Solution Approaches for Building Thin Client Mobile Application

Applies to:
SAP NetWeaver stack and SAP AS Java in specific. For more information, visit the Mobile homepage.

Summary
This article provides a high level solution/architecture approaches for building thin client mobile applications for SAP users. The applications are browser based and are accessed through the browsers of Blackberry, iPhone and other mobile devices.

Author: Suresh Santhana
Company: Infosys Technologies Ltd.
Created on: 30 September 2010

Author Bio
Suresh Santhana is working with Infosys Technologies Ltd as a Lead Consultant in the Enterprise Portal domain. His area of expertise includes PDK, portal configurations like SSO to SAP and non-SAP applications, XML and related web technologies.
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Introduction
This article provides two high level approaches for developing thin client mobile applications. These mobile applications can be accessed through the browser of various handhelds like Blackberry, iPhone etc.

The following are the two approaches that one can choose based on the requirement and skill set. SOA based approach would be more suitable when you want flexibility in using different technologies for UI development. The SAP Centric Approach generally involves Mobile Webdynpro for Java for the development of mobile applications. Another core difference between these two approaches is that one makes use of standard and custom RFCs/BAPIs directly while the SOA based approach uses web services for every transaction. In terms of performance you will not see much difference in the two approaches.

1) SAP Centric Approach
2) SOA Based Solution

SAP Centric Approach
The SAP Centric solution architecture is as depicted in the below diagram.

- In this SAP based solution approach, the development of mobile application is done using the SAP proprietary technology Webdynpro for Java.
- The application is deployed on the SAP Netweaver WAS server which interfaces with SAP backend (SAP R/3) for fetching data or executing a task.
- The mobile application developed on SAP WAS is accessed from the device browser through HTTP/SSL for secure connection. The mobile application interfaces with SAP R/3 via BAPIs which are again over secure protocol i.e. RFC over SNC (Secure Network Communications)
- This approach is suitable only for browser based thin client (Always-Connected) applications.
- The technologies used in this approach are complaint for providing SSO (Single-Sign-On) to the mobile applications; however we need to understand the customer’s landscape and requirements in more detail before we could propose a detailed approach.
SOA Based Solution

In this more generic SOA (Service Oriented Architecture) based, web services are consumed by the front-end for fetching and updating data in the SAP systems. The architecture of a SAO based solution is as below. Please note that middleware is not a mandatory component. The SAP backend can directly expose the required web services. There may be custom development of web services/BAPIs for fulfilling a specific requirement.

- In SOA based solution approach, the server side is not just restricted to Java based technology
- The Mobile application will be deployed on the server in enterprise domain behind the firewall
- The Mobile application can be accessed from the device browser using HTTP/SSL for secure connection.
- The infrastructure used in this solution can be re-used for deploying new mobile application that are not SAP based
- The Web Server in the DMZ will act as a proxy and will publish the link in the public domain say, https://xxx.com
- Once the user is authenticated the request will be directed to Mobile application.
- The Mobile application will fetch the data from SAP backend using the Middleware component.
Related Content
For more information, visit the Mobile homepage
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