OSGi in Mobile Field-force Automation: Helping Enterprises & Retail-stores manage & monitor critical business operations

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Everything that can be mobile, will be!

The prime driver is devices: Smaller, Lighter, Faster, More functional

Pic: Courtesy Dave Ragget, W3C
Mobile Force Automation (MoFA)

**Healthcare**
Care-givers, Clinical Trials

**Industrial**
Fleet tracking, communication, and management

**Product distribution**
Inventory, shipping, and warehousing

**Field and Sales Force Automation**
Enterprise mobile portals including CRM, inventory, quote generation, diagnostics, data collection, and team collaboration
MoFA – OSGi Services

- Built on IBM Expeditor Framework for End to End OSGi services as shown:
Mobile Force Automation (MoFA)- OSGi features

- Device enrollment – registration of the device into the DMS database
  - Device configuration – setting device parameters
  - Software distribution – distributing, installing and un-installing software or data files to the device.
  - Device inventory – collection of hardware and software information about the device.
  - Platforms that can run the OSGi device agent
  - For OSGi Bundles - Collects information about the set and state of installed bundles and services in the OSGi run-time. Information collected includes:
    - Bundle Name, Version, Description, Vendor and Bundle State
    - Package Name and Version
    - Service Name
    - Available Res
    - Source Names and Values
- The Device Manager plug-in programmed as a servlet on the Device Manager server, interfaces with the Device Manager server to handle the running of jobs, management of the state of each device session
- The plug-in and the Device Agent communicate with each other using the BaseOMA DM protocol over HTTP or HTTPS to perform system management tasks.
- Native software distribution - sends native software as an OSGi bundle along with any required prerequisite bundles to targeted devices and captures stdout, stderr, and return code messages
MoFA - Retail Store Automation

- Large Energy company with 1000(s) of retail stores in US
  - Enabled on Pervasive Devices using Java extending out to the edge
  - Standards-based multi-platform solution
- Client needs
  - ability for application to run in connected & disconnected modes
  - daily updates to device-based business logic to improve performance
  - integration of components for an end to end solution involving sensors and actuators (e.g., Barcode, RFID etc)
  - Ability to monitor application state, Logs and Device/component inventory
  - Need to distribute & deploy native components based on device-profiles
  - Web-browser-based monitoring and deployment tool
MoFA – Field-Force Automation

• Construction, Healthcare & Utility Services companies in US having
• Pervasive Devices operating in online/offline modes
• Ability to securely deploy application/data components
• Ability to monitor and support large set of field-personnel using multiple device profiles in real-time
• Client needs
  ▸ ability for application to run in connected & disconnected modes
  ▸ daily updates to device-based business logic to improve performance
  ▸ integration of components for an end to end solution involving speech recognition sensors and actuators (e.g., Barcode, RFID etc)
  ▸ Ability to monitor application state, Logs and Device/component inventory
  ▸ Need to distribute & deploy native components based on device-profiles
  ▸ Web-browser-based monitoring and deployment tool
Actual Field Data & Challenges: Discussion
Thank you

For further information:

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