Enterprise Collaboration Maturity Model (ECMM)

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June 21

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• Methodological approach to assess the readiness of organizations of different sizes in terms of **interoperability** and **collaboration** capability.

• The structure used is inspired on **maturity models**, which have proven to be successful in other domains like software engineering.

• This methodology is being developed within the COIN European Research project.
Overview

- Motivation

- ECMM
  - Introduction
  - Structure

- ECMM Application into End Users
  - ECMM Phase 1 - First Assessment
  - ECMM Phase 2 - Improvement Implementations
  - ECMM Phase 3 – Re-assessment
Motivation (1/2)

• Collaboration is a **global trend** in business nowadays ...
• ...but there are still some obstacles

![Diagram showing concerns about collaboration]

- Technology
- Legal Issues
- IPR Issues
- Economic uncertainty
- Intra-enterprise business processes management

*Source: BusinessWeek Research Services*
Motivation (2/2)

• **Collaboration** does not happen by chance.
• It has become a **top priority** for many organizations.
• Enterprises have become **networked enterprises** adopting innovative forms of collaboration to compete.
• But... for enterprises it is still a **hard task** to identify best practices and improvements to start implementing collaboration and interoperability practices.

How can my organization improve its collaboration strategy in order to plan future ways of action?
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ECMM’s main objective is to **evaluate and improve the capability for collaboration** of an enterprise inside its collaborative network and to **support collaborative and interoperability practices** in different collaborative scenarios.

**HOW...?** Our approach:

**COLLABORATION IS A PROCESS**
- It has to be applied to all the statements of an organization.

**MATURITY MODELS APPROACH**
- It can and should be improved following a concrete roadmap.
• Maturity model approach in order to:
  – Provide a standard definition of maturity in the collaboration process
  – Provide best practices and improvement recommendations related to the collaboration process

• Application of maturity model approach to assess networked organizations will provide:
  – A place to start: Where am I?
  – The benefits of a community’s prior experiences
  – A common language
  – A shared vision for prioritizing actions
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• CMMI Structure, Why?
  – CMMI is very clear, well understood and applied within the industry (standard “de facto”)
  – There are building blocks which should not be changed as:
    • Maturity levels
    • Process areas
    • Goals
    • Practices
    • Sub practices
The purpose of **Collaborative Business Process (CBP)** is to establish and maintain a usable set of collaborative business process assets and work environment standards.

**GOALS**

- **SG 1: Analyse Internal Business Processes**
- **SG 2: Establish Collaborative Business Processes**
- **SG 3: Monitor and Optimise Collaborative Business Processes**
SG 1: Analyse internal Business Processes

**SP 1.1 Link internal Business Processes**
Partners link their existing internal processes and resources to achieve an agreed cross-organizational business process.

**SP 1.2 Internal Processes Visibility**
Each company selectively expose or hide information about their internal processes, whilst still being able to act in a cross-organizational business process. The level of exposure can vary, as the business relationship develops.
<table>
<thead>
<tr>
<th>MATURITY LEVELS</th>
<th>DOMAINS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maturity Level</strong></td>
<td><strong>Domain</strong></td>
</tr>
<tr>
<td>Level 2</td>
<td>Innovation</td>
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<tr>
<td>Level 3</td>
<td>Organisational Innovation</td>
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<tr>
<td>Level 4</td>
<td>Open Innovation</td>
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</tbody>
</table>
ECMM Development Process

1. ANALYSIS & REQUIREMENTS
- Previous approaches and knowledge
- End-Users vision and needs
- Requirements definition

2. DESIGN & DEVELOPMENT
- ECMM Content
- ECMM Building Blocks
- ECMM Preliminary Structure
- Evaluation Methodology

3. APPLICATION INTO END-USERS
- ECMM v.1 validation into real collaborative environment.
- Collect results from this evaluations.

TODAY’S FOCUS
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Today's Focus : ECMM Application into End Users

- **ECMM Phase 1 - First Assessment:**
  Analyse the practices of the collaborative network and provide improvement recommendations that helps the network to improve its maturity regarding collaboration and interoperability.

- **ECMM Phase 2 - Improvement Implementations:**
  Implementation of the new practices making use of COIN services. This phase includes activities of monitoring and support.

- **ECMM Phase 3 – Re-assessment:**
  Measure the practices of the collaborative network for a second time in order to check if the implementation of the improvement practices has achieved the expected results.
**ECMM Phase 1 - First Assessment**

<table>
<thead>
<tr>
<th>ECMM First Assessment</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect information about assessment Scope and context through a context questionnaire</td>
<td>Context Questionnaire</td>
</tr>
<tr>
<td>Carry out the assessment by means of the web-based questionnaires of the ECMM Process areas to be evaluated</td>
<td>Process Areas description</td>
</tr>
<tr>
<td>On-line questionnaires</td>
<td></td>
</tr>
<tr>
<td>Analyse collected data and elaborate the assessment report</td>
<td>Evaluation tool</td>
</tr>
<tr>
<td></td>
<td>Assessment report</td>
</tr>
</tbody>
</table>

*Assessment Report*

**IND Group**

29th September 2010

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**Activities related to innovation processes**

- Yes, all the internal business processes are defined.
- Yes, many internal business processes are defined.
- Yes, there are some internal business processes defined depending on the member of the
  organization.
- Work processes
- Management processes
- Support processes
## ECMM: Marks for representing Process Areas Scores

<table>
<thead>
<tr>
<th>Mark</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>The purpose of the practice is judged as absent or poorly tackled in the set of established practices. Deficiencies or problems have been identified and these issues <em>will</em> prevent the performance of the goal in case the deployment might be done in this way along the network.</td>
</tr>
<tr>
<td>Yellow</td>
<td>The purpose of the practice is judge as correctly tackled in the set of established practices along the organisation but it has not been clarified the possible establishment in the enterprise network. Deficiencies or problems have been identified and these issues <em>could</em> prevent the performance of the goal in case the deployment might be done in this way along the enterprise network.</td>
</tr>
<tr>
<td>Green</td>
<td>The purpose of the practice is judge as correctly tackled in the set of established practices so it would allow the performance of the goal in case the deployment might be done in this way along the enterprise network.</td>
</tr>
<tr>
<td>Not yet</td>
<td>The practice has not still performed because the collaborative project has not reached the appropriate point in the life cycle.</td>
</tr>
<tr>
<td>Empty</td>
<td>It has not been established a mark because the evaluation has not collected information.</td>
</tr>
</tbody>
</table>
ECMM Results: Comparison between the three companies

- Results: Comparison between the three companies (CBP)

<table>
<thead>
<tr>
<th>PA</th>
<th>Goals</th>
<th>Practices</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>SG1</td>
<td>SP1.1</td>
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<tr>
<td></td>
<td></td>
<td>SP1.2</td>
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<tr>
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<td>SG2</td>
<td>SP2.1</td>
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<tr>
<td></td>
<td></td>
<td>SP2.2</td>
</tr>
<tr>
<td></td>
<td>SG3</td>
<td>SP3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SP3.2</td>
</tr>
</tbody>
</table>

Company 1

Recommendations related to SG1-SG2-SG3
- CBP definition and modelisation
- Internal processes visibility definition
- CBP monitoring and measurement

Company 2

Recommendations related to SG2-SG3
- CBP definition with standard format
- Quantitative performance metrics

Company 3

Recommendations related to SG1-SG2
- Internal processes visibility definition
- CBP definition with standard format
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ECMM Phase 2 - Implementation of Improvements

**ECMM Implementation of Improvements**

Design and implementation of new practices in the collaborative network according to the ECMM via **COIN services**.

Test, communication, training and dissemination of the new practices in the collaborative projects.

Remote support (via email, phone, teleconference, etc.) of the implementation of the new practices.

<table>
<thead>
<tr>
<th>Means</th>
<th>COIN Platform</th>
<th>ECMM-COIN relationship</th>
</tr>
</thead>
</table>

**Means**

- **Design and implementation of new practices in the collaborative network according to the ECMM via **COIN services**.**
- **Test, communication, training and dissemination of the new practices in the collaborative projects.**
- **Remote support (via email, phone, teleconference, etc.) of the implementation of the new practices.**
## Mapping COIN Collaboration Services – ECMM (extract)

<table>
<thead>
<tr>
<th>COIN WP4.1 Baseline EC Services</th>
<th>ECMM Process Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service for Maintaining Competencies</strong>  &lt;br&gt;Ensure all the information related to membership applicants of the cluster is appropriately registered, storing their competences into a database, supporting the publication and sharing of information between cluster members.</td>
<td><strong>Training and Competency Development</strong>  &lt;br&gt;Develop the skills and knowledge of people in a collaborative way so they can perform their roles in the network effectively and efficiently.</td>
</tr>
</tbody>
</table>
| **Service for Matching Competencies with Business Opportunity**  <br>These services support the VO formation phase, with the characterization of the Collaboration Opportunity, search for possible partners and identification of the most suitable ones based on their competences. | **Collaboration Agreement**  <br>Set up the terms in which the collaboration takes place as well as the management of the collaboration activities throughout the whole life of the collaborative enterprise.  
**IPR**  <br>Protect the works the members of the collaborative enterprise create and exploit. |
| **Service for Tracking VO Members Progress**  <br>These services support the VO management and operation by providing a catalogue of pre-defined indicators, estimating partner satisfaction, aiding collaborative design or supporting human interaction in the planning and scheduling VO management & Operation. ICT support for project management, human interaction, product development, and production planning | **Measurements and Analysis**  <br>Develop and sustain a measurement infrastructure that is used to support business management information needs in order to help making decisions that affect collaborative business outcomes.  
**Interoperability and Collaboration Technologies**  <br>Establish tools, techniques and methods for interoperability and collaboration |
| **Service for Maintaining Knowledge and Training**  <br>Maintain knowledge and training and fulfil an inheritance function. | **Training and Competency Development**  <br>Develop the skills and knowledge of people in a collaborative way so they can perform their roles in the network effectively and efficiently. |
The purpose of **Collaborative Business Process (CBP)** is to establish and maintain a usable set of collaborative business process assets and work environment standards.

**Recommendation.** Model collaborative business processes following a standard format and modelling notation. Model the exchange of information linking the internal processes among the members of the network. The model of the collaborative business processes should cover: Work processes, Management processes and Support processes.

COIN Service: PnP Collaborative Production Planning Portal (C3P)

Model the business process using a formal notation language.
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</tr>
</thead>
<tbody>
<tr>
<td>The (self)-assessment will make use of the online web-based questionnaires previously developed or should the option selected be on-site assessments</td>
<td>On-line questionnaires</td>
</tr>
<tr>
<td>Report the final assessment results and lessons learned.</td>
<td>Final reports</td>
</tr>
<tr>
<td>Comparison between the previous situation and the current one (wherever possible)</td>
<td>Feedback questionnaires</td>
</tr>
<tr>
<td>Update and improve the ECMM based on the input received in the pilot.</td>
<td>ECMM review</td>
</tr>
</tbody>
</table>
• **Improve the capability for collaboration** of an enterprise inside its collaborative network and to support collaborative and interoperability practices in different collaborative scenarios.