Demystifying SAP Mobility
Customer projects
Leonardo De Araujo and Martin Fecteau
Presenters

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Partner at Beyond Technologies – www.beyondtechnologies.ca

Leonardo has over 15 years of SAP experience, having worked on SAP implementations, upgrades and continuous improvement initiatives. He has a Functional and Technical background. In 2005 he co-founded Beyond Technologies where he is responsible for all technical initiatives including ABAP, Mobility and In-Memory.

Martin Fecteau
Partner at msc mobile– http://www.msc-mobile.com

Martin is a SAP Mobile specialist with more than ten years of experience in product development, consulting and management. Before co-founding msc mobile he worked at SAP Labs during five years in the Mobile Development group.
Learning Points

- Understand the current options for Mobile development for SAP systems;
- Understand the different SAP Mobile offerings available and their functions;
- Be able to better assess your future mobile strategy;
Return on Investment

- In mobile development, the cost of development project is considerable enough to affect ROI greatly.

- Better understanding the options upfront help reduce the development cost by better defining approach and avoid reworks (ex. Investing in 2 approaches to figure out the best)
Agenda

- Definition: What is a mobile application?
- Mobile Development Options
- Case studies;
  - Warehouse Operations mobile applications;
    - Case Study 1 – Building a RF gun app for warehouse
  - Other mobile device developments;
    - Case Study 2 – Mobile Workflow
    - Case Study 3 – Mobile DSD app
    - Case Study 4 – Demojam app
- SAP Mobile offerings - SAP APP store
- Afaria
- Approach recommendation
- Key Learnings
- Q/A
Mobile Development Options ***

- Via Telnet client;
  - SAP Console;
- Via browser;
  - ITS Mobile;
  - SAP Web development Tools;
- Via Mobile Container;
  - SUP Mobile Workflow (HTML5);
- Via Native app;
  - Native code starting from MBO generated code;
  - Native code - OData Libraries via SUP and Gateway;
  - Other methods;

*** Other options exist
SAP Console

- Available since 4.6B;
- Uses a server to “convert” SAP GUI to telnet character based screens;
- All transactions and application logic are built in ABAP;

Software installed:
- SAP GUI
- SAP Console

Software installed:
- Telnet Client
ITS Mobile

- Available since NW 6.20 (also…R/3 4.6c**);  
- Clients connect to SAP Web application server directly;  
- ITS Templates are used to generate webpages from ABAP screens.  
- All transactions and application logic are built in ABAP;

- SAP System
- ABAP Dynpro transactions
- ITS Templates

- RF Gun

Software installed:
- Web Browser
SAP Web development Tools;

- Customers and partners can develop mobile applications via web development tools:
  - Webdynpro JAVA – Mobile Webdynpro (dead end);
  - BSP / JSP;
  - Simplest architecture;
  - Zero client (deployment);
  - Performance (web) and usability;

SAP System

WebDynpro or BSP Applications

Html connection (J2EE server for JSP scenarios)

Mobile browser

Software installed:
- Web Browser
SUP Mobile Workflow (HTML5) (With SUP)

- Application built in SUP Unwired Workspace – Mobile Workflow;
- Runs on a player (Sybase Mobile Workflow);
- Developed once, runs on different devices;
- Possibility of further develop the Html5 code;
- Robust security;
- Doesn’t leverage all device specific features (*)
- Simple scenarios – low data volume

SUP Server

SAP System

RFC’s, BAPIs and webservice

Mobile Device

Software installed:
- SAP SUP

Software installed:
- Sybase Mobile Workflow

RFC connection

Http calls
The “SUP player” and the subscribed workflows
Book a meeting room App
Native code starting from SUP MBO generated code;
Version 1 – SUP Standalone replication based

- Application development started in SUP Unwired Workspace
- Development finished in the device SDK;
- Possible to leverages all device capabilities;
- Can achieve greater usability;
- Faster response time;
- Ideal scenario for Offline capable apps;
- Runs only on the designed device;

Diagram:
- SAP System
  - RFC’s or BAPIs
- SUP Server
  - RFC connection
  - Software installed:
    - SAP SUP (Replication based)
- Mobile Device
  - Software installed:
    - Native APP
Native code starting from SUP MBO generated code; Version 2 – Netweaver Mobile + SUP (message based)

- Application development started in SUP Unwired Workspace
- Development finished in the device SDK;
- Same advantages of scenario 1 plus:
  - Supports more complex data distribution scenarios;
  - Data push from backend to middleware is built-in;
- Runs only on the designed device;
- Most complex scenario architecture;

Software installed:
- SAP SUP (Message based)
- Native APP
Mobile Sales for SAP ERP - Android

Customer Details
- Matt Corner Store Inc.
  - 418-457-9955
  - 89 Rue Robert, Montreal, Germany

Open Items
- 19998
  - Send bug fix
- 33452
  - Buy coffee for the office

Contacts List
- Ted Beer Store, Regional Director
- Beer Store Inc., IT Software Specialist
- Little Grocery Inc., IT Software Specialist

Back Orders
- 19998
  - Send bug fix
- 33452
  - Buy coffee for the office

Notes
- Visiting hours are between 8am to 11am, then 1pm to 4pm

Real Experience. Real Advantage.
PROGRESSIV TRIKOT KURZARM

Packaging Unit: 1/5
Min Order Quantity: 1

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Description
### SAP EAM Work Order - Windows

#### Work Orders

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**Note:** Each entry is associated with a specific work order with its status and date.
Native code - OData Libraries via SUP and Gateway;

- Application modeling done in Gateway, and coded in in device SDK (native) by leveraging OData SDK (for consumption and connection via SUP)
- SUP is only used for Administration (security, users, connection..) = SUP Proxy
- Leverages the most, the device capabilities;
- Can achieve greater usability;
- Leverages the most, Gateway and Odata protocol;
- Runs only on the designed device;
- Simpler and online apps;

Software installed:
- RFC’s or BAPIs
- Screenscrapper
- BOR
- ABAP OO Classes

SUP Server (Proxy)

Software installed:
- Native APP
The iOS version of the OData SDK is presented as static libraries and header files. (Custom dynamic libraries are not allowed on iOS.) The OData SDK for iOS includes a set of core iOS libraries acting independently from each other. Each core library has well-defined responsibilities and provides APIs for OData parsing, caching, persistence, keychain, certificate management, and so on. The full list of APIs and their descriptions are available after the installation of Sybase Unwired Platform at the following location within your installation folder:

```
UnwiredPlatform\MobileSDK\OData\iOS\docs
```

The libraries are provided in binary form as .a files, along with the public headers containing the APIs and the input/output structures. As a prerequisite, the public headers and the libraries must be available as separate binaries for release and debug, or merged using the lipo tool.

See also
- Developing Applications in the Xcode IDE on page 8
- Deploying Applications to Devices on page 41

CHAPTER 2: Developing iOS Applications

Developer Guide: OData SDK

Native code - OData Libraries via SUP and Gateway;

Diagram:
- Configuration: Static Content
- Views
- Controllers
- Supportability: Logging & Tracing
- OData Parser
- Connectivity
- Persistence
- In-Memory Cache
- Online Data Proxy Channel
- Sybase Unwired Platform
- SAP NetWeaver Gateway

Coded from scratch using device SDK
Provided by SUP
Other methods

- Restful API calls from a Native APP;
  - Leverages the most, the device capabilities;
  - Larger development effort on device SDK (Connection, security, etc)
  - Not enterprise Ready

- Other 3rd party solutions;
# Development Options

## Summary

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<th>Persistence</th>
<th>Native</th>
<th>Complexity *</th>
<th>Web Development</th>
<th>SUP Mobile Workflow</th>
<th>Native from SUP MBO</th>
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<table>
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<tr>
<th>Option</th>
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<tbody>
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<td>Web Development</td>
<td>Online app - Device agnostic</td>
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<td>SUP Mobile Workflow (Container)</td>
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<td>Native from SUP MBO</td>
<td>Complex Native Offline</td>
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<tr>
<td>Native development, Odata via Gateway</td>
<td>Simple Native Online</td>
</tr>
</tbody>
</table>
SAP Gateway

- Easy way to expose SAP data via REST based Open Data (OData) format.
- Generation of services based on:
  - BOR objects;
  - RFCs;
  - Screen Scraping;
  - ABAP class using OData Channel API,
SAP Mobile Apps offerings - SAP Mobile app

- **Key Learning points:**
  - Several new solutions (SAP and partner’s) are made available every month;
  - Some solutions will require back end software requirements;
  - Leverage SUP as the communication method;
  - Licensing needs to be evaluated case-by-case;
Case Study 1 – Building a RF gun app for warehouse

Requirement:

Customer wants to start from scratch implementation of RF Device transactions for warehouse. Latest releases.

Options:

1. SAP Console – Telnet Based (most recommended);
2. SAP Mobile ITS (Official SAP recommended approach);
3. Native APP for mobile (Gateway SUP) (good opportunity)
Case Study 2 – Mobilize SAP Workflow

Requirement:

Customer wants deploy SAP Workflow workitems on mobile devices. Customer runs ERP ECC 6.00

Options:
1. Sybase Mobile Workflow for Business Suite (Ehp4 SP5)
2. Custom built (Native using Gateway*, SUP Hybrid container)
3. 3rd party Apps (If Blackberry mApprove)
Case Study 3 – Mobile DSD app

Requirement:
Customer wants a mobile app to automate the process of DSD sales and billing. Process highly automated with advanced functionalities like:

- Barcode reader
- GPS info for customer retrieval
- Offline support for offline billing
- Printing
Case Study 3 – Mobile DSD app (cont.)

Options:

1. Custom built Online only;
   Gateway, SUP and SAP Odata SDK for native Iphone app;

   - SAP System
     - RFC’s or BAPIs
     - ABAP OO Classes
   - SAP Gateway
   - SUP Server
   - Iphone or Ipod Touch
     - Software installed:
       - Native APP
       - Additional Hardware
       - BarCode Reader Adapter for Iphone

2. Custom built Offline support;
   Native app from SUP MBO
Case Study 4 – Demojam project

Requirement:
- Device independent;
- Very Simple requirement (no offline or complex scenarios);
- Connection to a ERP backend;

[SAP System]
- RFC's or BAPIs

[SUP 365]
- SUP Server
- Mobile Workflow

[Non-smart phone]

Software installed:
- SAP SUP

Software installed:
- Sybase Mobile Workflow (Hybrid Container)
Mobile Apps offerings - SAP APP store

http://ecohub.sap.com/store/mobility

- 2011 - 34
- 2012 - 37
Ex1: SAP Transport Notification and Status

**SOFTWARE REQUIREMENTS**

**Technical Requirements**

- SAP Transportation Management Release 8.0
- SAP Event Management Release 7.1, Enhancement Package 1, SP05
- SAP NetWeaver Release 7.02
- SAP NetWeaver Gateway 2.0 Support Package 2
- Sybase Unwired Platform 2.1

**Minimum Required Operating System**

- Android 2.2
SAP Mobile Apps offerings - SAP Mobile app

An mobile application that allows customers to browse and buy SAP and SAP partners mobile applications.
Sybase Afaria server

- Mobile Device Management software (MDM)

- Afaria provides comprehensive device management, security and application management for all mobile devices in both a hosted and on-premise model:
  - Asset tracking
  - Application Management
  - Security Policies (data encryption, password policies, …)
  - Device Configuration
  - Data Backup
  - Document Distribution

- Not all features are supported by all device types
Key Learnings

- Although new options exist, SAP Console remains a viable option for warehouse operation portable devices;
- Different development options exist. Selection needs to be done by considering:
  - Complexity;
  - Device types;
  - Offline Online;
  - Performance and usability;
- To achieve this, some new SAP products are available:
  - SAP Netweaver Gateway;
  - Sybase Unwired Platform (SUP);
- SAP made available a APP Store providing apps for fast adoption
Thank you for participating.

Please remember to complete and return your evaluation form following this session.

For ongoing education on this area of focus, visit the Year-Round Community page at www.asug.com/yrc
Best Practices

- We will discuss best practices in the area of warehouse mobile device and iPhone developments