Managed Services for the New Millennium

John Barr, President, OSGi Alliance
Motorola
John.Barr@Motorola.com, +1-847-576-8706
Agenda

- What is the OSGi Alliance?
- Market trends
- How does the OSGi Service Platform affect products & services?
- OSGi features and advantages
- Key contacts
What is the OSGi Alliance?

Open Services Gateway initiative

The OSGi Alliance is an international, non-profit organization formed to develop and promote open specifications for the network delivery of managed services to devices in the home, car and other environments.
Global Cross Industry Consortium

Market Trends

- Over 825 Million Internet Users
- Finally, broadband is happening!
- Home networking requirements
- Automotive Information and Entertainment Systems
- Solutions in the form of Services
Broadband Deployments

• Cable Leads in the US•
  – 10 Million cable modems
  – Vs. 4.6 Million DSL lines
  – Broadband replacing 2nd phone lines

• DSL leads the rest of the world*
  – 25 Million lines (world total) in June 2002
  – Installs > 1 million per month
  – Asia-Pacific 10.4 Million (South Korea 26%)
  – Western Europe 6.4 Million

*MorganStanley

* DSL Forum
Home Networking Requirements

- No New Wires (WiFi, HomePNA, and HomePLUG)
- Shared Internet Access (50%)*
- Share Data and Information (45%)*
- Top Applications*:
  - Downloading software
  - Playing games on-line
  - Download and play MP3 music
  - Sharing digital photographs

* Yankee Group Home Networking 2002
Home Entertainment Networks

Products Connected in CE-Centric Home Entertainment Networks, in Millions (U.S. Households)

Automotive Information & Entertainment Systems*

• Emerging information and entertainment systems are increasingly complex:
  – Navigation, hands-free phone, satellite radio
  – Advanced HMI (voice recognition/synthesis)
  – Audio arbitration and sound management
  – Interfaces to personal devices
  – DSRC systems, car systems (air bag, door locks, diagnostics, adaptive lighting, etc.)

• New vehicle product cycle nearly four times typical consumer electronics product cycles.

* Automotive Multimedia Interface Collaboration
Market Trends

- 85 million broadband homes in 2005
  - 30 million cable* + 55 million DSL (25+30)* + Other?
  - 75% will have home networks
  - PCs first, STB and media devices next

- Automotive OEMs Moving to Information and Entertainment Platforms
  - OSGi Service Platform in most plans
  - Services, Life Cycle management, and Dynamic Device integration key drivers

- European Partnership Projects Defining Solutions
  - OSGi Service Platform simplifies cooperative environment
  - Home and Auto integration points

* DSL Forum

©2002 OSGi, All Rights Reserved
What is the OSGi Specification?

- Created through a collaboration of industry leaders
- Defines the framework for service delivery and administration
- Defines specifications for OSGi bundles

- Release 1 May, 2000
- Release 2 October, 2001
- Release 3 1Q2003
- Publicly available at www.osgi.org
OSGi Bundles

- Packaged set of interfaces, configuration information, executable code, and digital signature that can be produced and installed as a unit.
- A configuration unit that can be used by a service operator to package features that can be selectively requested and provisioned for an individual OSGi service platform.
- An independent unit that can be provided by a 3rd party developer to provide a solution for their targeted customers.
OSGi End-to-End Solutions

Service Creators & Content Providers
- Custom Information
- Communications
- Entertainment
- Home Security
- Energy Management
- Appliance Control
- Lighting Control
- Irrigation Control
- TBD...

Service Aggregator & Gateway Administrator

Internet

Service Gateway

Mobile cellular or satellite link

Embedded Services Gateway

Home Network

Home Appliances

PCs

Consumer Electronics

TVs

Telephones

Energy Meter

Sensors

Security

©2002 OSGi, All Rights Reserved
Challenges: Tapping Into the Revenue Stream

- NVOD/VOD Entertainment: $30
- Shopping/Transaction: $10
- Advertising/Sponsor: $10
- Communications:
  - Telephony: $25
  - Messaging: $25
- Information:
  - Web: $25
  - News: $25
- ETV/Synchronous: $10
- Basic & Premium: $30
Challenges

- Interoperability
- Standardized service development & deployment
- Remote management and administration
- Viable commercial models
How Does the OSGi Standard Relate to Other Standards?

Vertical/Industry
- AUTOMOTIVE
- DVB/MHP
- TAHl

Broadband Network
- Cable
- DSL
- Powerline
- Wireless

Service Delivery
- OSGi

Local Network
- Home Plug
- LonWorks
- 802.11
- 1394
- JINI
- CAN-MOST
- HomePNA
- WiMedia
- Bluetooth
- Zigbee
- UPnP

©2002 OSGi, All Rights Reserved
What is an OSGi Service Platform?

To enable managed services at the point-of-use, such as a home or automobile, we need a “gateway” device, capable of storing and running service application software.

The Service Platform may be a general purpose computer (such as a PC), a special purpose device (such as a residential gateway, set-top box, media server or automobile multimedia gateway), or a virtual resource in the operators network.
OSGi Key Features

• Dynamic software updates
• Remote control
• Remote maintenance
• Remote diagnosis
• Data exchange
• Secure, identifiable, and trusted
OSGi-Enabled Value Chain

Application or Content Providers

Gateway Vendor

Service System Provider

Internet Service Provider

Internet

Device vendor

Retail Channel

OSGi Service Platform

©2002 OSGi, All Rights Reserved
Mobile Internet Services

In the garage, at the gas station, or on-the-go, OSGi service bundles can be delivered via wired and/or wireless infrastructures.
## OSGi Service Platform Deployments

<table>
<thead>
<tr>
<th></th>
<th>Certified Service Platforms</th>
<th>Developer Kits Available</th>
<th>OSGi</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>4DHomeNet</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acunia</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Connected Systems</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Espial</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Gatespace</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>IBM</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Jentro</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Prosyst</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Samsung</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sun Microsystems</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

©2002 OSGi, All Rights Reserved
OSGi System Deployments: Automotive/Infotainment

- Project: 3GT infotainment platform (EU)
- Bombardier’s wireless fleet management system for New Jersey Transit locomotives
- DaimlerChrysler UMTS test vehicle
- D’Ieteren and Flemish government Mobility Management
- GM OnStar Europe
- ITEA EAST EEA automotive project
- Pilotfish car-sharing project
- Volvo VTD
OSGi System Deployments: Service Gateways

- Ciaolab Home Station
- Cisco CiscoWorks 2000 Service Management Solution
- France Telecom and Thomson Multimedia home service platform
- MetaVector office and security applications and energy management
OSGi System Deployments: Home Automation/Health Care

- Alleato Health Care
- BSH networked home appliances
- e2 Home Stockholm
- e-PASTA Home Networking
- HomeDirector home pilot
- HomeNet2Run
- InHaus Duisburg
- InterComponentWare Interactive Health Record LifeSensor
- Telia Connected Home
- Whirlpool’s Home Solutions line
• Electricité de France project “M@jordom”
• Shell “e-Station” links retailer with corporate offices
• “Stadtinfoköln” - www.stadtinfokoeln.de
• Telefonica project “Hogar.es”
Platform Design-ins

- Oracle Automotive Mobile Lifestyle
- HP Automotive Solutions
- Everex IntelliWAY Broadband Gateway
- Volvo Infotronic Solutions
- Pilotfish Industrial Telematics
- CP Technologies SG2100+
- PLG Embedded and Panel-PC
- Ciaolab Set-top-box
- Setrix S-3720
- Pylix Broadband Gateway
- CorAccess Companion 6
- P&S Platform for MCU developers
Telia’s Connected Home Trial

Graphical representation of a network service gateway (OSGi) for Telia's Connected Home Trial, including components such as VoD Service, IPT Service, IPTV Service, Internet, Server LAN, Telia-Backbone, Router, Gigabit Ethernet Access network, IP-access Terminator, Control system, AAA Policy, DNS, and MDUs. The network is connected through ADSL.
Bosch and Siemens Hausgeräte

Service Provider (or Back-End-Provider)

Back-End Systems

Access

Networks

Gateway Software

Gateway Hardware

Cable, DSL, Powerline, Wireless ...

Inhome-Services for the appliances (EDS-Division)

Internet-enabled Devices (EDS-Division)

©2002 OSGi, All Rights Reserved
FT–Thomson Multimedia Demo

November, 2001, Nice, France
The OSGi Platform...

- Is the only open service platform for managed services
- Is the integration point of today’s home networking offerings.
- Is the preferred service platform of leading automotive OEMs.
- Has the support of all of the necessary value chain providers
- Is being adopted by platform suppliers and deployed by operators
Leadership Team

- President, John Barr, Motorola
- VP Marketing – Staffan Truvé, Gatespace
- VP Asia, Lawrence Chan, Echelon
- VP EMEA, Thierry Nicolle, IBM
- Secretary, Robert Elliott, Whirlpool
- Treasurer, Jeff Lund, Echelon
- Executive Director, Dave Marples, Global Inventures
- Technology Officer – Peter Kriens, aQute
- Requirements Committee – Todd Drake, Motorola
The End

Questions?