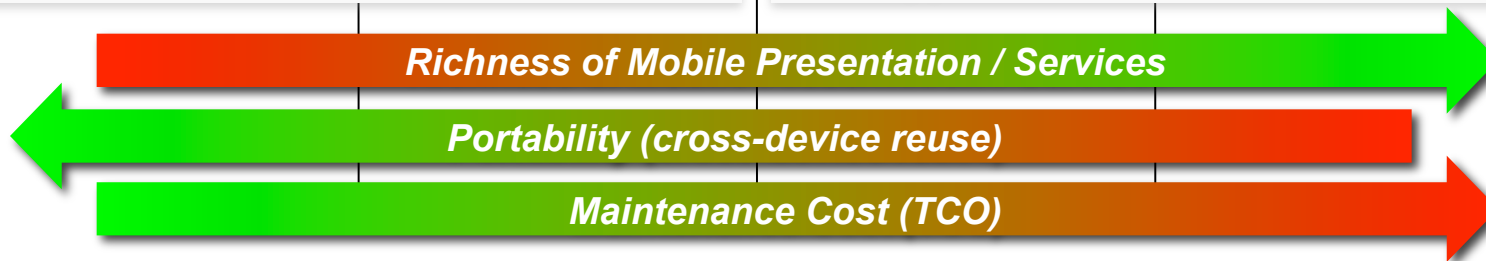
Web

Hybrid

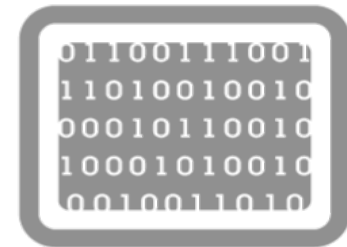
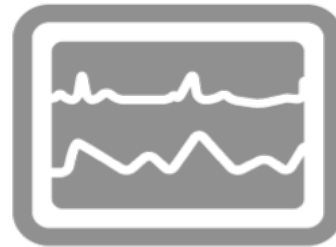
Native

	Web Application	Mobile Web Application	Hybrid Mobile Applic.	Native Mobile Applic.
Characteristics	Desktop and mobile using open web (HTML, JavaScript) client programming models Limited to no device-specific functionality	Mobile only using open web (HTML5, JavaScript) client programming models Off-line capabilities	Mobile only, app runs on device leveraging open web (HTML5, JS) via JavaScript bridge Native device capabilities (GPS, camera, contacts) Mimic native appearance	Mobile only, developed using native languages or transcode to native via MAP tools Native appearance and device capabilities, performance
	Mobile Browser Execution		AppStore download and install	

Traditional Trade-offs (without MEAP/MAP)



Mobile app development imperatives and challenges



Building & Deploying Mobile Apps

How do I develop & deliver across platforms?

- Secure code and reuse across platforms
 - Management needs for B2C / B2B / B2E
 - Analytics & continuous improvement
- Address multi-channel and multi-tier
 - Rapid Prototyping

Mobile Lifecycle Management & Testing

How do I test and manage the lifecycle of the app?

- Access to device inventory
- Test automation & planning
 - Lifecycle management
 - Team collaboration
- Fit within existing enterprise development process

Data Access & Integration

How do I integrate into existing systems?

- Short project cycles & integration effort
 - Different data usage patterns for mobile
- Content delivered in context
- Driving engagement (push) across multi-tier systems



IBM Worklight Mobile Application Platform Overview



Open standards-based development framework optimized for code re-use across device platforms.

Mobile application server provides mobile-specific administrative, notifications, analytics and security services while leveraging existing investments in data, applications and infrastructure

Client device layer enables client-side security, enforces app upgrades, secures local storage and allows access to device features.

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Multi-platform development with a shared codebase



From the complexity of many...

- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



To the simplicity of one

- One development environment
- One codebase to develop and maintain



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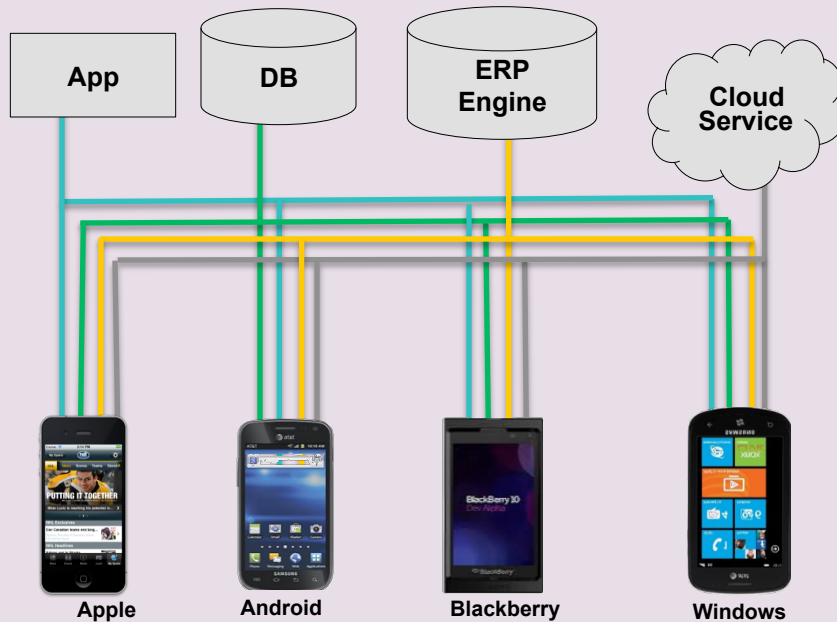
IBM Worklight

Controlled back-end integration



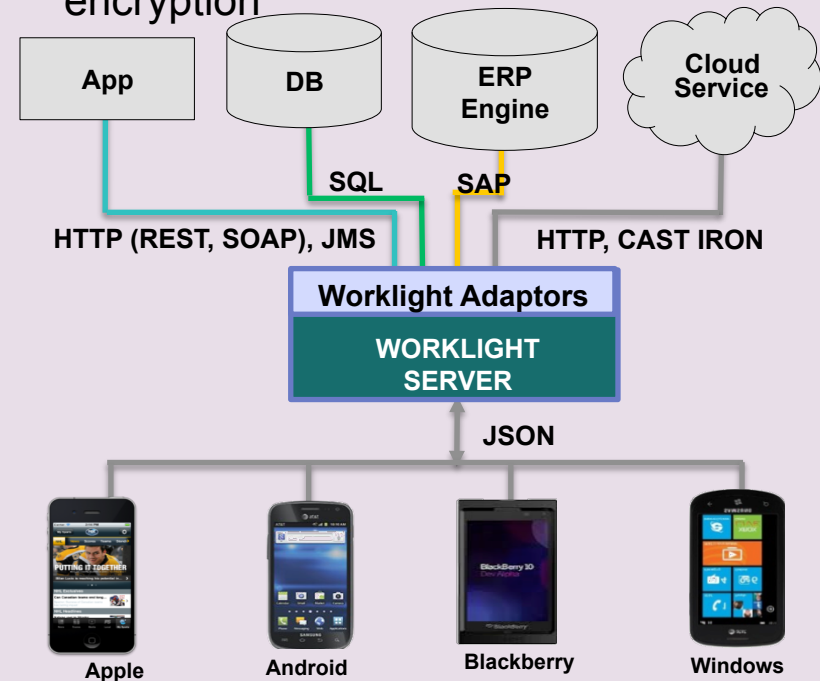
From multiple point-to-point integrations

- Multiple sets of integrations to enterprise resources to build and maintain
- YOU manage caching, synchronization and end-to-end encryption



To streamlined, transparent access

- Worklight transforms enterprise data into mobile-friendly, JSON format
- Worklight Server manages caching, data synchronization and end-to-end encryption



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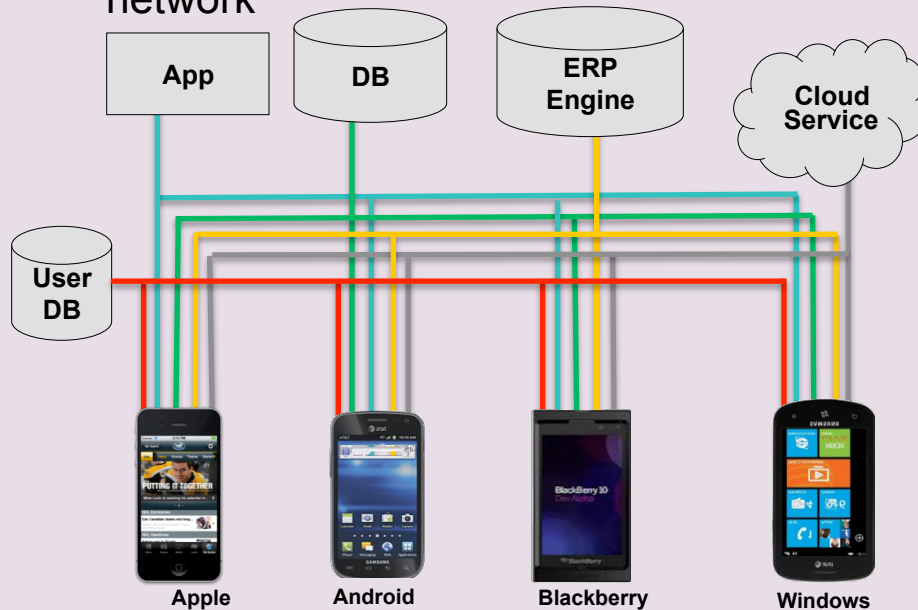
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Cross-Platform End-to-End Security



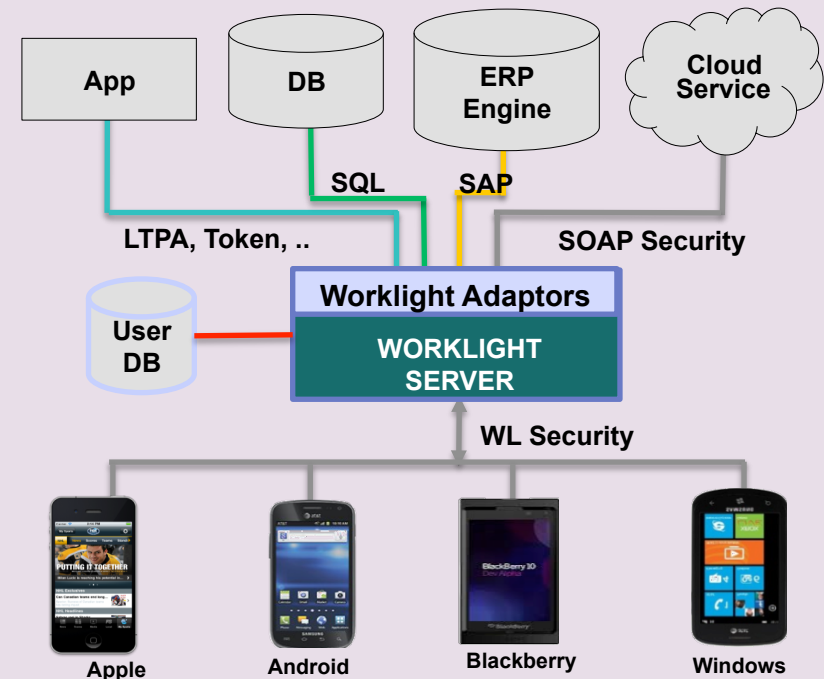
From multiple security implementations

- Multiple sets security implementations within the app
- Mobile app must implement Server-focused Security
- Multiple access-points into corporate network



To streamlined, integrated security

- Mobile App has single security
- Single access point into corporate network
- Encrypted local datastore



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Centralized push notifications



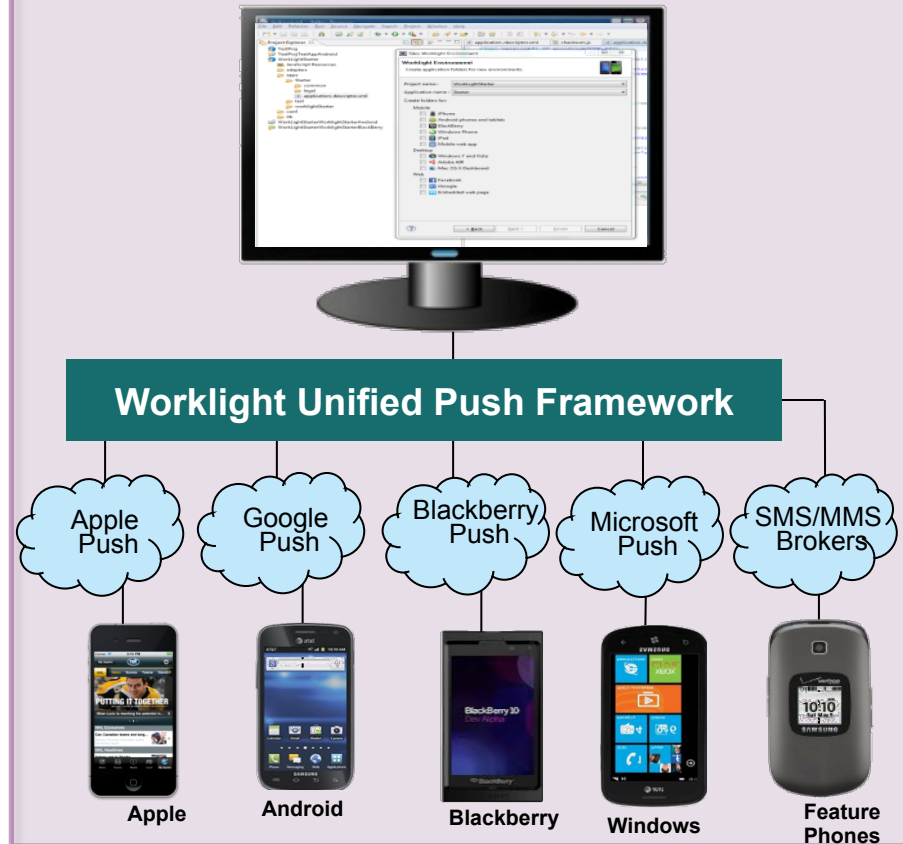
From the complexity of many...

- Multiple sets of push services to manage



To the simplicity of one...

- Unified push management

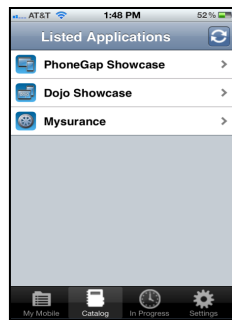
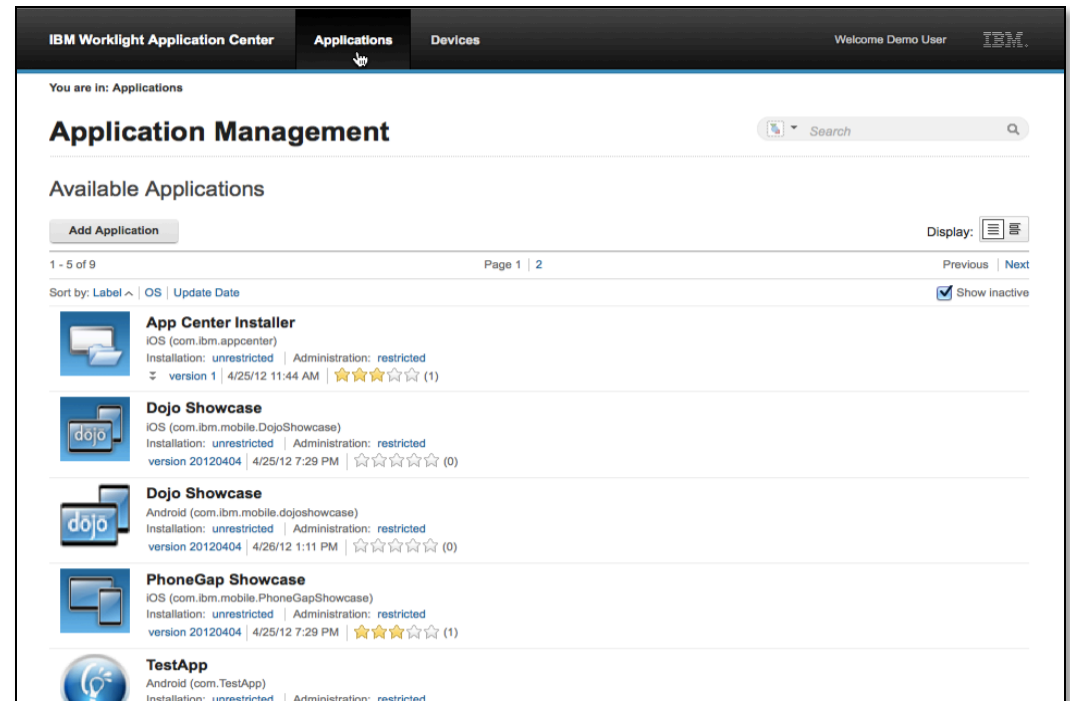
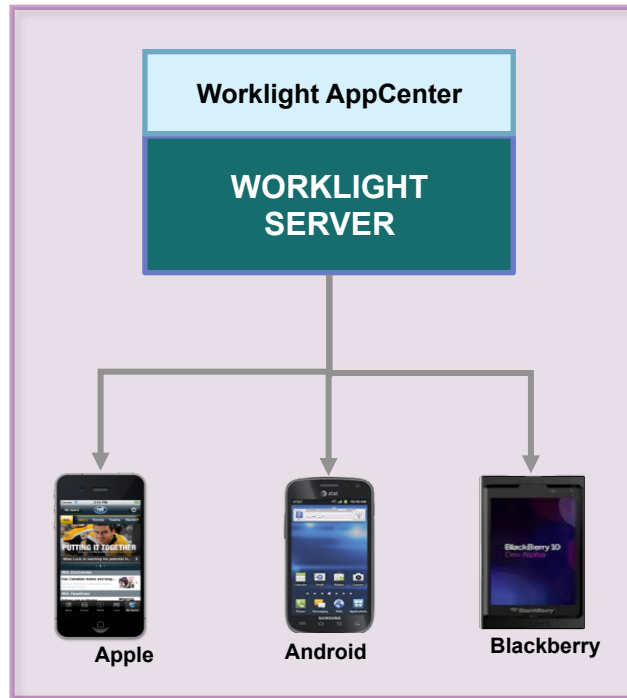


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One App Store for all of your devices



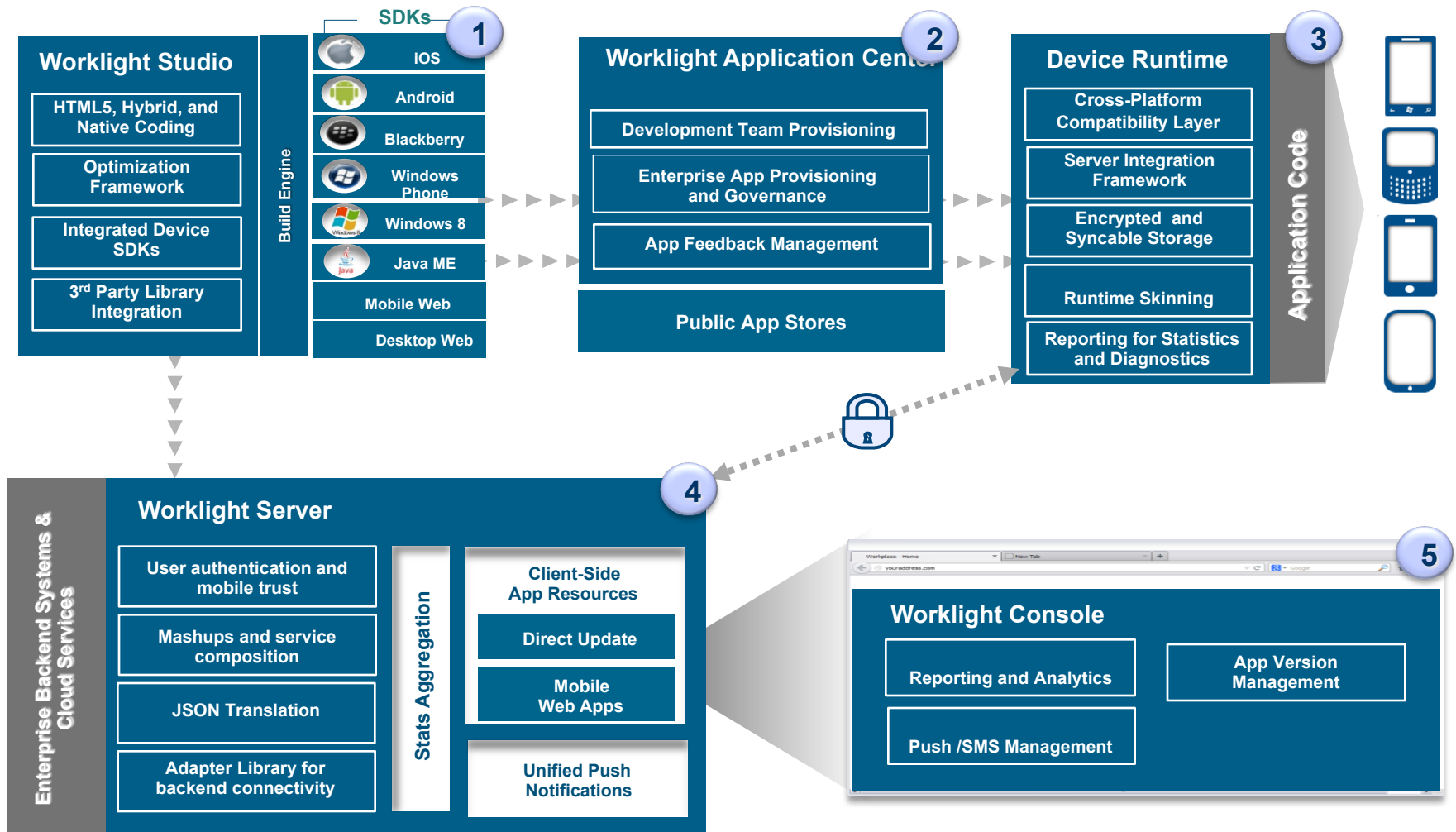
- Efficient deployment of development artifacts to stakeholders for test and feed-back
- Easier employees enablement for up to date mobile apps access
- Advanced control via ACL and LDAP support

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IBM Worklight Components overview

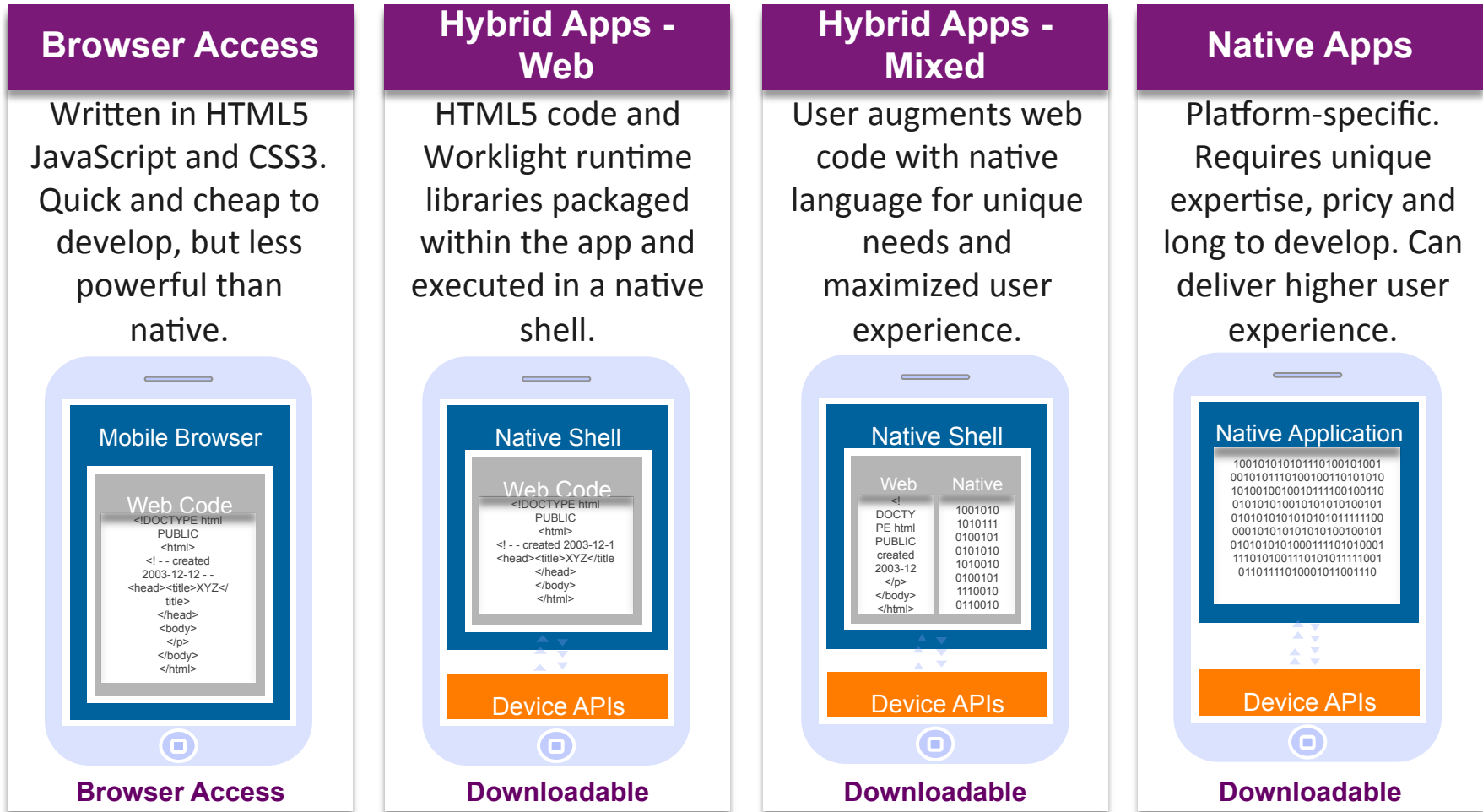


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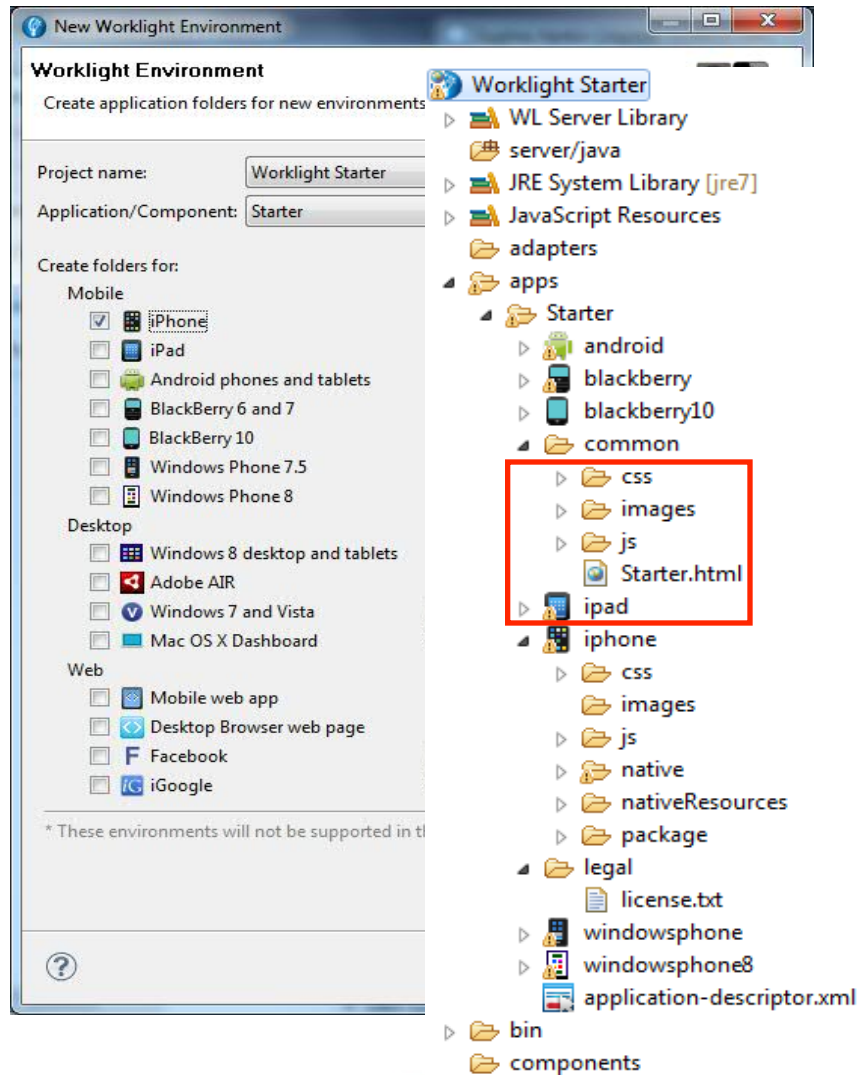
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Supports multiple application development models



Common web codebase facilitates reuse



Common code up to 80%+

MobileOS specific and optimization code maintained in branches

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



Code Editing and live feed-back



The screenshot displays the Eclipse IDE interface for a Java project named 'Worklight Demo'. The main window is split into two panes: a Design view on the left and a Source view on the right. The Design view shows a mobile application interface with a header 'Demonstration' and three buttons: 'Welcome', 'Information', and 'About Us'. Below the buttons is the Worklight logo and the text 'Welcome to IMPACT'. The Source view shows the HTML code for 'DemoApp.html', including a head section with meta tags, a title, and links to CSS and JavaScript files. The console at the bottom shows the following output:

```
Worklight Console
[2012-04-29 10:14:19] Environment 'iPhone' was created.
[2012-04-29 10:14:19] Environment 'Android phones and tablets' was created.
[2012-04-29 10:14:19] Environment 'BlackBerry' was created.
```

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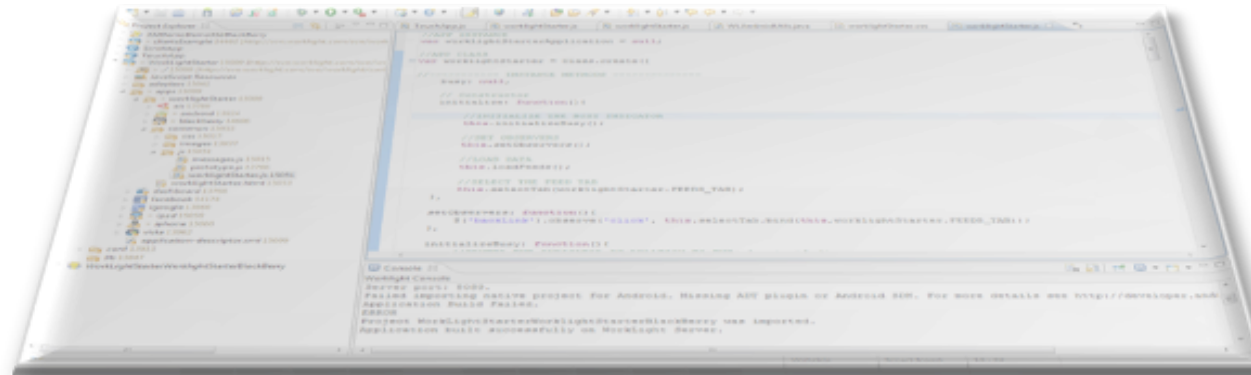
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Integration of mobile frameworks



Compatibility with leading HTML5 libraries.



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



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

Change scale, orientation, and design/source split direction for optimal editor layout

Select from a range of device form factors

jQuery Mobile or Dojo Mobile widgets in the palette

Create and manage instances of dojo mobile "view" or jquery mobile "page"

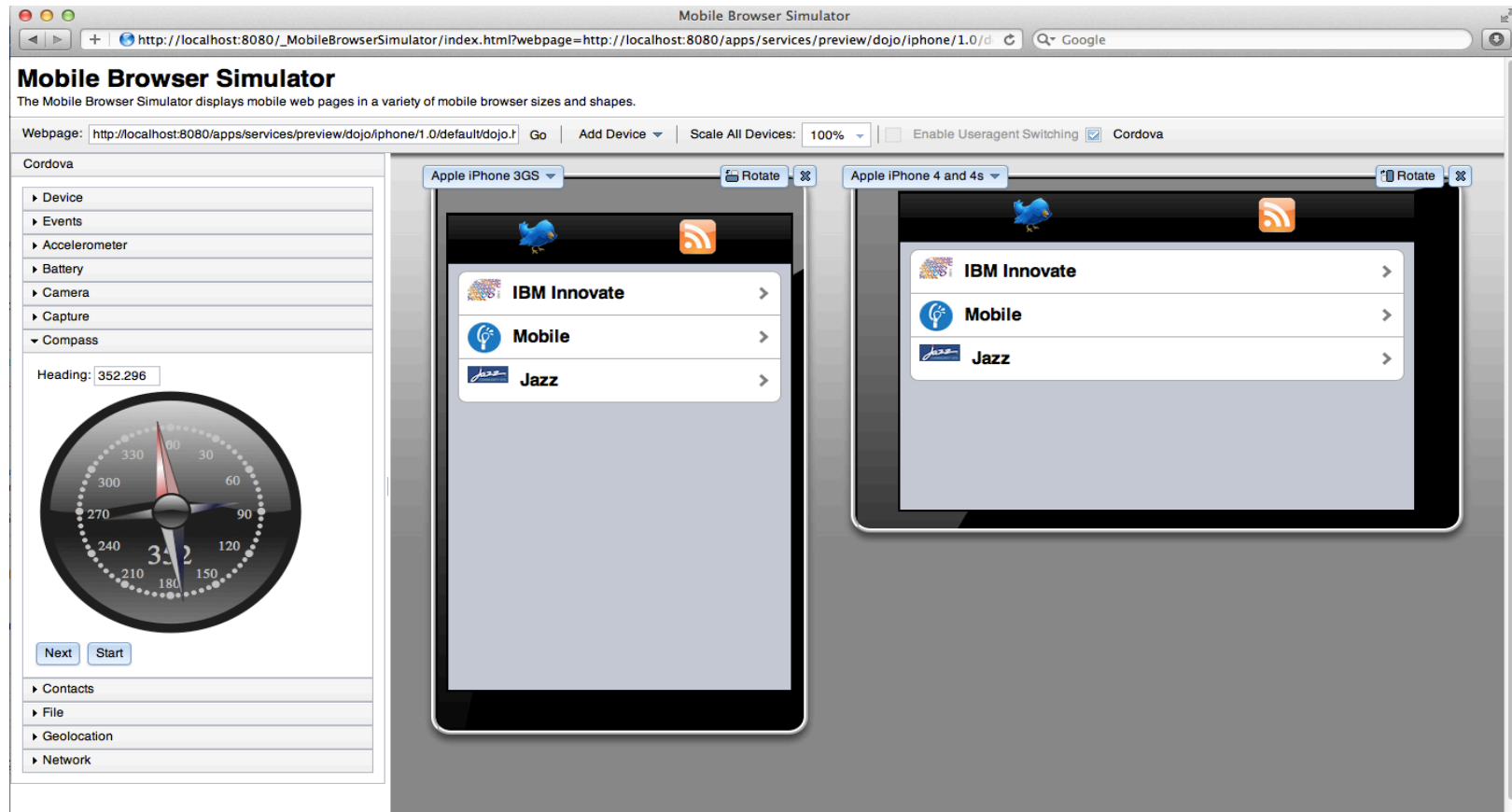
Property sheets for dojo mobile and jquery mobile widgets

```
</div>

<a href="#headline" data-role="button" data-icon="arrow-r" data-theme="b" data-corners="true" data-mini="true">
<a href="#worldmap" data-role="button" data-icon="arrow-r" data-theme="b" data-mini="true">
<a href="#us" data-role="button" data-icon="arrow-r" data-theme="b" data-mini="true">U.S Ne
<a href="#local" data-role="button" data-icon="arrow-r" data-theme="b" data-mini="true">Loc
</div>
<div data-role="footer" data-position="fixed">
<div data-role="navbar">
<a href="#facebook"></a> <a
href="#twitter"></a> <a
href="#youtube"></a>
</div>
<a href="#" data-role="button" data-icon="gear" class="ui-btn-
</div>
</div>
```



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

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Incorporated Device SDKs



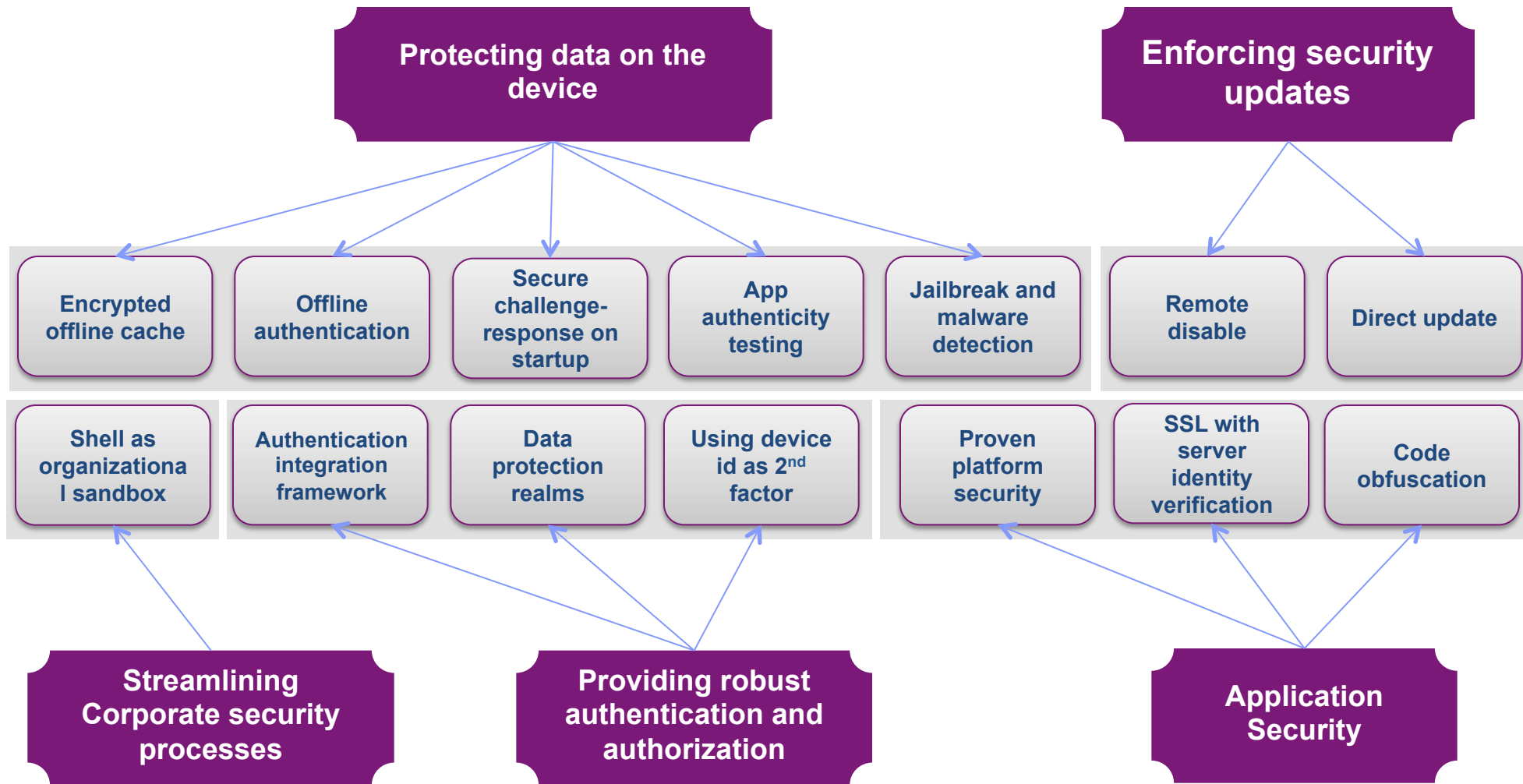
The image displays a development environment for mobile applications. On the left, an IDE window shows a project named 'WorkLightStarter' with a file explorer on the left and a code editor on the right. The code editor contains JavaScript code for an adapter and procedure to fetch feeds. A context menu is open over the code, showing options like 'Run As', 'Debug As', and 'Xcode project'. In the center, a BlackBerry 9550 simulator displays the 'WorkLight Starter' application interface, which shows a list of news items with titles like 'Is "Remarkable Indonesia" the New "Incredible India" for Investors?' and 'Yahoo Goes All In With Facebook: Here Are The Screenshots'. Below the simulator, a physical BlackBerry device is shown, displaying the same application interface. The device's screen shows the same list of news items, and the physical keyboard is visible below the screen.

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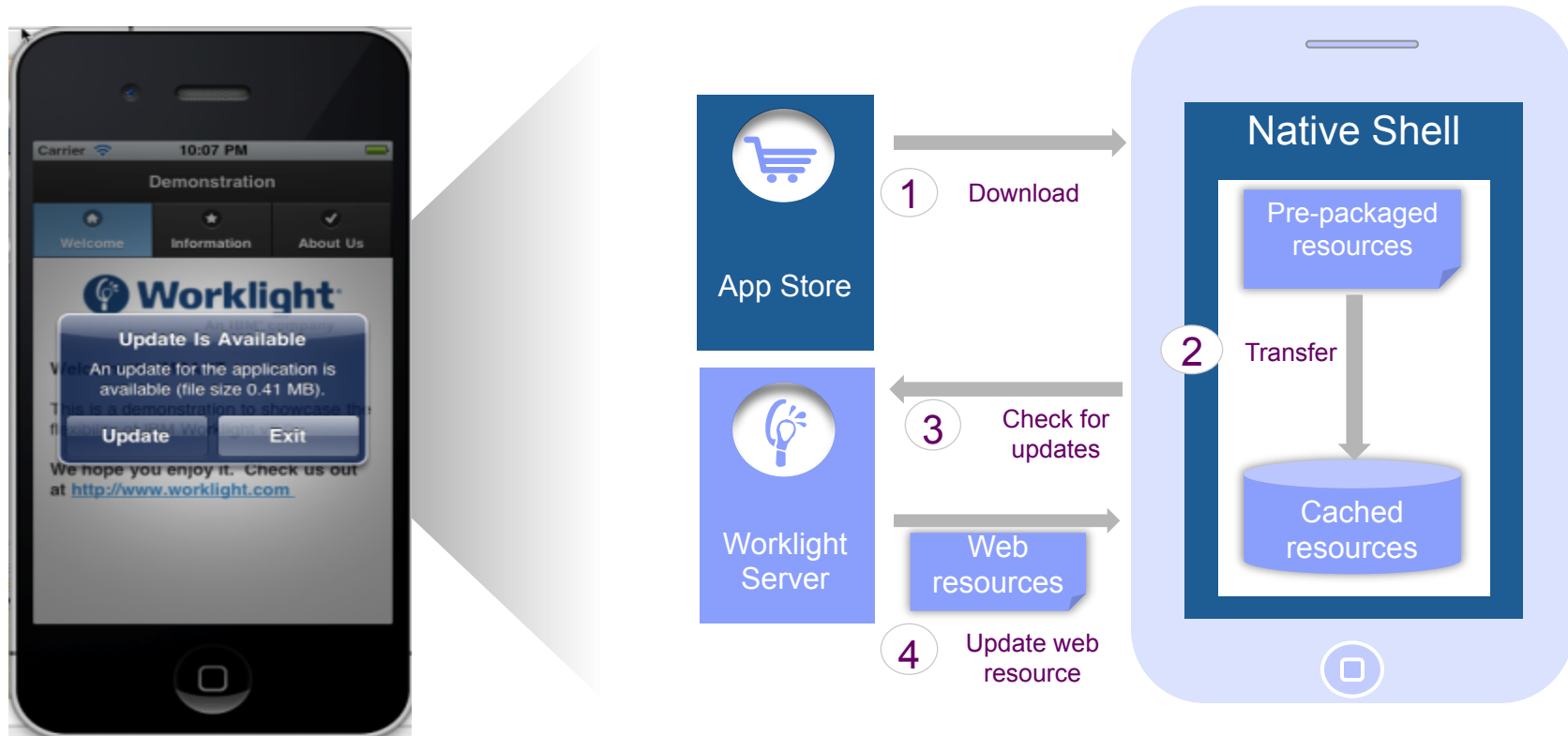
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Securing Mobile Apps



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



Integrated Mobile Functional Testing



Comprehensive, complete, resilient functional testing

- Android and iOS, native and hybrid
- Record, edit, and run on mobile devices
- Same test runs across multiple devices in the platform family
- Natural language scripts can be used by developers and non-developers alike



Streamlined, four-step process

1. Record
2. Author
3. Playback
4. Report

Improve quality and time-to-value with consistent high quality across your mobile application portfolio



Transform business processes with geo-location services



Geo-location info has important potential for consumer and employee-facing applications

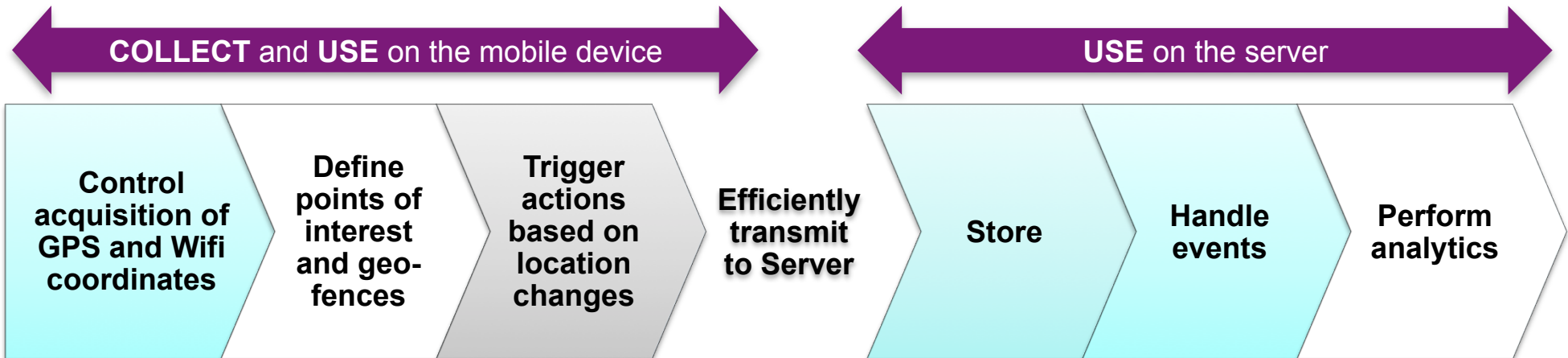
- Creating differentiating services based on user location
- Optimizing business processes and operations
- Increasing application security



But holds challenges

- What to **collect** and how?
- How to **use** what's collected?

Worklight 6.0 provides you simple and strong tools to:



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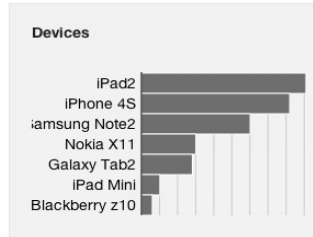
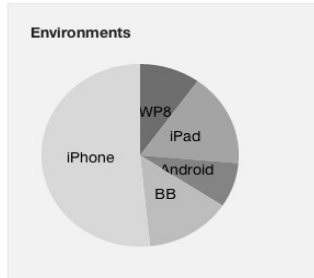
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Mobile Analytics Dashboards

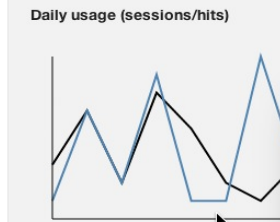


Mobile Analytics Dashboard Search Amaze me! 120 90 30 Today



Platform summary

Your mobile platform has **3** servers
 Hosting **8** adapters and
11 Apps with
1 in AppStore and **2** in Play
 Serving **3711** users in all!



Analytics Dashboard Server Logs

Filter [Pause](#)

Timestamp	ThreadId	Severity	Source Class	Method	Message	View Stack
4/11/2013 8:04:04 PM	13	SEVERE	com.worklight.integration.notification	AuthenticatorContext	AnalyticsServiceImpl.loadProperties	View Stack
4/11/2013 8:03:53 PM	1	WARNING	com.worklight.common.util.Genera	getSettingProperty	AnalyticsServiceImpl.loadProperties	View Stack
4/11/2013 8:03:53 PM	10	INFO	com.worklight.common.util.Genera	APNSMediator	found IP address/9.41.54.148	View Stack
4/11/2013 7:28:34 PM	2	WARNING	com.worklight.common.util.Genera	AuthenticatorContext	worklight: FWLSE3005: Application new reports are disabled.	View Stack
4/11/2013 7:28:34 PM	15	WARNING	com.worklight.core.auth.impl.Auth	getSettingProperty	AnalyticsServiceImpl.loadProperties	View Stack
4/11/2013 7:28:33 PM	11	SEVERE	com.worklight.core.auth.impl.Auth	getSettingProperty	worklight: FWLSE3005: Application new reports are disabled.	View Stack
4/11/2013 7:28:33 PM	12	INFO	com.worklight.common.util.Genera	APNSMediator	found IP address/9.41.54.148	View Stack
4/11/2013 7:28:32 PM	1	WARNING	com.worklight.common.util.Genera	getSettingProperty	found IP address/9.41.54.148	View Stack
4/11/2013 7:28:32 PM	5	WARNING	com.worklight.integration.notification	GCMMediator	AnalyticsServiceImpl.loadProperties	View Stack
4/11/2013 7:28:31 PM	6	WARNING	com.worklight.core.auth.impl.Auth	getSettingProperty	worklight: FWLSE3005: Application new reports are disabled.	View Stack
4/11/2013 7:28:31 PM	7	INFO	com.worklight.common.util.Genera	AuthenticatorContext	AnalyticsServiceImpl.loadProperties	View Stack
4/11/2013 7:28:29 PM	9	SEVERE	com.worklight.common.util.Genera	APNSMediator	worklight: FWLSE3005: Application new reports are disabled.	View Stack

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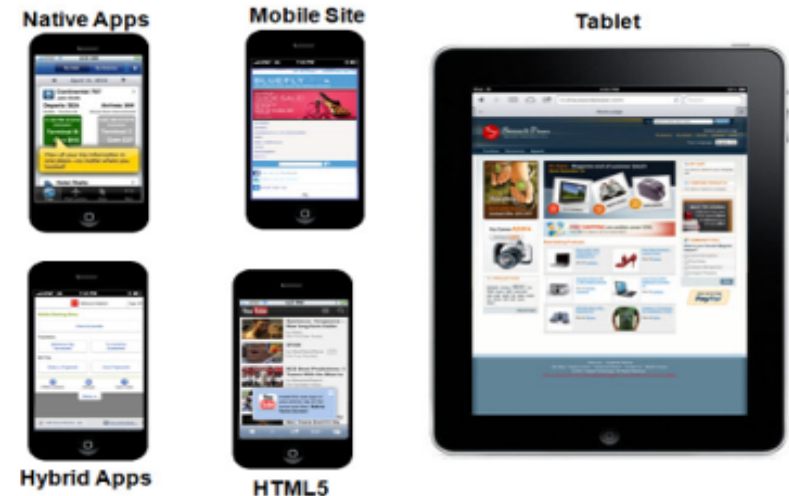


IBM Tealeaf CX Mobile



Visibility into the customer mobile experience to improve conversions and grow revenue

- Automatically **detect customer struggles, obstacles or issues**
- Drill down into **actual user behavior**, complete with gestures
- **Translate customer feedback** into actionable improvements
- **Correlate customer behavior** with network and application data



What's new in IBM Tealeaf CX Mobile V8.7

- ✓ Analyze mobile user behaviors – automatically instrumented in IBM Worklight mobile apps
- ✓ Capture and high-fidelity replay of mobile gestures on iOS and Android-based devices
- ✓ Add-on Heatmap, Link Analytics, Form Analytics, and Attention Map analytics for mobile-web applications

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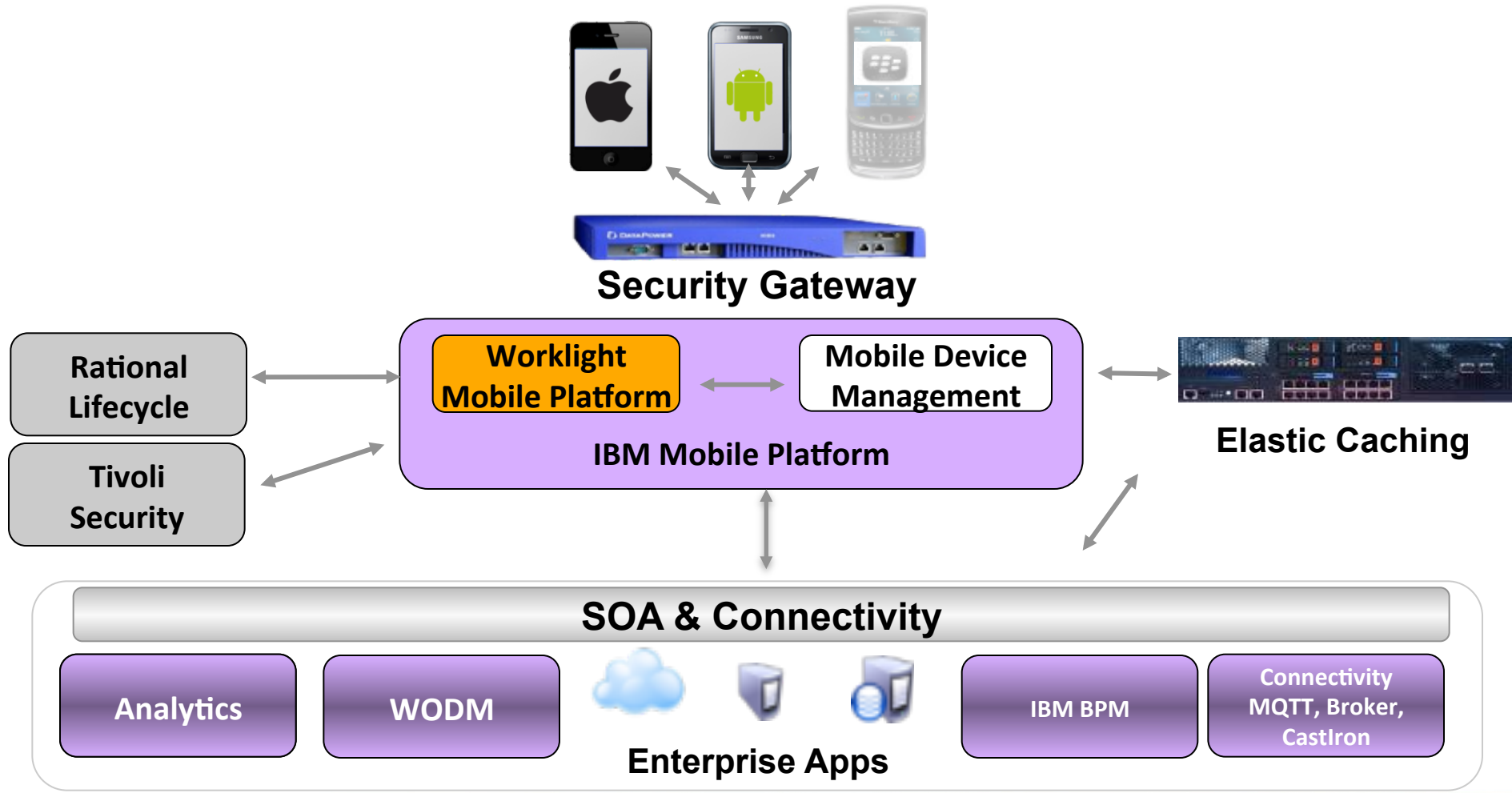
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The IBM Mobile Platform



(i.e., what you need to build and effectively incorporate mobile apps with your business)



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Some Key IBM Worklight Customers by Vertical



Financial Services



RAYMOND JAMES



Insurance



Retail/CPG



Manufacturing/ Distribution



Transportation/ Travel



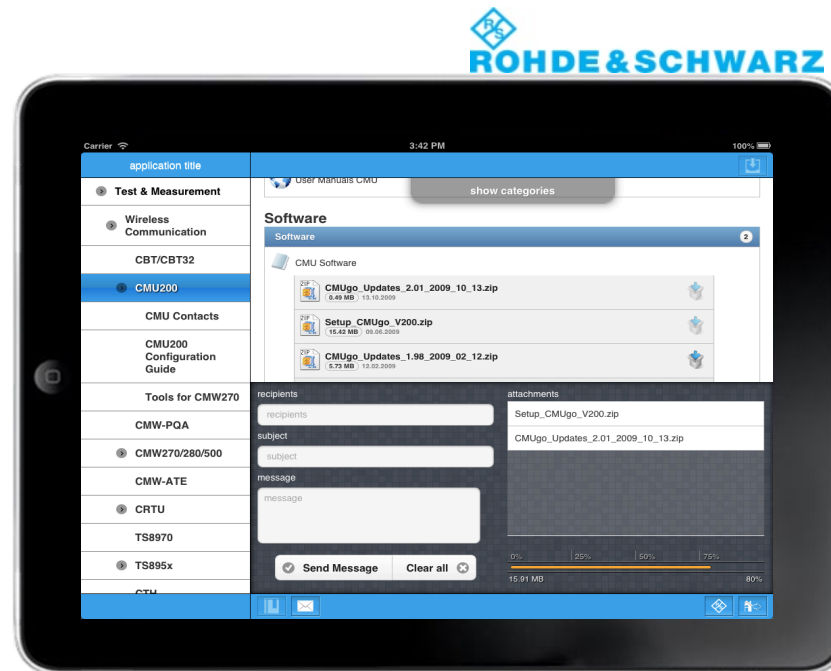
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Product Catalog and Order Tablet Application for Sales Personnel

- **60% development cost saved** by using Worklight across 5 platforms
- 1st app built by 1 Developer in 12 Weeks, including customized authentication, MDM integration, SAP connectivity, offline access, mobile-triggered server emailing, JQuery UI library, Cordova plug-in



Reducing Cost for Cross-platform Development



Multiple Apps for Employees

- First Beta in less than a month
- Multi-geo user base
- Extended to notebook users

Rapid Demo App Development

- Access to CRM, SAP ERP, Lotus Notes
- Showcases for business
- Training for developers

A Set of Standardized Components

- Document access and viewer
- Authentication
- Data access interface (adapter)
- Customized mobile design palette

Mobile ROI – 60% Overall Cost Savings

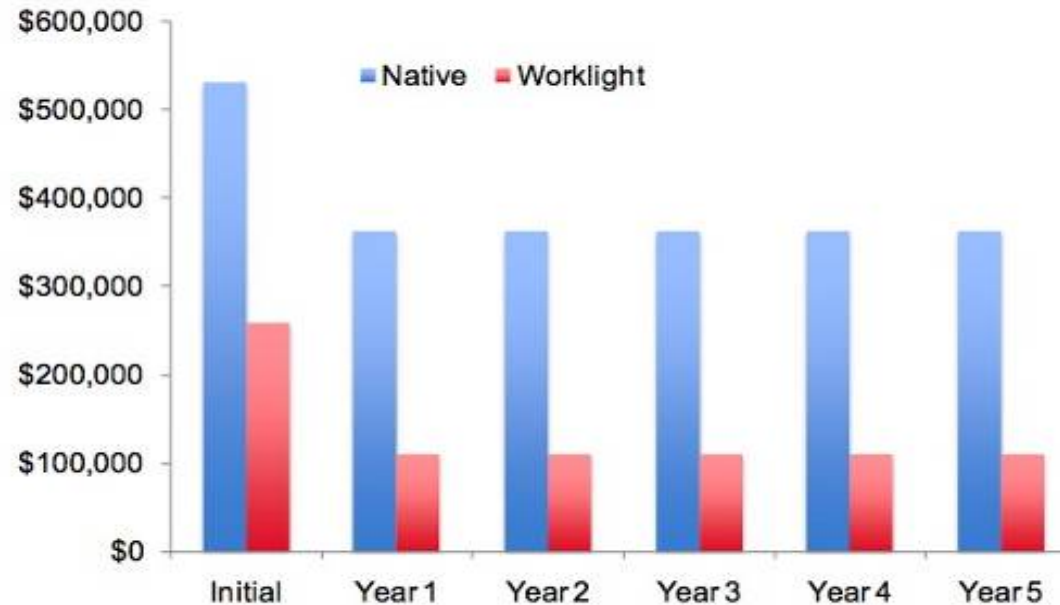
- 30% savings in app development
- 80% savings in interfacing with backend systems
- 90% savings in content maintenance
- 50% savings in technical maintenance



Forrester: Five-Year Risk-Adjusted ROI of Worklight is 363%!



Native Versus Worklight 4-Platform Complex App Total Costs Comparison (Non-Risk Adjusted)



Source: Forrester Research, Inc.

Study available at ibm.com/mobilefirst/worklight-forrester

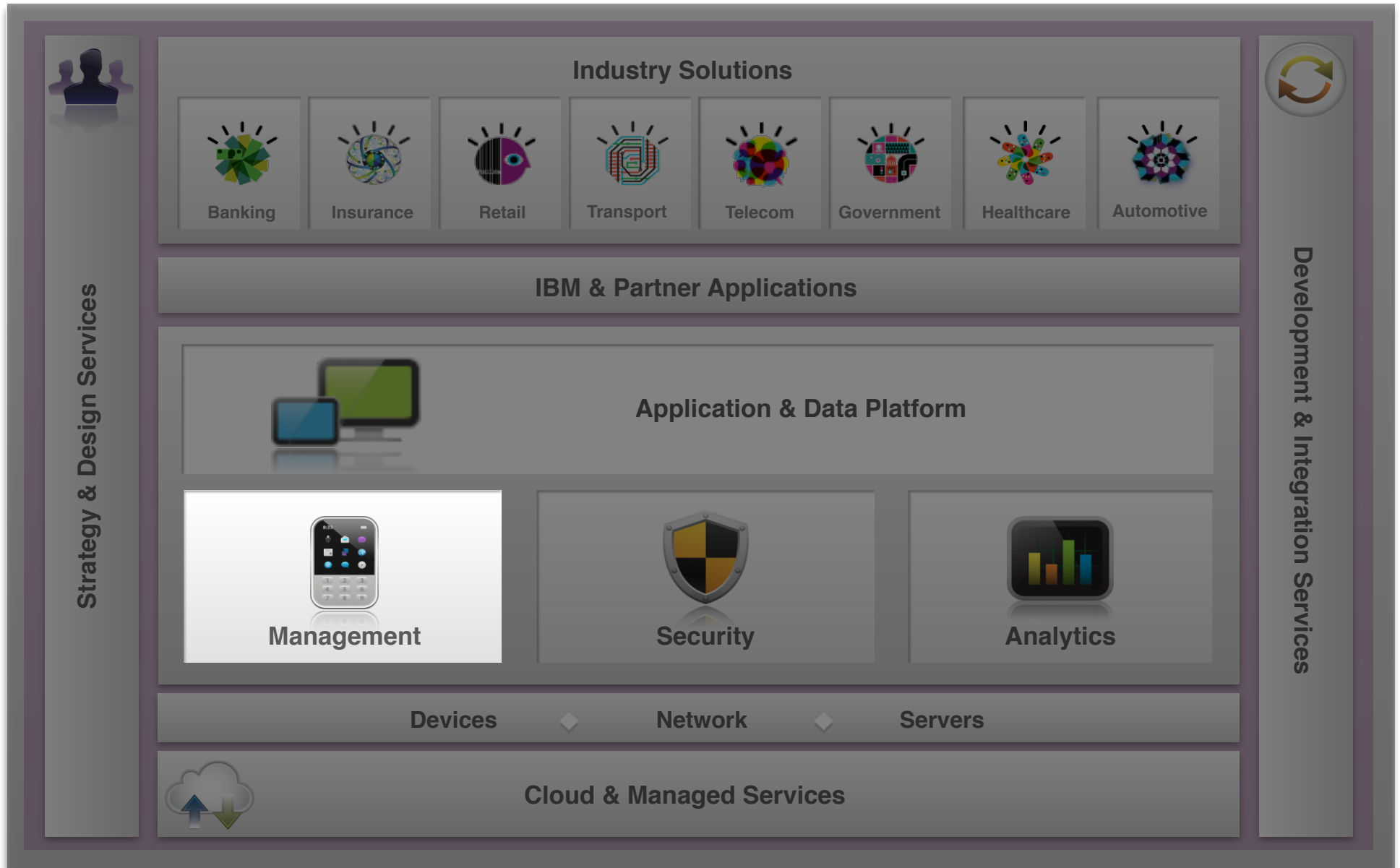
Source: "The Total Economic Impact Of IBM's Worklight Platform", a commissioned study conducted by Forrester Consulting on behalf of IBM. Published April 2013.

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IBM MobileFirst: Management



IBM MobileFirst Management



For clients who need to:

- Implement BYOD with confidence
- Manage secure sensitive data, regardless of the device
- Manage, track and optimize mobile expenses
- Handle multi-platform complexities with ease



Key offerings:

- IBM Endpoint Manager for Mobile Devices
- IBM Emptoris Rivermine Telecom Expense Management
- IBM Mobile Enterprise Services for managed mobility

IBM MobileFirst Management offers:

- ✓ Unified management across devices
- ✓ Selective wipe of corporate data
- ✓ Configuration & enforcement of password policies, encryption, VPN access & camera use
- ✓ Streamlined workflow between development & operations with an integrated Enterprise App Store
- ✓ Optimize telecom expenses with detailed usage analyses
- ✓ End-user portal for management of mobile equipment, carrier plans, and usage tracking
- ✓ On-premises or managed service delivery

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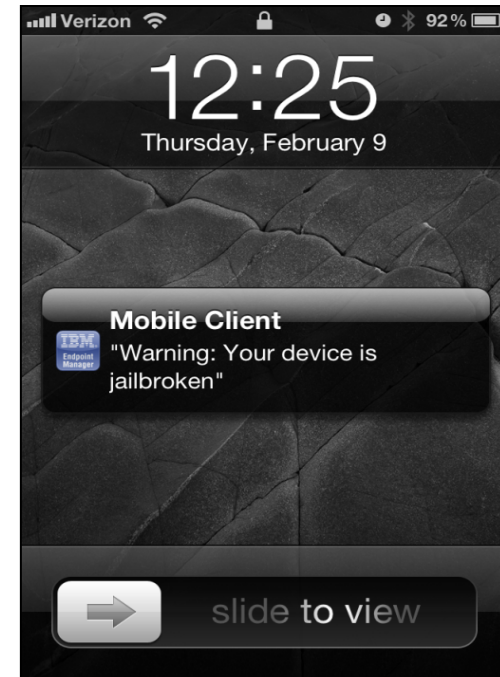


Secure Sensitive Data, Regardless of the Device



How do I ensure the security of mobile devices as they access more and more sensitive systems?

- **Unified compliance reporting** across all devices, including CIS Benchmarks
- **Configure security settings** such as password policy, encryption, WiFi, iCloud sync
- **Full wipe, remote lock, map device location, and clear passcode** options if device is lost or stolen
- **Blacklist** apps and automate alerts, policy response
- **Detect jailbroken / rooted devices** to notify users, disable access
- **Integrate with mobile VPN and access management tools** to ensure only compliant devices are authorized



Multiple user communication and alert methods, including Google Cloud Messaging (GCM), enables users to be part of the security solution.

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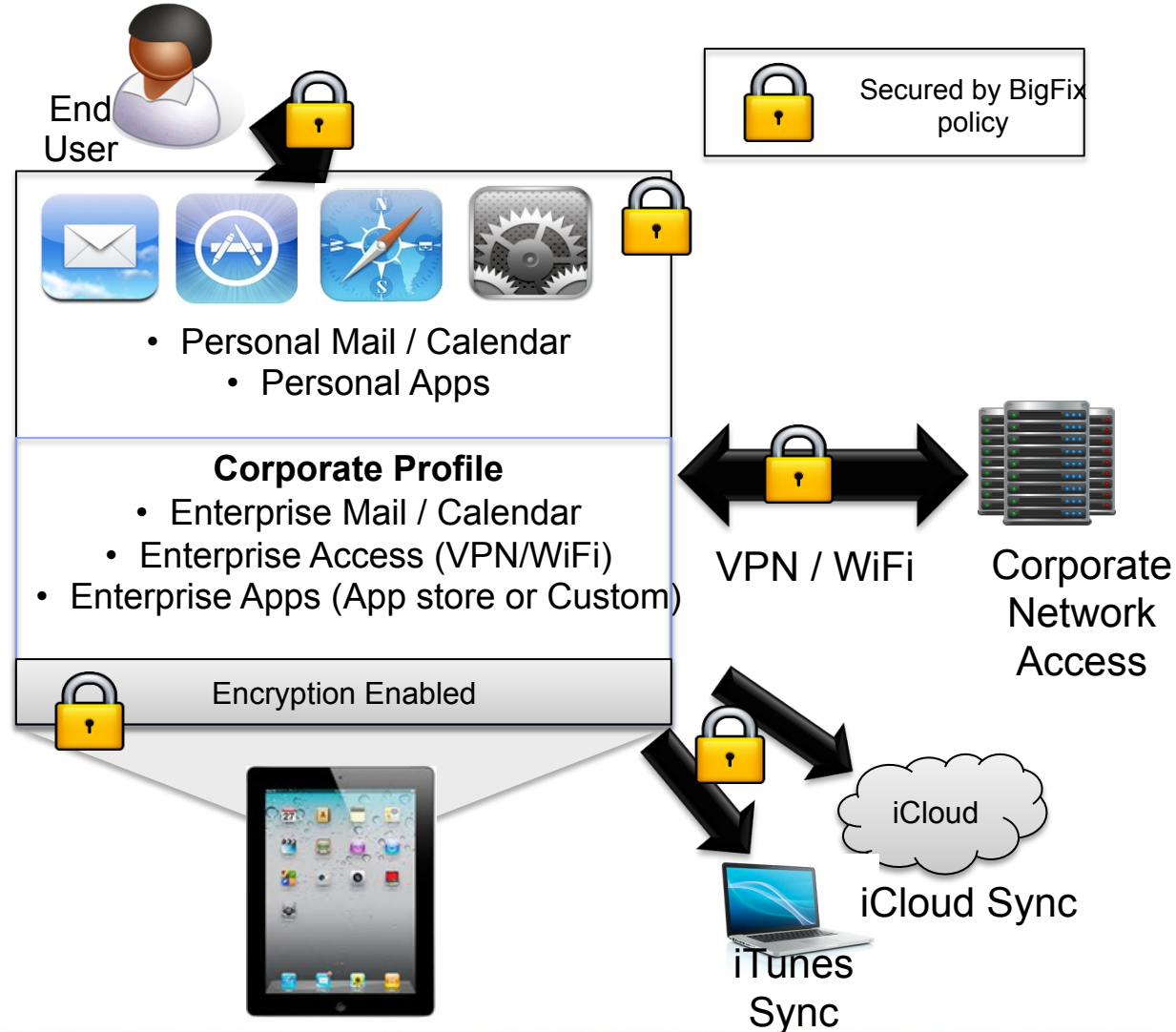


Managing Mobile Devices – The Solution



Endpoint Manager for Mobile Devices

- Enable password policies
- Enable device encryption
- Force encrypted backup
- Disable iCloud sync
- Access to corporate email, apps, VPN, WiFi contingent on policy compliance!
- Selectively wipe corporate data if employee leaves company
- Fully wipe if lost or stolen



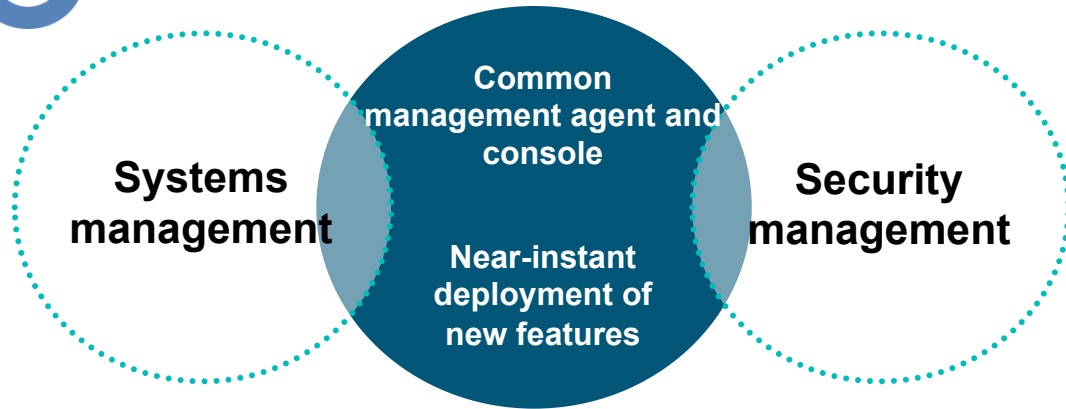
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IBM Endpoint Manager for Mobile Devices



Building on the July 2010 BigFix acquisition



IBM Endpoint Manager



Desktop / laptop / server endpoint



Mobile endpoint



Purpose-specific endpoint

Key Capabilities

- Advanced management for iOS, Android, Symbian, and Windows Phone
- Unified management automatically enables VPN access based on security compliance
- Integration with back-end IT management systems such as service desk, CMDB, and SIEM
- Security threat detection and automated remediation
- Extends IBM's existing 500,000 endpoint deployment

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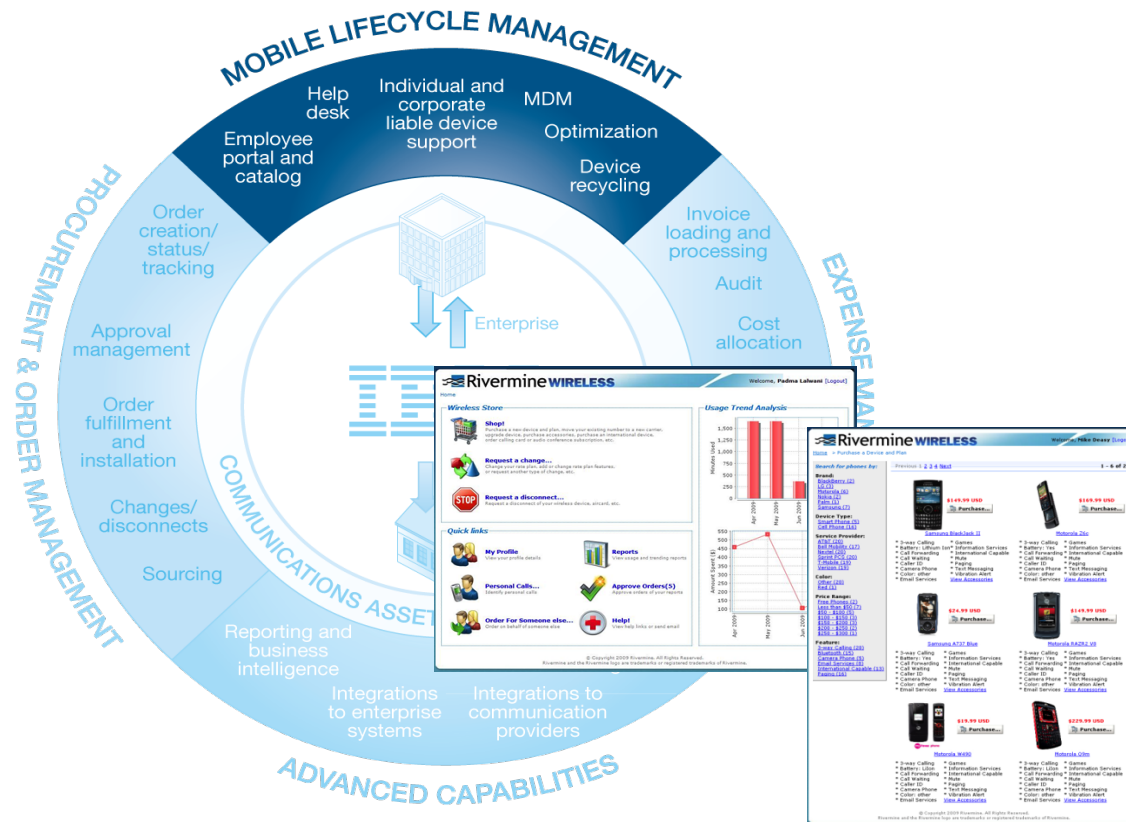
Manage, track and optimize cost and enforce policies



IBM Emptoris Rivermine Telecom Expense Management - Mobile Device and Expense Management

Key Capabilities

- End-User Portal & Reporting streamlines mobile usage management
- Dedicated End-User Mobile Help Desk resolves mobile issues efficiently
- MDM accelerates device issue resolution and corporate mobile policy enforcement
- Individual & Corporate Liable Device Support for centralized corporate mobile management
- Rate Plan Optimization & Auditing
- Invoice Processing
- Mobile Policy Development
- Personal vs. Business Call Tagging



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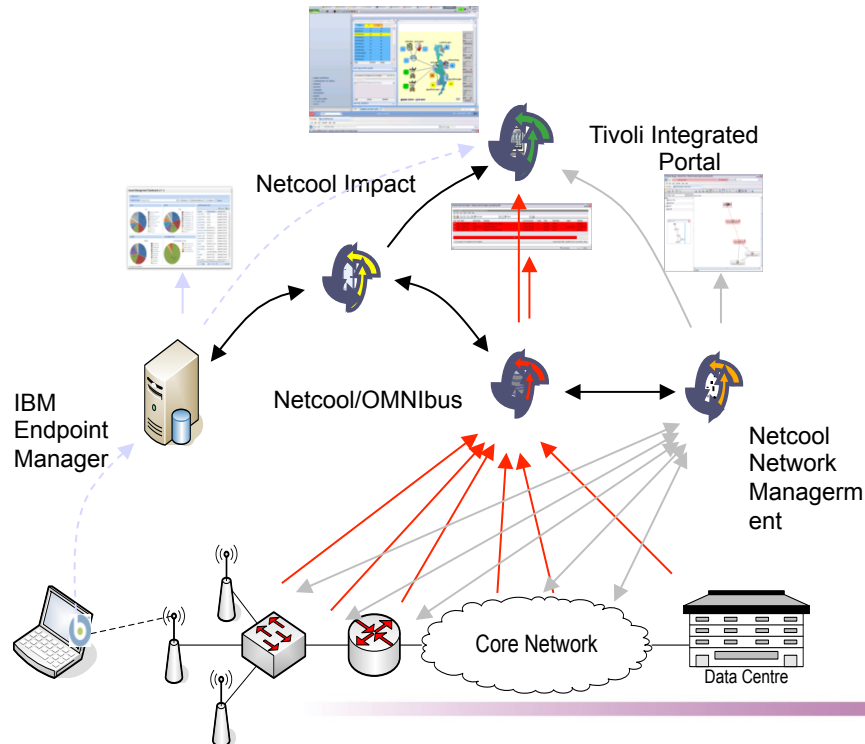
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Manage enterprise wireless networks



IBM Netcool/OMNibus & Netcool Network Management

The Future of Business Rides on the Network: Operations management software that enables around-the-clock visibility, control and automation of network management tasks for optimal performance of your network resources (both physical and virtual).



Client Challenge

Show in **REAL TIME** an enterprise wide view of the mobile workforce connecting through public and private networks.

Key Capabilities

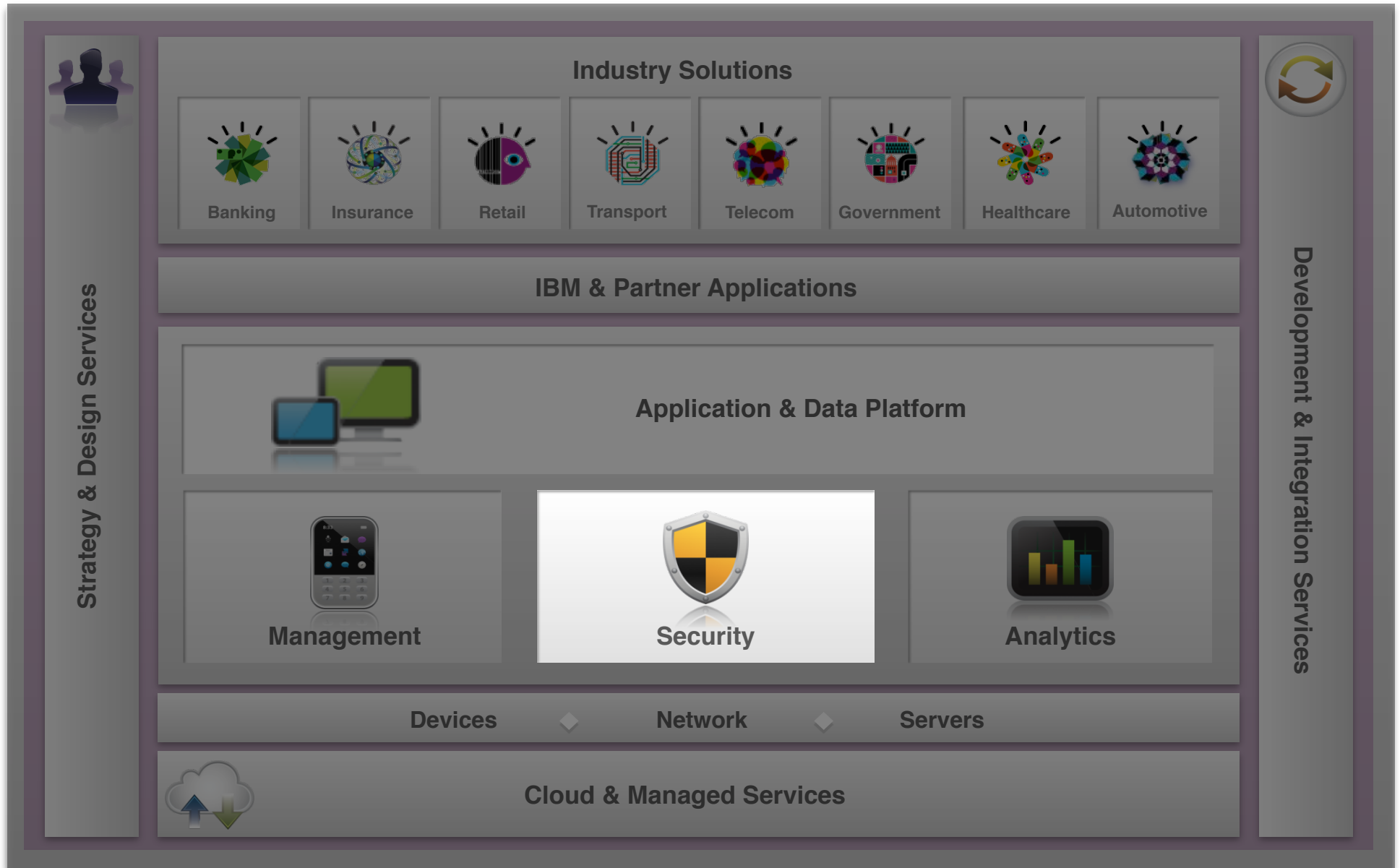
- Easily identify the impact of any outages and highlight ongoing issues resulting from a lack of capacity or poor radio signals:
- View current locations and connection points of mobile devices
- Gain visibility, control and automation of the network and service quality experienced by mobile users

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IBM MobileFirst: Security



IBM MobileFirst Security



For clients who need to:

- Protect devices and data
- Defend the network
- Ensure secure access
- Safeguard mobile apps
- Preserve user experience without compromising security



Key offerings:

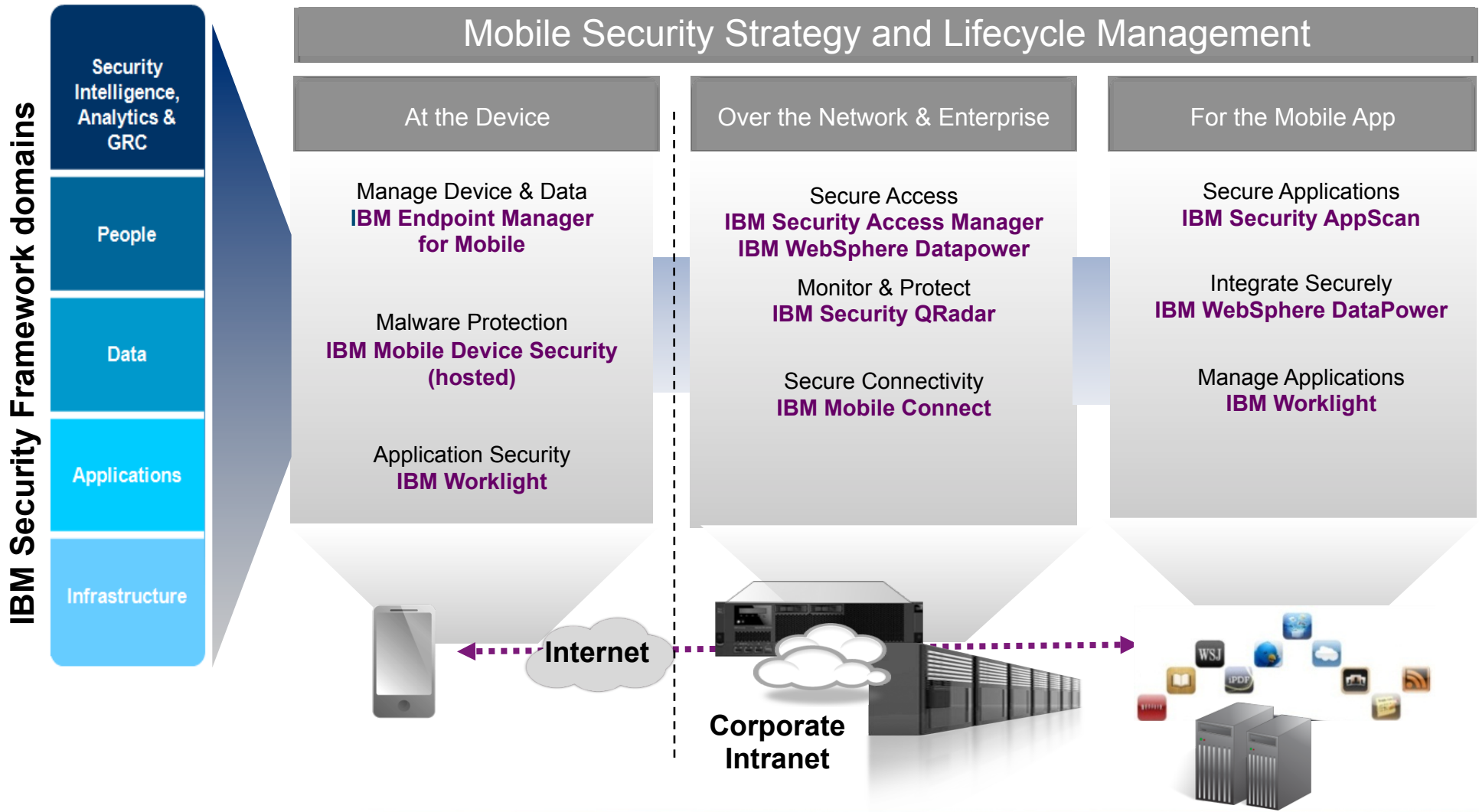
- IBM Security Access Manager for Cloud and Mobile
- IBM Security Appscan

IBM MobileFirst Security offers:

- ✓ Context aware risk – based access control
- ✓ Mobile threat protection
- ✓ Strong session management & Single Sign-on
- ✓ Vulnerability analysis for mobile apps
- ✓ Visibility and analysis of security events from the device, network, user end app behavior



IBM MobileFirst offerings to secure the enterprise



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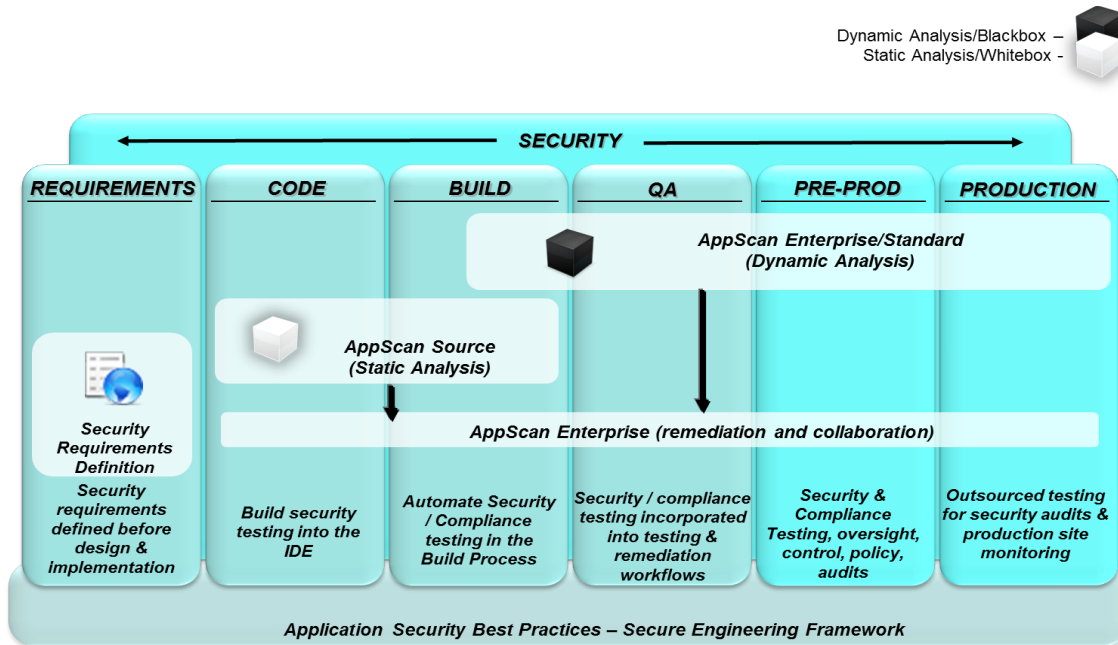


IBM Mobile Application Security



IBM Security AppScan

App security testing and risk management



- Test Native application
- Test Web-based application

Client Challenge

Applying patches and resolving application vulnerabilities after apps are Delivered and Deployed is a very costly and time consuming exercise

Key Capabilities

- Leverage AppScan for vulnerability testing of mobile web apps and web elements (JavaScript) of hybrid mobile apps
- Vulnerabilities and coding errors can be addressed in software development and testing
- Code vulnerable to known threat models can be identified in testing
- Security designed in vs. bolted on

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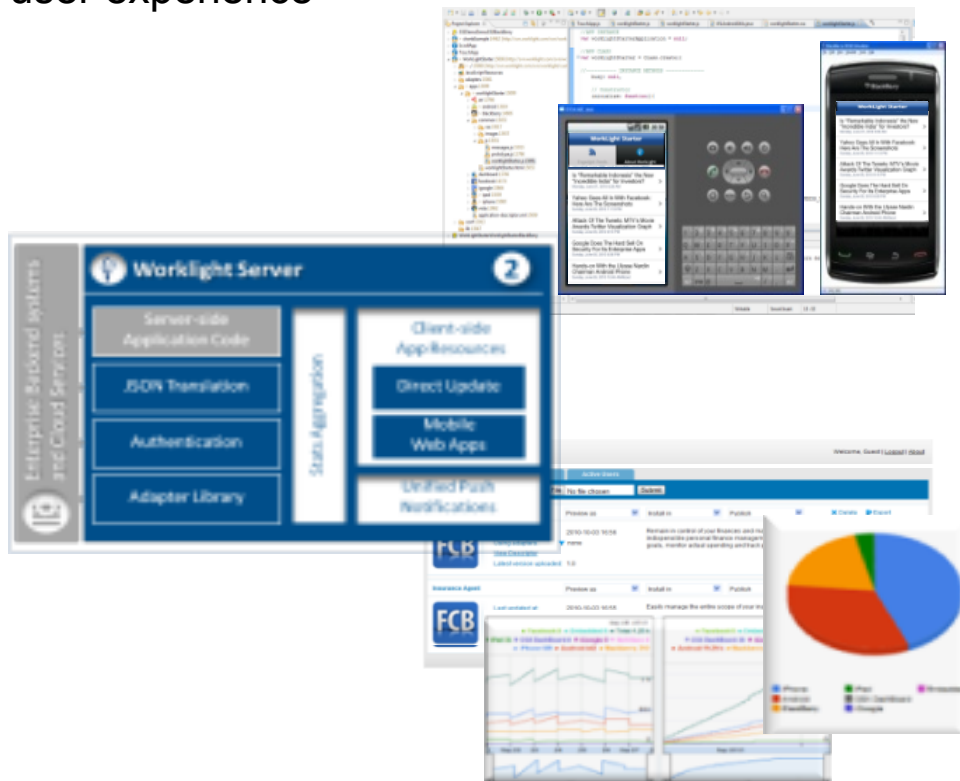


Secure Mobile Application Development



IBM Worklight

Develop, deliver and deploy security-rich mobile apps to streamline business activities while also delivering a rich user experience



Client Challenge

Efficiently and securely, create and run HTML5, hybrid and native mobile apps for a broad set of mobile devices

Key Capabilities

- Integrated secure access to backend application resources
- Secured by design - develop secure mobile apps with best practices, code obfuscation
- Protect mobile app data with encrypted local storage for data, offline user access, app authenticity validation, and policy enforcement
- Maximize mobile app performance with analytics, remote disabling of apps

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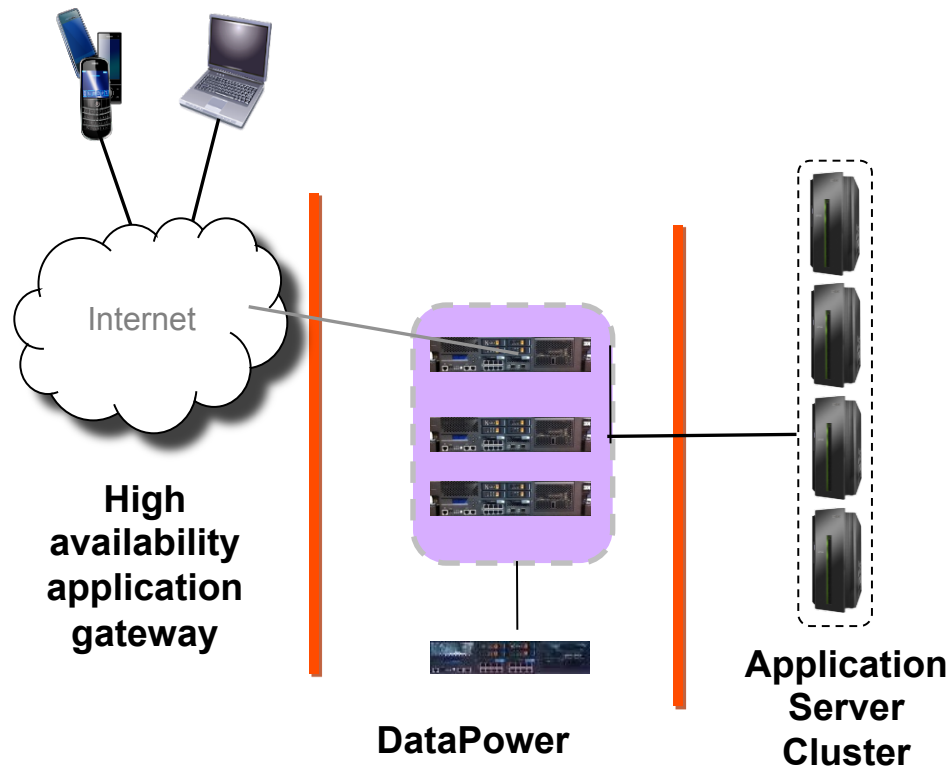


Load Balancing, Protection At The Gateway



IBM DataPower Appliance

Delivers optimized and secure mobile app experience



Client Challenge

Mobile applications place new availability and security demands on application resources.

Key Capabilities

- Satisfy complex routing & scaling requirements
- Message protection / validation and XML firewall
- Supports open standards applicable to mobile ex. OAuth
- App authentication and authorization
- Synergy with IBM Security Access Manager to deliver context aware user access security

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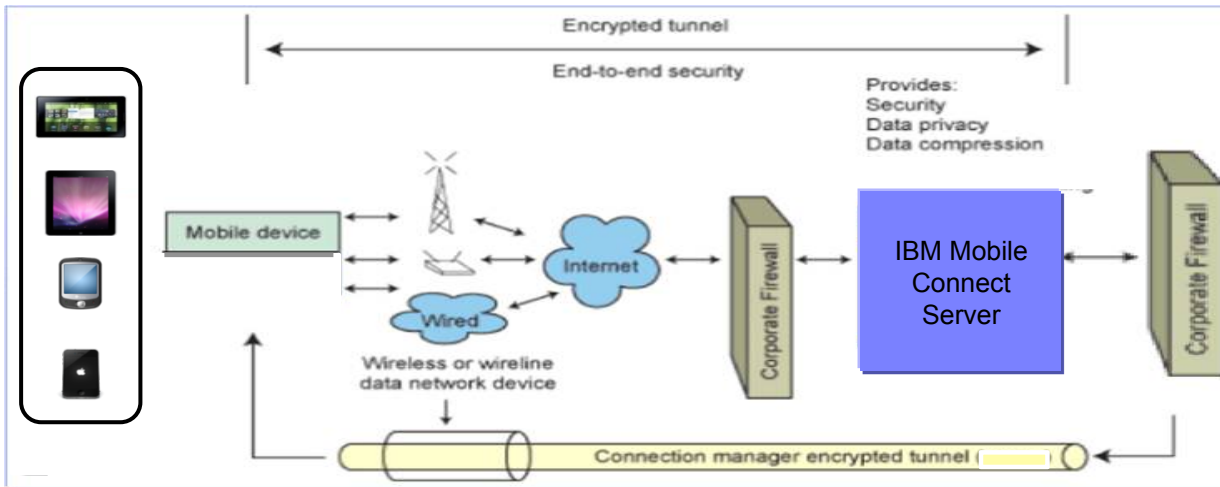


Security-rich Mobile Connectivity



IBM Mobile Connect

Provides features that help deliver a security-rich connection to enterprise resources from mobile devices.



Client Challenge

Need to protect enterprise data in transit from mobile devices to back-end systems

Key Capabilities

- Clientless app-level Virtual Public Network (VPN) with a SSL-secured tunnel to specific HTTP application servers.
- Application-specific VPN access (clientless, reverse-proxy-like access)
- Strong authentication and encryption of data in transit

IBM Business Connect

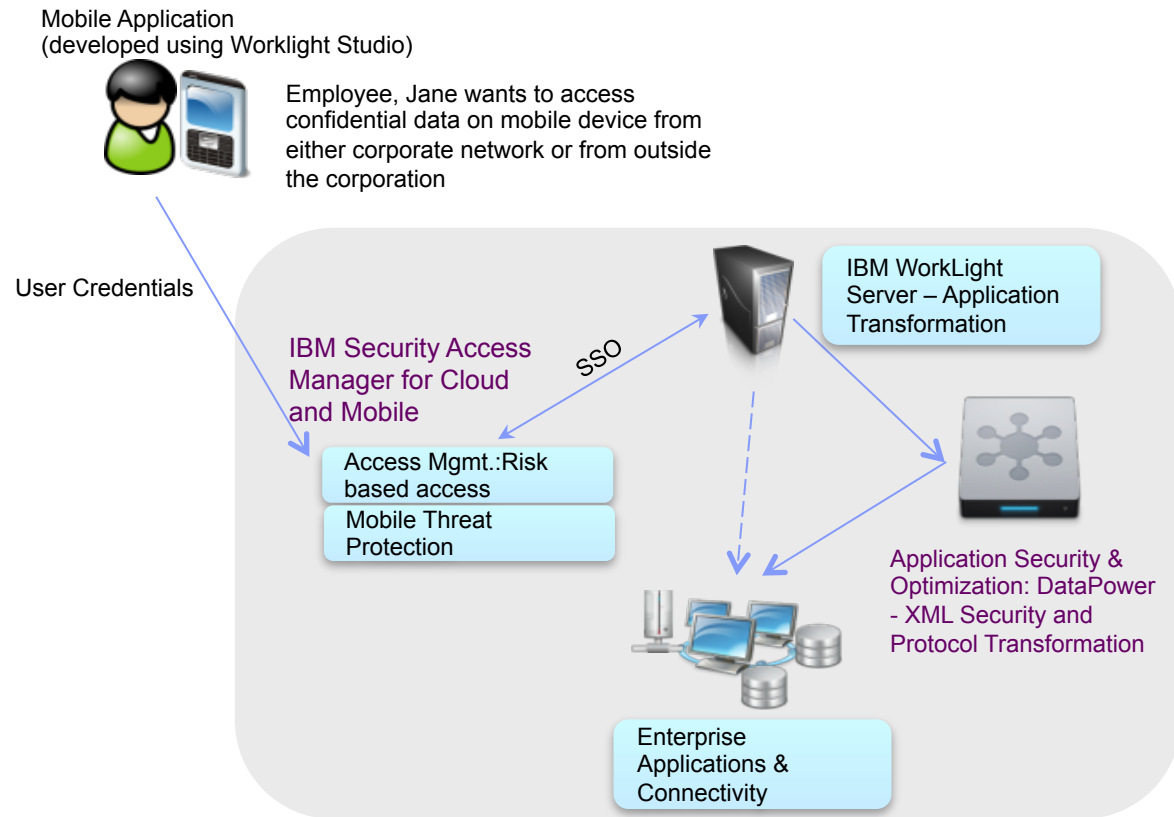
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Increase accuracy of identifying mobile access security risks



IBM Security Access Manager for Cloud and Mobile



Key Capabilities

Increase accuracy of identifying mobile access security risks

- Dynamically assess the security risk of an access request
- Quickly enforce Risk-Based Access
- Ensuring users and devices are authenticated and authorized
- Flexibility and strength in authentication: user id/ password, OTP, biometrics, certificate, custom
- Protect applications from known security threats by analyzing HTTP traffic

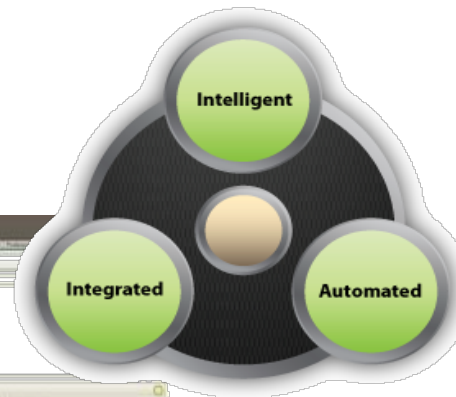


Deliver An Adaptive Security Posture



IBM Security QRadar

Deliver mobile security intelligence by monitoring data collected from other mobile security solutions – visibility, reporting and threat detection



Client Challenge

Visibility of security events across the enterprise, to stay ahead of the threat, show compliance and reduce enterprise risk

Key Capabilities

Integrated intelligent actionable platform for:

- Searching
- Filtering
- Rule writing
- Reporting functions

A single user interface for:

- Log management
- Risk modeling
- Vulnerability prioritization
- Incident detection
- Impact analysis tasks

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Mobile Endpoint and Data Protection



IBM Hosted Mobile Device Security Management

Turn-key security for employee-owned and corporate-liable mobile devices



Client Challenge

Mobile threat protection without in-house skills or technology to own or manage

Key Capabilities

- Mobile malware prevention (spyware, viruses, etc.)
- Simple, cloud-based delivery
- Policy compliance monitoring
- Device management and security for Apple, Android, BlackBerry, Windows Mobile, and Symbian devices
- End-user portal to locate/lock/wipe a lost or stolen device



IBM MobileFirst: Analytics



IBM MobileFirst Analytics



For clients who need to:

- Optimize digital & mobile experiences to drive online conversion
- Analyze mobile behaviors and quantify business impact of user struggles
- Improve customer service resolution and drive loyalty



Key offerings:

- IBM Tealeaf CX Mobile

IBM MobileFirst Analytics offers:

- ✓ Automatic detection of customer issues through user and mobile device data
- ✓ User behavior drill down with high fidelity replay & reporting of the user experience
- ✓ Correlated customer behavior with network and application data
- ✓ High conversion and retention rates with quantifiable business impact analysis



Tealeaf CX Mobile



Visibility into the customer mobile experience to improve conversions and grow revenue

Industry-leading customer experience management solutions to mobile websites, native applications, and hybrid apps including support for HTML5.

- **Capture and high-fidelity replay of mobile gestures*** for mobile web sessions on iOS and Android-based devices help optimize users' experiences on mobile web applications .
- **Analyze mobile user behaviors and quantify business impact** of user struggles with IBM Tealeaf integrated solutions
- Add-on **Heatmap, Link Analytics, Form Analytics, and Attention Map analytics** for mobile-web applications

* Mobile gestures such as zoom in/out, pinch in/out, scroll left/right and orientation change

** Requires Tealeaf cxOverstat add-on



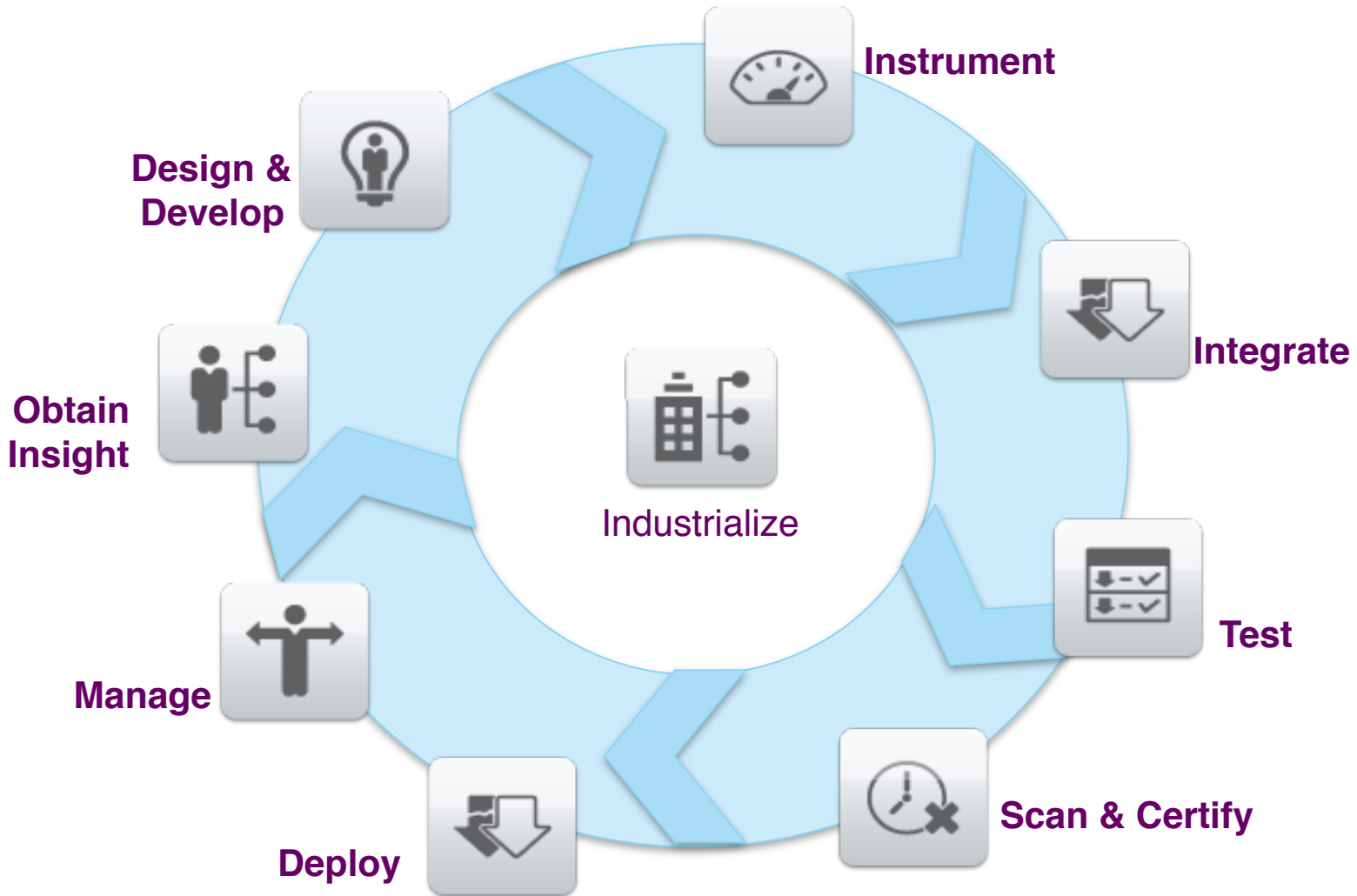
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IBM MobileFirst: Development Lifecycle



The IBM Mobile Enterprise Development Lifecycle

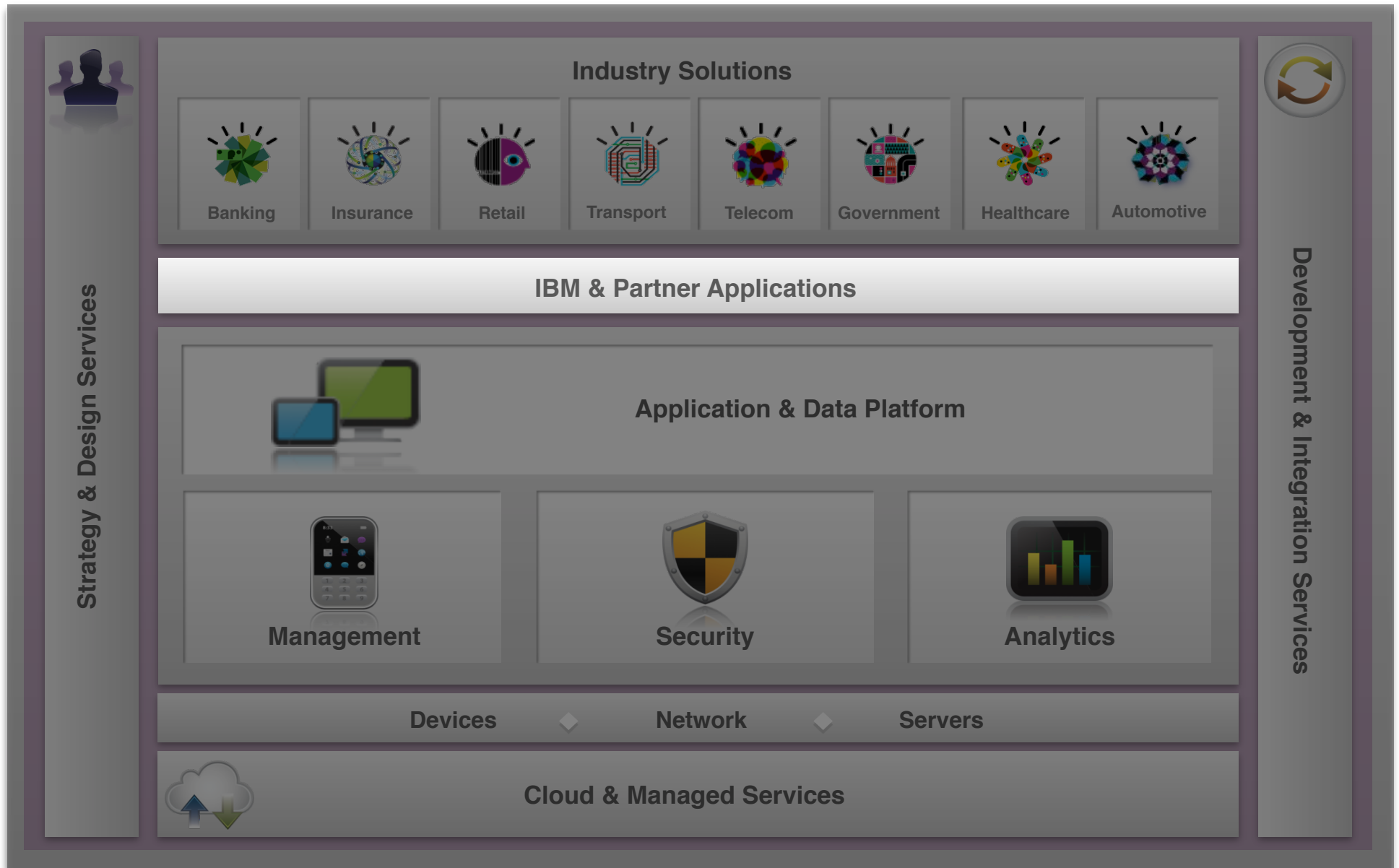


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IBM MobileFirst: Mobile Apps



Improve engagement with mobile app and web experiences



IBM mobile solutions for social business

A comprehensive portfolio of mobile solutions for social business and web experiences.



Client Challenge

- Activate the workforce to improve productivity and unleash innovation anywhere.
- Delight customers—wherever they engage—to increase loyalty, advocacy and revenue.

Key Capabilities

- Mobile solutions for social business:
 - Push email, calendar, contacts, to do items
 - Social software for access to your professional network
 - Presence, IM chat and telephony
 - Online meetings
 - Business document viewer
- Development tools for multichannel web experiences and Domino mobile apps – extending the IBM MobileFirst platform
- Device-appropriate interfaces for the leading mobile devices
 - Apple®, Google Android, Research In Motion® BlackBerry®, Nokia

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Enable employees to experience insight where they work



IBM Cognos Mobile

A rich client for mobile employees to view and fully interact with Cognos business intelligence reports, dashboards, metrics, analysis and other information in a security-rich environment.



Client Challenge

Providing quick, easy access to analytics to workforce wherever they are to enable uninterrupted productivity

Key Capabilities

- Rich, visual and interactive experience for quick, easy access to analytics where people work.
- Location- aware reports containing pre-filtered information
- Single authoring and administrative environment to deliver secure, relevant, and reusable content
- Confidently and easily deployed Cognos Business Intelligence on industry leading form factors

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Embrace mobile across buy, market, sell, and service



IBM Smarter Commerce

Applying mobile to enhance business performance across the commerce value chain



Client Challenge

Improve engagement with customers, employees, and partners

Key Capabilities

- Empower employees and partners with extend mobile access to critical commerce processes
- Reinvent customer interactions with mobile sales and service
- Extend marketing reach with mobile campaigns and location-based services
- Refine the mobile customer experience with analysis of mobile usage

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Take your business with you wherever you go



Business Process Management

IBM makes it possible to integrate BPM into your mobile strategy



Client Challenge

Every day you are challenged to do more, better, and faster

Key Capabilities

- Gives peace of mind that comes from knowing that important and time sensitive tasks will find employees wherever they might happen to be.
- Finding expertise is instant, and innovation doesn't have to wait for that mythical "down time".
- Provides a single view that consolidates tasks from multiple IBM process sources

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Three ways to get started with IBM MobileFirst



1

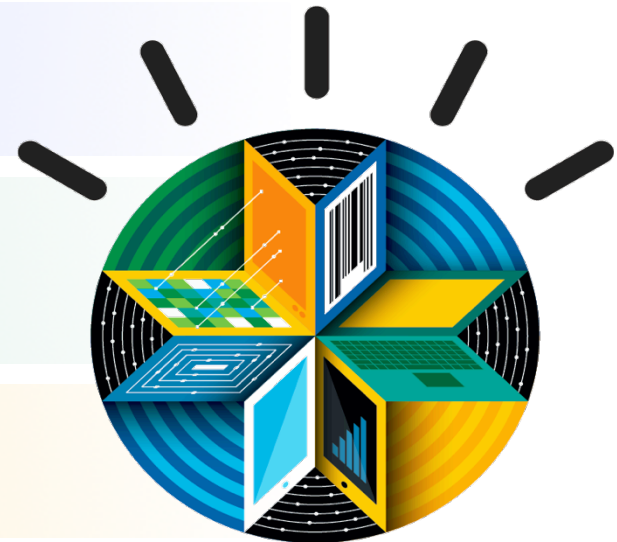
Learn more:
ibm.com/mobilefirst

2

Join the conversation:
[#IBMMobile](https://twitter.com/IBMMobile)
facebook.com/IBMMobile

3

Talk with your IBM representative or Business Partner to find the right next step for you



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