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Advancing Enterprise Mobile Capabilities with IBM Worklight

Paul Collins, Ascendant Technology



The Mobile Channel – Trends and Challenges



Customer Engagement – 2011, 2012...

“Mobile devices are more than just another customer channel; they represent the most significant evolution in user interactions since the mouse.” - Gartner

Companies will increasingly shift their marketing budget to the mobile channel

Mobile will enhance brand image and retain user loyalty

Tablet users will expect an immersive and rich experience, smartphone and desktop versions won't do

Mobile devices will serve as a channel extension

In store barcodes, ratings and reviews, rich media, layers

Data from IBM shows that Black Friday had higher mobile traffic than Cyber

Monday

People are actively using the mobile channel to enrich other channels!

Mobile is *Simple, Personal and in Context*



Mobile Isn't about Devices or Networks It's about Innovation

CIO Technology Priorities 2012

1: Analytics and BI

2: **Mobile Technologies**

3: Cloud Computing

4: Collaboration

5: Virtualization

Gartner global CIO survey 2012 (2,336 CIO's)



Peripherals

Devices

M2M

Apps and new
business models



Mobile Trends in 2012

Mobile Web

More than 85 percent of the handsets shipped globally today include a browser

Gartner says part of every enterprise's B2C portfolio by 2012 needs to include mobile

Forrester reports more that 40% of consumers access the web from their phone



Device trends

Rapid growth of smartphone in mature markets

Tablets take significant market share in 2012/2013 – additive, not replacement (Support challenge)

Smartphone adoption varies widely by region – m-strategy is tied to geographies

Android remains the top shipment platform through 2012



Mobile Trends through 2015

The emergence of very-low-cost smartphones will cause application compatibility problems, initially on Android but eventually on other platforms.



Device features and capabilities will grow dramatically. E.g. Look for opportunities to use NFC that go beyond mobile payment to exploit more general "touch to act" interactions.

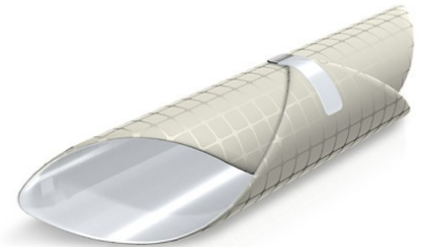
By 2015, mobile Web technologies will have advanced sufficiently such that half of the applications that in 2011 would be written as native apps will be, instead, delivered as Web apps

Employee-facing mobility: CIOs should plan to support at least three mobile platforms



The Tablet, it's nothing new, or is it?

By 2016, the tablet is going to capitalise our lives and outpace, replace, and unseat even the smallest and lightest PC.



“Mobile devices are more than just another customer channel; they represent the most significant evolution in user interactions since the mouse.” - Gartner



It's just not window shopping... anymore!

According to a recent Adobe Digital Marketing Insights Report that analyzed 16.2 billion anonymous visits to the websites of more than 150 top U.S. retailers...



- **Tablet visitors spent more per purchase** than visitors using smartphones (54 percent more) or traditional desktops and laptops (21 percent more) during the 2011 holiday season and throughout 2011

- Tablet visitors were nearly three times more likely to buy products and services online than smartphone visitors and **were nearly as likely** to purchase as desktop/laptop visitors.

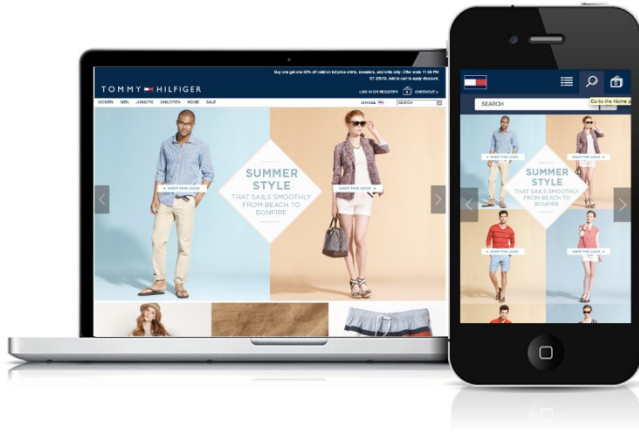
A complete mobile strategy requires a two-pronged approach

Where are you starting today?

Multichannel Sites

Mobile Applications

Examples



Why?

Provide a consistent integrated web experience across multiple channels (desktop browser, smartphones, tablets, etc..)

Provide an experience that takes full advantage of the device and its ecosystem

Needed Capabilities

- Aggregate multiple applications
- Content management
- Personalised for roles

- Dedicated, task focussed app
- Integrates with device capabilities (e.g. camera)
- App store presence

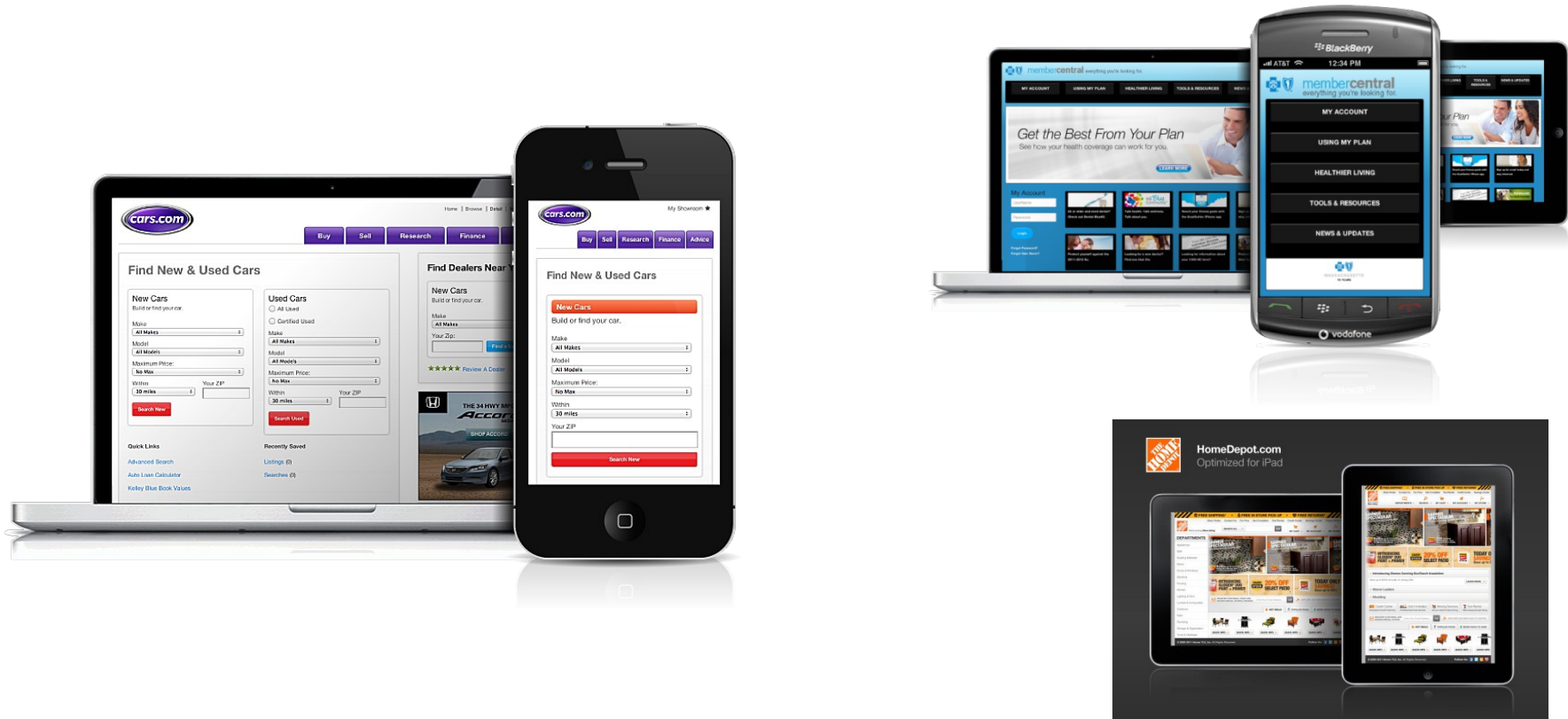


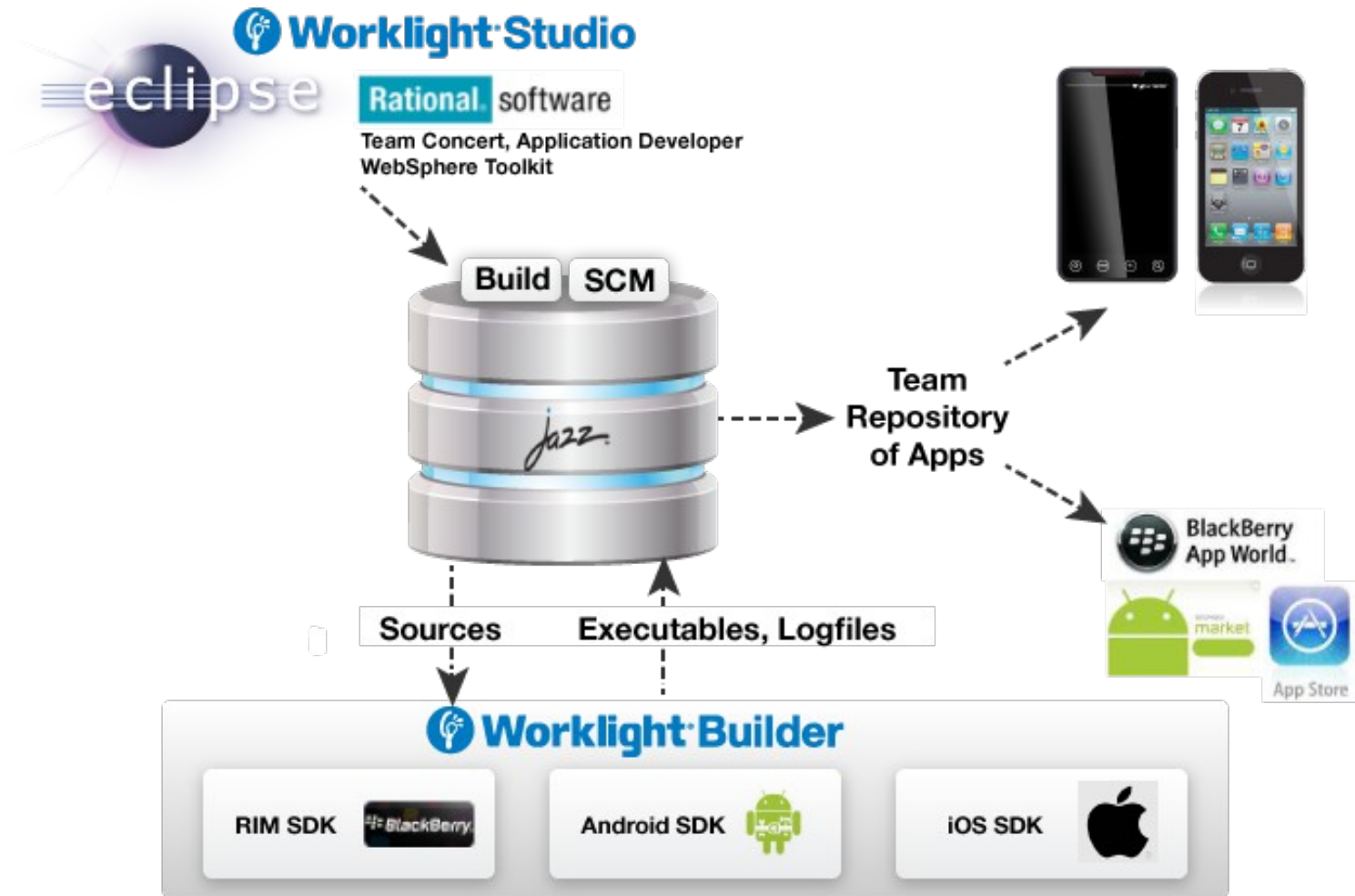
Multi Channel Delivery



Multi-Channel Delivery – Responsive UI

Customers consume media through a variety of devices. Through responsive design your brand becomes flexible to the customers behavior and environment. This allows for engagement based on screen size, platform and orientation.





The Mobile Channel – Design and Development with Worklight



Evolving Mobile Landscape - Challenges

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?

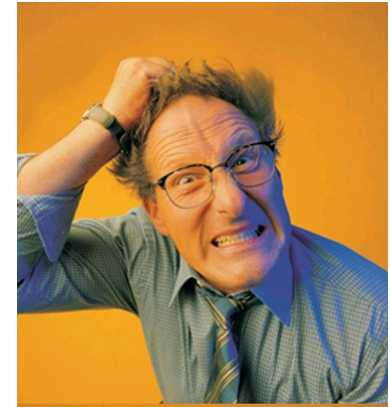
Security?

→ Encryption? Authentication?

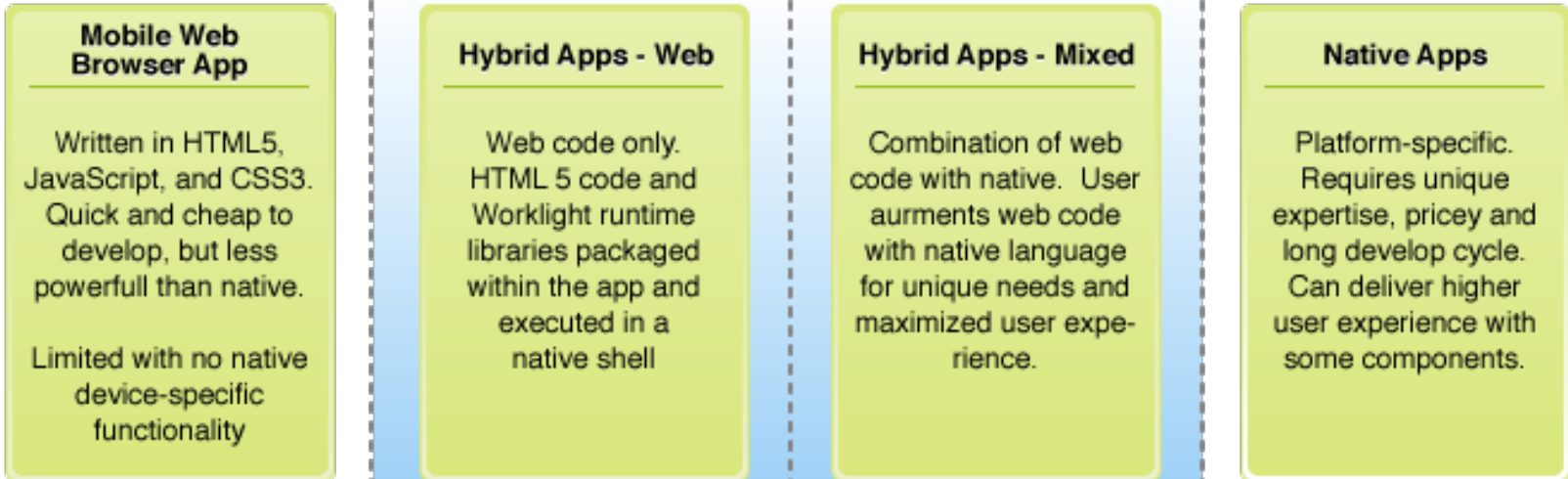
→ Response to stolen/lost devices?

Management?

→ Can I see my apps? Can I disable them remotely?



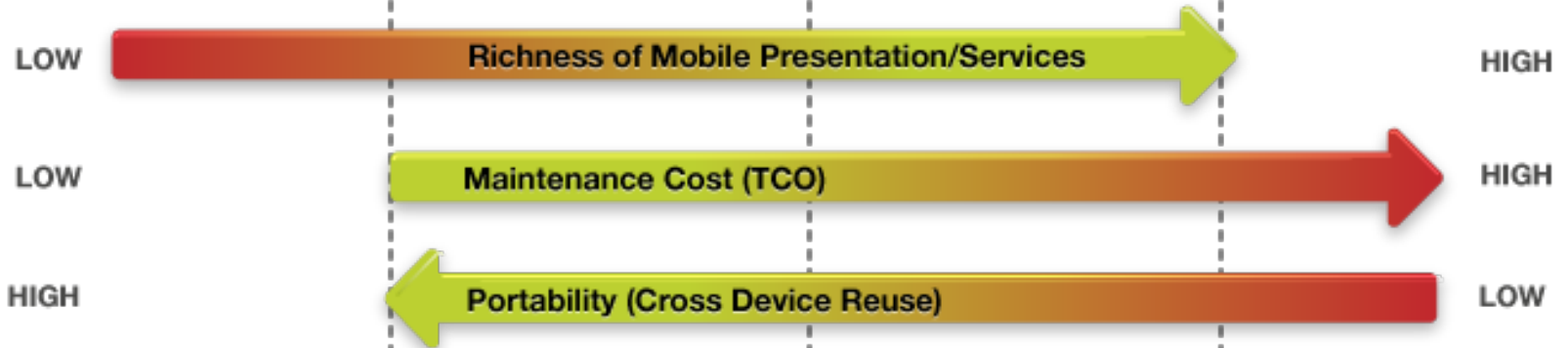
CHARACTERISTICS



BROWSER ACCESS

NATIVE SHELL

TRADITIONAL TRADE-OFFS



A hybrid application is a native application with embedded web content. UI is composed of a combination of native views and web views, that can be local or remote

Use platform-specific CSS to give the web content a native look and feel
Native Views to render platform-specific controls

Advantages

Main application content can be hosted on your application server

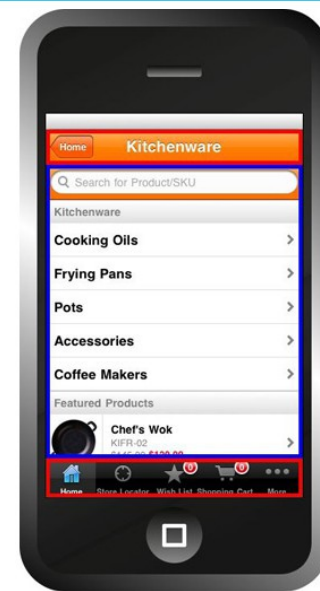
Allows for updates to web content in a single location and shared across platforms and devices

Embedded Native controls allows for access to device specific features

Two-way bridge between native code and embedded web content

Disadvantages

Possible performance issues, multiple code bases to support multiple devices



Why Worklight?

- **Apps Development**

- Build once. Run anywhere.
- Android, iOS, Blackberry, Microsoft, iGoogle, Facebook app, Adobe AIR
- Runtime Skins for different resolutions
- Standards based language
- Application Lifecycle Management
- Centralized Build Process

- **Security**

- Secured offline access
- On device encryption of user data
- Single sign-on mechanism
- SSL encryption
- Protection against reverse engineering vulnerabilities
- Multi-factor authentication

- **Enterprise Integration**

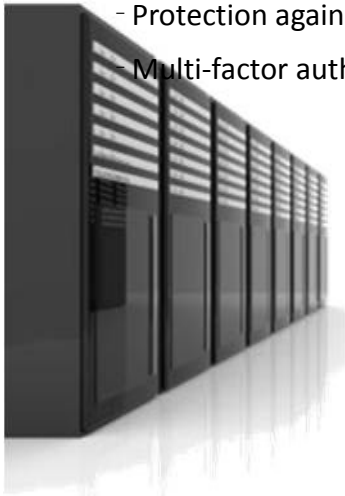
- Direct access to back-end systems
- Leverage existing SOA services
- Server-side caching

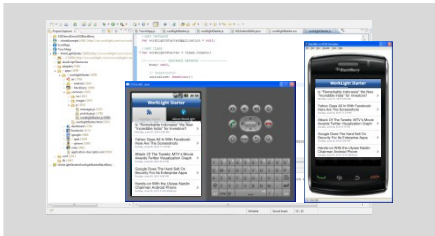
- **Application Management**

- App distribution
- App Version management
- Remote disabling apps
- Direct Update
- Push Notification service management
- Analytics and Usage report

- **Middleware**

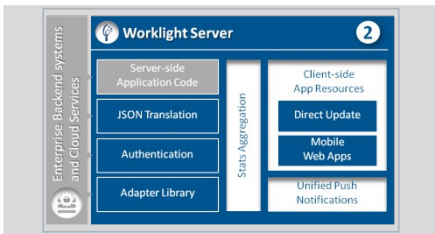
- WebSphere Application Server
- Reliable, Highly Available and Scalable





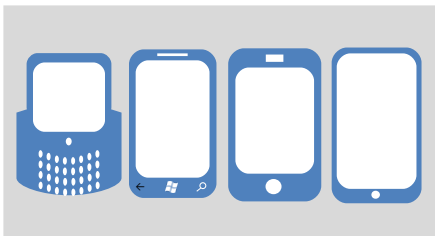
Worklight Studio

The most complete, extensible environment with maximum code reuse and per-device optimization



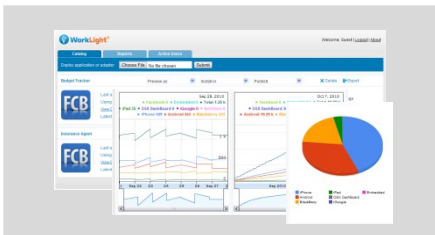
Worklight Server

Unified notifications, runtime skinning, version management, security, integration and delivery



Worklight Runtime Components

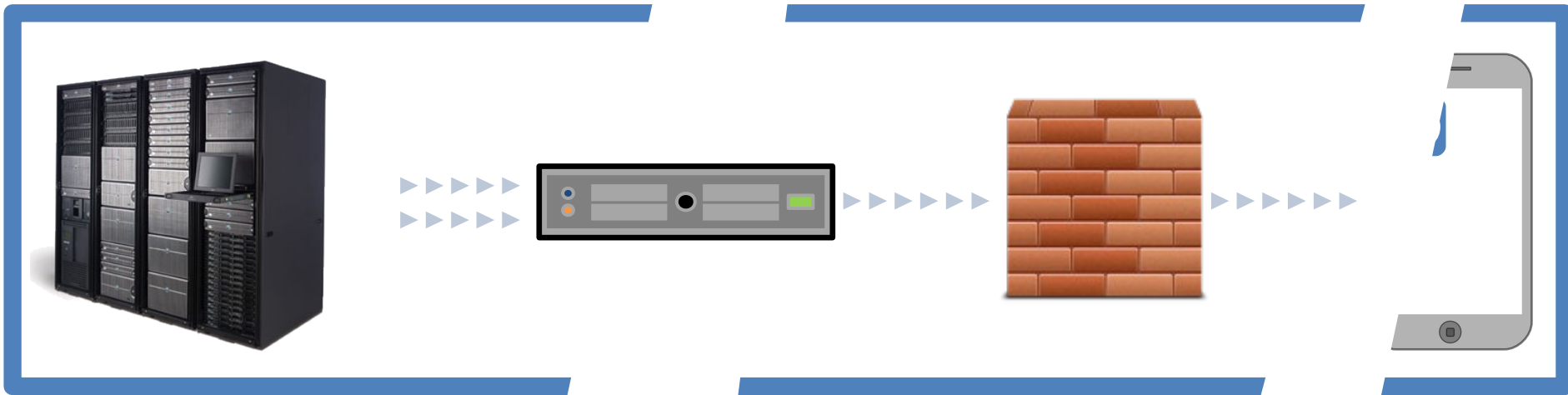
Extensive libraries and client APIs that expose and interface with native device functionality



Worklight Console

A web-based console for real-time analytics and control of your mobile apps and infrastructure





Worklight Server

Server-side Application Code	Stats Aggregation	Direct Update
JSON Translation		Mobile Web Apps
Authentication		Unified Push Notifications
Adapter Library		

Device Runtime

PhoneGap

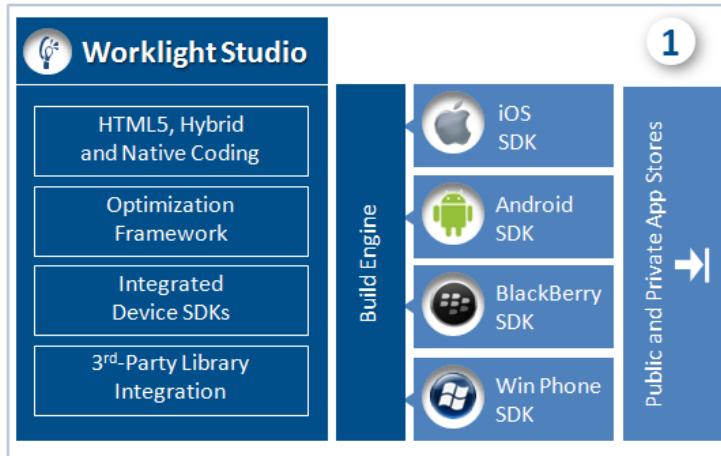
- Cross Platform Technology

Worklight

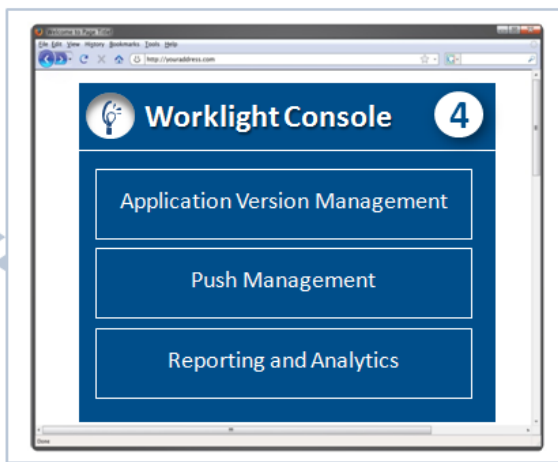
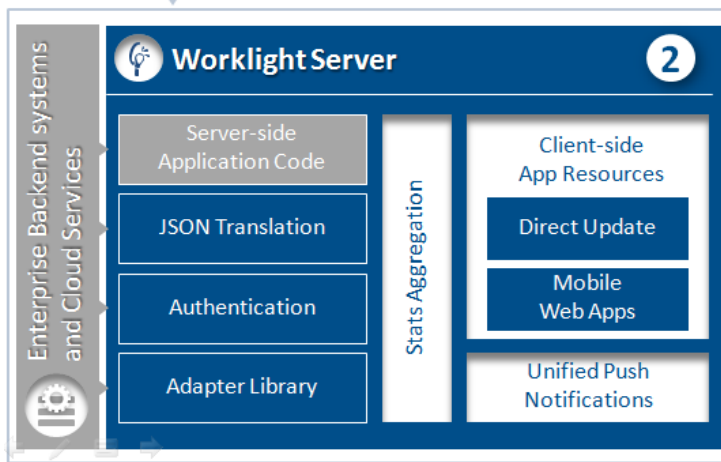
- Security and Authentication
- Back-end Data Integration
- Post-deployment control and Diagnostics

Application Code





- Integrated with RAD & Eclipse IDE
- Combining native and standard web technologies in one multiplatform app
- Environment-specific optimisation
- 3rd-party libraries integration
- Device SDK integration
- Back-end connectivity utilities



Supports a variety of
application types

Mobile

iPhone

iPad

Android

BlackBerry

Windows Phone

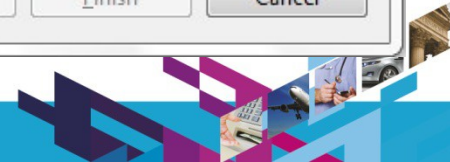
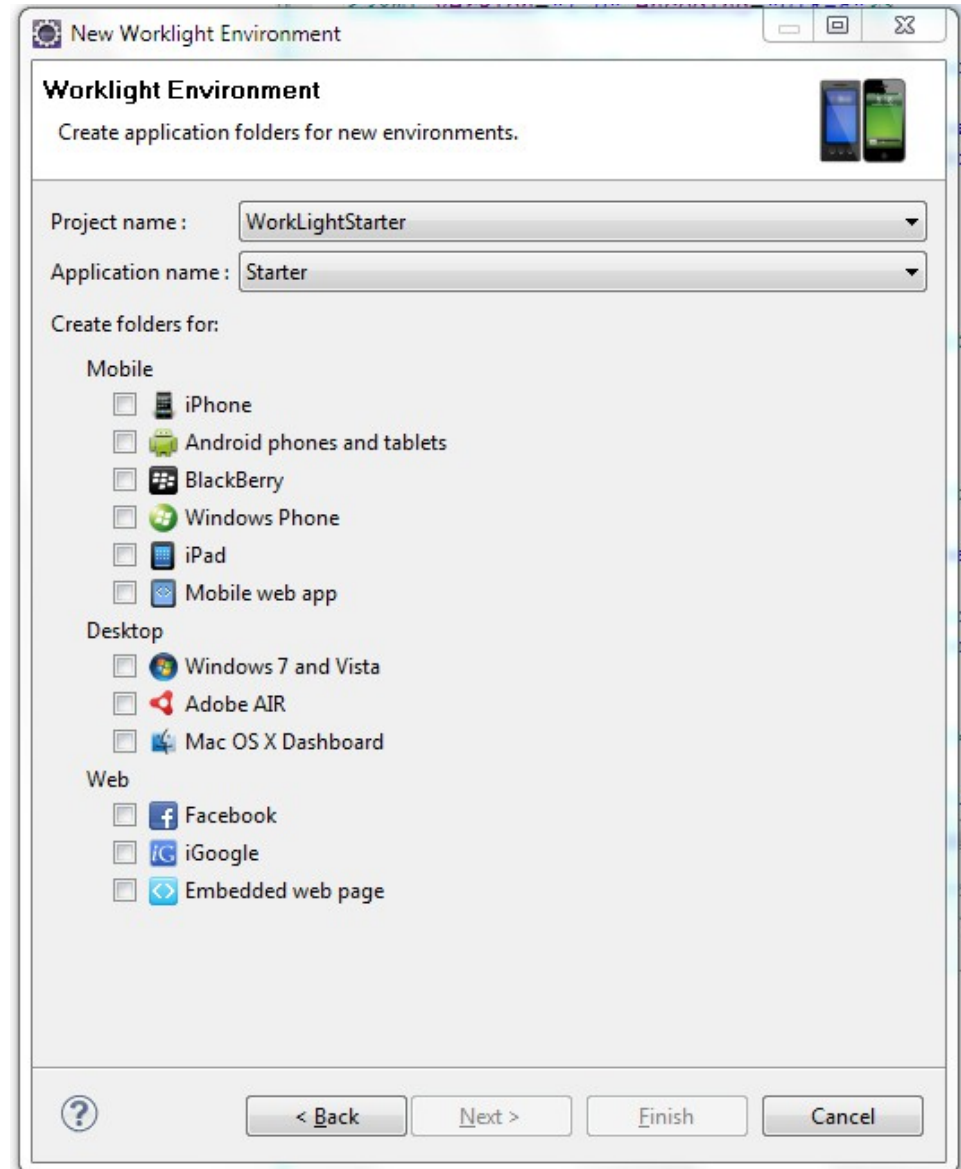
Mobile web app

Desktop

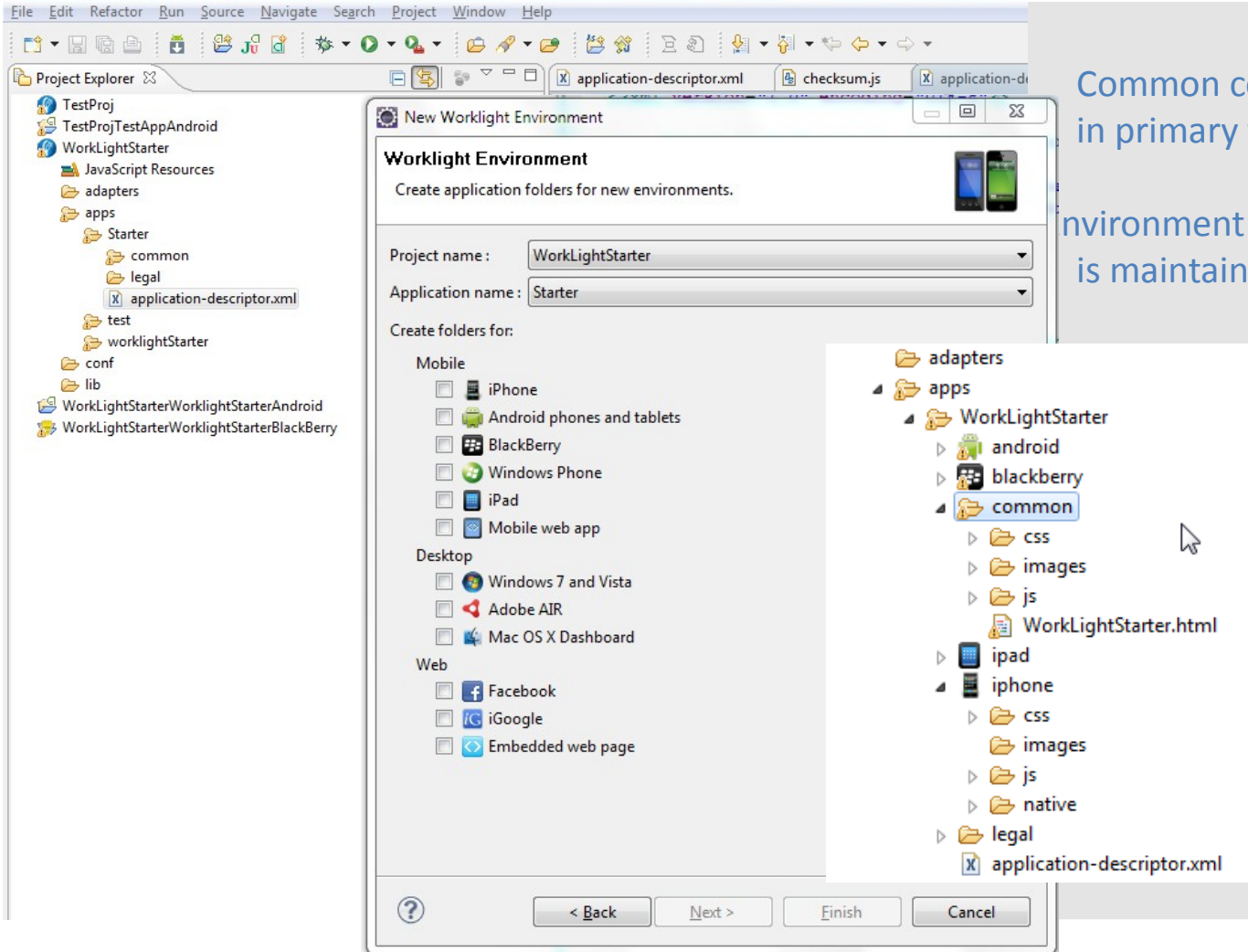
Windows 7 and Vista

Adobe AIR

Mac OS Dashboard



Single Shared Codebase



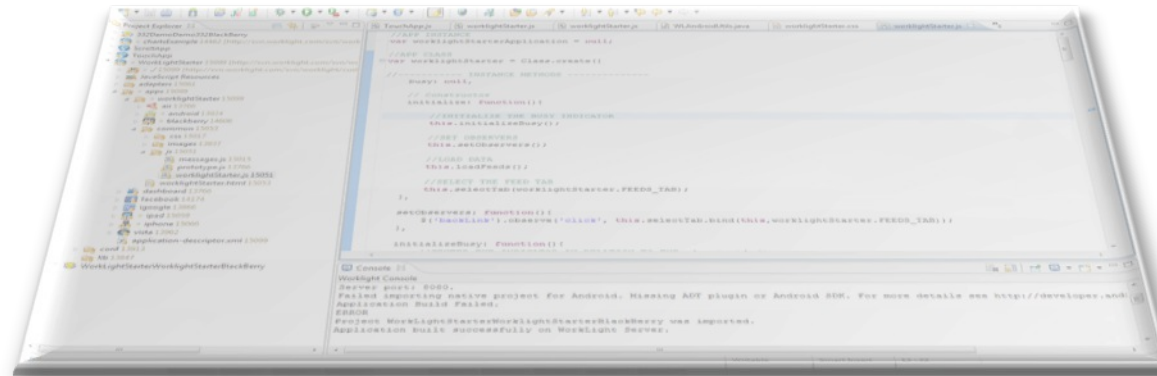
Common code placed in primary file

environment optimisation code is maintained separately

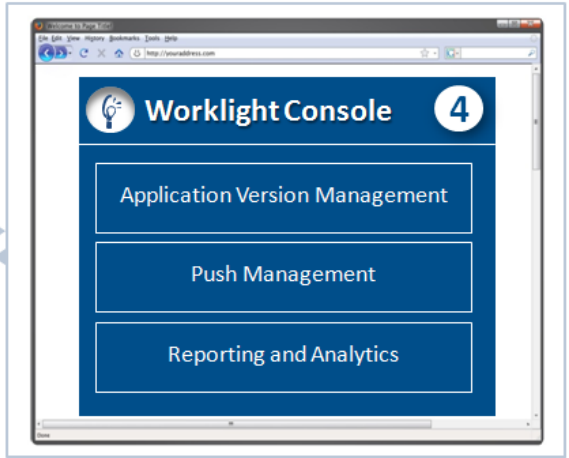
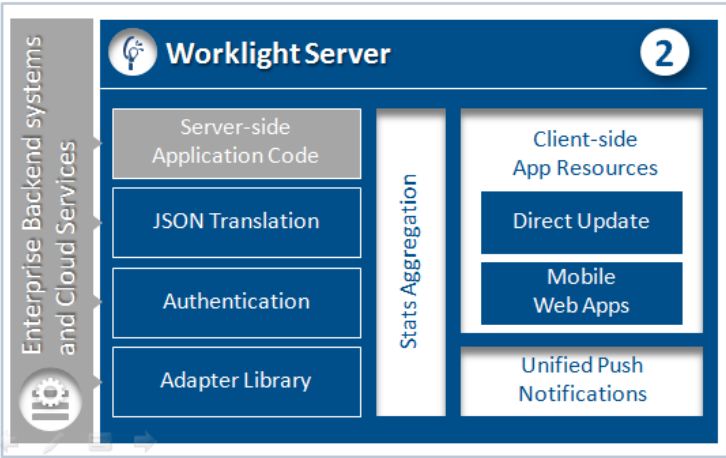


Integrating Best-in-class Tools

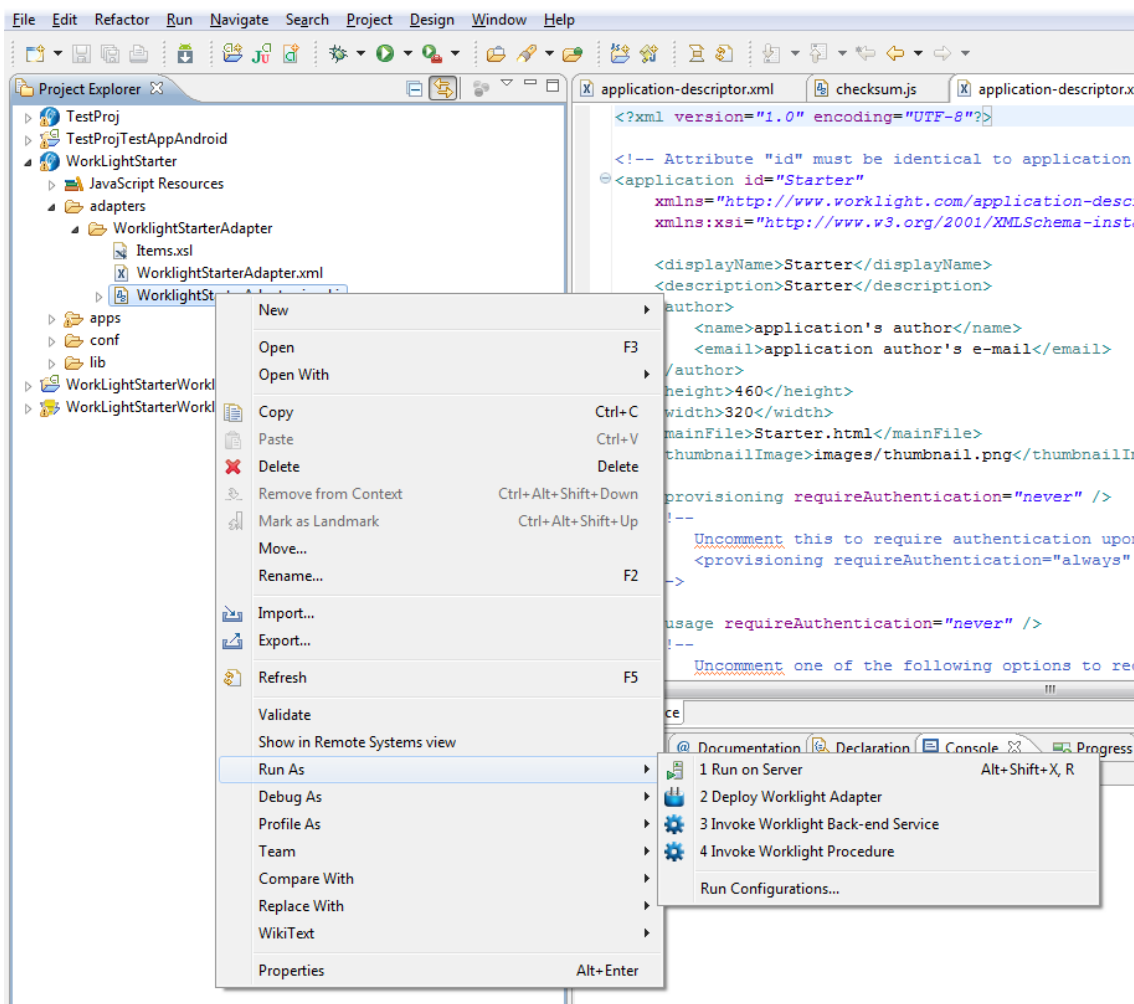
Worklight is compatible with prominent HTML5 libraries and tools:



- Distribution of mobile web apps
- Enterprise connectivity:
 - Secure client/server connectivity
 - Direct access to enterprise back-end data and transaction capabilities
 - Authentication enforcement
- Client control:
 - Application version management and remote disabling
 - Direct update of application code
- Unified Push Notifications
- Aggregation of usage statistics



Back-end Integration (Adapters)



Secure back-end integration

XML-based declarative specification

Multi-source data mashups

Eclipse plug-in supporting auto-complete and validation

Simplified adapter testing

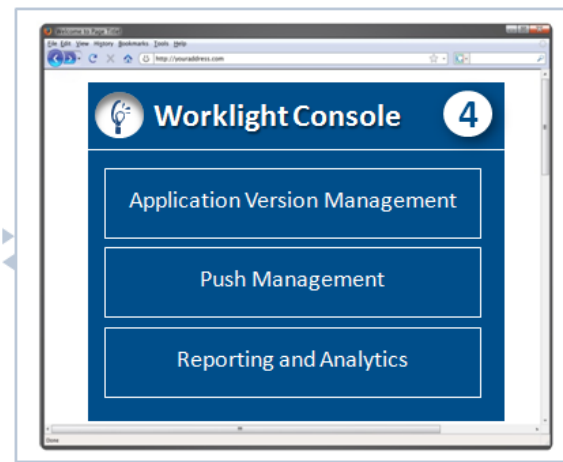
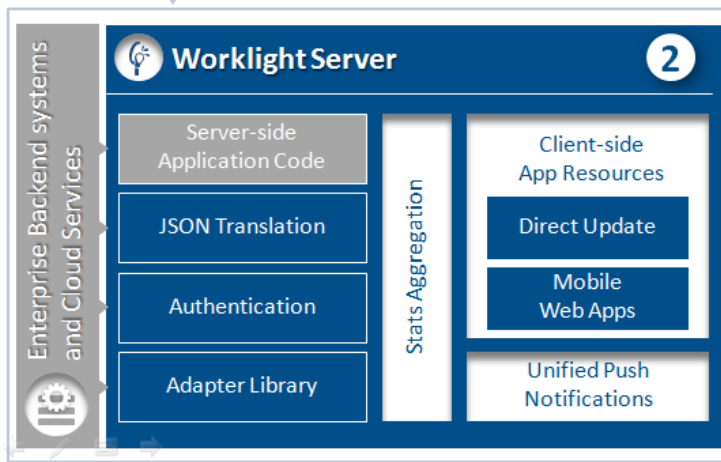
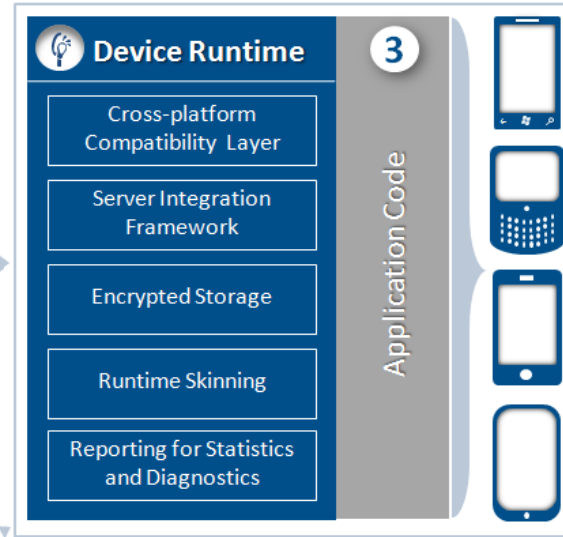
Server-side debugging

Web services and JDBC integration

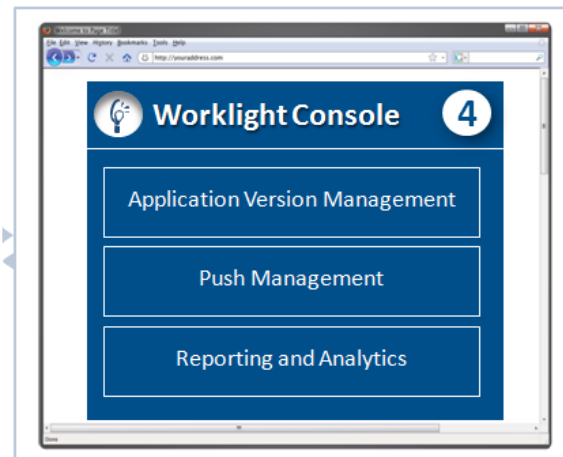
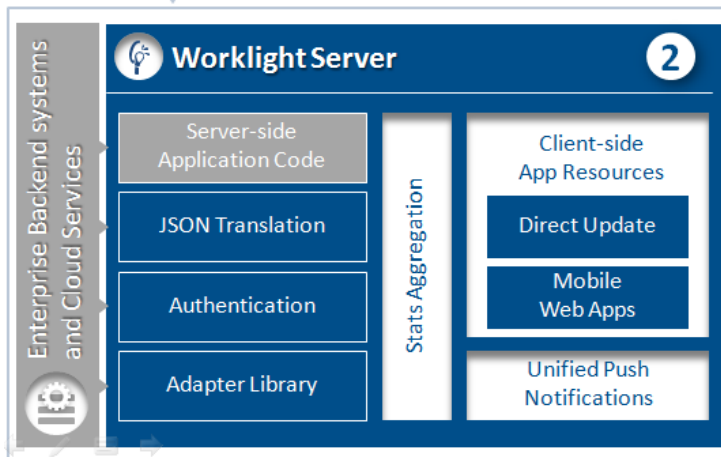
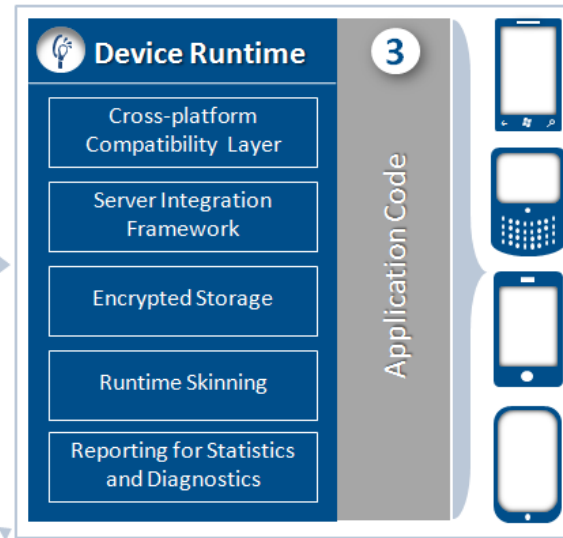
Access to session data and user properties



- Framework for server integration:
 - Secure server connectivity
 - Authentication
 - Remote disable & notification
 - Push registration
 - Dynamic page loading & caching (soon)
 - Event reporting for analytics & audit
- Cross-platform compatibility layer
- Runtime Skinning
- Secure encrypted storage



- Application Version Management
- Push management
- Usage reports and analytics
- Reports of custom application events
- Configurable audit log
- Administrative dashboards for:
 - Deployed applications
 - Installed adapters
 - Push notifications
- Data export to BI enterprise systems



Dynamic Control of Deployed Apps

- Centralised control of all installed applications and adapters
- Remotely disable apps by device and version
- Customise user messages



Catalog

Reports

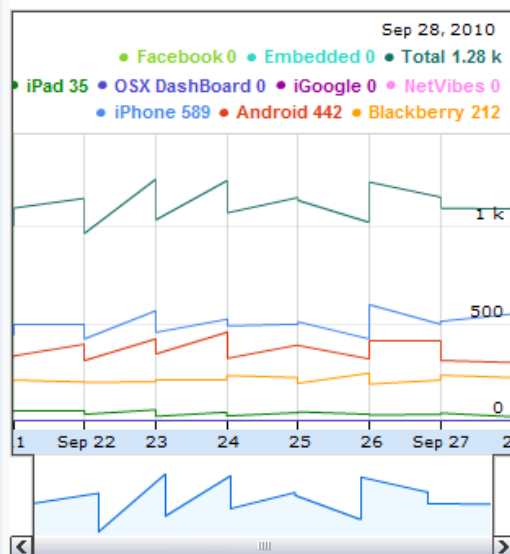
Active Users

Select Application: **Securities**

Adoption Reports

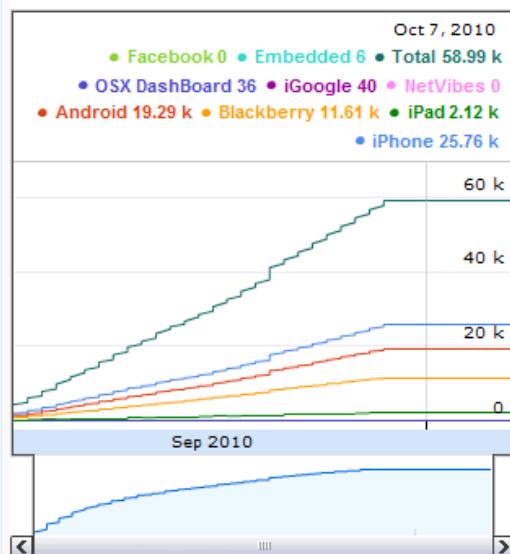
Unique Users Downloading Over Time

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



Cumulative Unique Users Downloading Over Time

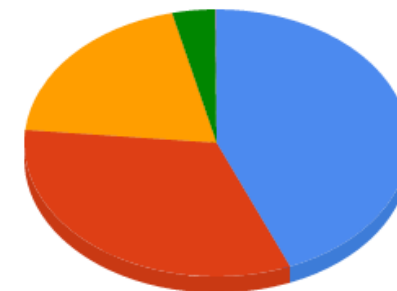
Start date: 1st Sep 2010
 End date: 7th Oct 2010



Total Unique Users

Date: 30th Sep 2010

Total: 58864

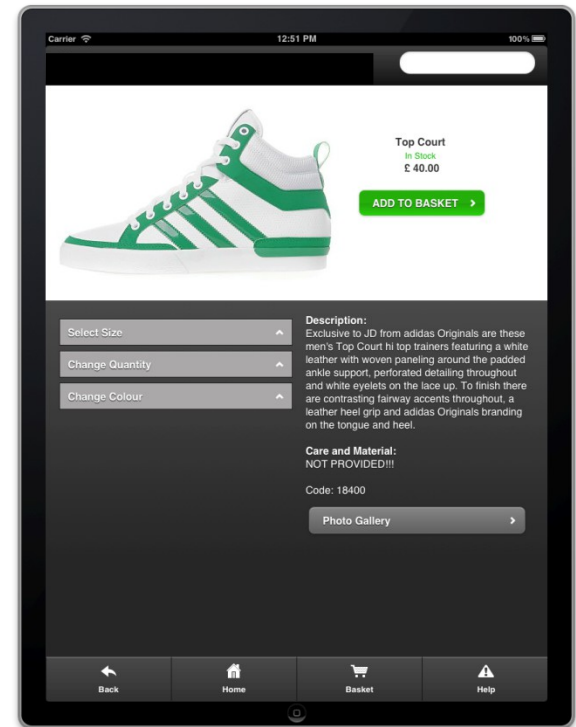
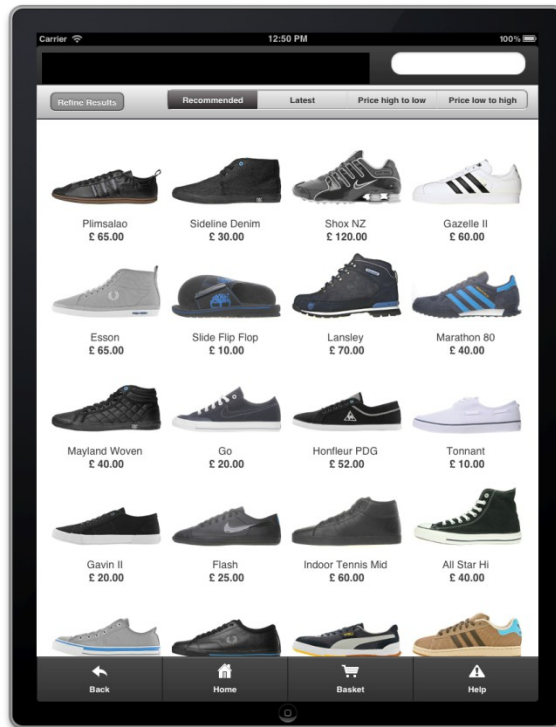
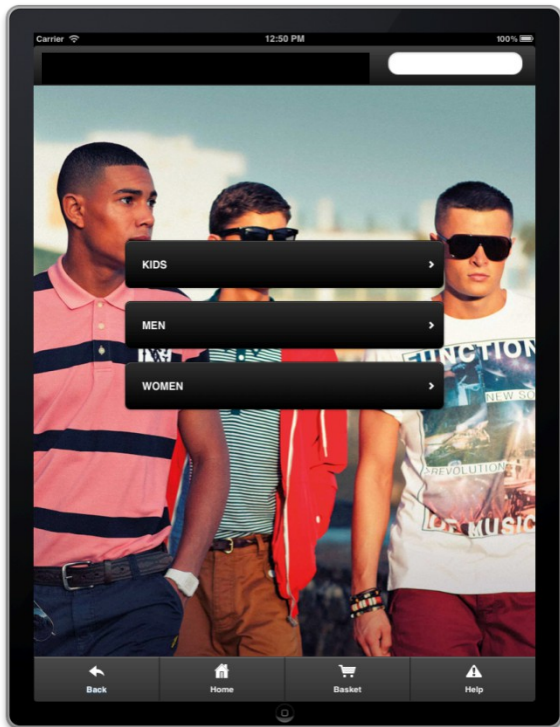


■ iPhone
■ Android
■ BlackBerry
■ iPad
■ OSX DashBoard
■ iGoogle
■ Embedded



The Mobile Channel – Some Worklight examples and learnings





WestJet Challenge 24: The App



Carrier

6:08 PM

100%



My Benefits & Coverage

My Claims & Balances

My Health & Wellness

Cost and Quality Tools

My Account



Explore Your Own Personal Wellness Programs



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MY RECENT CLAIMS

Date	Amount	My Portion	Member
08/02/2010	\$500.01	\$105.22	Luis
08/02/2010	\$500.01	\$105.22	Luis

MY BALANCES

[CREATE ALERT](#)

Date	Amount	My Portion	Member
08/02/2010	\$500.01	\$105.22	Luis
08/02/2010	\$500.01	\$105.22	Luis

Tools & Info



FIND A DOCTOR

Doctors, Hospitals and Ratings



DRUG COSTS

Personal Wellness Tools

Get connected



Like on Facebook



Follow on Twitter



Watch on YouTube

MY BENEFITS

What's Covered	What You Pay	Who's Covered
----------------	--------------	---------------

Preventive Care

Outpatient Services

Office Visits

Medical Equipment

Emergency

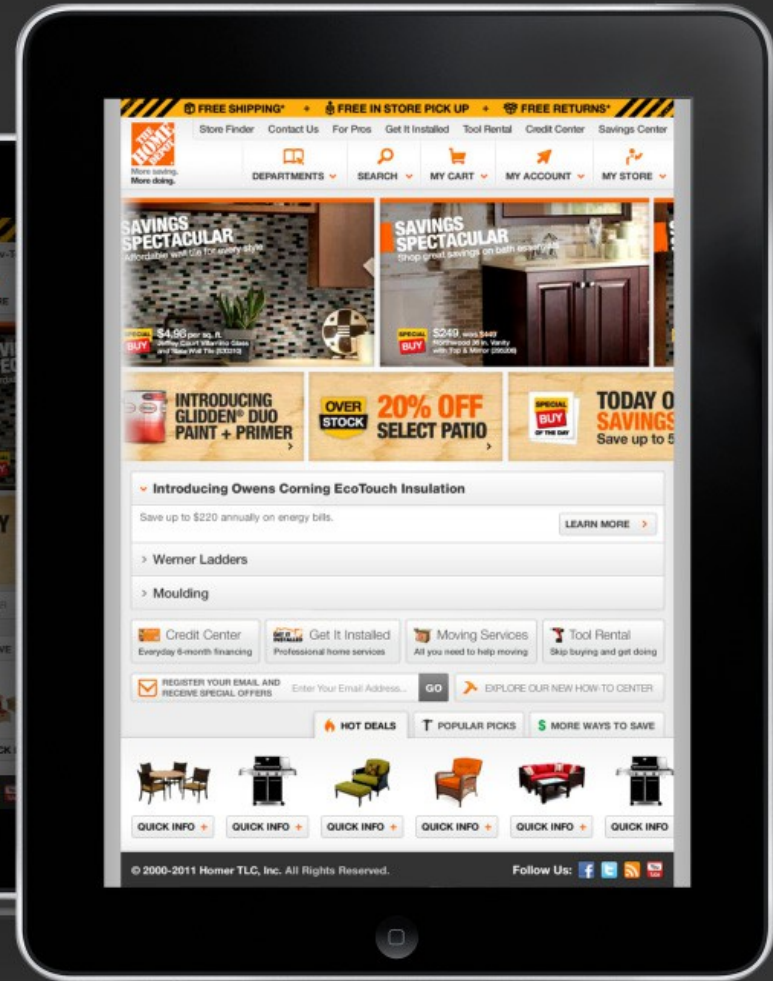
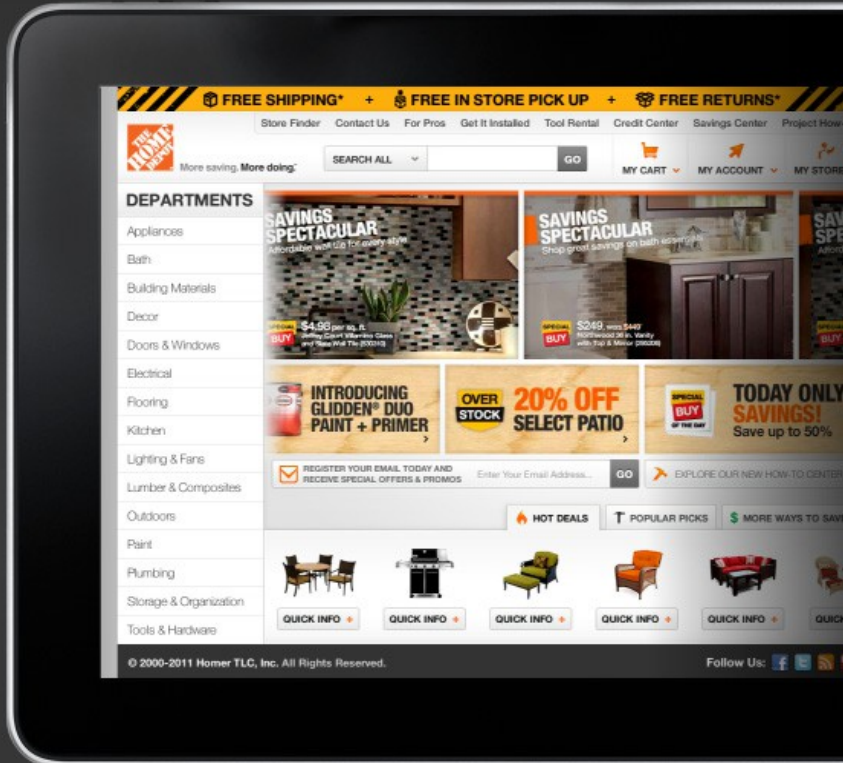
Prescription Drugs

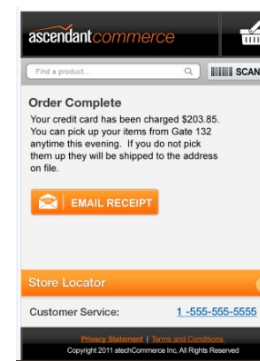
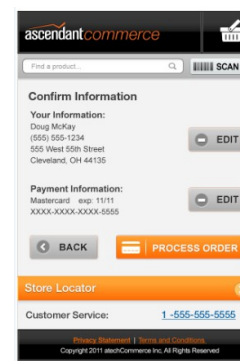
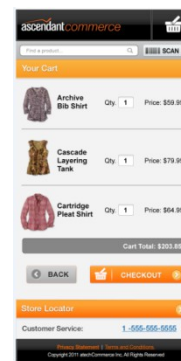
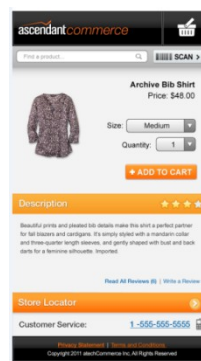
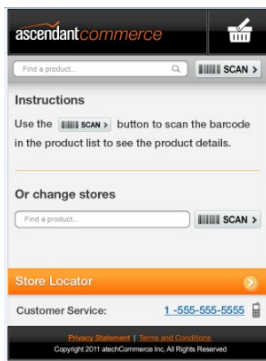




HomeDepot.com

Optimized for iPad





ascendantcommerce

Ascendant Backpack
 BP:2215 - \$28.00



Ascendant Airport Pack
 BP:2601 - \$48.00



Ascendant Polo
 TS:0562 - \$20.00

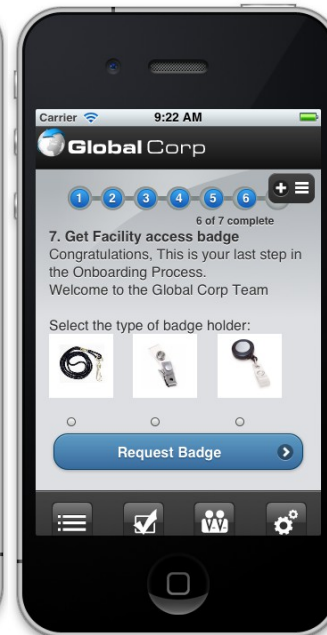
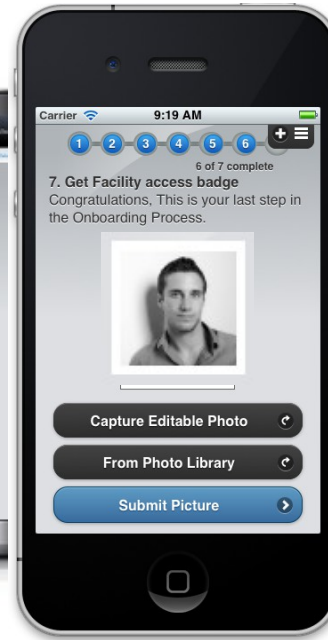


Ascendant Ball Cap
 HT:0992 - \$27.00



Ascendant Brick Case
 BP:2998 - \$68.00





Worklight – early learning

The Good

- Worklight adapters
 - Proxy service requests
 - Pure Java
- App updates
- Web App features
- Servlet container simplicity
(even Pi!)
- Liberty

The Bad

- Async adapter invokes
- Debugging on server
- Error handling
- WAR complexity/packaging
- Liberty



The Mobile Channel – Challenge 24



Challenge

What is *Challenge 24*?

24 hours over 3 days

Mobile architecture workshop

Mobile development workshop

Real working application that demonstrates mobile in your environment

Built on IBM Worklight



Deliverables

Worklight Server VM

Worklight Developer VM

Multiple Page Mobile Application demonstrating relevant business use case

Contact:

Katherine.hill@atech.com
@katzhill
01905 760950

Resources

Mobile Solution Architect

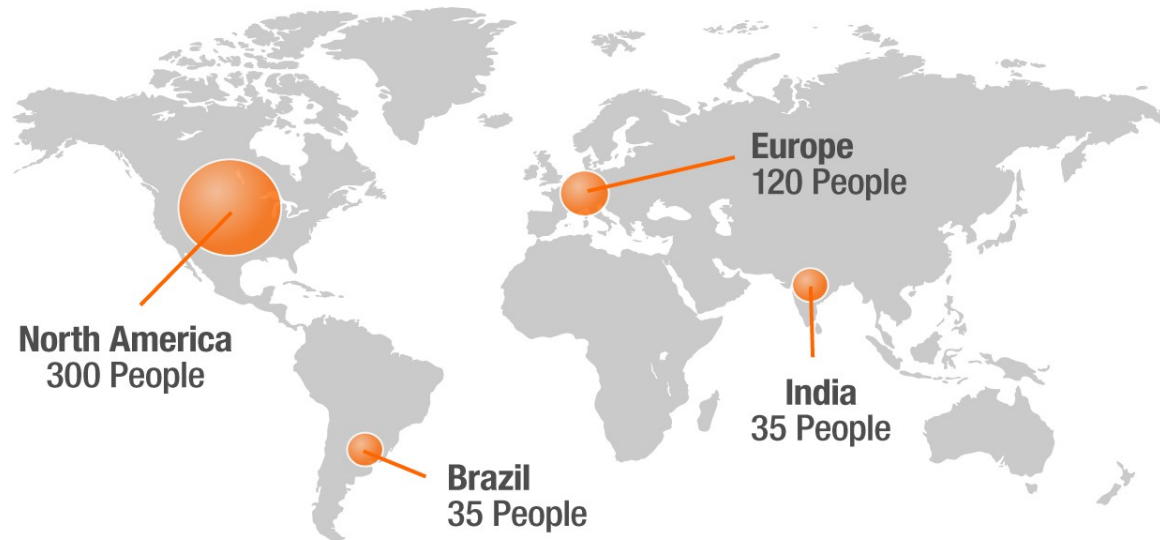


Ascendant's Mobile Practice Overview

- Ascendant has been **designing** “mobile” experiences since 2004
- Expertise in...
 - Mobile optimized Websites leveraging IBM platforms
 - Hybrid & Native Application Development (including barcode scanning, GPS and location based awareness)
- Use of Open-Based Standards for Design and Development
(HTML5/CSS3, Responsive UI, Hybrid and Native through Worklight/PhoneGap)
- Skilled and Staffed Consultants in Mobile Experience Design, UI Development and Technical Implementation
 - Mobile Team includes User Experience Architects, Business Analysts, Creative & UI Designers, UI Developers, Technical Architects & Developers
 - User Experience
 - UI Design and UI Development
 - Development and Architecture



About Ascendant



500+
People

900+
Delivered Sites

350+
Consultants

35
Sales
People



CAPABILITIES

DIGITAL BUSINESS SERVICES

- Digital Strategy
- Requirements Engineering
- Software Engineering
- User Experience & Design
- Analytics

TECHNOLOGY

- UI Development
- Portal Development
- Commerce Development
- Web Content Management
- Enterprise Content Management
- Security and Monitoring
- Data Warehouse
- Business Process Automation

SOLUTIONS

CROSS-INDUSTRY

- Healthcare
- Retail & Commerce
- Financial Services

INDUSTRY ALIGNED

- Social Business
- Mobile
- B2C Platforms
- Employee Portals & Intranets
- B2B Commerce



Winner Lotus
Exceptional
Web Solution
2009 & 2011



Winner Lotus
Distinguished Partner
North America 2007 &
2010, NEIOT 2009



Winner
WebSphere Commerce
Best B2B Solution
2010



Winner Rational
Partner of the Year
2010



Winner WebSphere
Business Process
Management (BPM)
Award 2009



Winner Rational
Outstanding Software
Delivery Beacon Award
2009



Winner Impact SOA
Innovation and
Customer Award
2007 & 2008



#13 Inc 500
Fastest Growing
Private Companies
2007



Winner Rational Top
Marketing & Sales
Business Partner
Award 2009 & 2011



OUTSTANDING
ACHIEVEMENT
AWARD
2010
Interactive Media
Award 2010







IBM Software

Innovate2012

The Premier Event for Software and Systems Innovation

Next  NOW!

Thank You

Visit our stand and be in with the chance to win a £50 iTunes voucher!

Contact Us:

Paul Collins

CTO

Paul.collins@atech.com

