Implementing NGOSS using OSS/J
Panelists

Martin Creaner  TMF—CTO
Philippe Lalande  Sun—TMF Board, Head of OSS/J
Colin Ashford  Nortel Networks—Senior Architect
Jim Hardwicke  BT—OSS Technology Consultant
Frank Korinek  Motorola—Distinguished Member of Technical Staff
NGOSS ‘jigsaw’ is finally coming together…

- eTOM complete
- Heavily used across the industry
- ITU have accepted it as a formal standard

- SID being adopted by all TMF activities as the standard approach
- DMTF, Oasis, OMG, etc. all looking at using the SID

- Technology Neutral Architecture defined
- Real route to implementation (Java) in place through OSS/J

The “How to Use NGOSS” Methodology in Place
Worked examples proving that methodology
Great progress on Compliance
OSS/J Fundamentals
Foster a market of interoperable and interchangeable OSS components

... building upon mainstream J2EE platform to enable Java, XML and Web Services implementations

... defining and agreeing on useful Design Patterns and functional APIs

... proving the APIs with real systems, best practices and solution patterns

... creating a market place of interoperable products
OSS/J Road Map toward Mass Market Adoption

July00

- Technology & Process Choices

NEPs
# OSS/J Road Map toward Mass Market Adoption

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<thead>
<tr>
<th>July 00</th>
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<tbody>
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[Image: OSS through Java Initiative]
# OSS/J Road Map toward Mass Market Adoption

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<td>End2end solutions</td>
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<td>Critical mass APIs</td>
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TeleManagement FORUM™
# OSS/J Road Map toward Mass Market Adoption

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</table>

- NEPs
- ISVs
- SIs
- SPs
- Std bodies
- Domains extensions
- Affiliated Services

**TeleManagement Forum**
TMF and OSS/J so far

- Informal coordination since inception of NGOSS and OSS/J

- Informal but **Strong** coordination !!!
TMF and OSS/J so far

- **TMF Board:** BT, Motorola, NEC, Nokia, Sun, Telcordia, Vodafone
- **NGOSS Council:** BT, Eftia, QinetiQ
- **NGOSS Architecture:** 4DH Consulting, BT, Eftia, MBT, MetaSolv, Motorola, Nokia, Nortel, QinetiQ
- **eTOM:** BT, MetaSolv, QinetiQ, Motorola
- **NGOSS SID:** MBT, MetaSolv, Motorola
- **NGOSS Compliance:** Eftia, MetaSolv, Motorola
- **NGOSS Lifecycle:** BT, QinetiQ
- **IGAB:** MetaSolv, Motorola, Nortel, Sun
- **Mobile Market Center:** BT, Motorola
- **Value Chain Market Center:** BT, Motorola
- **MTNM/MTOSI:** BT, Nortel, Telcordia
- **IPNM:** BT, Digital Fairway, MBT, QinetiQ
- **SOIP:** BT, MBT
- **HMI:** Nortel
- **Service Framework:** QinetiQ
- **SPLC:** BT, QinetiQ, Vodafone
- **And leading participation in a number of Catalyst projects**
TMF and OSS/J Today

- More formalized coordination to combine:
  - Operational and business best practices from telco land; and
  - Implementation best practices from software land
OSS through Java as an Implementation of NGOSS

A White Paper
Introduction and Goals

Motivation: NGOSS has delivered OSS business solutions; OSS/J has delivered OSS implementations—is there synergy?

Plan: compare the respective programs for technical alignment as a basis for closer collaboration

Deliverable: a white paper and recommendations for further work
Areas of investigation

- The white paper explores alignment of:
  - architectural principles
  - contracts
  - lifecycle
  - information modeling techniques
  - the overall direction of the programs
  - certification
## Architectural Principles

<table>
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<tr>
<th>NGOSS Principle</th>
<th>OSS/J Implementation</th>
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<tbody>
<tr>
<td>Shared Information</td>
<td>CBE</td>
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<tr>
<td>Integrated Applications</td>
<td>Suite of APIs</td>
</tr>
<tr>
<td>Legacy support and data mediation</td>
<td>Java Connector Architecture (JCA)</td>
</tr>
<tr>
<td>Naming and distribution services</td>
<td>Java Naming and Directory Interface (JNDI)</td>
</tr>
<tr>
<td>Interworking</td>
<td>JMS and IIOP</td>
</tr>
<tr>
<td>Business process</td>
<td>Session Beans</td>
</tr>
<tr>
<td>Contracts (SCOs)</td>
<td>Java declarations</td>
</tr>
<tr>
<td>Security</td>
<td>Java Authentication and Authorization Specification (JAAS)</td>
</tr>
<tr>
<td>Federation</td>
<td>Session Beans</td>
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<td>Policy management</td>
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NGOSS principles are either supported directly by J2EE or by OSS/J Design Guidelines.
Contracts and Interfaces

- *Contracts* model behaviour in terms of rights and obligations
- NGOSS System Capability Objects (SCOs) are part of NGOSS contracts
- Java declarations and SCOs follow a contract model for interface-behaviour specification
- Schemata for SCOs and Java declarations both include input and output parameters, pre-conditions, post-conditions, and exceptions
### Contracts and Interfaces (2)

<table>
<thead>
<tr>
<th>Capability Object Schema Elements</th>
<th>Java Method Declaration Schema Elements</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Entities</td>
<td>Method signature</td>
<td></td>
</tr>
<tr>
<td>Output Entities</td>
<td>Return type</td>
<td>Java methods only return one type</td>
</tr>
<tr>
<td>Pre-Conditions (condition objects)</td>
<td>Input-parameter type information</td>
<td>Java programming language does not natively support predicate calculus; OSS/J uses Javadoc</td>
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<td>Post-condition system exception</td>
<td>Exception</td>
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**Clear structural alignment—differences in level of formality**
Summary

Findings:
- Programs are deeply aligned architecturally
- SID and CBE initiatives are closely linked
- Certification programs are complementary
- OSS/J program direction is firmly rooted in eTOM

Next steps:
- Collaborative technical and marketing programs
- Investigate Web-services-based OSS management
- BoFs on new APIs at future TMWs
White Paper Location

White paper available from:

http://www.tmforum.org

or

http://www.ossj.org
TMF and OSS/J tomorrow

- TMF and OSS/J have built complementary assets to address the same goals.
- Call to action to TMF and OSS/J members for much stronger deliverables than the usual liaisons, cross-alignment studies, or cross-positioning statements.
- We can map and synchronize assets.

Our limit is our own creativity!
More NGOSS-OSS/J
Food for Thought This Week at TMW

- Training Plus Courses:
  - “Introduction to NGOSS”—Mon Oct 11, 9:00-12:30
  - “Introduction to OSS/J”—Mon Oct 11, 9:00-12:30
  - “Implementing NGOSS through OSS/J”—Thu Oct 14, 2:00-5:30
    Register at TMF Registration Desk

- OSS/J Booth:
  - SID and OSS/J CBE, eTOM and OSS/J roadmap, Web Services, OSS/J-NGOSS white paper, and other in-depth presentations and demos

- TMF Booth:
  - OSS/J-NGOSS white paper

- BoF Session:
  - New APIs—pricing, discovery, order management—Wed Oct 13, 8.00 am