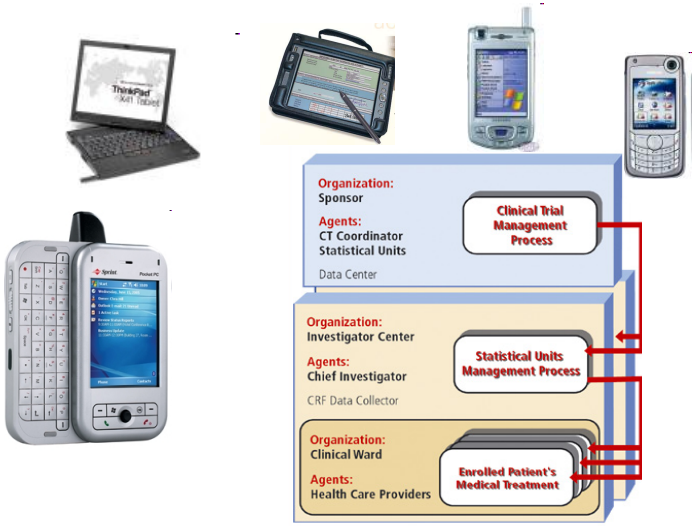
OSGi Alliance Community Event

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

- Raj Tumuluri
Openstream Inc
raj@openstream.com

Everything that can be mobile, will be!

Pic: Courtesy Dave Ragget, W3C



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

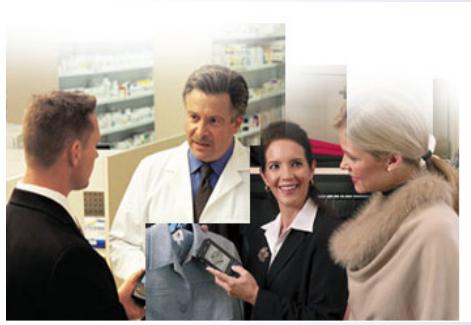
Mobile Force Automation (MoFA)

Healthcare
Care-givers, Clinical Trials

Industrial
Fleet tracking, communication, and management

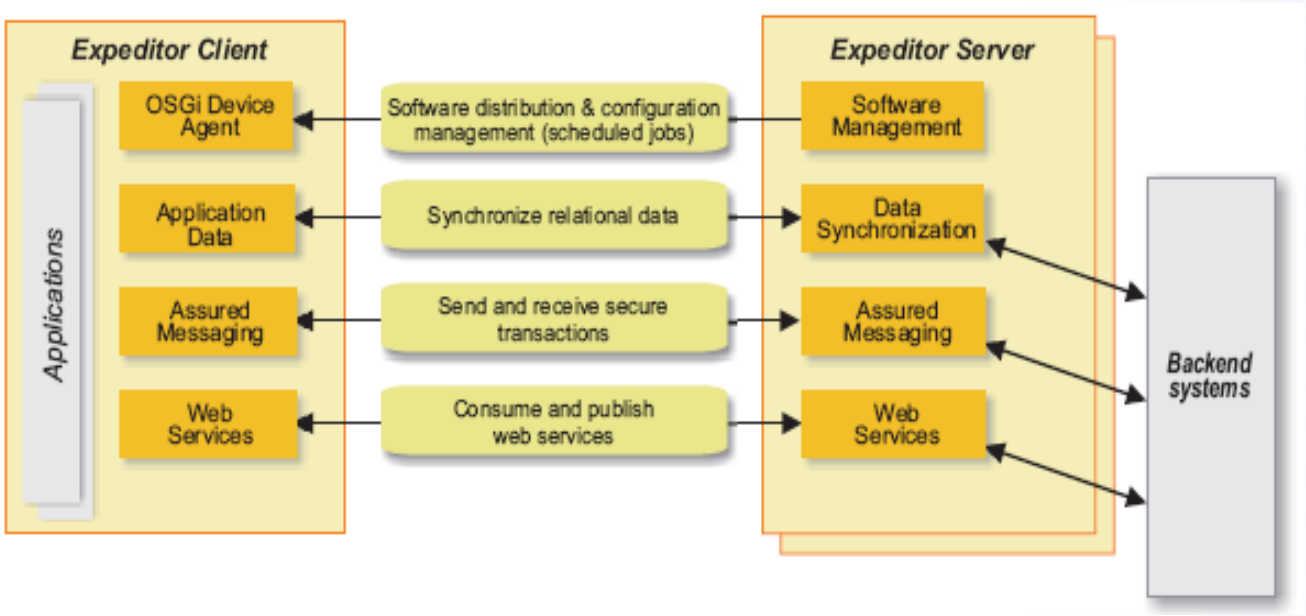
Product distribution
Inventory, shipping, and warehousing

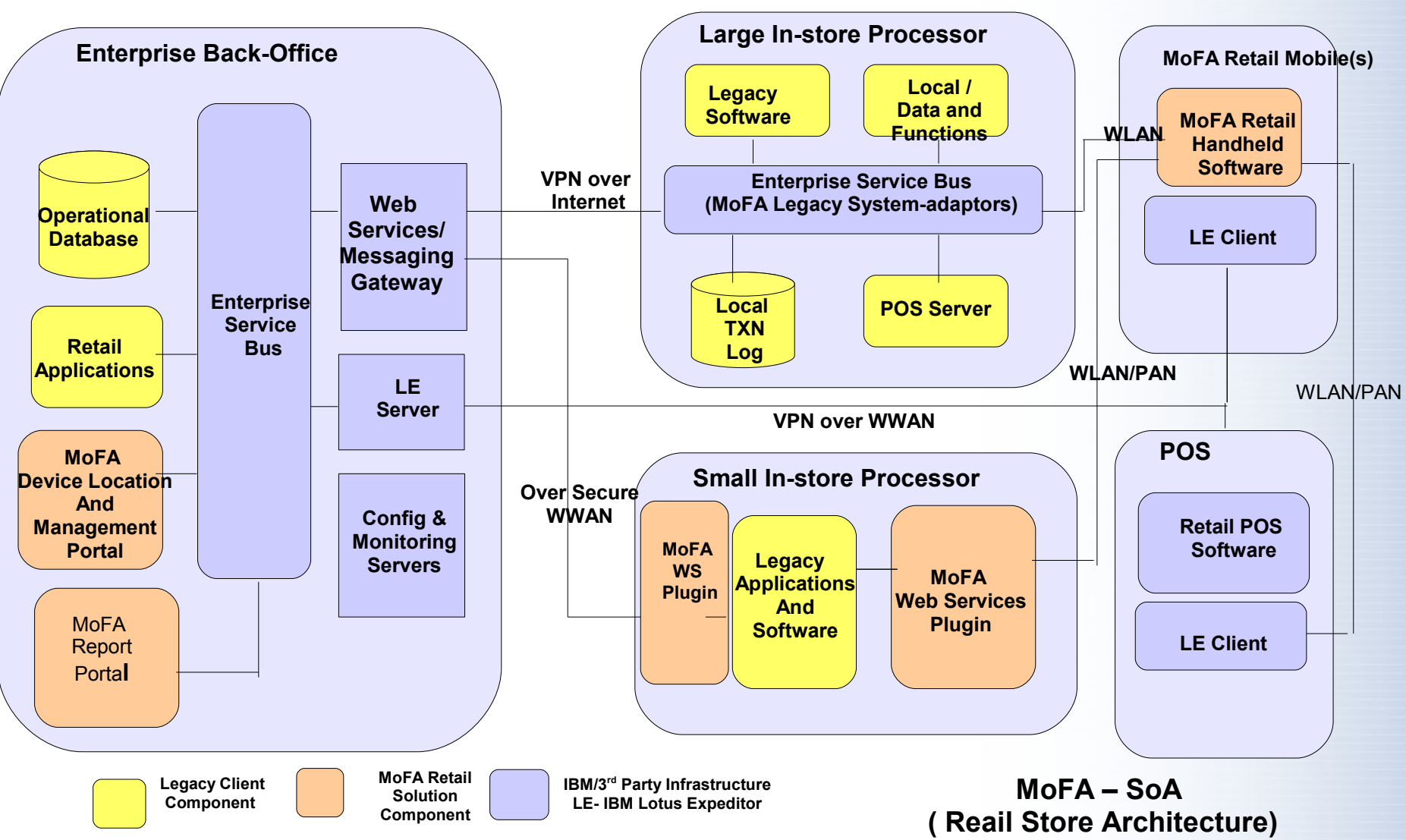
Field and Sales Force Automation
Enterprise mobile portals including CRM, inventory, quote generation, diagnostics, data collection, and team collaboration



MoFA – OSGi Services

- Built on IBM Expeditor Framework for End to End OSGi services as shown:





MoFA – SoA
(Reail Store Architecture)

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:

raj@openstream.com