Enterprise Collaboration & Interoperability



Enterprise Collaboration Services

Patrick Sitek –
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May, 5th Budapest

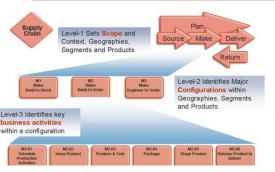


Workshop Agenda

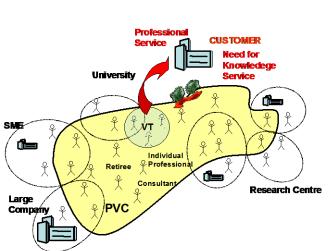
- Enterprise Collaboration Services Concept
- Enterprise Collaboration Services Detail
- What's new in COIN EC Baselines
- Questions & Answers

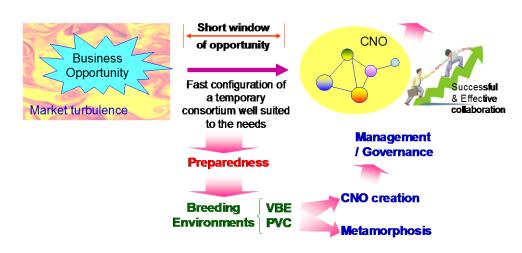


Understanding Enterprise Collaboration



- OEM determines the SC competencies and network structure
- Aligned by construction
- OEM generates BOs for the SC
- Top-down modeling, structuring and planning
- Full scale competencies visibility
- Centralised enactment & management
- Service Center as a competencies collector
- Manual Alignment process
- Crawlers to discover market BOs
- Top-down modelling, structuring and planning
- Negotiation for scheduling
- Centralised enactment & management





(c) The ECOLEAD Integrated Project

- Specific BE competencies
- Intelligent Alignment process (Agents)
- BO Miners to discover internally-generated BOs
- · Participative and collaborative structuring, modeling and planning
- P2P enactment & management



Enterprise Collaboration Baseline Concept – Business Perspective

	Enterprise Collaboration Preparation	Enterprise Collaboration Formation	Enterprise Collaboration Management & Operation	Enterprise Collaboration Dissolution
Competencies Management Baseline Services	Service for Maintaining Competencies	Service for matching Competencies with Business	Service for Tracking Capacities	Service for Maintaining Knowledge and Training
Business Opportunities Management Baseline Services	Service for Identifying Business Opportunities	Opportunity	Service for Tracing Progress	Service for Customer Support
		Basic Services for Hu	ıman Interaction	



Existing EC tools and systems

Catanan	[C - C	NI1 C	T1 N
Category	Software	Number of	Tool Name
XX 7 1		Tools	Track Decree 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Web	Tomcat	10	Virtual Breeding Environment Management (VMBS), Professional Virtual
application			Community (PVC) Management and Governance, PVC Rewarding Tool,
			Requirement Identification Service (refQuest), E4 (Extended Enterprise
			Management in Enlarged Europe) Platform, Supported Indicator Definition (SID) Collaboration Opportunity Characterization (COC) Plan Virtual
			(SID), Collaboration Opportunity Characterization (COC) Plan, Virtual
			Organization (VO) Model Repository, Partner Selection (PS), VO Formation
	Apache Web	2	Collaboration Opportunity (CO) Finder, Customer Support Service (DISCO)
	server	_	
	Microsoft	4	PVC Management and Governance, Planned, Mediated, and Ad-hoc
	IIS	_	Collaborations
Web service	Axis	2	Communication Service Set, Activity Management
Database	MySQL	9	PVC Management and Governance, PVC Rewarding Tool, Planned,
			Mediated, and Ad-hoc Collaborations, Communication Service Set, Activity
			Management, refQuest, DISCO
	PostgreSQL	5	VBMS, E4 Platform, CO Finder, COC-Plan, VO Formation
Programmin	Java	10	VBMS, PVC Rewarding Tool, Communication Service Set, Activity
g Language			Management, refQuest, SID, COC-Plan, VO Model Repository, PS, VO
			Formation
	C#	5	PVC Management and Governance, Planned, Mediated, and Ad-hoc
			Collaborations, E4 Platform
	PHP	2	CO Finder, DISCO



- core set of services and tools
- each ellipse represents a business service that is supported by a group of software tools and





Member registration

Alignment with EC	Member Registration Tool is offered in the Preparation Phase of an Enterprise Collaboration to organizations and individuals in order to register in the network.
Functionality	 Member Registration Tool process requires the following steps: Membership applicant creates a <i>new account</i>. Membership applicant chooses whether <i>to register as an organization or a professional individual</i> Membership applicant submits <i>member data and evidence data</i>. Membership administrator is informed about a new applicant. Membership administrator <i>evaluates</i> organization/individual and evidence data of the new applicant and might inquire additional information. Membership administrator <i>accepts or rejects</i> the application. On a successful application the Membership applicant becomes a member and can access information other members.
Licensing	Creative Commons 3.0 non-commercial license (http://creativecommons.org/licenses/by-nc/3.0/de/deed.en).
Contact Person	Simone Stegel, BIBA, stl@biba.uni-bremen.de



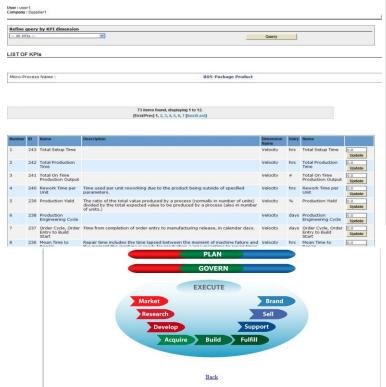
Member profiling

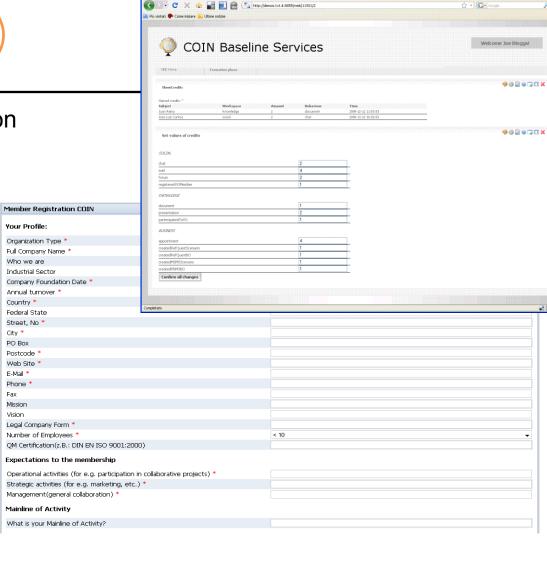
Alignment with EC	Preparation phase: the Company Manager sets up his company profile (workflows that are going to be used, definition of processes and performance data, contributed products or services, assignment of workflows to products)
Functionality	Partner Profiling requires the following proceeding:
	Registration as Administrator / Network Manager.
	 a) See all profiles available in the network b) See all network members offering specific components/ services. See details about single components and process performance of specific supplier as well as uploaded documents regarding the offer. c) See and configure all running Enterprise Collaborations
	 2. Or registration as Network Member. 3. Logged in as a Network Member: a) Add components/ services and upload documents about component b) Define processes needed (VCOR™) c) Define key performance indicators for each process (VCOR™) d) See all components and referring details offered from network member e) Change the details, upload new documents, and configure performance data of existing components f) See all Enterprise Collaborations the user is involved in
Licensing	Partner Profiling tool is based on Java technologies and is released adopting OSS GNU General Public License v2 license (http://www.gnu.org/licenses/gpl-2.0.html).
Contact Person	Simone Stegel, BIBA, stl@biba.uni-bremen.de



Member registration and profiling

- Management of member information and member performance profiling (processes, VCOR KPIs)
- For both individuals and organizations.





Modifica Visualizza Gronologia Delicious Strumenti ?



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Business Opportunity creation

Alignment with EC	RefQuest is a serious game for the Business Opportunity Creation option, allows the implementation of different ideation processes due to the separation of gaming engine and game content. Actions and events keep the ideation process innovative. This Business Opportunity Creation tool supports the creative ideation process between network members at an early stage in the collaboration phase.
Functionality	The BO Creation game requires the following proceeding: 1. Login as a player. 2. Choose a perspective. 3. Individual idea generation 4. Common idea generation 5. Idea presentation 6. Idea assessment 7. Complete idea generation.
Licensing	The BO Creation tool is developed and completely owned by BIBA Business Opportunity Creation (refQuest) on BIBA server at http://www.games.biba.uni-bremen.de
Contact Person	Simone Stegel (stl@biba.uni-bremen.de)





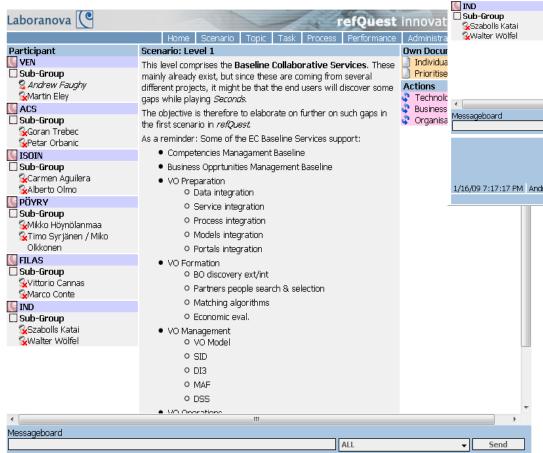
Alignment with EC	The necessity of this tool comes from the necessity of the broker to find in a short time the right BO. The large amount of data available in the web do this research very complex and time consuming. This tool can leverage the broker from these issues presenting in an automatic way the list of suitable BOs.
	The Business Opportunity Discovery Service is a web application looking for CfT (calls for tenders) published in internet web sites.
	Application output data are exported to other services to give the possibility to manage discovered BOs. Data are stored into Business Opportunity Model by "Business Opportunity Service" web services.
Licensing	The license is to be determined.
Contact Person	Drago Trebeznik, JSI, drago.trebeznik@ijs.si

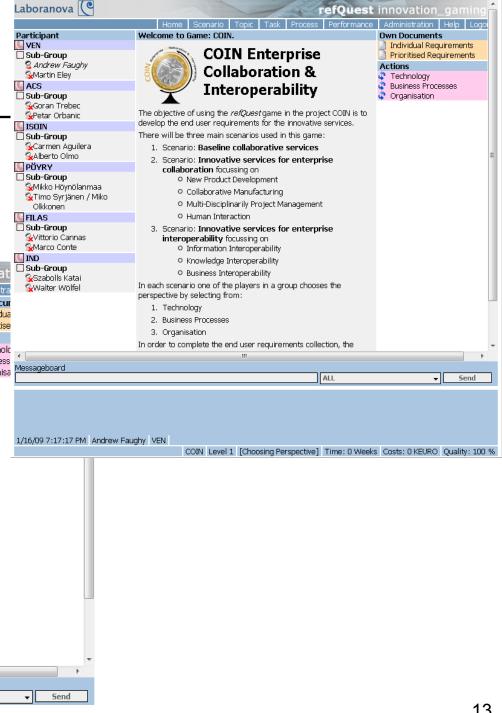


Business Opportunity creation and discovery

Software tools and services:

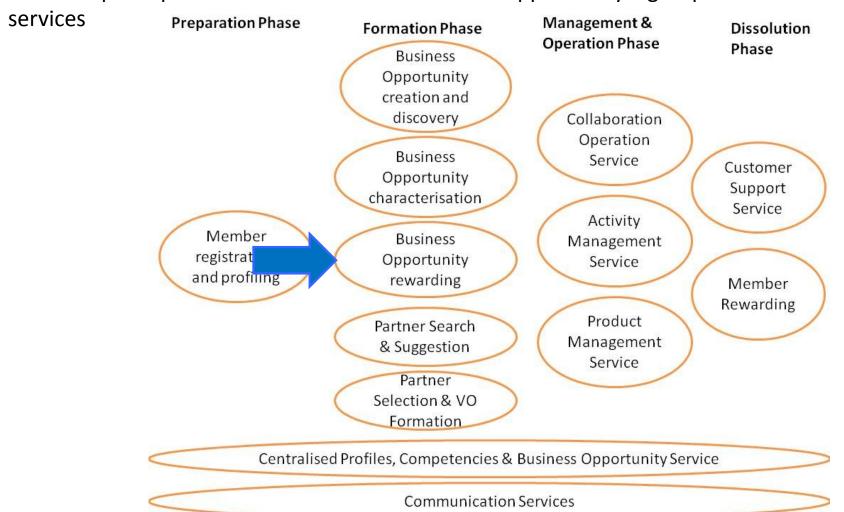
- Business Opportunity Discovery Service
- Business Opportunity Creation Tool







- core set of services and tools
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Business Opportunity rewarding

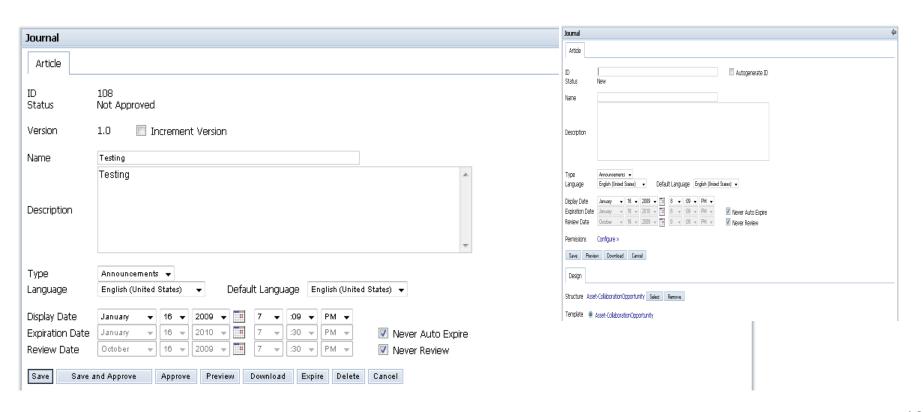
Alignment with EC	The Business Opportunity Rewarding Tool is offered to motivate parties interested in an enterprise collaboration in contributing business opportunities. The Business Opportunity Rewarding tool developed as a Java portlet runs within the COIN Baseline EC Portal and accesses the COIN Centralized Profiles, Competencies and Business Opportunity Service.
Functionality	The Business Opportunity Rewarding tool requires the following proceeding: 1. Administrator created a list of incentives. 2. Member uploads BO idea. 3. Administrator is informed about a new item. 4. Administrator evaluates the item and enters a score. 5. Member accesses the incentives list and can select an incentive.
Licensing	Creative Commons 3.0 non-commercial license (http://creativecommons.org/licenses/by-nc/3.0/de/deed.en)
Contact Person	Simone Stegel, BIBA, stl@biba.uni-bremen.de





Software tools and services:

- Business Opportunity Rewarding Tool
- Reward organisations creating new business opportunities for the cluster
- Score is defined and maintained for each member of the enterprise collaboration





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Business Opportunity characterisation

Alignment with EC	BO Characterization tool allows a user to make BO decomposition, <i>identify needed competencies</i> and make a rough planning of the EC. The BO decomposition is done in terms of <i>products</i> to be manufactured as well as Bill of Material and/or <i>activities</i> to be performed as well as Work Breakdown Structure.
Functionality	The "WBS service" provides the creation of a complete Work Breakdown Structure (WBS) getting in input in a BOM with activities (tasks) to be performed to create the related item.
	The service allows the creation of the WBS by the usage of different algorithms such: • As Soon As Possible (ASAP) • Al Late As Possible (ALAP) • minimum usage of resources
	The output of the computation is returned to the caller by an XML file
Licensing	All third party software components and libraries are released under Apache Licence or Sun licence.
Contact Person	Michele Sesana, TXT, michele.sesana@txt.it



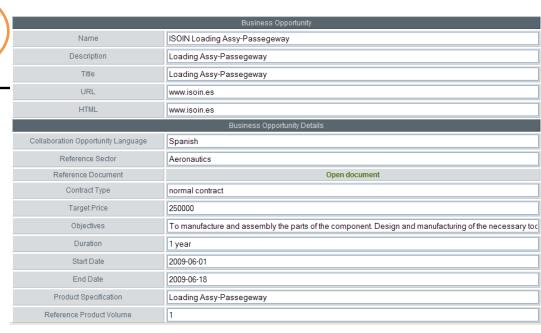
Business
Opportunity
characterisation

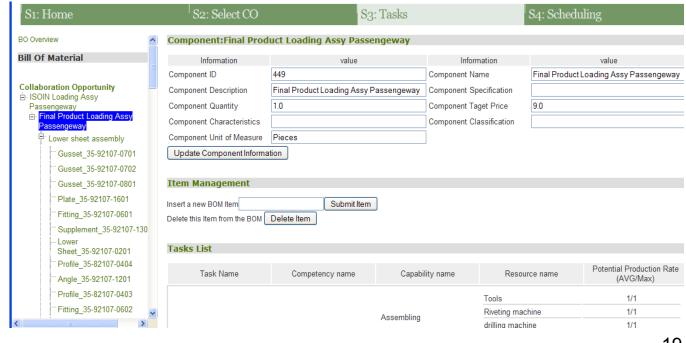
Software tools and services:

Business Opportunity
 Characterization Service and Tool for Manufacturing

-Characterization of a Business Opportunity in terms of BOM (Bill Of Material) definition, BOM item information tasks and required competencies to perform them. BO formalization in a structure (WBS).

Edit Business Opportunity







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Partner Search & Suggestion

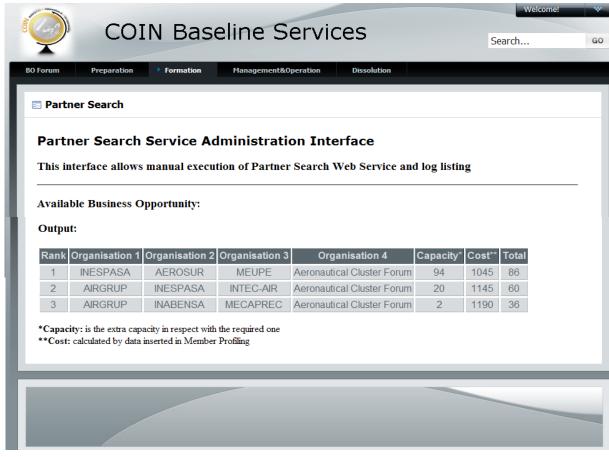
Alignment with EC	The purpose of partners search (PS) tool is to assist the broker in the selection of the most suitable members for a EC regarding the requirements of a given and characterized business opportunity (BO).
	The output of the PS tool is a list of potential EC configurations including an associated expected performance for each possible configuration with respect to the applied performance criteria.
Functionality	Main functionalities:
	 - Import: Read import data about tasks and required competencies from the Business Opportunity Model. - Search: The partner search will look for the potential partners that have the required competences / processes as well as resource availability to be part of the new EC. - Generation and Analysis of suggested EC: presents not only the best arrangements but also additional information regarding special characteristics of each partner
Licensing	Has to be determined.
Contact Person	The service has been created in a past project by VTT, for WP4.1 purposes has been adapted and integrated by TXT, contact person is Michele Sesana (michele.sesana@txt.it)



Partner
Search &
Suggestion

Software tools and services:

- Partner Search Service
- Search for relevant partners (from the cluster member pool)
- Web service implementing and executing search algorithms
- The service suggests the most suitable members for an Enterprise Collaboration regarding the requirements of a given business opportunity (BO)





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Partner
Selection &
EC Formation

Alignment with EC	Creating a new EC and selecting the appropriate partners.
	The Partner Selection and EC Formation tool manages information about ECs during the Formation phase. It provides mechanisms for storing information on created ECs in the data-structure as well as structuring, storing, and providing inheritance information to the formation process. The innovation lies in the combination of organizations and individual profiles representing a highly dynamic collaborative network.
Functionality	The Partner Selection and EC Formation tool requires the following steps:
	1. <i>Administrator</i> can <i>create</i> a new EC.
	2. Administrator can <i>choose</i> partners according to a list retrieved from Partner Search
	& Suggestion or choosing other partners distinguishing organizations and individuals.
	3. Administrator can <i>edit</i> information about each EC and can edit EC documents.
	4. Member can access information on each EC.
	5. All running and terminated ECs are displayed.
Licensing	Creative Commons 3.0 non-commercial
	license(http://creativecommons.org/licenses/by-nc/3.0/de/deed.en).
Contact Person	Simone Stegel, BIBA, stl@biba.uni-bremen.de



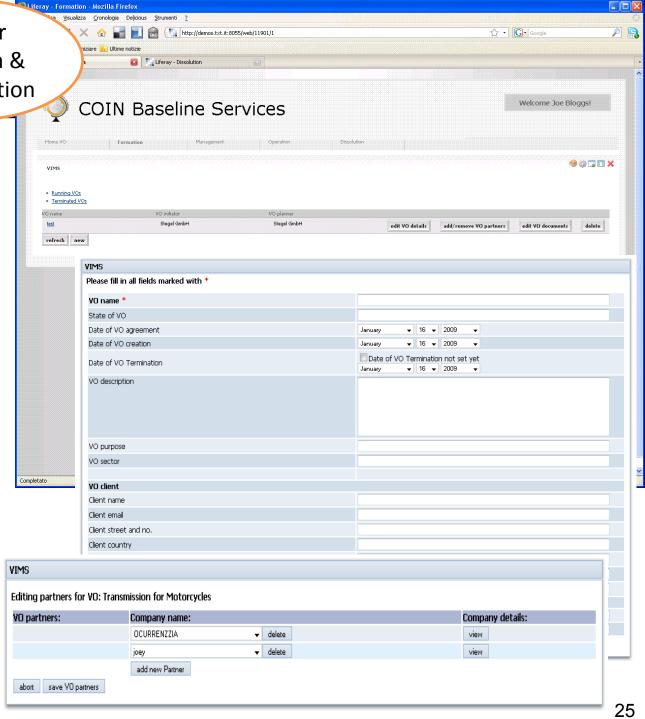
Partner
Selection &
EC Formation

Software tools and services:

- Partner Selection Tool
- VO Formation Tool

Mechanisms for storing information on created ECs

- Structuring, storing and providing inheritance information to the EC formation process.





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Activity Management Service

Alignment with EC	The Activity Service is a Web service offers support for <i>dynamically managing activities</i> of users and teams. The Activity Service supports the creation and management of activities of people within a collaboration scenario. For the COIN baseline scenario the Activity Service is used to <i>support the execution of tasks in the operational phase</i> . Once the activities are created, they are managed and tracked by the Mediated Collaboration Service. To read the tasks of a particular BO and convert them to activities a conversion service provided by TUV can be used.
Functionality	 representing structures to organize and link tasks to perform participants of these tasks resources and artefacts to use or to produce creating/editing/delegating/deleting activities activities can be managed ad-hoc, without the need for a predefined workflow
Licensing	The license is to be determined. The Activity Service is currently not released for public use, but a running instance is managed and provided by TUV.
Contact Person	Hong-Linh Truong, TUV, truong@infosys.tuwien.ac.at



Activity Management Service

Software tools and services:

- Activity Service
- Creation and management of activities of people within an EC
- Information about responsible and involved users, time constraints, and applicable resources
- Records any changes to activity structures during runtime
- Allows to analyze deviations from planned collaborations

Activities

Name	Description	Progress	Start	Status	
Adapteradapter_drilling	BO: Centrifuge Machine, Component: Adapter, Task: adapter- drilling	0	15/01/2007 0.00.00	pending	Edit activity properties
Adapteradapter_milling	Milling	0	28/01/2009 8.00.00	pending	Edit activity properties
MechanicalSystemassembly	BO: Centrifuge Machine, Component: Mechanical System, Task: assembly	1	26/12/2006 0.00.00	running	Edit activity properties
Positionerassembly	BO: Centrifuge Machine, Component: Positioner, Task: assembly	1	13/01/2009 6.00.00	running	Edit activity properties
Revolute_revolute_lathing		0	01/01/0002 0.00.00	pending	Edit activity properties
RotorAssemblyassembly	BO: Centrifuge Machine, Component: Rotor Assembly, Task: assembly	0	17/01/2007 0.00.00	pending	Edit activity properties
Rotorrotorfabrication_lathing	BO: Centrifuge Machine, Component: Rotor, Task: rotor fabrication - lathing	0	15/01/2007 0.00.00	pending	Edit activity properties



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Collaboration Operation Service

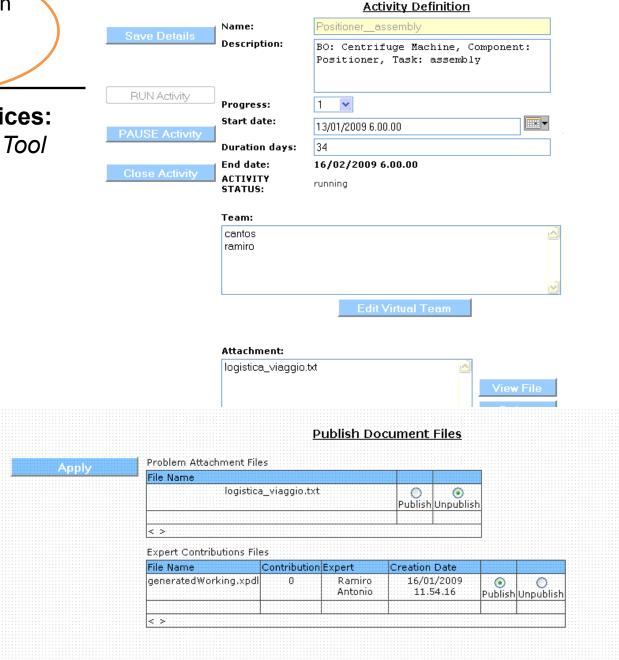
Alignment with EC	The Collaboration Operation tool is a <i>problem-solving environment</i> , based on a process of collecting and evaluating contributions from the activity members by the <i>activity leader</i> , who is the problem responsible.
Functionality	The moderator is also the responsible for compiling the <i>solution form</i> , taking into account the experts suggestions, deciding - which contributions shall be included in the solution and, - at closing time, - who participate in the activity. Contributions can be <i>evaluated</i> , <i>accepted or rejected</i> by activity leader, <i>downloaded</i> by other members, and in the end of the activity the leader can <i>summarize</i> all suitable contributions and upload the final result.
Licensing	Has to be determined.
Contact Person	Lidia Garavaglia, TXT, lidia.garavaglia@txt.it



Collaboration Operation Service

Software tools and services:

- Collaboration Operation Tool
- Problem-solving service
- Collecting and evaluating contributions from activity management service
- Compile solution forms, taking into account the experts suggestions, deciding which contributions shall be included in the solution
- Sent information to responsible people





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Product Management Service

Alignment with EC	The Product Management Service is designed for the operational phase of the EC. The Product Management Service consists of many web services, based on DISCO project.
Functionality	It enables product developers to share documentation of their products and assemblies, and structure their complex products in catalogues, categories and different configurations.
Licensing	The Product Management Service is published under GNU Lesser General Public License. For more information about GNU LGPL please visit http://www.opensource.org/licenses/lgpl-3.0.html
Contact Person	Alberto Olmo, ISOIN, aolmo@isoin.net



Product Management Service

Software tools and services:

- Product Management Service and Tool
- Share documentation of products and assemblies
- Structure complex products in catalogues, categories and different configurations





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Customer Support Service

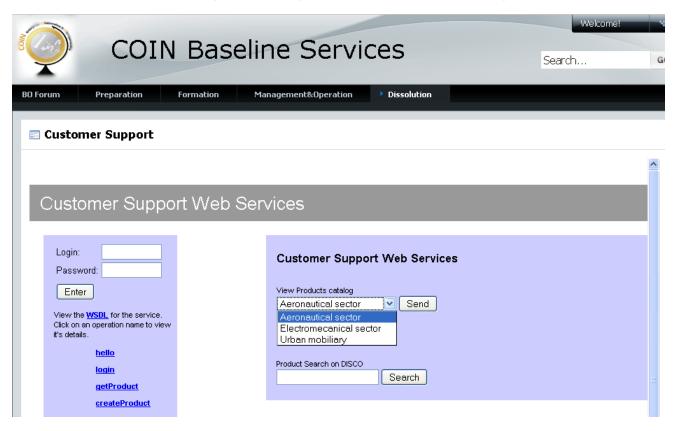
Alignment with EC	The Customer Support Service is designed for the dissolution phase of EC. The Customer Support Service consists of many web services, based on DISCO project.
Functionality	It enables end customers to access the information of products and assets resultant from the EC project, with a structured classification in catalogues, categories and different configurations of the complex product.
Licensing	The Customer Support Service is published under GNU Lesser General Public License. For more information about GNU LGPL please visit http://www.opensource.org/licenses/lgpl-3.0.html
Contact Person	Alberto Olmo, ISOIN, aolmo@isoin.net





Software tools and services:

- Customer Support Service and Tool
- Access information of products and assets resultant from the EC project
- Structured classification in catalogues, categories and different configurations of the complex product





Enterprise Collaboration Baseline Services – Prototype Details

- core set of services and tools
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Member Rewarding

Details

Alignment with EC	Credits are a performance indicator, their function is represent and monitor individuals' activities in terms of <i>participation</i> in each of the workspaces, so that every members of an EC and especially administrator can check their behavior and compare it to the expected one.
Functionality	To do that the first feature exposed is available to the administrator that, using AdminCreditsService tool, <i>decides</i> how many credits are due to every action executed by the users. Another feature gave to the administrator is the possibility to <i>visualize</i> credits related to individuals in order to understand their behaviors. The main functionalities of the tool is the <i>automatic assignment of credits</i> to the individuals by their performed actions in one or more workspaces (stored in the database), through information coming from external tools using this functionality exposed by SetCreditsService.
Licensing	Has to be determined.
Contact Person	Lidia Garavaglia, TXT, lidia.garavaglia@txt.it



Member Rewarding

Software tools and services:

Individual Credit Management
Tool

Individual Rewarding Tool

- Members can be rewarded for their skills and technical competencies
- Gained credits as performance indicators for participated activities in the portal can be seen

Individual rewarding

Select one or	more technical competencies and	l a level:	
CNC progra	mming	Overy low	
⊽ Tooling		Olow	
Machining		Omedium	
Assembling		⊙ high	
Cost estimation		Overy high	
✓Product op	timization		
Legal assis	tance		

Individual Trends

Gained credits: "						
Subject	Workspace	Amount	Behaviour	Time		
Juan Reina	knowledge	2	document	2008-12-12 11:53:53		
Jose Luis Cantos	social	2	chat	2008-11-12 16:53:53		



Enterprise Collaboration Baseline Services – Prototype Details

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services **Preparation Phase** Management & Formation Phase Dissolution **Operation Phase** Phase **Business** Opportunity creation and discovery Collaboration Operation **Business** Service Customer Opportunity Support characterisation Service Activity Member **Business** Management registration Opportunity Service and profiling rewarding Member Rewarding Product Partner Search Management & Suggestion Service Partner Selection & VO Formation Centralised Profiles, Competencies & Business Opportunity Service Communication Services



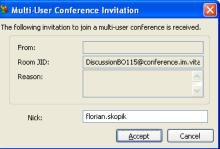
Communication Services

Details

Alignment with EC	Human collaboration within EC is a major goal. One preliminary for strong collaboration is communication which is performed by using several different technologies, like email, instant messaging, chats and Voice calls via Skype. TUV provides different single Web services which offer these functionalities.
Functionality	The CommunicationPortlet provides a GUI for using the Email Service, Instant Messaging Service, and SkypeWeb Service. It enables the end-user directly to utilize these communication facilities and demonstrates their features, which are: - Sending an e-mail notification - To one recipient, to a list of recipients
	 Sending an IM notification To one recipient, to a list of recipients Creating a chat room and invite other users Utilize SkypeWeb features, such as Starting a conference call, Starting a text chat, Sending Files via Skype
	These functionalities realize Ad-Hoc collaboration features, which enable direct and synchronous communication between specific activity members.
Licensing	The license is LGPL v3. The third party software components and libraries included in the current release are using diverse open source licenses.
Contact Person	Hong-Linh Truong, TUV, truong@infosys.tuwien.ac.at



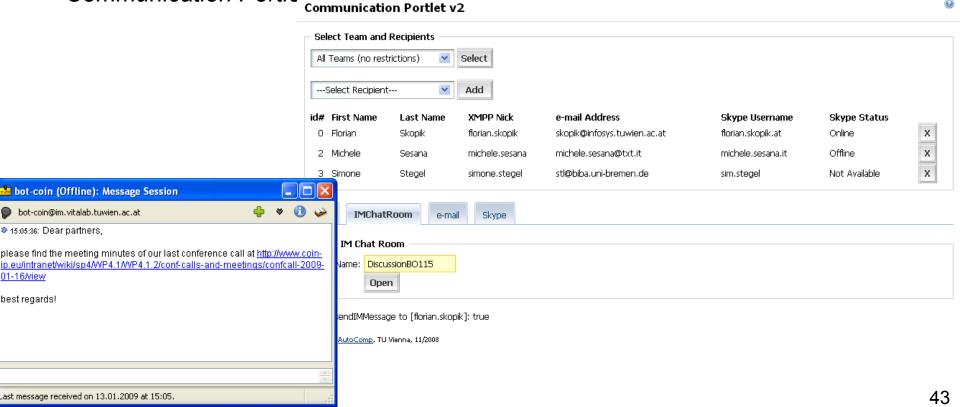
Communication Services



Software tools and services:

- -Email Service,
- Instant Messaging Service,
- Skype Web Service,
- Notification Service,
- Communication Portlet

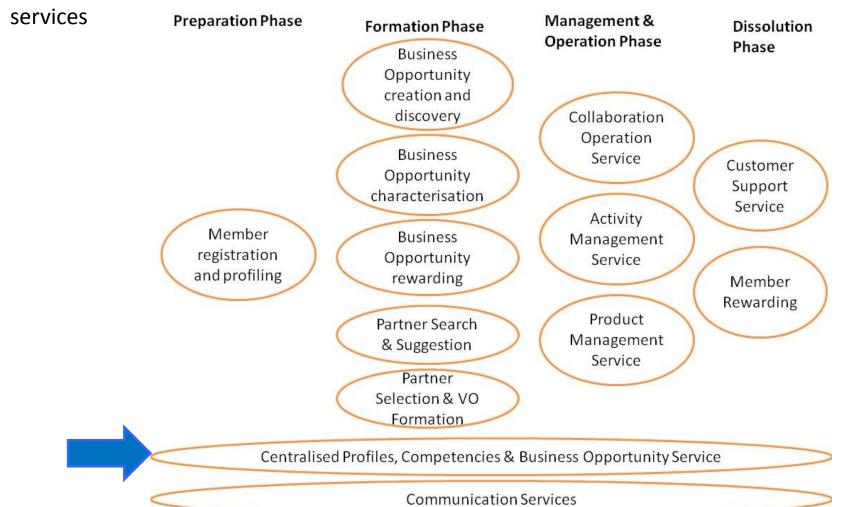
- -Communication between humans through e-mail, instant messaging and voice chat
- Utilize the communication services directly
- Services can be used by other services/tools to distribute relevant information
- Notify about important events in all collaboration phases





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Business Opportunity Service - Details

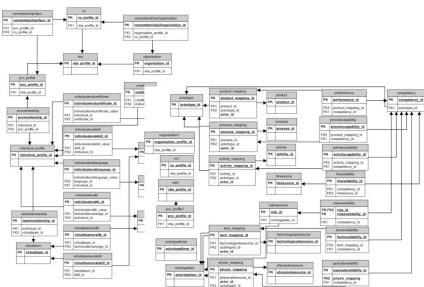
	,
Alignment with EC	The Business Opportunity Service is a java enterprise application exposing a web service .
	The purpose of this service is to give an easy high level interface to manage data about the Business Opportunity which means that any tool will save and add part of the Business Opportunity model during the execution of its activities.
Functionality	The current version of the service is a web service allowing access to the BO Model triggering the low level functionalities exposed by "COIN Data Level Business Opportunity Access Service". This service features are:
	- Create a new BO - Edit BO data - Delete a BO - Find a specific BO - Get a list of BO comply with some parameters
	- Define the status of the BO and the related tool that is allowed to access to related data
Licensing	Has to be determined.
Contact Person	Michele Sesana, TXT, michele.sesana@txt.it



Service to Access the Profiles, Competencies and Business Opportunity Common Repository

Software tools and services:

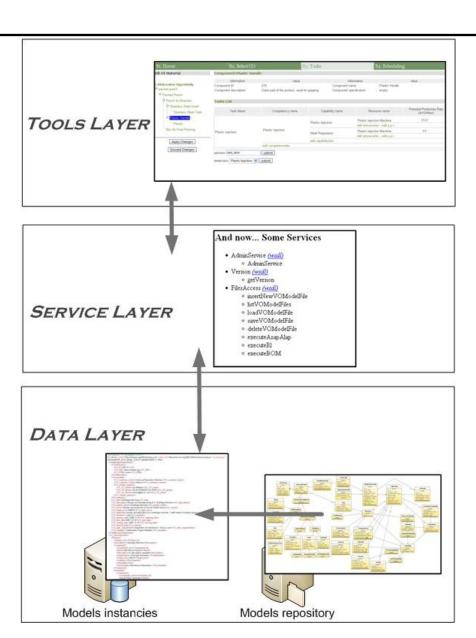
- Profiles, Competencies, Business Opportunities models and database,
- Access to the common Profiles and Competencies Service,
- Business Opportunity Access Service
- Support of business opportunity information, individual credits, profiling, human interaction information
- Manages the core data model schema which is used by all baseline tools and services.
- All tools and services can save/retrieve required data from different, but common, models without any concern of who inserted these data, what is the data structure of the other modules and who will use the saved data

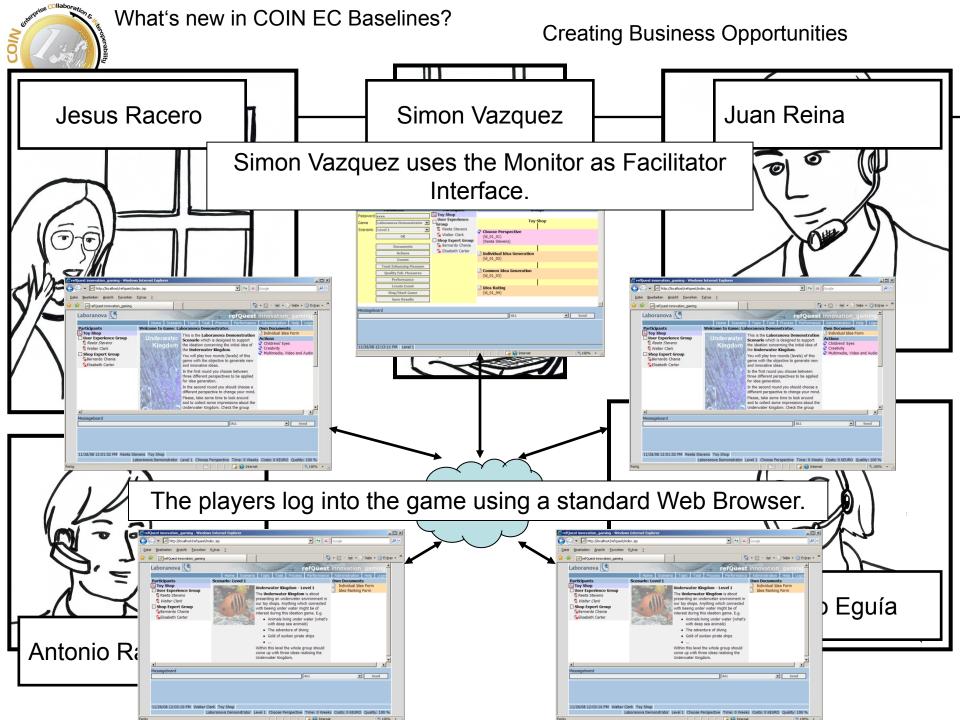




What's new in COIN EC Baselines?

- Common Data and Models Base with 59 implemented entities
 - -Former software has been decoupled in three levels, separating business logic, presentation layer and data
 - -Business logic has been encapsulated into reusable webservices
 - Data exchanged by applications are now managed by a common database and private data of application stay on legacy databases
 - Harmonisation of Networks of individuals (PVCs) and Enterprises

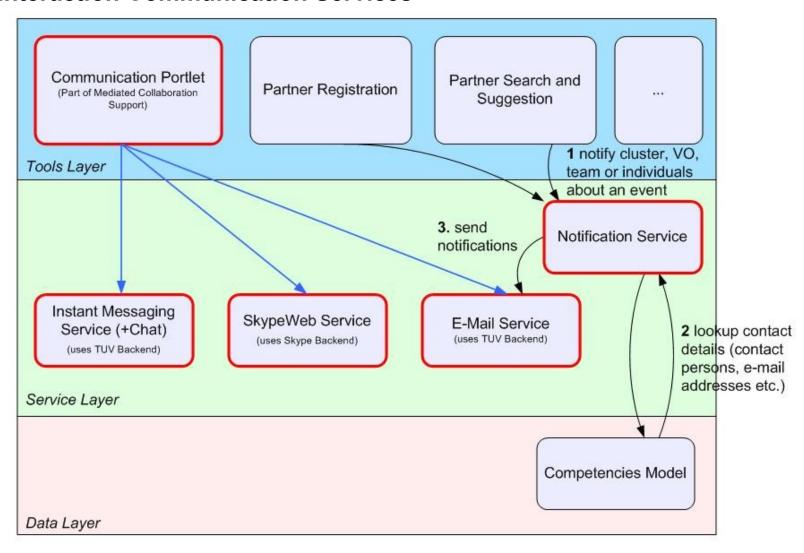






What's new in COIN EC Baselines?

Human Interaction Communication Services





Thank you for your attention

Patrick Sitek

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