COIN TCC at General Meeting

COIN Technical Progress
Budapest, May 6th 2009

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COIN VISION: “By 2020 enterprise collaboration and interoperability services will become an invisible, pervasive and self-adaptive knowledge and business utility at disposal of the European networked enterprises from any industrial sector and domain in order to rapidly set-up, efficiently manage and effectively operate different forms of business collaborations, from the most traditional supply chains to the most advanced and dynamic business ecosystems.”

COIN MOTTO: “Enterprise Interoperability and Enterprise Collaboration are the two sides of the same COIN”
The COIN Integrated Project

Project No: 216256

Project Full Name: Collaboration & Interoperability for Networked Enterprises

Duration: 48 months

Start date: January 1\textsuperscript{st} 2008

Partnership: 21 partners, 9 countries

Strategic Objective: FP7 ICT-2007.1.3

ICT in support of the networked enterprise

Total Eligible Cost: 14.383.834 EURO

EC Contribution: 9.996.480 EURO
The COIN Metaphore

COIN MOTTO: “Enterprise Interoperability and Enterprise Collaboration are the two sides of the same COIN”

• The SIDE A of the COIN: Enterprise Interoperability
• The SIDE B of the COIN: Enterprise Collaboration
• The Substrate of the COIN: Service Platform
• The Value of the COIN: Software as a Service-Utility SaaS-U
• The Market of the COIN: Enterprise Networks (mainly SMEs)
COIN Side A: state-of-the-art (I)

Three basic dimensions => SOLUTION Space

INTEROP Framework
COIN Side A: state-of-the-art (II)
COIN Side A: main innovations

• The COIN Interoperability Space
  ➢ To address Information, Knowledge and Business interoperability
  ➢ To support the Federated interoperability approach
  ➢ To integrate Model- and Semantic-driven interoperability methods
  ➢ To enable Knowledge Profiles semantic mediation
  ➢ To synchronize and optimize collaboration Business Processes
  ➢ To go beyond state-of-the-art 1:1 transactions:
    ✓ Supporting 1:1 negotiations (e.g. supplier-customer)
    ✓ Enabling 1:n relations (e.g. tender-bidders)
    ✓ Allowing n:m agreements (e.g. sellers-buyers)
COIN Side A: future outlook

- The FInES (Future Internet Enterprise Systems)
COIN Side B: state-of-the-art

- Business Opportunity
- Market Turbulence
- Short window of opportunity
- Fast configuration of a temporary consortium well suited to the needs
- Preparedness
- Breeding Environments
- VBE PVC
- CNO creation
- Metamorphosis
- CNO
- Management / Governance
- Successful & Effective collaboration

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COIN Side B: main innovations

• The COIN Collaboration Space

➢ To allow Endogenous generation of Business Opportunities (LivingLabs & Open Innovation)

➢ To support Product Design, Production Planning, Project Mgmt

➢ To enable Co-operativity of Enterprise Applications (groups as users)

➢ To support Web 2.0 and participative services (Enterprise 2.0)

➢ To involve also the Customers in the whole life-cycle of Virtual Organizations (VOs):

  ✓ VO preparation (get the enterprises prepared to form VOs)
  ✓ VO creation (select partners and competencies)
  ✓ VO operations & mgmt (performance indicators definition-governance)
  ✓ VO dissolution (inheritance and knowledge transfer)
COIN Side B: future outlook

- The Innovation Knowledge Ecosystem
COIN Metal: state-of-the-art

- Problem Solving Layer
  - Ontologies
  - Applications
  - Developer Tools

- Execution Management

- Broker Layer
  - Discovery
  - Adaptation
  - Composition
  - Choreography
  - Mediation
  - Grounding
  - Fault Handling
  - Monitoring

- Base Layer
  - Formal Languages
  - Reasoning
  - Storage and Communication

- Objectives that a client wants to achieve by using Web Services
  - Provide the formally specified terminology of the information used by all other components
  - Semantic description of Web Services: Capability (functional) and Interfaces (usage)
  - Connectors between components with mediation facilities for handling heterogeneities
COIN Metal: main innovations

• The COIN Generic Service Platform
  - An implementation of a SESA (Semantically Enabled Service Architecture)
  - To support dynamic Search-Discovery-Composition-Execution
  - To enable Intelligent Reasoning capabilities (Negotiation, Agents)
  - To support Scalability & Pervasiveness (P2P registries-repositories)
  - To enable AAA Security properties:
    - Authentication (including identity management)
    - Authorization (including access rights and single sign-on)
    - Accounting (including monitoring, charging & billing)
    - Privacy & Data Protection (including cryptography)
COIN Metal: future outlook

- The Global Service Delivery Platform (GSDP)
**COIN Value: state-of-the-art**

**Software as a Service** is the delivery of application functionality via a subscription model. The customer does not take ownership of the software but rather ‘rents’ a total solution that is delivered remotely. (IBM)

<table>
<thead>
<tr>
<th>Application Hosting Model</th>
<th>Software as a Service Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer pays on delivery of <strong>software</strong></td>
<td>Customer pays for delivery of <strong>functional services</strong></td>
</tr>
<tr>
<td>Customer responsible for software performance</td>
<td>Provider responsible for software performance</td>
</tr>
<tr>
<td>Customer responsible to <strong>customize</strong> software to business requirements</td>
<td>Customer responsible to <strong>configure</strong> software to business requirements</td>
</tr>
<tr>
<td>Customer pays maintenance to fix software</td>
<td>Provider fixes software or pays penalty for failure to meet service levels</td>
</tr>
<tr>
<td>Customer buys upgrades to keep current</td>
<td>Provider ensures currency of solution</td>
</tr>
</tbody>
</table>
COIN Value: main innovations

• The COIN SaaS-Utility model

  ➢ An **evolution** of SaaS towards commoditized ICT services

  ➢ Study and Design new **Business Models** for SaaS-U

  ➢ Identify and develop a **Value Proposition** for SaaS-U

  ➢ Support the identification of criteria and **Design Principles** for EO/EC services to be provided as utilities

  ➢ An implementation of the **ISU Grand Challenge** (interoperability service utility)

    ✔ Available at (very) low cost

    ✔ Accessible in principle by all enterprises (universal access)

    ✔ “Guaranteed” to a certain extent & at a certain (set of common rules)

    ✔ Not controlled or owned by any single private entity
COIN Value: future outlook

- **Today’s Models** (mostly fixed)
  - Simple Increments (modify CPU/tiered models)
  - Hybrid (Fixed & Variable Usage)
  - Variable Usage (Metered)
- **SaaS**
- **Subscription**
- **Value Driven** (based on function commoditisation)

**Fixed costs**
- Dedicated resources
- Product oriented

**Variable costs**
- Shared resources
- Service oriented

**Marginal cost > 0.0**
- Value based dynamic pricing
- Service infrastructure as utility
- Innovation focused

**IT Plug**

**IT Switch**

**IT Tap**
## COIN Market: starting point

<table>
<thead>
<tr>
<th>EC form / EI challenge</th>
<th>Knowledge i/op</th>
<th>Business i/op</th>
</tr>
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<tbody>
<tr>
<td>Supply Chains</td>
<td>Aerospace DTA Lazio (ITA)</td>
<td>Automotive Slovenian Net (SLO)</td>
</tr>
<tr>
<td>Collaborative Networks</td>
<td>ICT Network (HUN)</td>
<td>Aeronautic Cluster of Andalusia (SPA)</td>
</tr>
<tr>
<td>Business Ecosystems</td>
<td>Pulp &amp; Paper Poyry (FIN)</td>
<td>Healthcare VEN (UK)</td>
</tr>
</tbody>
</table>
2 Prime Contractors
125 Subcontractors

- Final assembly
- Aerostructures assembly
- Engine assembly
- Subset assembly
- Equipment and systems assembly
- Mechanical transformations
- Tooling
- Plating
- Final processes
- Composite / Plastic material
- Electrical / Electronic material
- Engineering / Consulting Services
- Tests and trials
- Space
The COIN Community mechanism aims to extend and multiply dissemination and exploitation of COIN concepts and outcomes to the external scientific, technical and industrial world.

COIN Community is structured as a Professional Virtual Community (PVC) at three increasing levels of commitment: Member, Testimonial, Angel.

COIN Members need to register to the community by filling a simple Registration Form. They will receive periodical COIN Newsletters and participate at the Social life of COIN.

COIN Testimonials are members with recognized expertise & competence in COIN topics of interest. They will participate in COIN workshops and increase the Knowledge dimension.

COIN Angels are members who are committed to animate the COIN Community and stimulate the adoption of COIN scientific and applicative results in industry. They will involve additional test cases as COIN Multipliers and contribute to the development of the Business dimension of COIN.
Conclusions (I)

1. The side A: interoperability
   – S-O-A: INTEROP NoE and ATHENA IP
   – COIN: the Interoperability Space
   – Next: the Future Internet Enterprise Systems (FInES)

2. The side B: collaboration
   – S-O-A: ECOLEAD and DBE IPs
   – COIN: the Collaboration Space
   – Next: the Innovation Knowledge Ecosystem (IKE)

3. The Metal: Service Platform
   – S-O-A: DIP and TrustCom IPs, a SESA
   – COIN: the Generic Service Platform
   – Next: the IOS Global Service Delivery Platform
Conclusions (II)

4. The Value: Business Models
   – S-O-A: Software as a Service
   – COIN: the SaaS-Utility business model
   – Next: Value-added/Utility services: Tap model

5. The Market: Enterprise Networks
   – Starting Point: 6 different Enterprise Networks
   – COIN: knowledge / business pilots & takeups
   – Next: the Multipliers program (seed your COIN)
Enterprise COllaboration & INteroperability

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