Mobile Applications in the Enterprise: Preparing for What’s Beyond Email and Collaboration

William Clark
Research Vice President
Here’s how to participate in today’s webinar

• You can listen to the presentation using your computer’s speaker system as the default (VoIP).

• Or dial the conference line by selecting Use Telephone in the webinar audio pane.

• Have a question for the presenter(s)? Type it into the Questions pane—we will answer as many as time permits.

• A recording of this presentation will be sent to you within 48 hours.

• If you would like a copy of today’s presentation, contact your Gartner Account Executive or e-mail us at: GartnerWebinars@gartner.com.

• Please note you may be polled during the webinar; only aggregate answers will appear.
drawn from thousands of daily client interactions

- 60,000 Clients
- 10,000 Client Enterprises
- 5,500 Benchmarks
- 65% of Fortune 1000; 85% of Global 500
- 60+ Conferences
- 3,700 CIOs
- 10,000 Media Inquiries
- 100,000 IT End-User Inquiries
- 2 Million+ IT End-User Searches
- 650 Analysts Across 80 Countries

© 2009 Gartner, Inc. and/or its affiliates. All rights reserved.
Gartner is a registered trademark of Gartner, Inc. or its affiliates.
Key Issues

1. How will technologies, development platforms, and architectures that enable mobile applications evolve?

2. How will enterprises apply wireless, location, and context aware technologies to help run, grow or transform their employee and consumer facing mobile applications?

3. What new approaches are necessary to exploit the adoption of smartphones?
Platform Approaches — Choices Multiply

Native
- BlackBerry
- webOS
- S60
- Windows Mobile
- Apple

Adapted
- TouchFLO
- Spb Mobile Shell

Overlay
- HTML 5
- Flash Lite
- Silverlight

Migrated
- TouchWhiz

Web
- Gartner
**Smartphone Platform Share 1Q09**

- **Approx 14%** handsets were smartphones in 1Q09
- **Android 1.6%**
- **Symbian 49.3%**
- **RIM 19.9%**
- **Windows Mobile 10.3%**
- **iPhone OS 10.8%**
- **Linux 7.0%**
- **Other 1.3%**

**Open source from 2010, will increase number of manufacturers**
- Initially open
- Symbian will be similar to S60
- Eclipse license may increase fragmentation

**End-to-end control gives security**
- Growing ecosystem initiatives
- Challenge is to become a mainstream handset vendor

**WM 6.5 in 2009, WM7 around 2010**
- Making WM into a competitive consumer OS is the biggest challenge

**Android will take several years to mature**
- End-to-end control gives superb usability and a developer-friendly ecosystem
- Device portfolio will grow in 2009
Apple iPhone Platform

- Control-oriented business model for user experience and profits
- Consumer first, enterprise second; difficult for IT to support
- iPhone 3.0 OS has lots of consumer features; App Store strong
- iPhone enterprise deployment guide worth reading
- SDK only goes so far; don't expect deep application support
- Basic encryption always on
- Find-my-iPhone clever enhancement
- Attacks Microsoft and Nokia at the consumer level; lesser effect on RIM

Gartner Predicts ... 2010

- One high-end model in February, other upgrades in July
- Some enterprise enhancements (e.g., telephony)
- Falls behind on integrated collaboration client software
Wireless Network Technologies

<table>
<thead>
<tr>
<th>Speed (bits per second)</th>
<th>1 G</th>
<th>100 M</th>
<th>10 M</th>
<th>1 M</th>
<th>100 K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Room</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **1 G**: 802.11n, 2008-2010
- **100 M**: 802.11g, 2008
- **10 M**: Bluetooth 3 with 802.11 bearer, 2010
- **1 M**: NFC, 2008
- **100 K**: Bluetooth 3 LE, 2010
- **LTE-A (4G)**, 2014
- **LTE**, 2010
- **HSPA+**, 2010
- **WiMAX**, 2010
- **HSUPA**, 2009
- **EDGE evolution**, 2014
- **Basic EDGE**, 2008
- **802.11g**, 2008
- **802.11n**, 2008-2010
- **Bluetooth 2.1**, 2008
- **Bluetooth 3 LE**, 2010
- **Bluetooth 3 with 802.11 bearer**, 2010
- **Touch**: 10 cm
- **In-Room**: 1 m
- **Campus**: 10 m
- **National**: 100 m
Enterprise Mobile Applications: Application Type, Key Determinants

<table>
<thead>
<tr>
<th>Application Type</th>
<th>Reasons for Vendor Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salesforce</td>
<td>Multichannel/Flexibility</td>
</tr>
<tr>
<td>Financial</td>
<td>Business Process</td>
</tr>
<tr>
<td>IT asset management</td>
<td>Knowledge/Solution Expertise</td>
</tr>
<tr>
<td>Direct store delivery</td>
<td>Application Functionality</td>
</tr>
<tr>
<td>Consumer packaged goods</td>
<td>Price</td>
</tr>
<tr>
<td>Fleet management</td>
<td>Speed of Deployment</td>
</tr>
<tr>
<td>Mobile resource management</td>
<td>Application Integration</td>
</tr>
<tr>
<td>Field service</td>
<td>Development Skill Match</td>
</tr>
<tr>
<td>Enterprise asset maintenance</td>
<td>Corporate Standard</td>
</tr>
<tr>
<td>Inspection</td>
<td>Security/Management</td>
</tr>
<tr>
<td>Safety</td>
<td>Performance</td>
</tr>
<tr>
<td>Hospitality</td>
<td>Other</td>
</tr>
</tbody>
</table>

Source: Gartner Survey, 4Q08, n=48
Participant Poll Template

What is the primary way your organization sources enterprise/employee-facing mobile applications?

• Developed in-house
• Developed by third party such as a system integrator
• Bought and deployed on premise
• Bought as part of a SaaS package

Please select the one or more option(s) that best fits your situation

Responses are confidential
2009: Time to Evolve Your Mobile Application Platform Strategy

Wireless Application Gateways → Multichannel Access Gateways → Packaged Mobile Applications

1997-2001: Nascent
2002-2007: Adolescent
2008-2012: Early Mainstream
2013 and beyond: Mainstream
Decide the Core — Proliferation and a Shifting Focus: Mobile Development Portfolio, 2009

Simple or opportunistic apps.

"Strategic core"

Content authoring tools (for example, for Flash, video)

Messaging transaction servers

Mobile e-mail

Server side

3GL tools, IDEs for C++, Java, Java ME, NS Basic, C#, VB

Portal server

Cross-platform tools

HTML/XHTML authoring

Complex or systematic apps.

Presence or unified comms. engines

Voice app. server

EAI/back-end Integration

Mobile Consumer App Platforms*

EAI/back-end Integration

Packaged mob. App. platforms

MEAPs/MAGs

Mobile Consumer App Platforms*

Middleware, for example, for messaging and session control

MDM platforms

MDM platforms

Small-footprint DBMS

Platform-specific tools (for example, theme editors)

Server side

Special-purpose tools for opportunistic development (for example, form builders)

Runtime support environments (for example, Flash or compact .NET)

Client side

Proprietary plug-ins

Simulators and emulators
2008 Mobile Enterprise Application Platform Magic Quadrant

Vendors Dropped:
- Apacheta
- Countermind
- Fujitsu Consulting
- Mobile Aware
- MobileFrame
- Nokia
- TrueContext
- Vettro

Vendors Reclassified:
- AirClic
- Blue Dot
- Cognito
- Pyxis Mobile
- Wonderware
- Vaultus

Source: “Magic Quadrant for Mobile Enterprise Application Platforms” 18 December 2008
Accommodate Consumerization, and Control Costs With Managed Diversity

Unconstrained

Application Choice

Constrained

Device Choice

Constrained

Unconstrained

Platform

"I will build applications if you accept constrained device choices"

$2.9K

Concierge

"I will do anything for money"

$4.5K

Appliance

"I will give you device choices if you accept constrained applications"

$2.3K

$X = Generic TCO example

Gartner
Compelling Consumer Services Remain Elusive in Mature Markets

Percentage of respondents using the service now or planning to use it during the next 12 months

North America
- Ring tones
- TV/video
- Banking
- Search
- Mobile e-mail

Western Europe
- Ring tones
- TV/video
- Banking
- Search
- Mobile e-mail

Middle East and Africa
- Ring tones
- TV/video
- Banking
- Search
- Mobile e-mail

Latin America
- Ring tones
- TV/video
- Banking
- Search
- Mobile e-mail

Asia/Pacific
- Ring tones
- TV/video
- Banking
- Search
- Mobile e-mail

Source: Gartner Global Survey
A Tagged and Location-Aware World

Location-aware telemetry

Local services and information, proximity marketing

Location-aware asset tagging and tracking

New tracking and sensing applications

Contextual services, information, marketing

Personal navigation and location-specific information
Context, A Foundation For New Services

Pre-context

Simple systems & walled gardens

Open systems and federations

Presence, PIM

... +

Location, Identity, Simple behaviour, Groups & communities Simple proactive alerts

... +

Sensors, Bio sensors Adjacent devices & people, Complex anticipatory behaviour, Complex federated services, Complex communities

2009 2010 - 2012 2015 - 2020
Three Popular Approaches for Delivering Mobile Applications

- **Message based applications**
  - Messaging, IVR

- **Browser based or web-style applications**
  - Mobile web + adaptation
  - HTML / Ajax
  - Media oriented, e.g. Flash Lite, Silverlight

- **Rich / Native applications**
  - Platform-neutral e.g. Java ME, Qt
  - Native app.
What mobile consumer application platform types do your enterprises currently have in production?

- Messaging Gateways
- Mobile Web Adaptation Servers
- Native Mobile Applications

Please select the all that apply

Responses are confidential
Mobile Consumer Application Platforms – System Components

Texting
- Embedded URLs, Alerts

Mobile Browsers
- URLS, Feeds

Rich Mobile Applications
- Voice app
- runtime

- Mobile Content
- Application Storefront
- Device/Browser Detection
- Device Database
- Transcoding Engine
- Content Broker

Message Router
- Notification Service
- Subscription Manager
- Carrier Lookup
- Pre-Router

Message Gateway

Mobile Web Adaptation Server

Native Mobile Platform
- Analytics/Reporting
- Billing
- Bus Proc Engine
- Development/Versioning Tools

* optional
Message Based Applications

What the buyer wants:
- Large portfolio of operator relationships
- Opt in / opt out service management
- Range of APIs for different languages
- SMS / MMS support
- Value added services, e.g. campaign management, payment, consulting (e.g. on regulatory issues)
- Fast message delivery

Sample vendors
- Air2Web
- Clickatell
- Mblox
- MX Telecom
- Sybase 365
- Syniverse
Mobile Browser applications

Corporate web site or mobile web site

Web adaptation Gateway

Users

What the buyer wants:

- Hosted or on-premises delivery options
- Wide range of supported device & browser types
- Control over the adaptation strategy
- Metrics
- Integration with storefront, content management, payment, mobile portal, ...

Sample vendors

<table>
<thead>
<tr>
<th>Sample vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adanza</td>
</tr>
<tr>
<td>Infogin</td>
</tr>
<tr>
<td>Netbiscuits</td>
</tr>
<tr>
<td>Volantis</td>
</tr>
</tbody>
</table>

Gartner
Rich / Native Applications or Web Style With On-device Support

What the buyer wants:
- Sophisticated and productive IDE & tools
- Comprehensive developer support
- Rich set of features & APIs
- Wide range of devices

Sample vendors
- Adobe
- Apple
- Microsoft
- Nokia
- Qualcomm
- RIM
Recommendations

Today

• Organizationally, tune up your employee-facing mobile device managed diversity strategy
• Don’t under-estimate or over-estimate the migration to thin mobile architectures

During the Next 12 Months

• Significantly increase investment in mobile commerce
• Place more emphasis on core mobile development platforms in order to prepare for massive smartphone adoption and diversity
• Experiment with the boundaries of location aware services and with emerging presence and collaboration capabilities

Long Term

• Don’t delay the move from tactical investment in mobile web adaptation servers, mobile messaging gateways, and rich native experiences to orchestrated experiences that include context enriched services
Related Research on Mobile Enterprise Applications

- Mobile Architectures, 2009 Through 2012: A Trend Toward Thin
  *Nick Jones and William Clark, (G00166465)*
- Mobile Sales Force Automation: Architecture, Support, and Technology Choices Can Cut Costs 12%
  *William Clark (G00166655)*
- How Many Mobile Development Tools Do You Need?
  *Nick Jones and William Clark, (G00162365)*
- Magic Quadrant for Mobile Enterprise Application Platforms
  *William Clark and Michael King, (G00162969)*
- Marketscope on Packaged Mobile Application Platforms
  *William Clark and Michael King (G00164980)*
- Location Technologies
  *William Clark and Nick Jones (G00162627)*
- 10 Smartphone Security Failures You Want to Avoid
  *John Girard (G00166323)*
- Upcoming updates on Magic Quadrant for Mobile Enterprise Application Platforms, Guide for Mobile Application Development and Sourcing
Related Research on Mobile Consumer Applications

- What the CIO Needs to Know About Mobile-App Stores and Ecosystems
  *Nick Jones, (G00169623)*

- The Case for and Against Device-Specific Mobile Applications
  *Nick Jones, (G00160659)*

- Hype Cycle for Consumer Mobile Applications, 2009
  *Various authors, (G00168324)*

- Context Aware Computing: The Importance of Mobile Consumer Application Platforms
  *William Clark, Michael King (G00170815)*

- Upcoming: Magic Quadrant for Mobile Consumer Application Platforms
Related Research on Context Aware Computing

- Context Aware Computing: The Future is Now
  *Anne Lapkin*, *(publish date: Sept 28, 2009)*

- "An Information Model for Context-Enriched Services"
  *Anne Lapkin, William Clark* *(G00157960)*

- "Important First Steps to Context-Aware E-Commerce,"
  *Gene Alvarez, William Clark* *(G00160334)*

- "Who's Who in Context-Aware Computing,“
  *Various Authors* *(G00160601)*

- "Cisco Motion, a First Step Toward Context. “
  *Nick Jones* *(G00161647)*

- Context Aware Computing: Improving the Customer Experience
  *Michael Maoz* *(G00170035)*

- Also: Context Aware Computing: A Logical Model for Context Providers, Context Aware Computing: It’s Time to Carefully Choose Your Vendors
Thanks for participating!
Do you have any questions?

• If you haven’t done so already, please type your questions into the Questions pane.
• We will answer as many of your questions as time permits.
Get daily insight focused on your role

- Gartner advice in the context of your role
- Dedicated portal focused on what you need to know from Gartner or the media
- Analysts as coaches
- Peer connection and input
- Toolkit content helps you be more efficient and effective
- Access to all eight roles

Let Gartner be your indispensable resource—follow up with your account executive today!
Two simple steps for increasing the value of today’s webinar experience

• Contact your Gartner account executive (or e-mail GartnerWebinars@gartner.com) with any additional questions, comments or requests—or to order a complimentary copy of today’s presentation

• Visit gartner.com/webinars for a schedule of upcoming Gartner webinars (plus replays of previous webinars) and share these resources with your colleagues