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Mobile Application Development Track Keynote

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IBM Software Group, Rational CTO Team

The *Mobile Shift* is what happens when people adopt and use mobile devices of their choice to engage with brands, employers, information, and each other.

Source: Forrester Research, Inc., June 2012 **"Build Great Mobile Apps That Drive Engagement"**

- Location becomes irrelevant.
- Customers expect to get their stuff anywhere.
- Multi-channel is the new normal.
- App intensity explodes.

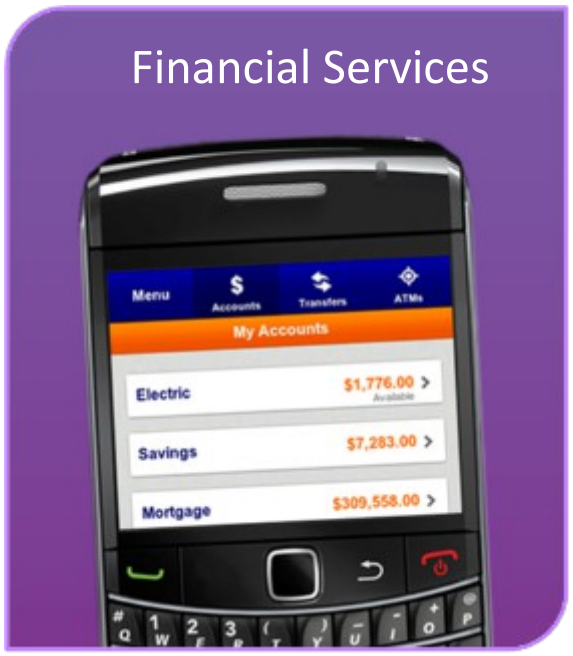
Mobile is a mandatory transformation

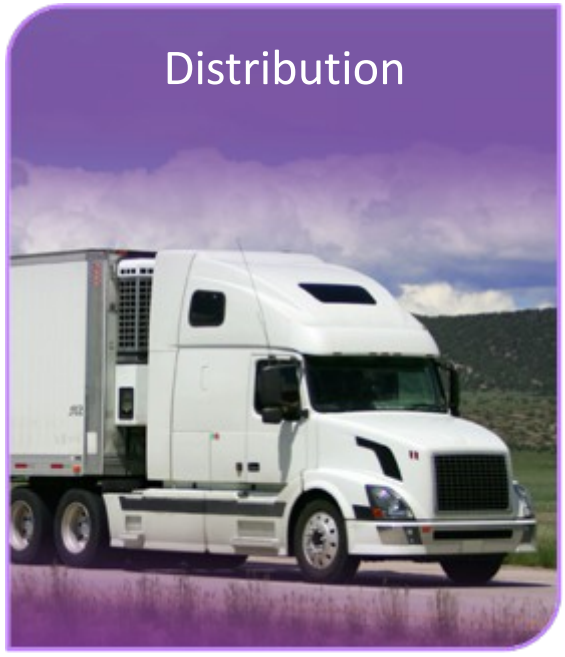
10 Billion devices by 2020

61% of CIOs put mobile as priority

45% increased productivity with mobile apps

Fundamentally changing industries





Mobile banking will be the most widely used banking channel by 2020, if not sooner

Source: *Mobile banking: A catalyst for improving bank performance*, Deloitte, 2010

Augmented Reality, driven by mobile devices

360° experiences aren't just about retail and media…

Sanofi Aventis

iBG Star Blood Glucose Meter

Mobile is the NEXT dominant phase of computing

Mobile is different:

- Transformational business models
- Faster lifecycles
- More iterative

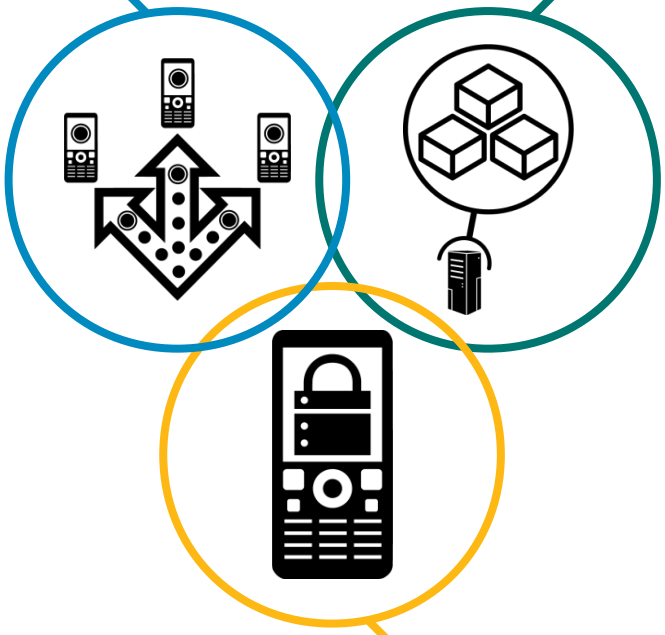
IBM will play a significant part in this new era of mobile computing.

IBM's strategy addresses full range of mobile enterprise needs

Extend & Transform

Extend *existing business capabilities to mobile devices*

Transform *the business by creating new opportunities*



Build & Connect

Build *mobile applications*

Connect *to, and* ***run*** *backend systems in support of mobile*

Manage & Secure

Manage *mobile devices, services and applications*

Secure *my mobile business*

A deeper look at Manage & Secure capabilities

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Key Capabilities

- Mobile lifecycle management
- Device analytics and control
- Secure network communications & management

IBM Has Extensive Approach to Mobile Security

At the Device

Manage device
Register; Set appropriate security policies; compliance; wipe; lock.

Secure Data
Data separation; Encryption.

Secure Application
App security policies; application level controls

Over the Network & Enterprise

Secure Access
Properly identify mobile users & devices; allow or deny access.
Connectivity.

Protect from threats
Protect from mobile and web threats

Monitor access
Log network access, events.
Monitor & gain intelligence

For the Mobile App

Develop Secure App
Develop secure apps;
Utilize secure coding practices.

Test for Vulnerabilities
Test and Identify application vulnerabilities

Integrate Securely
Secure connectivity to enterprise applications and services

IBM Mobile Security Strategy

- Safe usage of smartphones and tablets in the enterprise
- Secure access to corporate data and supporting privacy
- Visibility and security of enterprise mobile platform

A deeper look at Extend & Transform capabilities

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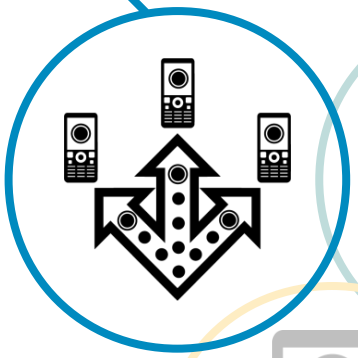


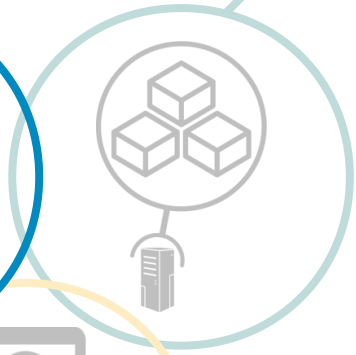
Key Capabilities

- Strategy, planning and implementation
- Mobile-enabled solutions including analytics, commerce, and social business
- Mobile as a service

Build & Connect

Build *mobile applications*

Connect *to, and* ***run*** *backend systems in support of mobile*



Manage & Secure

Manage *mobile devices, services and applications*

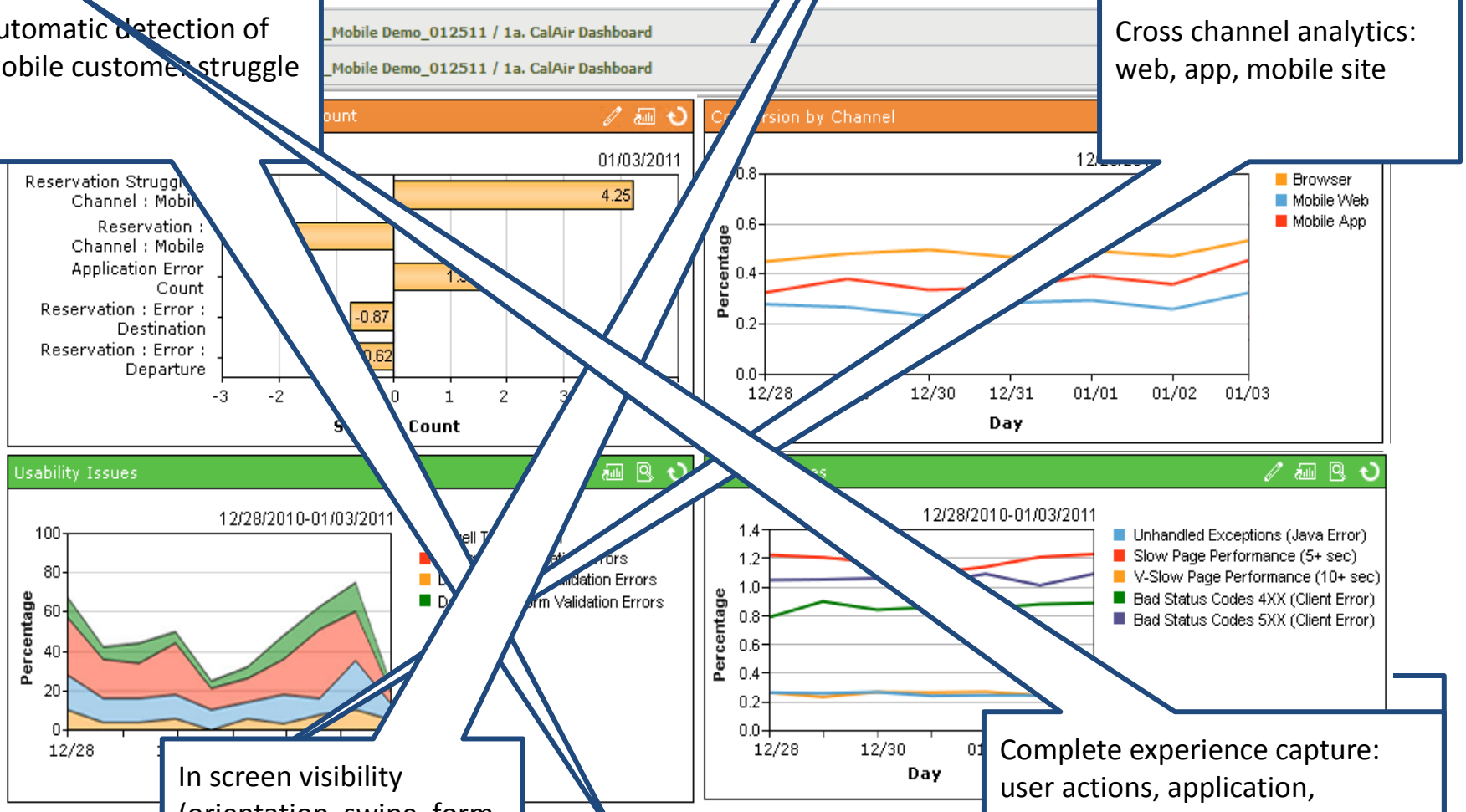
Secure *my mobile business*

Tealeaf CX Mobile: Mobile dashboard

Discover what's working and what isn't – and WHY

Automatic detection of mobile customer struggle

Cross channel analytics: web, app, mobile site



In screen visibility (orientation, swipe, form entry, clicks) to track usability issues

Complete experience capture: user actions, application, environmental and network data

A deeper look at Build & Connect capabilities

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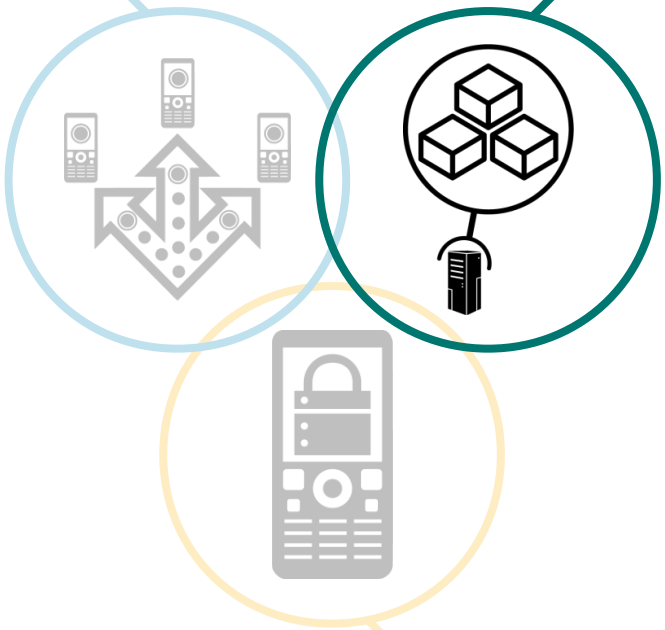

Build & Connect

Build mobile applications

Connect to, and run backend systems in support of mobile

Key Capabilities

- Mobile web, hybrid and native app development
- Enterprise data, service, and application integration
- Complete development project lifecycle management

Manage & Secure

Manage mobile devices, services and applications

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Developing for multiple mobile platforms

IBM Worklight Open, cost-effective, cross-platform mobile app development

App development using native and/or familiar web technologies:

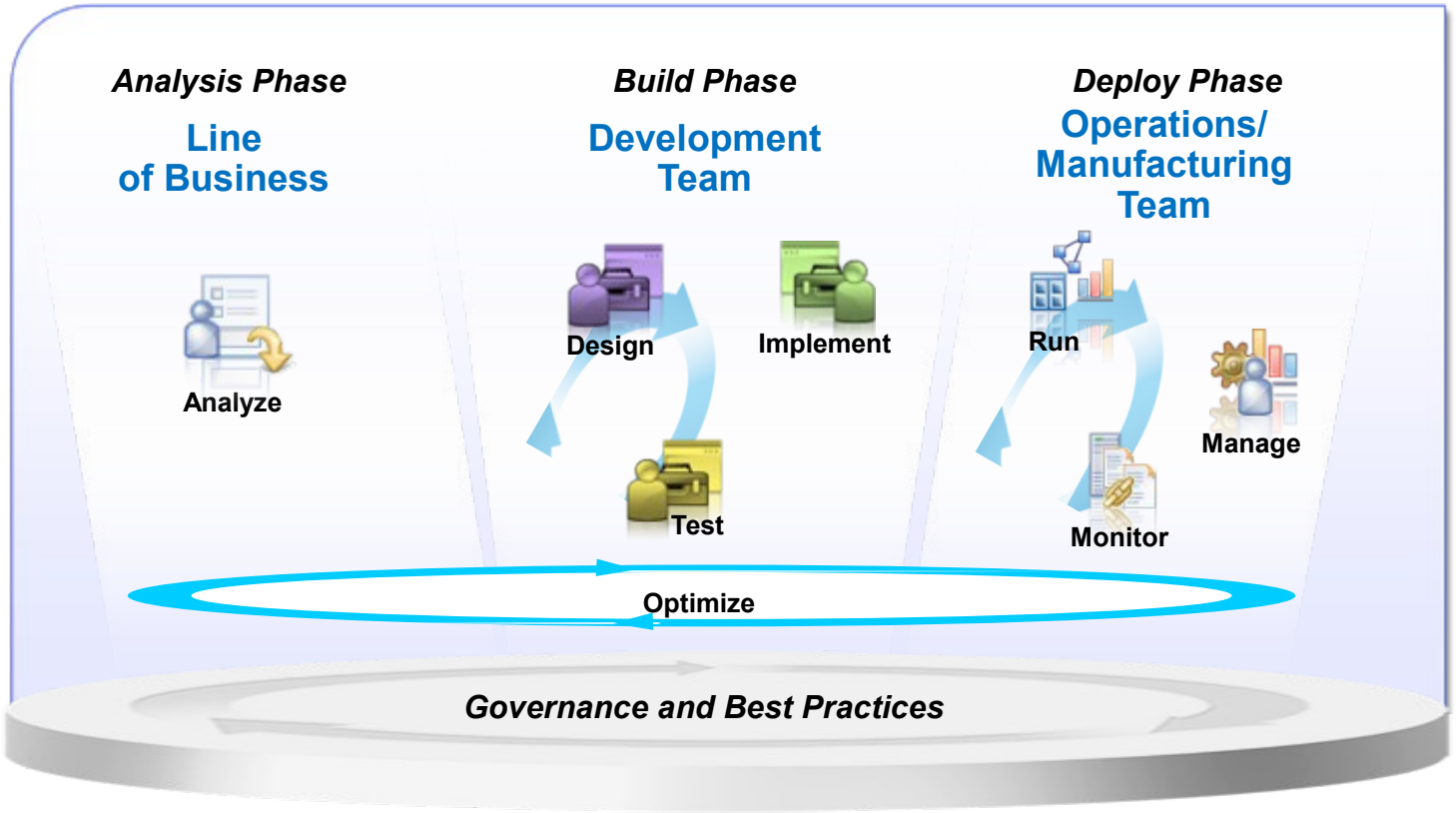
- HTML5
- CSS3
- JavaScript

App delivery in variety of forms:

- Mobile Web app
- Hybrid app
- Native

Compatible with prominent HTML5 libraries and tools:

Mobile development is more than just coding ...

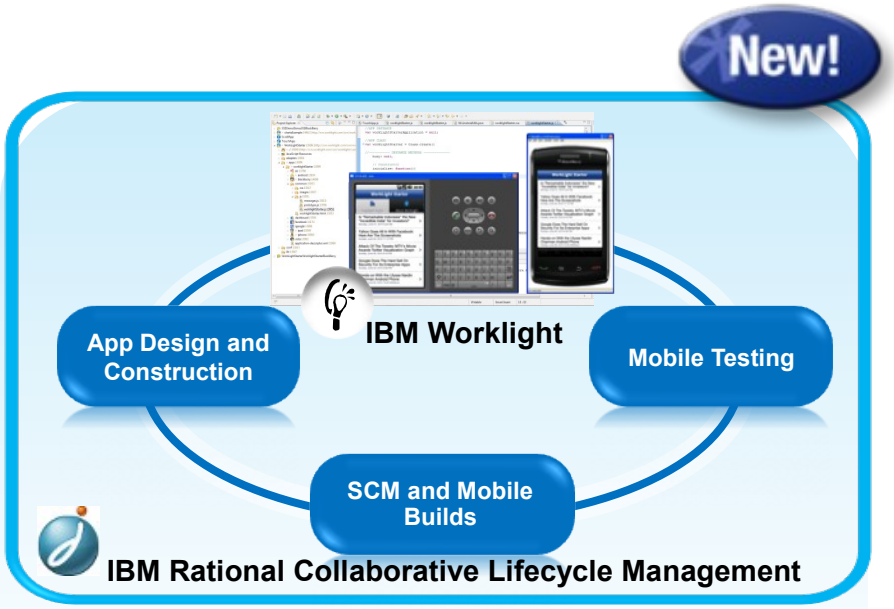


Coding is just <u>one</u> component of the mobile application development lifecycle

Enact a collaborative, multi-platform mobile development lifecycle

IBM Mobile Development Lifecycle Solution

- IBM plans to introduce a comprehensive mobile development solution in 4Q 2012 combining:
  - **Enterprise-grade, standard-based mobile application platform** supporting native, hybrid and mobile web programming models
  - **Best-of-class** collaborative mobile application development lifecycle capabilities



IBM Mobile Development Lifecycle Solution highlights:

- Advanced IDE for native, hybrid and mobile web applications
- Distributed team build and test integrations with the IBM Mobile Platform
- "Mobile device-cloud" service integration for on-device testing
- Mobile development best practices and tested integrations to accelerate productivity
- Support for Agile methodologies for dealing with fast-paced development for mobile

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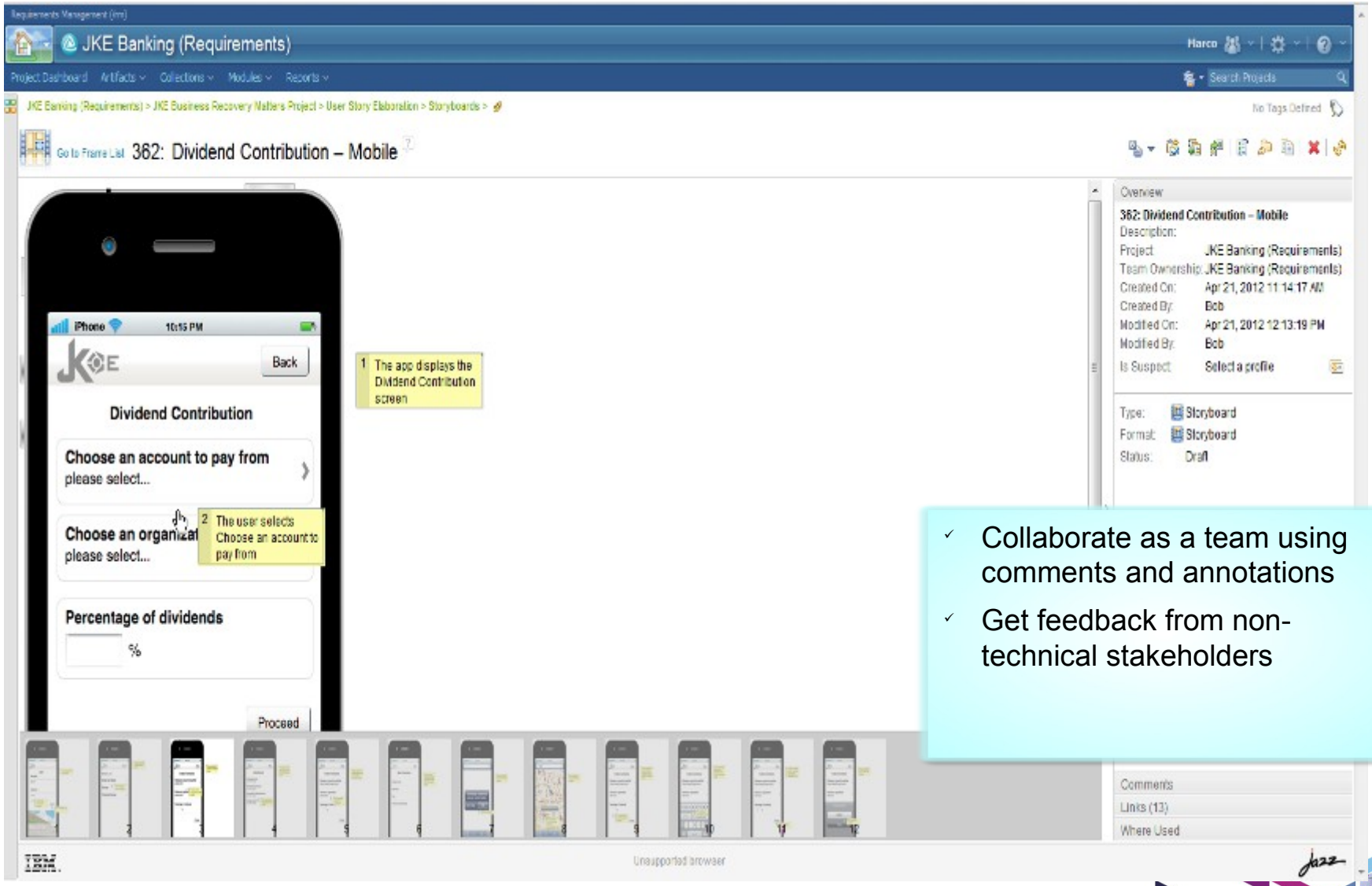
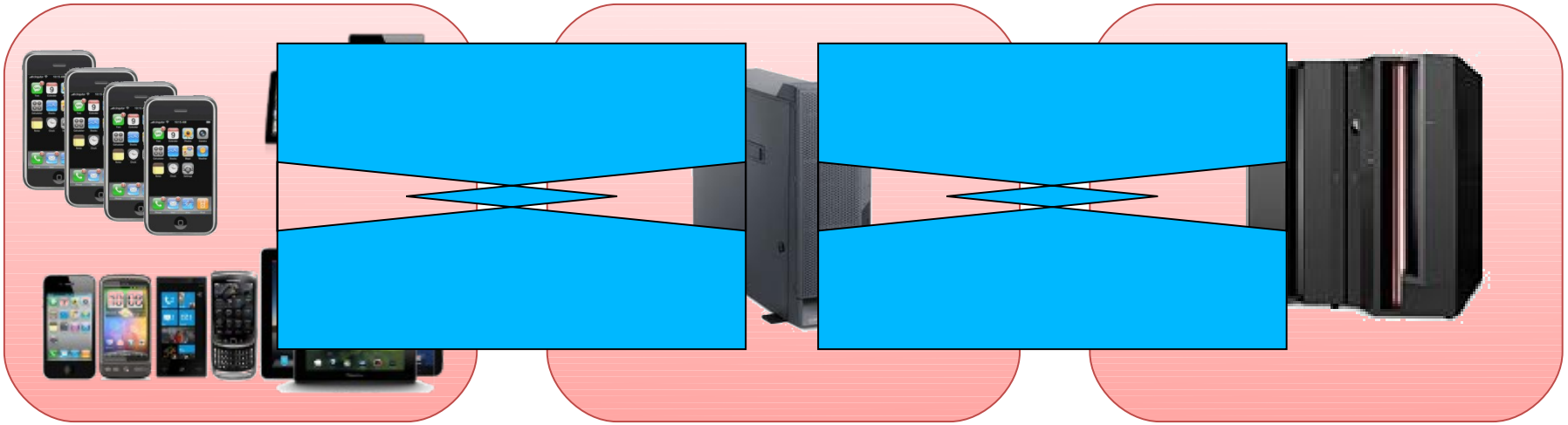
Focus on user experience first to achieve outside-in design



- ✓ Collaborate as a team using comments and annotations
- ✓ Get feedback from non-technical stakeholders

Testing the end-to-end mobile solution



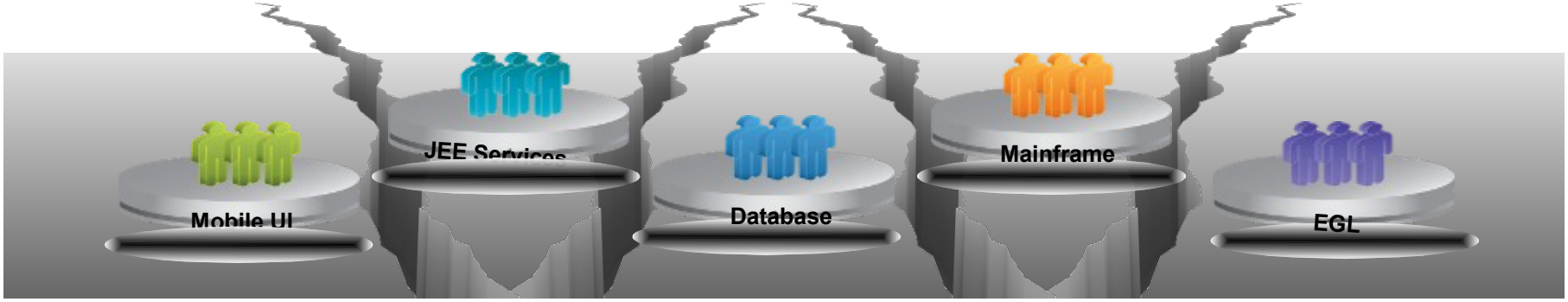
Client Tier Devices

Middle Tier Server

Back-end Data & Services

Testing involves much more than just the mobile front-end

Integrating with existing systems



Mobile applications need to connect to enterprise back-end data and services

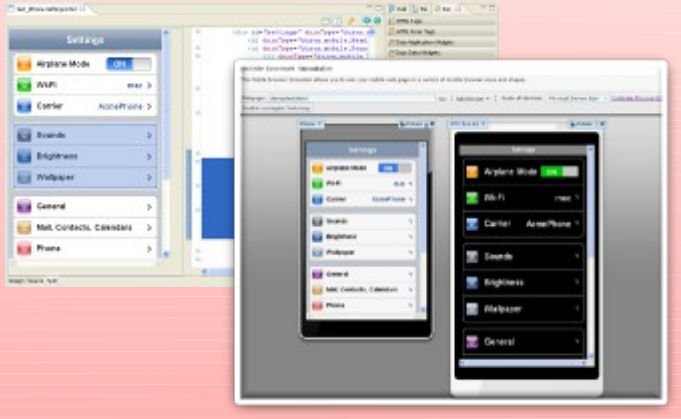
Existing programs and services may need to be modified for the mobile app

Multiple skills will be involved, responsible for different parts of the mobile application

IBM Integrated Development Environments with IBM Worklight

Extend existing back-end services and data to mobile apps

Integrated multi-platform development environments



Construct, debug, and test mobile user interfaces

Refactor and extend existing logic on enterprise platforms (System z, Power) as mobile-consumable services

Mobile software development is a team sport

- Software development **involves a team of people** with diverse skills using different tools
  - Design, development, test, operations, etc.
- Tools can make or break collaboration
  - Fragmented tools create silos
  - Integrated tools break down barriers
- Effective development depends on …
  - Defined goals
  - Transparency of progress and quality trends
  - **Aligning teams across the entire application development lifecycle**

An integrated foundation for mobile development

Mobile Application Platform Vendors

Application Lifecycle Management Vendors

IBM provides the only integrated mobile development solution.

Mobile application platform construction tools and lifecycle management

IBM can help you become a mobile enterprise

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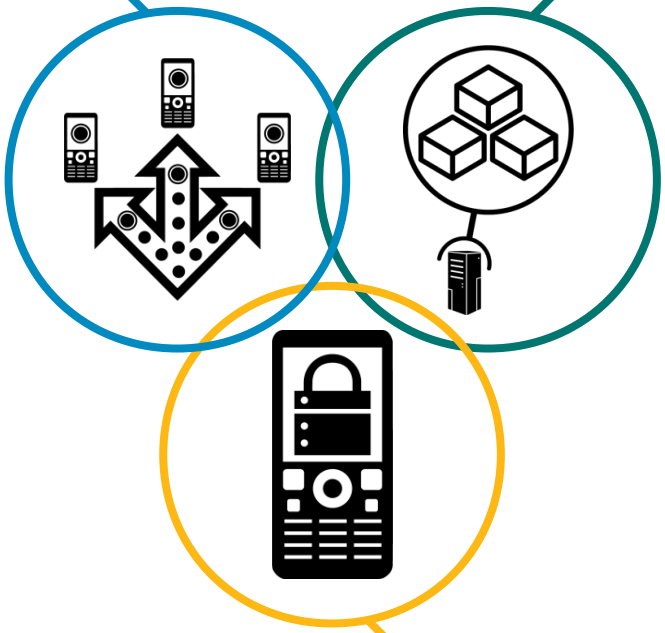

Build & Connect

Key Capabilities

- Mobile web, hybrid and native app development
- Enterprise data, service, and application integration
- Enterprise wireless networking

Manage & Secure

Key Capabilities

- Mobile lifecycle management
- Device analytics and control
- Secure network communications & management

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