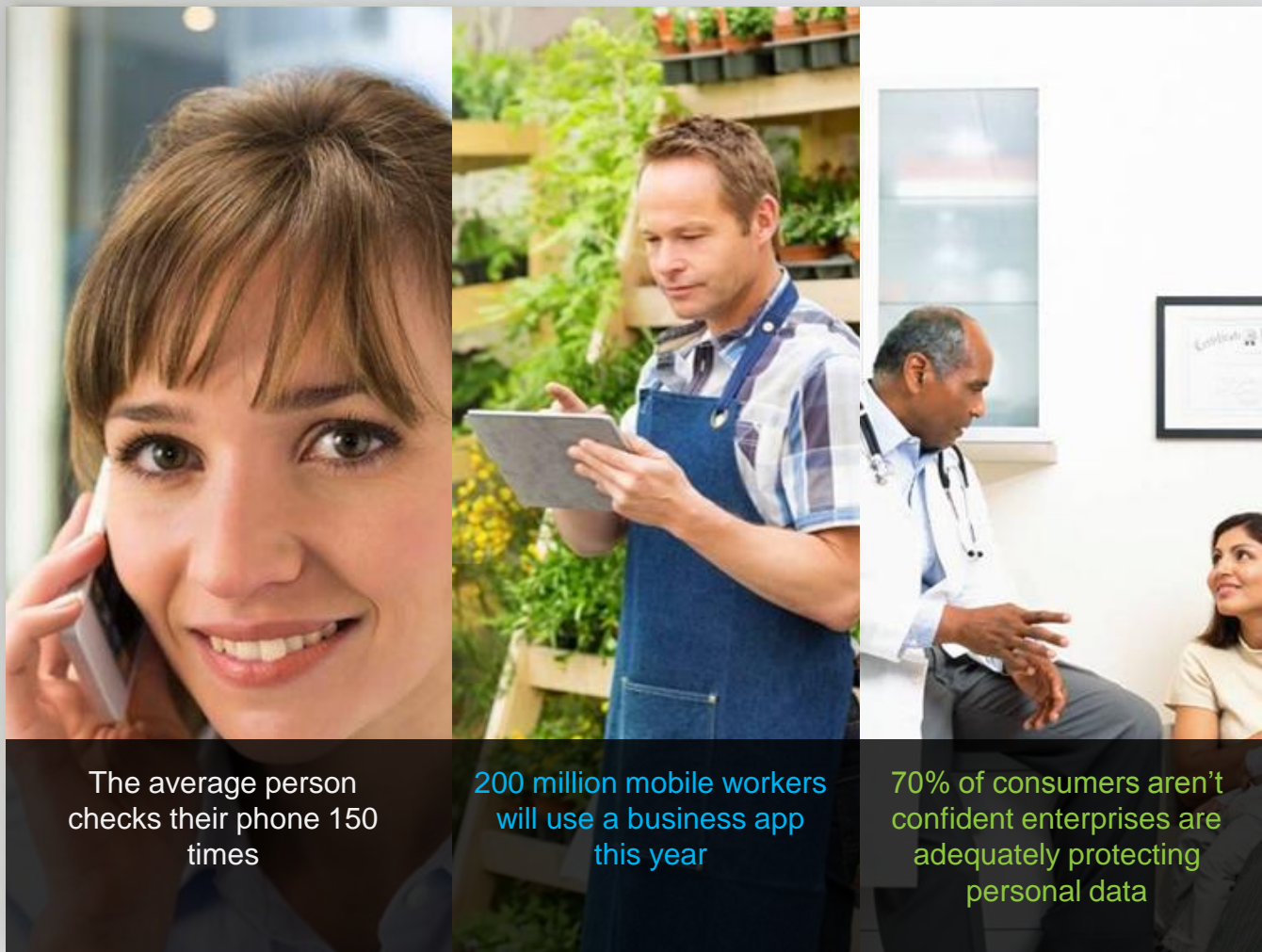


IBM MobileFirst

The Cost of a Bad App

(and how to deliver a good one, fast)

IBM.



The average person
checks their phone 150
times

200 million mobile workers
will use a business app
this year

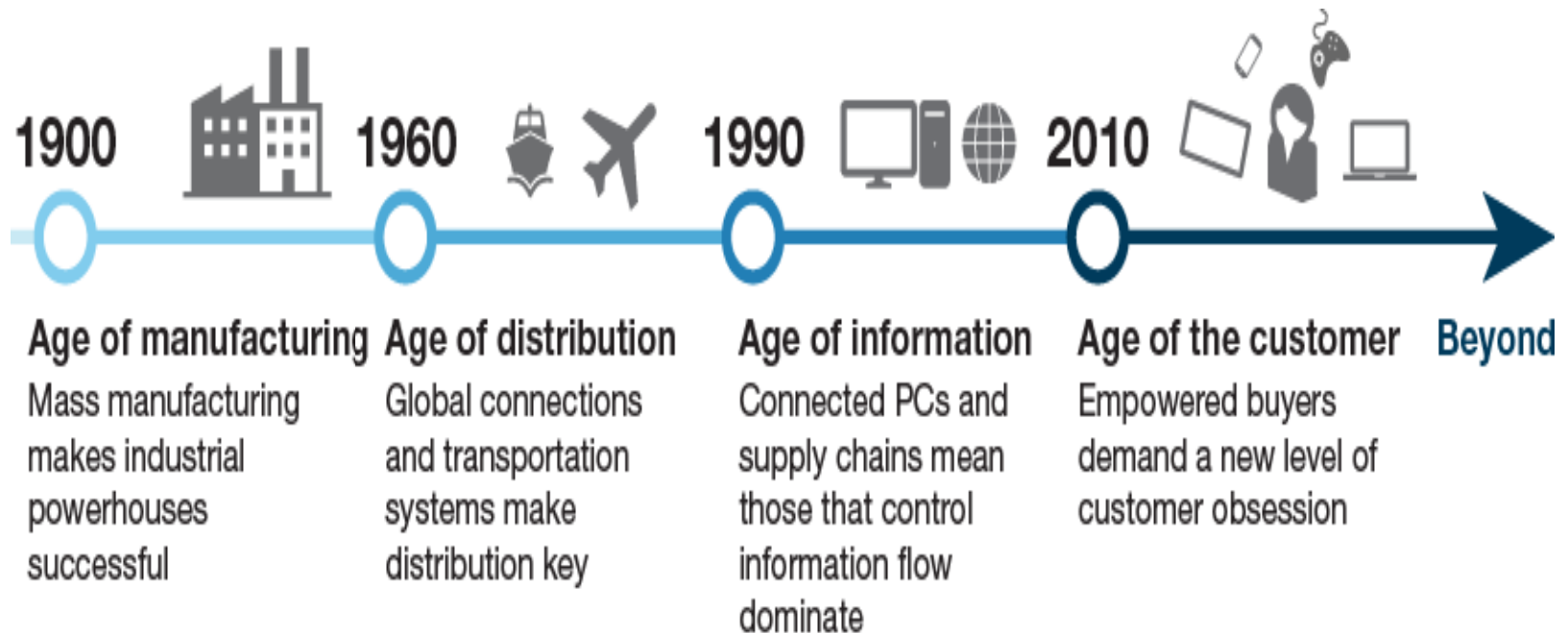
70% of consumers aren't
confident enterprises are
adequately protecting
personal data

The mobile mind shift



*The expectation that
I can get what I want
in my **immediate context**
and **moments of need**.*

We are in the Age of the Customer



Let's define mobile

- › Today, mobile apps are device-specific, and have the following characteristics¹
 - **Offline capability**
 - **'Native' experiences**
 - **Multi-sensor interactions**
 - **Push notifications and messaging**
 - **Application integration**

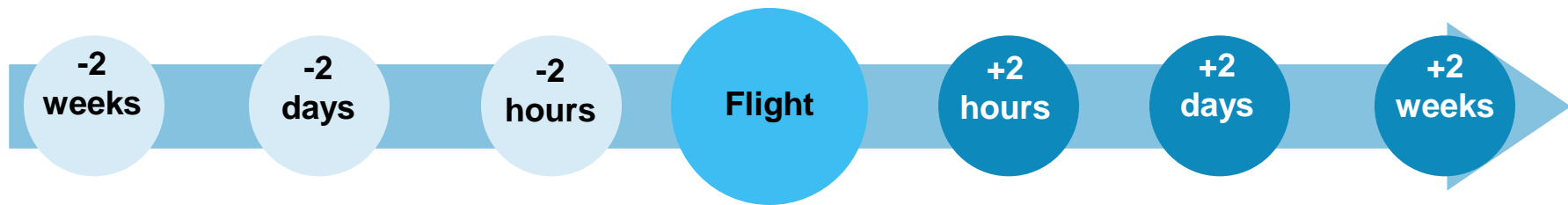
1 = Source: "Mobile App Or Mobile Web? It's A Choice, Not A Battle", Forrester Research, December 17, 2013



A mobile moment is...

A point in time and space when someone pulls out a mobile device to get what he or she wants immediately, in context.

Successful mobile apps engage users in their mobile moments



- Book ticket
- Change reservation

- Change seat
- Request upgrade

- Check in
- Check gate
- Departure time
- Lounge access

- Arrival time
- Food order
- Movies
- Wi-Fi
- Duty Free

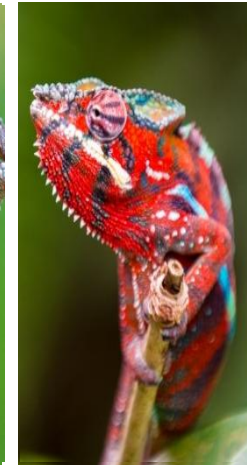
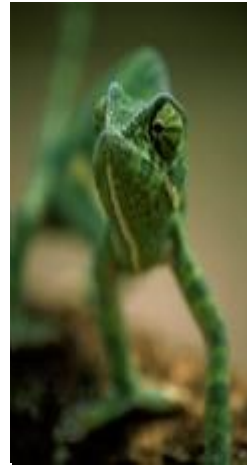
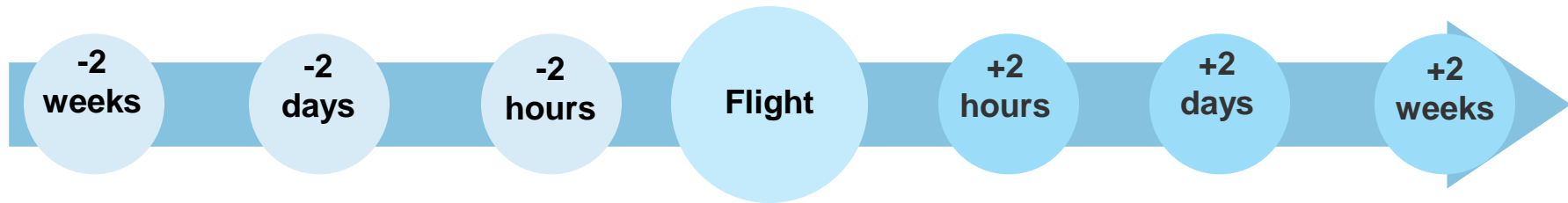
- Ground transport
- Lost luggage
- Navigation

- Mileage status
- Reward travel
- Upcoming reservations

- Mileage points earned
- Customer service survey

Event

Your experience needs to morph or “change its color” based on context



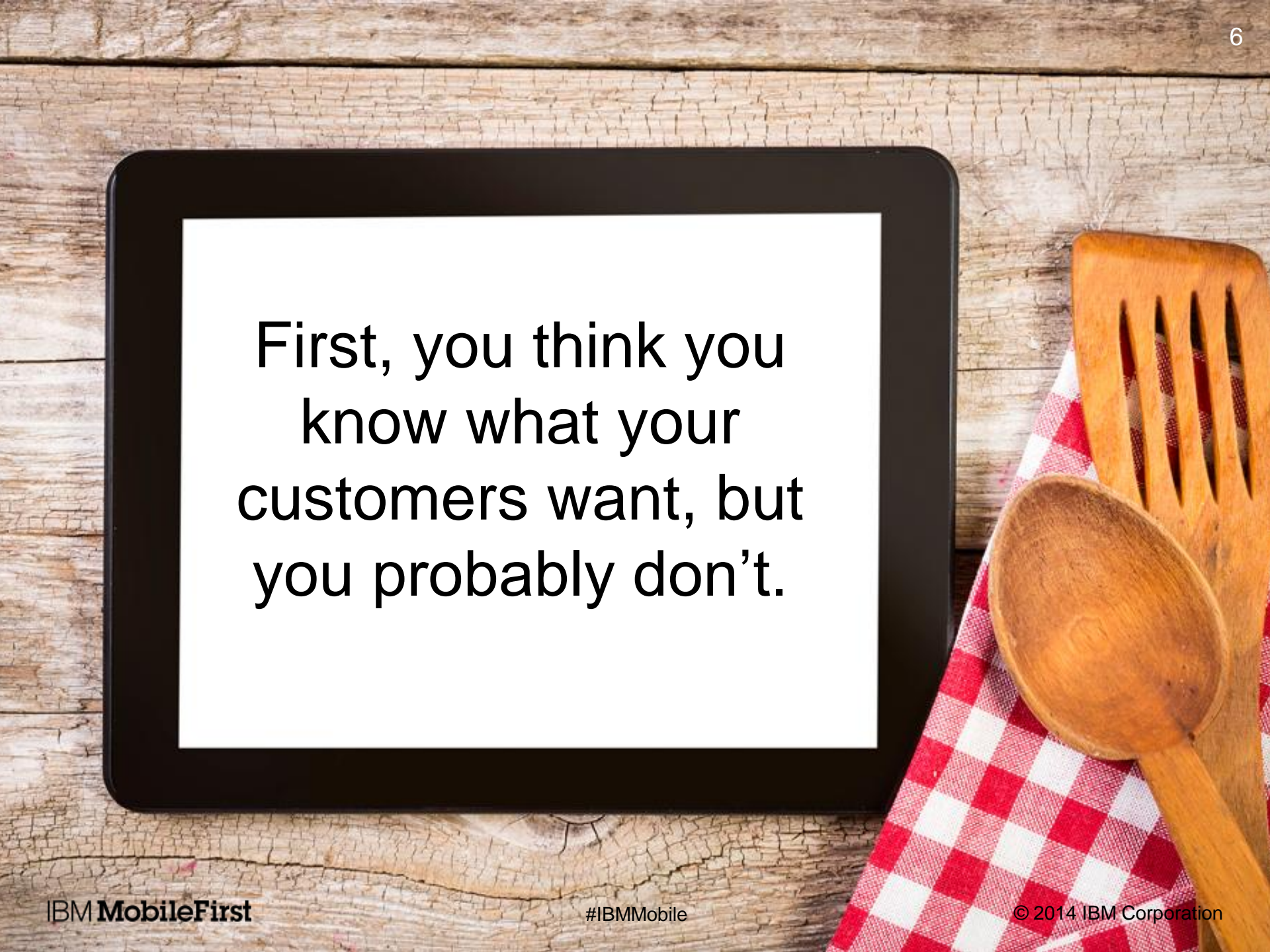
The
Impact of
Good and
Bad
Mobile
Apps

WHEN YOUR APP FAILS

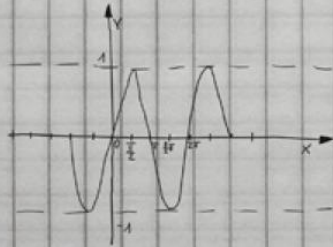
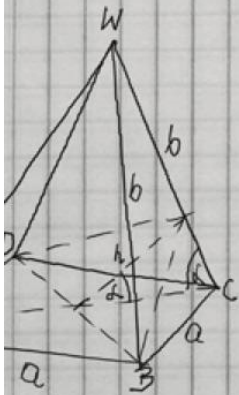
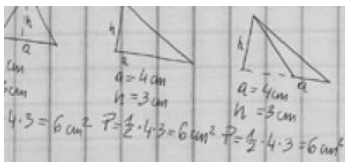
63% OF YOUR CUSTOMERS COMPLAIN TO THEIR FRIENDS.

Source: A commissioned study conducted by Forrester Consulting on behalf of IBM

Base: 1048 Consumers in US, Canada, UK and India who use mobile apps
Source: "IBM Mobile App Consumer Survey", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014



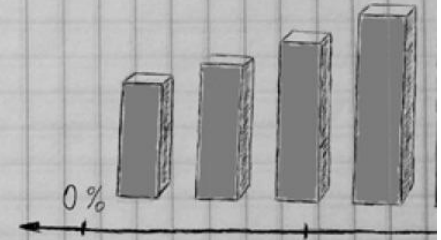
First, you think you
know what your
customers want, but
you probably don't.



	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0
0°	45°	60°	90°	180°
$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	0
$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	-1	
1	$\sqrt{3}$	$-$	0	
3	1	$\frac{\sqrt{3}}{3}$	0	$-$

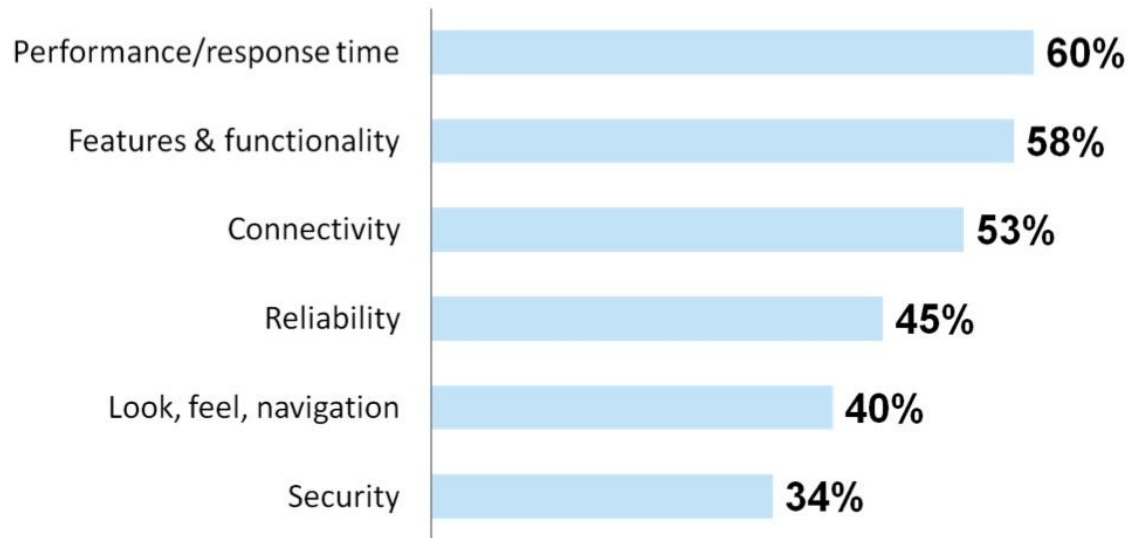
What is a good app?

- A good app serves an immediate, transactional purpose (*context matters*)
- A good app works quickly, all of the time *and* doesn't crash (*performance rules!*)
- A good app is secure without hindering response time, stability and performance (*security and performance*)



Source: "IBM Mobile App Study", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

CONSUMERS: What are the most useful FEATURES you have found in a mobile app?



Base: 1048 Consumers in US, Canada, UK and India who use mobile apps
Source: "IBM Mobile App Consumer Survey", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

If an app doesn't perform to a customer's expectation, users will abandon it for another app that does

The goodness of a good app

- **Consumers respond well to a good app**
 - **58%** -- would purchase products from the company that owns/issued/sold the software.
 - **72%** -- would tell their friend about their positive experience/impression.
- **Employees also respond well to a good app**
 - **38%** -- average increase in employee productivity
 - **40%** -- average increase in partner productivity
 - **30%** -- average reduction in the cost of a process or project

Base: 1048 Consumers in US, Canada, UK and India who use mobile apps, and 200 IT and business decision-makers involved in mobile application strategy, development, and/or procurement
Source: "IBM Mobile App Consumer & Enterprise Surveys", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

What's the cost of not getting it right?

- **Consumers react decisively to a bad experience across touch points:**
 - **65%** -- would not purchase products from the company that owns/ issued/sold the software.
 - **63%** -- would tell their friend about their negative experience/ impression.
 - **50%** -- will uninstall the app if they have problems Generally less willing to interact with the company on its website or via social media.
- **Employees:**
 - Get stuck and can't continue doing their work when the app doesn't **WORK** (*or spend additional time working around the app's poor performance*).
 - Do not adopt the app as a productivity tool, yielding the enterprise no productivity gains.





Base: 1048 Consumers in US, Canada, UK and India who use mobile apps, and 200 IT and business decision-makers involved in mobile application strategy, development, and/or procurement
Source: "IBM Mobile App Consumer & Enterprise Surveys", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

10 Categories of Cost

Category	Impact on Cost
Development Resources <i>The Cost of the Resource Developing the App</i>	
Delivery timeframe <i>How Quickly The App Can Be Developed & Delivered</i>	
App Complexity <i>How Ambitious Is the Function of the App</i>	
Cross-Platform Capability <i>The Ability to Write an App once and Deploy on Multiple Platforms</i>	
Frequency of App Updates <i>How Many Times Per Year an App is Updated</i>	

Source: "IBM Mobile App Study", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

10 Categories of Cost (continued)

Category	Impact on Cost
App Testing <i>The Level and Intensity of Testing</i>	
Data Integration <i>Integrating The App with Back-End Systems</i>	
Platform Analytics <i>Visibility Into Performance of the App</i>	
Mobile App Security <i>The Right Balance of Security and Access</i>	
Process Change Management	

Source: "IBM Mobile App Study", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

The benefits of getting mobile apps right is significant...

Based on survey results and qualitative interviews

**An average organization
could save**

10%

to build an app...

...and

20%

**to run an app following
best practices.**

Source: A commissioned study conducted by Forrester Research on behalf of IBM, September 2014

...As are the negative impacts of getting them wrong

Based on survey results and qualitative interviews

Organizations risk doubling their costs

2x

**to deliver an app if they are not mindful of
the 10 drivers of cost**

With a limited annual budget and growing demand for internal employee and external customer apps, organizations that deliver apps more cost-effectively can do more their budget — leading to more revenue generation opportunities and productivity gains.

Source: "IBM Mobile App Study", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

Key takeaways


- Mobile app use is increasing, and users everywhere are making their own “mobile moments”
- For companies serving consumers, mobile apps increase opportunities for revenue and engagement in the brand
- Businesses have already seen the benefits from the first round of employee mobile apps
- It’s time for companies to invest in the right infrastructure and make sure they are making robust, stable, targeted apps

Source: “IBM Mobile App Study”, a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

Recommendations for avoiding the cost of a bad app

- Define the scope narrowly and focus on key context-based touch points
- Use a platform to lower development costs - and meet customer needs
- Focus on design and enabling mobile moments - but don't skip on UX and security

Source: "IBM Mobile App Study", a commissioned study conducted by Forrester Consulting on behalf of IBM, September, 2014

A black smartphone is the central focus, displaying the text "Now, how to deliver a good app -- fast" on its white screen. The phone is placed on a dark wooden surface. In the background, to the left, is a white coffee cup on a saucer. To the right, a rolled-up newspaper is visible, with some text in Cyrillic script. The background is softly blurred.

Now, how
to deliver
a good
app -- fast



A good app needs to be ...

Empowering

Context-aware

- Simple, task oriented
- Allows user to make decisions on the fly
- Access to information, when the user needs it
- Listens to user feedback and incorporates changes quickly

149%

Increase of usage of Productivity and Utility apps in 2013

Trustworthy

Embedded security

- Frictionless
- Access and authorized to view secure information
- Protects against fraud
- Assesses risk
- Continues to learn

80%

Of IT Stakeholders view security as somewhat or very important

Engaging

Performance rules!

- Simple
- Personalized
- Context-aware
- Fast
- Leverage Device Capabilities
- Streamlined purchasing
- Ability to re-engage

80%

Of Apps are used once, then deleted

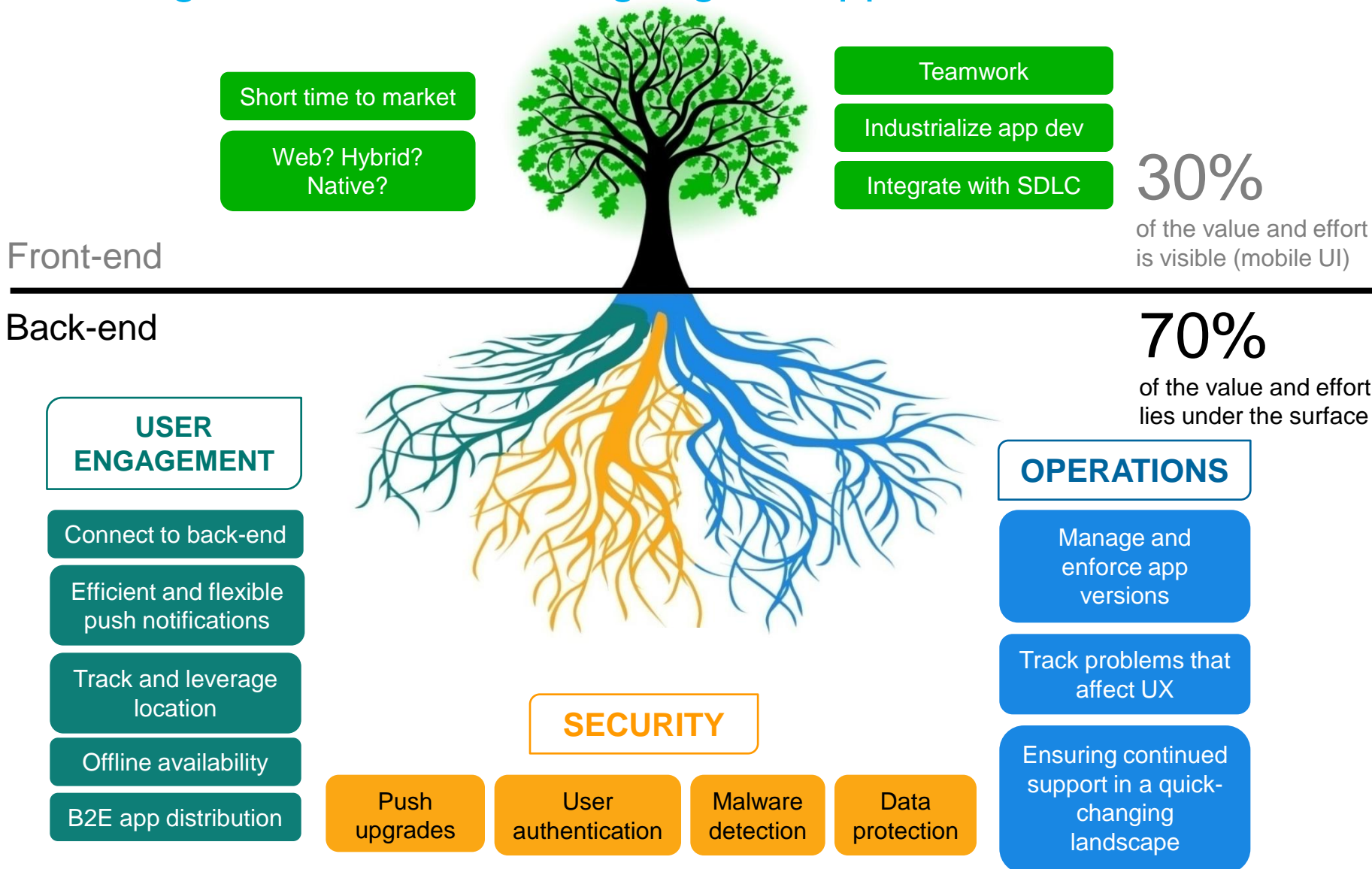


A good app requires a continuous DevOps approach that takes into consideration the application lifecycle





Building blocks for delivering a good app





The New IBM MobileFirst Platform

Continuously Improve



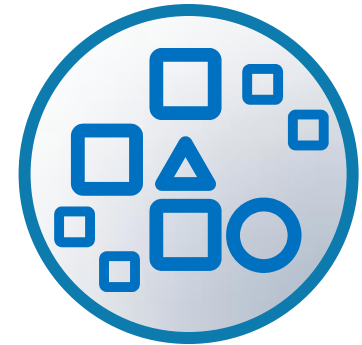
Secure



Contextualize and Personalize



Data Rich





Make good apps great through mobile platform services

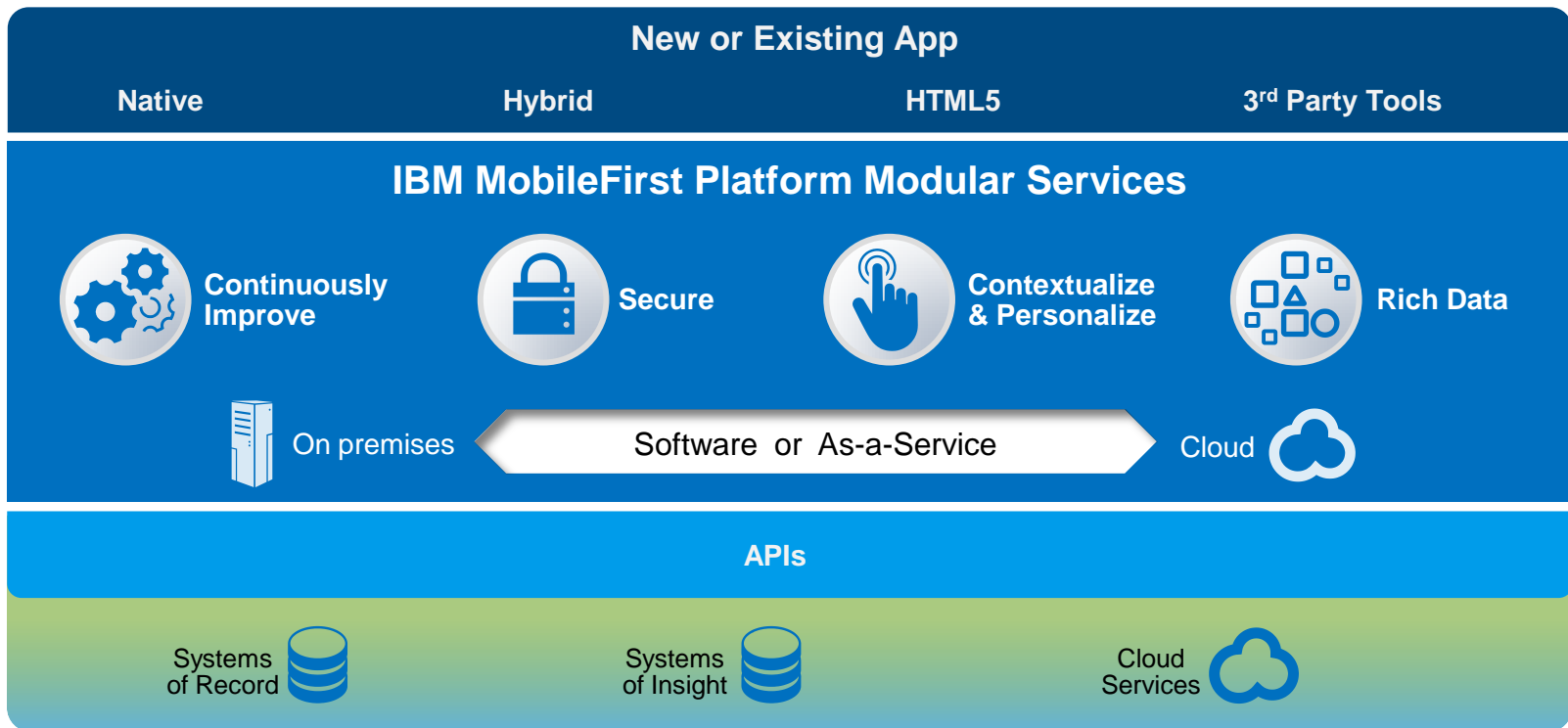
	Continuously Improve	Secure	Contextualize and Personalize	Data Rich
Apps that				
Are hard because	They require constant user feedback, monitoring and release of revisions	Outside the network's protection, mobile apps and data require specific governance	Mobile apps must capture, interpret and act on disparate context sources in real time	Mobile speed and scale requires new integration and database approaches for app developers

Platform services to enable your apps

IBM MobileFirst Platform delivers rich services and then integrates them for an end-to-end experience for mobile development and operations teams

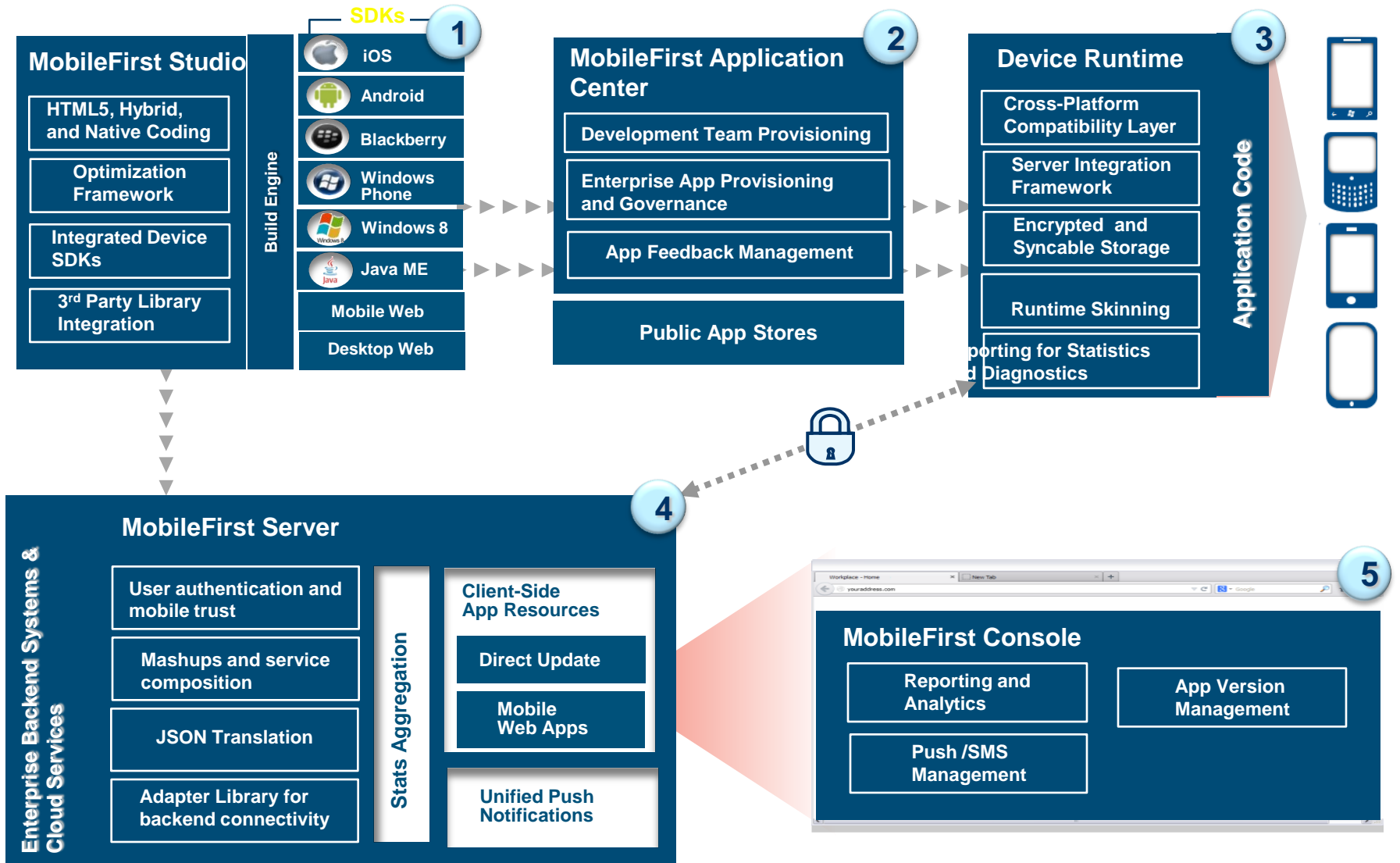


The New IBM MobileFirst Platform: *Build, Integrate & Scale*





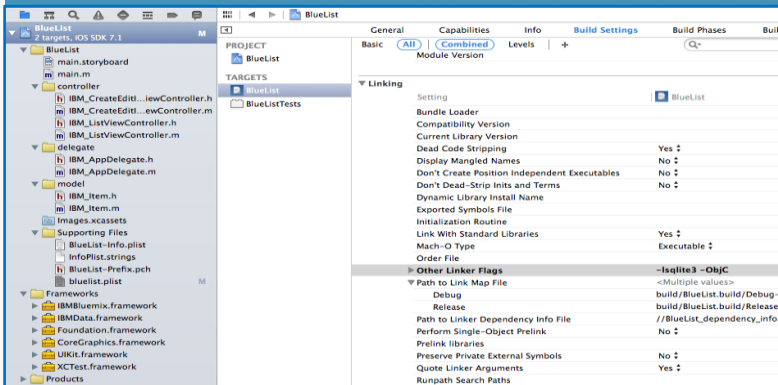
IBM MobileFirst Components overview





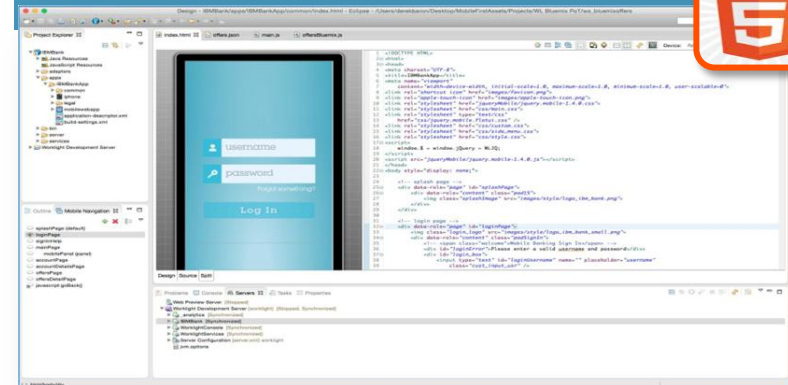
Developers can integrate into existing development environments or accelerate with cross-platform app tool

Native SDKs & Command Line



- Native platform tools like Xcode or Android Developer Tools
- Command line enables developer interaction with platform

IBM MobileFirst Platform Studio

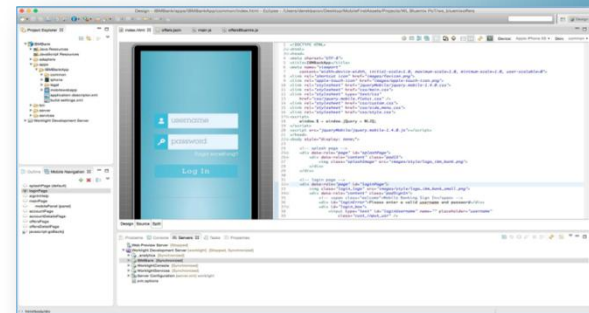


- Cross-platform Hybrid apps
- Rich page editor
- Support for multiple JavaScript frameworks



IBM MobileFirst Platform Studio: Cross-platform “hybrid” development enables code reuse across device platforms

- Utilize your team's existing Web technology expertise for mobile app development
- Access and exploit your device's functionality through Cordova APIs
- Comprehensive development tooling for the full development life-cycle from scaffolding, coding, debugging, testing, and deployment
- Easily preview and debug your app using the Mobile Browser Simulator
- Use whatever mobile UI library you wish to create amazing omni-channel mobile solutions





What's new in IBM MobileFirst Platform v7?

Overall

- IBM MobileFirst Platform delivered on premise or on the cloud
- New Capabilities for Data, Analytics and Management, Integrated Database, Security and Location Services

Data integration services

- Integrated Database with offline sync
- Increase app performance by putting data closer to the user

Analytics and management services to Continuously Improve mobile apps

- New operational console to manage and operate the enterprise mobile channel
- Expanded geographical sentiment analysis support

Location services to Contextualize and Personalize mobile apps

- Indoor location engagement and analytics services

Services to Secure mobile apps and users

- Support for security standards for app authenticity, device, and user authentication (OAuth 2.0)
- Enhanced and dynamic fingerprinting algorithms to harden the app authenticity process





Continuously Improve Mobile Apps

Manage app iterations, collect usage and feedback data



App Management

- Single console to manage app versions and security operations
- Push updates to Hybrid apps without redeploying to app stores

Operational Analytics (Enhanced)

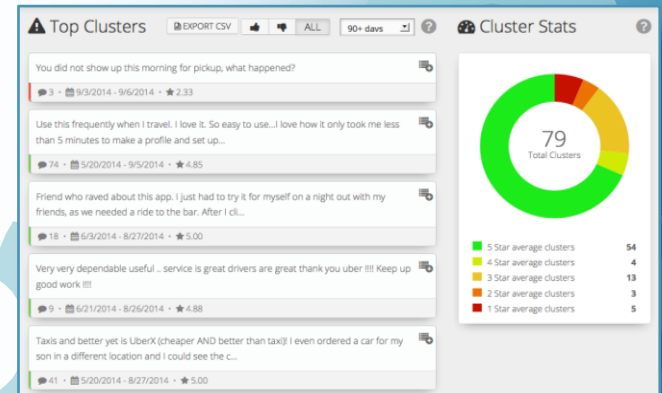
- Diagnose app performance by Device, OS and Version
- Measure app user behavior
- Monitor security related events

In-App Feedback & Crash Analysis

- Troubleshoot and diagnose app problems
- Shake the Device to report bugs

Sentiment Analysis

- App store review analysis (sentiment score, trend analysis)
- Automated competitive analysis





Secure Mobile Apps

Protect enterprise data from mobile exploits



User Authentication (Enhanced)

- Plugs into existing enterprise or 3rd party security systems with a variety of authentication methods
 - Certificate-based, Touch ID, LDAP server, Social
- Multi-factor authentication
- Disable app version, specific user or devices through console

App Authenticity (Enhanced)

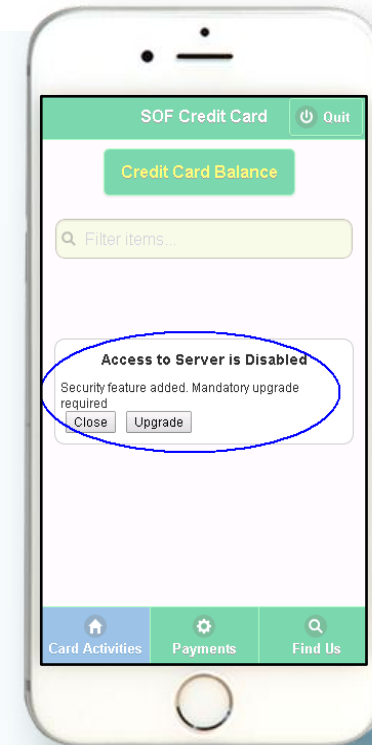
- Verify app identity; protect brand reputation, intellectual property, and back-end data

Encrypt Local Data

- Leverage user identity to encrypt and retrieve data stored locally on the device

Application Scanning

- Find code vulnerabilities complete with remediation assistance





Make Mobile Apps Contextual and Personalized

Provide the right content & interactions at the right time



Location Engagement (NEW)

- User defined rules that correlate location events (enter, exit, dwell), with other data sources to provide real-time interactions

Location Analytics (NEW)

- Support to understand location and movement patterns to provide insight into customer or employee behaviors

Geospatial Enabled Query (NEW)

- Support for query results based on complex geospatial geometries (polygon, circular, string, etc.) and advanced relations (intersect, overlaps, etc.)

Push Notifications

- Standardizes push interactions across device platforms





Data Rich Mobile Apps

Scale and store app data, or connect to Systems of Record



Cloudbant NoSQL DB (NEW)

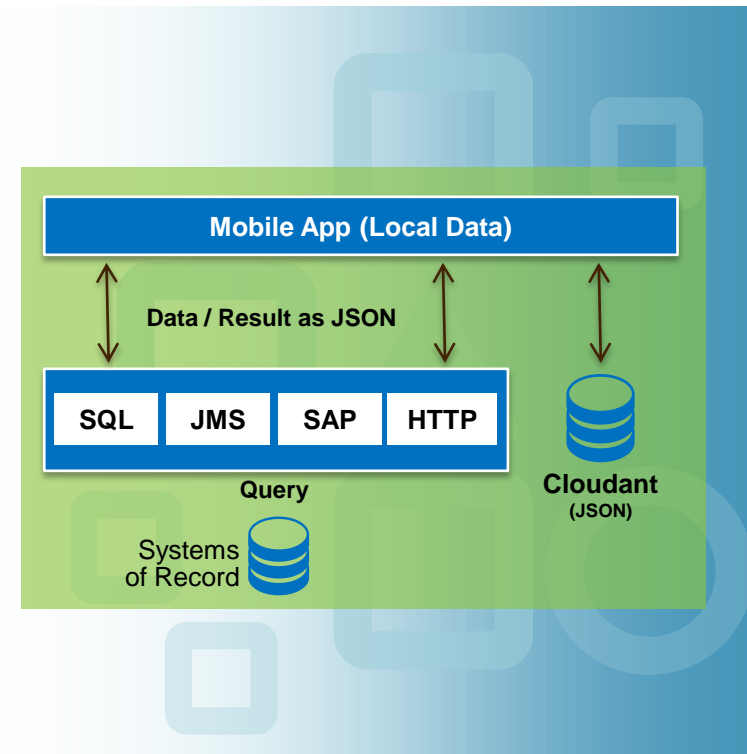
- Highly available, distributed data store
- Reduce administration burden and adapt to new app requirements quickly
- Geographically distributed data puts data close to the user for max performance

Backend Integration

- Provides mobile optimized access to a variety of enterprise systems
- HTTP, SAP, SQL, JMS, Custom
- Enables mobile developers to be able to run server-side code in JavaScript or Java
- Leverage open standards (REST, OAuth) to provide open access to integration adapters

Offline sync (Enhanced)

- Maintain app performance when disconnected
- Makes it easy to replicate offline changes when connected





Available as a cloud service or in your data center

	Cloud (PaaS)	Cloud (Bring your own IaaS)	On-Premises
Cloud Platform	Bluemix	Softlayer, Other IaaS	
Pricing	Pay as you go, Subscription	Monthly License, Perpetual License	Monthly License, Perpetual License
Platform Isolation & Control	Shared environment	Isolated VM or hardware	Your own hardware
Data Rich Services			
<i>Cloudant NoSQL DB</i>	✓	✓	✓
<i>JavaScript Based Integration</i>	✓	✓	✓
<i>Java Based Integration</i>	Partial	✓	✓
<i>Offline data with sync</i>	Partial	✓	✓
Security Services			
<i>Mobile Security (User, App, Device Authentication)</i>	Partial	✓	✓
<i>Application Scanning (Security)</i>	Partial	✓	✓
Continuous Improvement Services			
<i>App Management</i>	Partial	✓	✓
<i>Operational Analytics</i>	Partial	✓	✓
<i>Crash Analytics / In App Feedback</i>	✓	✓	✓
<i>Sentiment Analysis</i>	✓	✓	✓
Contextual & Personalized Services			
<i>Push</i>	✓	✓	✓
<i>Indoor Location Analytics / Engagement</i>		✓	✓

Why IBM MobileFirst Platform?

- In an IBM study, compared to “do-it-yourself platforms,” IBM’s integrated platform saves development expense across the app lifecycle from design, code, deploy, test, to operations and support¹
- Enables organizations to use existing skills in platforms and development approaches
- Complemented by IBM’s portfolio of software and services including mobile management, application lifecycle management, cloud, security, and connectivity
- Supports open standards that include IBM Bluemix services
- Gartner recognizes IBM as a Leader in the Magic Quadrant for Mobile Application Development Platforms* based on its ability to execute and completeness of vision²

Source: 1. IBM Software Technical White Paper April 2014
2. Gartner Magic Quadrant for Mobile Application Development Platform, 2 September 2014,

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IBM has worked with 1,300+ mobile platform clients...

Technology	Retail	Financial	Transportation	Healthcare	Others



Key takeaways

Leaders are producing high quality apps, faster than ever

- Beware of the damage a bad app can do to your brand.
- What you think is a good app isn't necessarily the case.
- A good app is one that is context-aware, secure and performs consistently (no crashing or disconnection).
- Much of your mobile app development focus will need to be “under the surface.”
- A good app requires a continuous DevOps approach that takes into consideration the application lifecycle.
- A mobile application platform can help lower development costs and meet customer expectations.



Get started with IBM MobileFirst

1

Try the IBM MobileFirst Platform
ibm.com/developerworks/mobile

2

Learn more about the evolution of enterprise mobile
and IBM MobileFirst Software Services at
ibm.com/mobilefirst

3

Work with an IBM sales rep to schedule a mobile
agenda workshop or visit an IBM MobileFirst studio

A close-up photograph of a person's hand holding a white smartphone. The hand has light pink nail polish. The phone's screen is black and displays the text "IBM MobileFirst" in white, bold, sans-serif font. The background is blurred, showing a person with brown hair wearing a white shirt.

IBM MobileFirst