D9.2.1 Siemens Scenarios

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Abstract
The overall goal of the Siemens Business Services case study is to optimize the
analysed knowledge flows (between Siemens employees, customers and partners)
which means to make the contribution, relocation and reuse of information,
documents and knowledge easier.

This will be achieved by superior new functionality which creates considerable
benefit for the user and business process effectiveness (focussing sales & delivery, see
D9.1.1) by means of higher quality and more efficient access to information.

Scenarios aim to outline the objectives of the case study guidelines and concepts for
user interfaces to access innovative search technologies. They provide a theoretical
and conceptual framework for the different characteristics of a search process in a
corporate environment and thereby serve as input and inspiration during the user
validation process and the development of the final user interfaces.

Based on the analysis carried out in Task 9.1 scenarios were developed on how work
could actually be changed by applying the envisaged SEKT technologies.

These scenarios take the form of graphical storyboards, in the first place, which will
be further elaborated and validated together with the user groups in workshops.

Keyword list:
Knowledge Base, business process support, requirements capture, searching and
browsing, alerts, knowledge capture and reuse, knowledge sharing, expertise location.

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D9.2.1 / Siemens Scenarios

SEKT Consortium

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Executive Summary

For Siemens / Siemens Business Services the use of Knowledge Management & Retrieval Technology is part of the business process supporting methodology having major impact on accessing and reusing the company’s most important assets. But the value of the organisational knowledge is not based on its pure ownership, but on the multiplication of the knowledge (e.g. the re-use of knowledge).

As the objective of the Siemens Business Services case study is to investigate and verify how semantically enabled technologies can improve the productivity of IT and business consultants, the scenarios focuses on how to stimulate the emergence and creation of new knowledge and its capture along the Proposal- & Project Management Process in the Consulting Department.

The biggest hurdle to overcome with semantic enabled knowledge management is the effort to spend on classical attribution or search via metadata. Both normally requires additional work from the IT consultant what in many cases people are not willing to invest.

Another challenge of Knowledge Management per se is the difficulty of measuring the business impact. Therefore the selected business cases should also been seen as a test field to measure the impact both in employees acceptance and management key performance indicators. While the most important key figure will be time saved, it is important to show also what will be the additional business benefit based on the time savings.

Referring to knowledge discovery in corporate intranets and knowledge management systems, the context-awareness of a search engine may be defined as to include e.g. the current role of an employee performing a specific task in a specific process. Additionally it may also take into account the personal profile of this person including previous searches, manually set preferences and access-rights. The kind of device the user is accessing the search with, e.g. by using a mobile PDA, may be regarded, too.

Therefore the process of information search from a user perspective is described in detail (Use Case 1), defining the components the process may consist of and outlining the different types of searches or rather search intent of users. Referring to this process description, the key success factors and different available options for designing the user interface to access the search are outlined, taking especially into account the opportunities given by the assumed availability of an ontology based semantic search technology. To ensure the consistency of the interface to access the search technology within the Siemens / Siemens Business Services intranet and knowledge management environment, the guidelines predefined by the Siemens Online Style Guide are followed as well.

Covering the process steps of adding new content to the Knowledge Base and answering the request of automatic support for assigning metadata is subject matter within (Use Case 2).

Reusing existing knowledge within an IT Service Organization for providing competitive offerings in order to generate more business while achieving their productivity targets is in the focus of Use Case 3.
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1 Scenarios

Based on the analysis carried out in Task 9.1, scenarios were developed on how work could actually be changed by applying the envisaged SEKT technologies. These scenarios take the form of graphical storyboards, in the first place, which will be further elaborated and validated together with the user groups\(^1\) in workshops.

1.1 Business Context of the scenarios (scope)

The figures below show the workflow along the Siemens Business Services sales and delivery processes. It shall give a quick overview at which phases and milestones of the process which work products have to be created. The circled work products are declared mandatory for small projects based on service contracts.

According to PM@Siemens (Siemens Project Management Initiative), small projects belong to the lowest classification level (see figure below). A project means that a customer specific solution is offered, in contrast to plain supply business which does not involve any customized modifications (catalogue products & standard services). Siemens Business Services has defined the escalation levels I to IV+ and each project has to be classified to one of these levels. Small projects at Siemens Business Services are always projects of Escalation Level I. Projects of other escalation levels than I are not covered by this guide to reduce complexity, i.e. we focus on projects of a size up to 2.5 Mio € and up to 5 Person Years.

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\(^1\) Currently mainly from the knowledge management community within SBS
For each reporting cycle
Workflow: Delivery
Small Project
Customer
Start Project
Acceptance
Project Steering Committee
Strategic Direction / Conflict & Problem Resolution / Risk Management
Definition of Deliverables and Services
Project Plan (High-Level)
Project Plan (Detailed)
Project Status Report
Controlling
Acceptance
For each new event (e.g. CR, Risk, new Phase)
Change Request / Report & Log
Performance Report
Deliverable / Acceptance Document
Documentation of Milestones / Qual. Gate Approvals
Client Report / Findings
Financial Figures / Calculation
Customer Satisfaction Survey
Documented Requirement Handling
Entrepreneur / Approval Board
Governance Layer
Process Layer
Project Manager
Project Setup Completed
Revise Project Plan
1.2 Process Flow Models of the scenarios
The retrieval & content-creation process is a specific process that turns a local document into a corporate knowledge asset (candidate) and regulates the worldwide exchange of knowledge. It ensures that the contents of the knowledge base are up to date and of a high quality.

Fig. 2: Workflow Delivery

Projects
Small Projects
Supply business catalog products or standard services

- Escalation Level I
- Escalation Level II to IV+
- Costs < 1.0 Mio € (SOL)
- Costs < 2.5 Mio € (QRS, PRS)
- No Risk Criteria
- Typical project effort (SOL)
  5 - 50 man-months
- Typical project duration
  2 - 12 months
- Typical project effort (QRS, PRS)
  5 - 50 man-months
- Typical project duration
  2 - 12 months
- Not a project

Fig. 3: SBS classification

Main target groups are Entrepreneurs (Top Level Management, responsible for profit-loss in business), Sales Manager, Proposal Manager, and Project Manager. SEKT shall especially help them to speak the same language and know the responsibilities of each other in small projects.

1.2 Process Flow Models of the scenarios
The retrieval & content-creation process is a specific process that turns a local document into a corporate knowledge asset (candidate) and regulates the worldwide exchange of knowledge. It ensures that the contents of the knowledge base are up to date and of a high quality.
Fig. 4: Overview of the process of content validation

When a new business problem arises e.g. a new task has to be faced by the IT Consultant an appropriate process model has to be conceptualized, retrieved and instantiated. The execution of the new instance embodies the reuse of the process knowledge as well as of the knowledge contained in the attached information. Due to the hierarchical process structure other (partial) models might be inserted by additional retrieval steps. Furthermore, instances of similar processes can be used as additional knowledge sources.

Knowledge-based systems are "Meta-models" of expertise consisting of concepts in terms of human expertise. They are described by ontologies implemented declaratively.

"Knowledge model" is described in terms of ontologies. The task ontology is needed to make knowledge-based systems aware of what task they are performing. Therefore specific conceptualization for the knowledge has to be defined before its use in the knowledge-based system. Such research on ontology is called ontology engineering.

An authoring system dealing with a tutoring task ontology knows what a tutoring task is and knows what type of domain knowledge is necessary to perform the task, which enables the authoring system to behave intelligently in the authoring support process. For specific search by explorative navigation an IT Consultant is able to retrieve appropriate knowledge in which the content is localized by performing a sequence of selection steps within an organized content repository using semantically based retrieval algorithms.
1.3 Use Case 1 - Solution Design for a Proposal (Phase S40)

In information technology, however, we force employees to use and understand a case wise created model whose concepts and terms are able to be utilized. They are represented in classes, instances, relationships, properties and rules. The Solution Design describes the planned solution for the customer’s problem in sufficient detail to enable the “IT Consultant” so that all requirements are convincingly covered and the time and effort to be spent on implementation can be reliably estimated. The Proposal Manager / Project Manager Candidate has to make sure the design includes only those parts necessary for demonstrating the proposed solution and for estimating expenditure. As a result, the design scenario could be interpreted depending on the delivery type and content in the Role “Sales Manager” (see Fig. 1 and 2) to assure getting fit with relevant information (knowledge) – proposal drafts, templates, benchmark numbers, market position, etc.

The search might also be seen as a basis for knowledge sharing by means of getting connected to other users working in the same knowledge domain.

Steps to be taken with the customer before and after submission of the proposal must be selected, planned and prepared in time.

Roles:
- Proposal Manager – Responsible for creating the proposal work products in time and budget.
- Sales Manager – Responsible for ensuring that the proposal is competitive and meets the customer needs.

The minimum requirements of the mandatory Quality comprise the following:
- Process steps of the Siemens Business Services Process Architecture SALES Process Phase S40 (see Fig. 1)
- Work products from "Minimum Standards for Small Projects”
- Project-specific work products/deliverables

Process steps are indicated in the documentation (process cards) of the Process Architecture and the Sales Framework.

They form a basis for evaluating the process quality.

Work products / deliverables are a further basis for evaluating the process quality. They take the form of documents which have to be verified. In the "Minimum Standards for Small Projects”, the work products for each process phase/milestone are listed, differentiated by project escalation level.

The work products of the proposal phase also include the solution model and the proposal itself, i.e. the products of this phase, so that here the product quality is also evaluated.

Documents on the project planning and monitoring include details of project staffing and thus also provide information on the quality of the personnel.
Project-specific work products/deliverables serve to check the quality of the processes, personnel and the product in the Delivery-Transition phase.

The following figures show mock-ups of an implementation of Use Case 1.

**1.3.1 Example Process Flow - Simple Search**

Fig. 5: Use Case 1, Simple Search
1.3.2 Example Process Flow - Advanced Search

This search form provides the following facilities for searching and is available in an expert search interface:

1. The result set is automatically sorted based on the statistical relevance (percentage of match) of the retrieved documents.

2. The system offers the option to perform a natural language search: The user may enter a complete paragraph or a question which the engine then analyses for similarity of content elements and returns associative related documents.

3. Another option will allow the user to advise the engine to find “similar documents” related to a single document in the result set. This similarity is also based on associative, statistical relationships.

4. To control the scope of the search the search engine offers options to apply search filters based for example on metadata attributes contained in the source documents of the different data pools (see 2 SBS Core-Metadata Set) or external sources. Other filter options could limit the search to specific types of documents (PDF, HTML, PowerPoint, etc.) or even specific data-pools (e.g. Search only the “Customer Project Base” within knowledgemotion/Livelink).

5. And finally all user queries’ results are shown in the search presentation interface:
Fig. 7: Use Case 1, Search Results
1.3.3 Use Case 1 - Summary profile: Searching for Information

Use Case ID: UC1
Short description: To write a proposal a huge set of information is necessary, such as:
- templates
- methods
- knowledge about customer
- knowledge about market
- knowledge about competitors
- knowledge about solutions / products
- knowledge about own delivery competencies
Not all information will always be able to be gathered in internal sources, therefore an extension to external sources is necessary as well.
Standard “full text”- and advanced searches don’t meet user expectations, therefore it is necessary to also provide information based on the push principle (based on role, customer prospect, portfolio, industry, etc.) or do implicitly include those framework information into the search.

Roles (involved): Proposal / Sales Manager, Project Manager, Project Team members
Compelling event: See process S 40
Data: See above
Result: Proposal ready for proposal delivery, transfer to S50 (see Fig. 1)

Pre-conditions: ----
Relevance: Very important, Very often
Expected improvement: Improved quality of information retrieval in terms of recall and precision leading towards increased productivity i.e. reduced proposal preparation time. Queries can be saved which enables the system to provide the user with relevant new information (push service).
1.4 Use Case 2 - Contribution of a document / Knowledge Asset

This use case covers the process steps of adding new content to the Knowledge Base and answering the request of automatic support for assigning metadata.

1.4.1 Knowledge Base – Add Asset

Once users have confirmed the details by means of **Add Item**, they will be requested to add particular attributes to the document on another screen:

The users select the attributes that best characterize their document.

The document will now be the responsibility of the community the user selected. If appropriate the relevant experts will contact the user about the quality of the document and its suitability as a knowledge asset.
Of course the user may also contact the responsible community broker itself at any time.

1.4.2 Community Workspace – Asset Upload

The second method for users to make knowledge-asset candidates available to their colleagues is provided in the workspace of a community itself.

If, by browsing the Siemens Business Services communities, users find a community to which their document could be of value they can send their knowledge-asset candidate straight to the community concerned.

![Fig. 10: Use Case 2, Community Workspace](image)

In its workspace, each community has a folder called **Asset Upload**.

To increase the user-friendliness many communities have included an extra button for this purpose.

In each case the process is the same as described above: The user enters all necessary information to describe the document and confirms the details.

In this way, the knowledge-asset candidate will be sent straight to the “mailbox” of the relevant community. It will then be checked as quickly as possible for its suitability as a knowledge asset, and if appropriate will be incorporated into the existing structure.
1.4.3 Use Case 2 – Summary Profile: Contribution of documents

The upload process described is today mainly based on manual steps and contributions of additional information provided by the users. In many discussions we heard that this additional effort is considered as being too high. Many individuals, who are not willing to share their documents or their knowledge captured, will argue that the additional effort of the upload process is too high.

The idea behind UC2 is to automatically identify and gather all the semantic meta information coming along with the document (e.g. type or format) as well as the role and the context of the individual user.

Referring to the basis information described for introduction, these might be the following:

Roles:
- Sales manager
- Project Manager
- ….

Business Process Context:
- S 40 – Proposal Development

Within a certain area of the business (Business Type),
Working for a specific client or industry,
Member of specific communities,
Earlier uploads, etc.

Most of this information describes the specific situation in which a user may want to upload a document and therefore they should be provided to the user by the system as pre-defined / proposed attributes that the user only has to confirm:
1.4.4 UC2 profile: Contribution of documents / knowledge assets candidates

Use Case ID: UC2
Short description: A user would like to upload a specific document / knowledge asset candidate to the Knowledge Base and therefore has to attach additional information to the document.
Roles (involved): User as Sales Manager / Proposal Manager, Project Manager, Project team member
Compelling event: See process model

Data: Role, situational context, personal profile (history of behaviour, project context, etc.), Document

Result: Document with add. Metadata, based on pre-configured / proposed metadata (attributes).

Pre-conditions:

Relevance: Very Important, very often

Expected improvement: Metadata will be collected according to an improved Siemens Metadata Core Set definition (see chapter 2). Applying SEKT and in particular Information Extraction and Knowledge Discovery capabilities must lead to an improved metadata quality in terms of richness and completeness when compared to purely manual annotation.
1.5 Use Case 3 – Re-use Initiative

To every customer SOL is selling Solutions, most desirable with high quality and minimal risk. Risk reduction occurs when proven project results and outstanding successes can be replicated. Basis for this is a completed project with a proven systems architecture.

Reusing existing knowledge give us the chance for competitive offerings in order to generate more business while achieving our productivity targets. The degree of reusability depends on the ability of matching the existing architectural and functional features and modules with new customer requirements.

Reuse in the Project Process

All aspects of Reuse have to be planned by the Sales, Proposal and Project Managers and Solution Architects at the very beginning of each opportunity/project (project ramp-up):

- Match customer requirements with already existing Solution Architectures
- Estimate potential degree of reusabilty.

The basis for replication is a completed project with the proven systems architecture of an implemented solution with as many stable, Reusable Knowledge Assets and documented modules as possible.

Reusing existing knowledge gives an organisation like SBS the chance for competitive offerings in order to generate more business while achieving our productivity targets.

The degree of reusability depends on the ability of matching the existing architectural and functional features and modules with new customer requirements.
1.5.1 Types of Reusable Knowledge Assets

Reusable Knowledge Assets originate out of a project. They save money and time and deliver better quality when replicated within new customer projects.

The spectrum of Reusable Knowledge Assets can vary from a single project element to pre-packaged projects. Accordingly the EBIT and sales impact of a Reusable Knowledge Asset differs:

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<th>Explanation</th>
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<td>Single project elements</td>
<td>Single standardized elements, identified through Project Overview / Debriefing, e.g. reference, customer presentation, opportunity assessment tool, proposals &amp; contract repository, ROI calculation, lessons learned, tool, demo / screen cam, implementation guide, project plan, training, …</td>
</tr>
<tr>
<td>Solution kernels</td>
<td>Reusable Element with direct Ebit impact, through cost and time reduction similar to a product, e.g. application module, graphical interface, application interfaces, training module, …</td>
</tr>
<tr>
<td>Project approaches</td>
<td>Standardized methodologies, concepts or models with direct Ebit impact for reuse in similar projects; e.g. introduction concept, industry specific business process models, architecture models, workflow models, …</td>
</tr>
<tr>
<td>Pre-packaged projects</td>
<td>Aggregated package with direct Ebit and sales impact, package is directly related to the SBS portfolio on service offering or module level</td>
</tr>
</tbody>
</table>

Differentiation for the further proceeding:

- **Reusable Knowledge Assets of type A** enhance our competence and capabilities and demonstrate this towards our customers, e.g. through references. Here the direct Ebit impact is difficult to quantify.

- **Reusable Knowledge Assets of type B** have a direct measurable Ebit impact or reduce the delivery effort significantly. They improve our internal performance.
1.5.2 Reuse in the Project Process

For efficient replication, projects require knowledge transfer during ramp-up and wrap-up:

Knowledge transfer into a project:
- Transfer of experience / reusables into projects
- Reusables for delivery phase

Knowledge transfer out of project:
- Information
- Debriefing / wrap-up
- Debriefing / wrap-up

Documents and tools:
- Project ramp-up (week 0 of project)
- Project wrap-up (week n of project)
- Project Overview
- Debriefing Report
- Reusables

Fig. 14: Use Case 3, Re-Use course

Knowledge transfer into a project

All aspects of Reuse have to be planned by the Sales, Proposal and Project Managers and Solution Architects at the very beginning of each opportunity/project (project ramp-up):

- **Match customer requirements** with already existing Solution Architectures
- **Estimate degree of reusability** of Reusable Knowledge Assets
- **Transfer of experience** and applicable **Reusable Knowledge Assets** into upcoming projects involving the CoCs and the owners of Reusable Knowledge Assets

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2 Center of Competence: organisational units that collect and disseminate knowledge and best practices within SBS
Every new customer requirement, proposal and suggested solution architecture needs to be evaluated for the utilization of Reusable Knowledge Assets. This affects both the proposal and delivery process. Reusable Knowledge Assets are stored in the Knowledge Base and can be found e.g. via:

- a central find area
- the Reusable Catalogues for Reusable Components, Concepts and Solutions
- predefined queries or topic folders of the particular CoC
- the Cross CoC Search center

Reusable Knowledge Assets are always related to our portfolio

This relationship is displayed on each search results page.

Knowledge transfer out of a project

To ensure that knowledge is efficiently transferred out of a project (project wrap-up), two work products are mandatory:

- the Project Overview and
- the Project Debriefing Report

In the project wrap-up phase, new Reusable Knowledge Assets shall be identified and submitted to the Knowledge Base.
1.5.3 Reuse in the Knowledge Management Process at the CoC

The CoC is responsible for the collection, aggregation and propagation of Reusable Knowledge Assets:

![Diagram of CoC responsibility for reuse]

**Collection, aggregation and propagation of Reusable Knowledge Assets**

The person contributing the Reusable Knowledge Asset is responsible for its correctness. In general any employee of Siemens Business Services can identify Reusable Knowledge Assets and upload these to a CoC for Siemens Business Services-wide availability. For Reusable Knowledge Assets resulting from a project, the project manager takes responsibility for uploading the asset to the corresponding CoC community workspace.

The Reusable Knowledge Asset candidates (including the Project Overview) shall be delivered to the folder “Upload Reusables” (CoC letter box Use Case 2) of the corresponding CoC community workspace in Knowledgemotion.
In case more than one CoC is involved in a project, the community workspace of the leading CoC should be used. This upload folder is used for all Reusable Knowledge Assets that originate during a project or describe a particular successful project which would be suitable as an internal or external reference. Reusable Knowledge Assets can be categorized as follows:

- Industry and customer information, i.e. external best practices, white papers, benchmarking results, assessments, links, etc.
- Business plans, market data, etc.
- Methods and tools (processes, techniques, templates, checklists, calculation sheets, opportunity assessments, ROI calculation tools, etc.)
- Technical solution components, i.e. prototypes, re-usable solutions core components, solution kernels, hardware, platforms
- Projects Reusable Knowledge Assets such as, concepts, architectures, models, generic processes, workshop material, training material, etc.
- Project Overviews
- Proposals and example contracts
- Marketing and communication, i.e. conference material, articles
- Sales material candidates, i.e. offering flyers, presentations
- Lessons learned and debriefing reports
- Success stories and references

When Reusable Knowledge Assets are submitted, the CoC shall undertake a formal quality check (see checklist for the formal check of Knowledge Asset Candidates). Next the CoC performs the necessary content and value assessment check (see Checklist for value assessment and improvement of Knowledge Asset Candidates). Any suitable asset will then be shifted to the relevant folder within the CoC community workspace by the CoC community broker.

If significant effort is involved in preparing the Reusable Knowledge Asset (e.g. translation, completion, etc), the CoC should clarify the cost implications.
Additional procedure for Reusable Knowledge Assets of type B
In the case of Reusable Knowledge Assets of type B a professional finding and selection process as well as a more detailed and uniform preparation is mandatory.

Through the network of Segment Responsibles (SRs) the countries deliver their Reusable Knowledge Asset of type B as candidates to the CoC. The same upload procedure as described in chapter 5.1 is recommended. The documents can be clustered by a separate folder.

First the CoC checks whether the candidates fulfil the following criteria:
- Technical or conceptual documentation in the English language is available
- Customer reference is available
- Reusable Knowledge Assets is “available” (a specific unit is able to deliver)

Second the CoC decides which of the candidates will be promoted. For those Reusable Knowledge Assets the CoC shall produce a short description, called Reusable Component / Concept / Solution description. This description shall include:
- Name of the Reusable Knowledge Asset and related service offering
- Customer situation and customer requirements
- Solution overview
- Contact person

The CoC can define additional criteria and provide further optional descriptions and presentation if applicable. Each CoC shall maintain a list of available Reusable Knowledge Assets of type B in Knowledgemotion, the so called Reusable Catalogue, which includes also the candidates.

The quality assurance of the Reusable Knowledge Assets remains principally with the Reusable owner. This will make sure that the overall Siemens Business Services quality standards remain maintained.
The CoC is responsible for marketing and roll out of new Reusable Knowledge Assets of type B via its network of SRs, CoC newsletter, campaign, etc. For these Reusables the SRs shall obtain a roll out training from the CoC in order to spread this Reusable Knowledge Assets within the delivery and sales units of their respective countries.

**Reuse of Knowledge Assets and Reuse campaigns**

When starting a proposal or a delivery project, the Sales, Proposal or Project manager is responsible for considering and transferring Reusable Knowledge Assets into the project. The corresponding CoC Community Broker shall assist upon his/her request.

In addition to that specific campaigns preferably for Reusable Solutions can be launched in order to reach the CoC net sales and gross profit goal:

![Diagram of Reuse Campaign](image)

**Fig. 20: Use Case 3, Reuse Campaign**

Such a campaign requires the involvement and/or commitment of the:

- Campaign manager
- Local unit manager SOL
- Segment manager / CoC Segment Responsibles
- Local sales manager / key sales people / multipliers
- Key project managers / team leader Delivery / key systems architect
- Key communications people / multipliers
During the local assessment the opportunities are identified based on existing customer opportunities. Therefore the account plans of the target customers shall be matched to the Reusable Catalogues. The local sales managers shall commit to the Reusable Solutions to be focused on. The engagement of the CoC bridges the gap between local sales and the Reusable Solutions.

### 1.5.4 Use Case 3 - Summary: Re-use initiative

<table>
<thead>
<tr>
<th>Use Case ID:</th>
<th>UC3</th>
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</thead>
<tbody>
<tr>
<td>Short description:</td>
<td>Support for Sales, Proposal or Project manager</td>
</tr>
</tbody>
</table>
| Roles (involved): | - Campaign manager  
- Local unit manager SOL  
- Segment manager / CoC Segment Responsibles  
- Local sales manager / key sales people / multipliers  
- Key project managers / team leader Delivery / key systems architect  
- Key communications people / multipliers |
| Compelling event: | Reuse of Knowledge Assets and Reuse campaigns |
| Data: | See process Input |
| Result: | See 1.5.3 Reuse in the Knowledge Management Process at the CoC |
| Pre-conditions: | Transfer of experience and applicable Reusable Knowledge Assets into upcoming projects |
| Relevance: | Very important, Very often |
| Expected Improvement: | Increase the sale of existing reusable assets through an improved dissemination i.e. knowledge transfer and mediation between sales and project teams - to facilitate knowledge flow by utilizing explicit representations (ontologies). |
2 Siemens Business Services Taxonomy

Siemens Business Services - Core Metadata Element Set – Implementation Guideline

To control the scope of the search the search engine offers options to apply search filters based for example on metadata attributes contained in the source documents of the different data pools (Siemens Business Services Core-Metadata Set). SEKT technology enables the enrichment of metadata by relations, additional concepts, automatically extracted from the text sources, such as named entities for example.
<table>
<thead>
<tr>
<th>No</th>
<th>Values</th>
<th>SBS Core Metadata elements Set</th>
<th>SBS Name of Attribute/ Picklist [Mandatory – Optional]</th>
<th>Descriptions, Remarks</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td><strong>Description</strong></td>
<td><strong>M / Abstract/ Keywords/ Keyphrase</strong></td>
<td><strong>Definition:</strong> An abstract or keywords describing a topic of the content of the resource. <strong>Comment:</strong> Typically, a Subject will be expressed as key phrases or abstracts that describe a topic of the resource. Some Users might fill in complete phrases to describe the asset, others might fill in any keywords e.g. CMC Abstract for Offering, keywords for any technology <strong>Usage:</strong> KeM, Sales Service, CoC, Intranet, Project Base</td>
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<td>→ description. abstract</td>
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<td>→ description. key phrase</td>
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<td>2</td>
<td>ISO 639 Language Codes</td>
<td><strong>Language</strong></td>
<td><strong>M / Content Language</strong></td>
<td><strong>Definition:</strong> A language of the intellectual content of the resource. <strong>Comment:</strong> Recommended best practice for the values of the Language element is defined by RFC 1766 which includes a two-letter Language Code (taken from the ISO 639 standard), followed optionally, by a two-letter Country Code (taken from the ISO 3166 standard). <strong>Usage:</strong> KeM, Sales Service, CoC, Intranet, Project Base</td>
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<td>- German</td>
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<td>- &lt;multi language&gt;</td>
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</table>
| 3  | Country of origin | M / Country of origin [Multiple Attribute] | - Argentina
- Austria
- Australia
- Belgium
- Brazil
- Bulgaria
- Canada
- China
- Croatia (Hrvatska)
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Great Britain (UK)
- Greece
- Hungary
- India
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malaysia
- Morocco
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- Singapore
- Slovak Republic
- South Africa
- Spain
- Sweden
- Switzerland
- Thailand
- Turkey
- United States
- other
- <Worldwide>
- <Europe>
- <Asia>
- <Africa>
- <Americas>
- <Australia>
- <not assigned> | Definition:
This element can be used to specify the origin of an asset.

Comment:
It can be used as an allocation of Country-Assets by specific Report. Typically, an Asset will be uploaded using the country attribute value describing the origin of that asset. Some Users might fill in a specific country.

Usage:
KeM |
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<th>No</th>
<th>Values</th>
<th>SBS Core Metadata elements Set</th>
<th>SBS Name of Attribute/Picklist</th>
<th>Descriptions, Remarks</th>
</tr>
</thead>
</table>
| 4  | Content Type | M / Content Type (Multiple Attribute) | - Industry/Branch & Customer Information  
- Business Plan, Market Data etc.  
- Method&Tools (Templates, forms, checklists)  
- Technical Solution Components (SW, HW, Platforms)  
- Re-Usables, Projects  
- Project Overview  
- Proposal / Contract  
- Marketing&Comm-unications  
- Sales Material (SO, Flyer)  
- Lessons Learned / Debriefing  
- Success Story / Reference  
- other  

- Note:  
  - Reference <->  
  - Success Story:  
  - Reference addresses an officially by customers’ commitment released document. A success story is an internally reusable project or experience  
| Definition:  
Branch&Customer information could be Profiles, Studies, Press-Articles, Organisation Plans etc.  
Business Plan, Market Data etc could be Business Plan & -Ideas, KEP, Executive Summary, Awareness WS, Opportunity  
Method&Tools (KB or Community Content) could be Templates, forms, checklists etc.  
Technical Solution Components are related to SW, HW & Platforms, and could be Release Notes, Announcements, Code-Pieces, Application Modules, Training, DEMO, Screencam, Documentation, solution components  
Projects / Re-Useables could be Project Definition, Deliverables, Change Requests, Success Stories (intern), etc.  
Project Overview  
For the Re-Usability of specific project know how the attribut "Project Overview" has been included.  
Proposal / Contract could be Proposal, Calculation etc.  
Marketing&Comm-unications could be Brochures, Business TV, Press Release, Event etc.  
Sales Material could be Service Offerings, Flyer, Presentations etc.  
Lessons Learned / Debriefings could be Debriefings from projects, Lessons Learned from Communities or knowledge transfer  
Success Story / Reference  
Usage:  
KeM, Sales Service, CoC, Intranet, Project Base |
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<th>No</th>
<th>Values</th>
<th>SBS Core Metadata elements Set</th>
<th>SBS Name of Attribute/Picklist [Mandatory – Optional]</th>
<th>Descriptions, Remarks</th>
</tr>
</thead>
</table>
| 5  | • Market Development  
    • Service Offering Lifecycle  
    • Sales  
    • Delivery  
    • Support Process  
    • <not applicable> | Business Offering  
→ Business Offering. process type | M / Process type [Multiple Attribute]  
• Market Development  
• Service Offering Lifecycle  
• Sales  
• Delivery  
• Support Process  
• <not applicable> | Definition:  
This element can be used to specify business offerings more detailed than it is possible using only the Siemens Core Metadata set regarding relevant process phase within SBS Process type.  
Definition process type:  
Definition: Answer the question:  
“What is the kind of business the offering refers to?”  
The Process type represents the four main processes along the SBS value chain  
Usage:  
KeM, Sales Service, CoC, Intranet, Project Base |
| 6  | • Strategic IT Consulting C01  
    • Supply Chain Management S01  
    • Enterprise Resource Planning S02  
    • Customer Relationship Management S03  
    • Systems Integration S04  
    • Business Information Management S06  
    • Application Management O03  
    • Customer Interaction Center O01  
    • Operational Services O02  
    • Application Management O03  
    • I&C Outsourcing All O04  
    • Infrastructure Maintenance P01  
    • Infrastructure Transformation P02  
    • Infrastructure Service Solutions P03  
    • Enterprise Services B01  
    • Supply Management B02  
    • Demand Management B03  
    • Operations B04 | → Business Offering. Practice | M / Practice [Multiple Attribute] |
### Metadata elements

**Set**
- SBS Name of Attribute/ Picklist

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<th>SBS Name of Attribute/ Picklist</th>
<th>Descriptions, Remarks</th>
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<td>- C Business Alignment of IT C0107&lt;br&gt;- C Business Alignment of IT C0107&lt;br&gt;- C IT Sourcing C0110&lt;br&gt;- C Information Security C0109&lt;br&gt;- C IT Factory C0108&lt;br&gt;- C Business Improvement Program C0115&lt;br&gt;- C Business Alignment of IT C0107&lt;br&gt;- C Industrialization Financial Services Processes C0111&lt;br&gt;- C Effectiveness Banking &amp; Insurance Operations C0112&lt;br&gt;- C E-Government and New Public Management C0113&lt;br&gt;- C CCIS &amp; Business Process Consulting C0114&lt;br&gt;- C Operational Excellence C0116&lt;br&gt;- C Harmonization Processes and Applications C0117&lt;br&gt;- C Communication and Learning C0118&lt;br&gt;- C Project and Program Management C0119&lt;br&gt;- C Business Offering program</td>
<td>M / Program [Multiple Attribute]</td>
<td>Definition: This element can be used to specify business offerings more detailed. As a view of the core processes.&lt;br&gt;<strong>Definition program:</strong> Definition Answer the question: “Where does the programs refers to ?” The programm attribute represents the core processes topics&lt;br&gt;<strong>Usage:</strong> KeM, Sales Service, CoC, Intranet, Project Base</td>
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<tr>
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<td>Values</td>
<td>SBS Core Metadata elements Set</td>
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<td>Descriptions, Remarks</td>
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<td>• SOL Procurement S0207&lt;br&gt;• SOL Procurement S0207&lt;br&gt;• SOL Industry Core Process Solutions S0208&lt;br&gt;• SOL Advanced Planning S0103&lt;br&gt;• SOL Procurement S0207&lt;br&gt;• SOL Product Lifecycle Management S0601&lt;br&gt;• SOL Financials S0202&lt;br&gt;• SOL Business Intelligence S0602&lt;br&gt;• SOL Transportation Logistics S0104&lt;br&gt;• SOL Human Resources Management S0204&lt;br&gt;• SOL Enterprise Content Management S0603&lt;br&gt;• SOL Production Logistics S0206&lt;br&gt;• SOL Marketing S0301&lt;br&gt;• SOL Sales S0302&lt;br&gt;• SOL Service S0303&lt;br&gt;• SOL Systems Engineering &amp; Multivendor Integration S0401&lt;br&gt;• SOL Software Engineering and Solutions S0402&lt;br&gt;• SOL Software Engineering and Solutions S0402&lt;br&gt;• SOL Mobile Business Solutions S0404&lt;br&gt;• SOL Application Support for Business Solutions S0501&lt;br&gt;• SOL Application Support for Business Solutions S0501&lt;br&gt;• SOL Communication and Learning</td>
<td>--- Business Offering, program</td>
<td>M / Program [Multiple Attribute]</td>
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<td>7</td>
<td>• ORS Help Desk Services O0101&lt;br&gt;• ORS Help Desk Services O0101&lt;br&gt;• ORS Desktop Services O0201&lt;br&gt;• ORS Network Services O0202&lt;br&gt;• ORS Data Center Services O0203&lt;br&gt;• ORS Application Operation Services O0304&lt;br&gt;• ORS Application Operation Services O0304&lt;br&gt;• ORS Application Operation Services O0304&lt;br&gt;• ORS complete Outsourcing O0401</td>
<td>--- Business Offering, program</td>
<td>M / Program [Multiple Attribute]</td>
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</table>
| 7  | • PRS Hardware Maintenance & Support P0101  
   • PRS Software Maintenance & Support P0102  
   • PRS IT Management Services P0301  
   • PRS Product Sales  
   • PRS Deployment & Integration Services P0201  
   • PRS Deployment & Integration Services P0201  
   • PRS IT Management Services P0301  
   • PRS Deployment & Integration Services P0201  
   • PRS IT Management Services P0301  
   • PRS Deployment & Integration Services P0201  
   • PRS IT Consulting P0304 | → Business Offering. program | M / Program  
[Multiple Attribute] | |
| 7  | • Infrastructure Service B0101  
   • Human Resources B0102  
   • Administration B0103  
   • Buying Processes B0201  
   • Customer Retention B0301  
   • Healthcare Operations B0401  
   • Banking B0402  
   • Insurance B0403  
   • Funds B0404 | → Business Offering. program | M / Program  
[Multiple Attribute] | |
| 8  | | → Business Offering.  
Industry/ Branch | M / Industry / Branch  
[Multiple Attribute] | Definition:  
This element can be used to specify business offerings in the industries / branches.  
Definition Industry / Branch:  
Definition Answer the question:  
“What is the Industry / Branch the offerings refers to?”  
Usage:  
KeM, Sales Service, CoC, Intranet, Project Base |
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<td>&lt;default: all Sub-Industries&gt;</td>
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<td></td>
<td>• Financial Services - Insurance</td>
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<td>• Financial Services - Investment Funds</td>
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<td>• Financial Services - Retail Banking</td>
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<td>• Manufacturing Industries -Aerospaces</td>
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<td>• Manufacturing Industries -Automotive</td>
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<td>• Manufacturing Industries -Chemicals</td>
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<td>• Manufacturing Industries - Electronics &amp; High Tech</td>
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<td>• Manufacturing Industries - Engineering &amp; Construction</td>
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<td>• Manufacturing Industries - Food &amp; Beverages</td>
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<td>• Manufacturing Industries - Metal &amp; Mining</td>
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<td>• Manufacturing Industries - Oil &amp; Gas</td>
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<td>• Manufacturing Industries - Packaged Consumer Goods</td>
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<td>• Manufacturing Industries - Paper &amp; Wood</td>
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<td>• Manufacturing Industries – Pharmaceutical</td>
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<td>• Public Sector - Social Care</td>
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<td>• Public Sector - Security &amp; Defense</td>
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<tr>
<td>8</td>
<td>→ Business Offering . SubBranch</td>
<td>→ Business Offering . SubBranch</td>
<td>• Media &amp; Entertainment - Broadcast (TV/Radio/Internet)</td>
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<td>• Telecom - Cable Network Providers</td>
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<td>• Telecom - Fixed Carriers</td>
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<td>• Telecom - Internet Service Providers</td>
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<td>• Telecom -Mobile Carriers</td>
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<td>• Transportation - Airlines</td>
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<td>• Transportation - Airports</td>
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<td>• Transportation -Mail/ackages/Freight</td>
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<td>• Transportation - Travel &amp; Tourism</td>
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<td>• Transportation -Travel Agencies</td>
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<td>• Retail - Wholesale</td>
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<td>• Retail - Retailer</td>
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<td>• Utilities - Energy Supplier</td>
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<td>• Utilities - Water Supplier</td>
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<td>• Utilities - Waste Mgmt.</td>
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<td>9</td>
<td>• Border Control</td>
<td>→ Business Offering . Business Topic</td>
<td>Not taken into account in knowledgemotion</td>
<td>Definition: Business Topics are communicated . ...by CSM using a ‘bundled’ approach - internal and external Business Topics focus ...on Customer needs in specific industries Business Topics increase ...our Sales volume by addressing customer business units in their language Business Topics deliver ...the right business solution to key painpoints’ of our customers</td>
</tr>
<tr>
<td></td>
<td>• Business Flexibility</td>
<td></td>
<td></td>
<td>Definition Industry / Branch: Definition Answer the question: “What is the specific Industries the offerings refers to ?” Usage: KeM, Sales Service, CoC, Intranet, Project Base</td>
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<td></td>
<td>• Business Process Outsourcing</td>
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<td></td>
<td>• Open Source Services</td>
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<td></td>
<td>• PC-Lifecycle Solutions</td>
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<td></td>
<td>• Emergency Management</td>
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<td>• Employee Efficiency</td>
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<td></td>
<td>• ID Solutions</td>
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<td></td>
<td>• IT Consolidation</td>
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<td>• IT Continuity</td>
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<td>• IT Implementation of Basel II</td>
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<td></td>
<td>• Meter 2 Bill</td>
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<td></td>
<td>• Microsoft Migration Services</td>
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<td></td>
<td>• Optim. Manuf.&amp;Logist. via RFID</td>
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<td></td>
<td>• Optim.Procurement (click2proc)</td>
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<td></td>
<td>• Power Portal</td>
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<td></td>
<td>• Print Lifecycle Solutions</td>
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<td></td>
<td>• Real Time Enterprise</td>
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<td></td>
<td>• SAP Migration &amp; Netweaver</td>
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<td></td>
<td>• Security Services</td>
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<td></td>
<td>• Service Management</td>
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<td>• Storage Solutions</td>
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<td></td>
<td>• TCO reduction for Telco</td>
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<td>• TCO reduction via Appl. Mgmt.</td>
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<td>• Transitional Outsourcing</td>
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<td>• &lt;not applicable&gt;</td>
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<td>10</td>
<td>Technologies</td>
<td>M / Technology/ Platform [Multiple Attribute]</td>
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<td>Definition: This element can be used to describe an arbitrary technology in more detail, Technological Platform / Components Partners</td>
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<tr>
<td></td>
<td>• Platform - SAP</td>
<td></td>
<td></td>
<td>Usage: KeM, Sales Service, CoC, Intranet, Project Base</td>
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<tr>
<td></td>
<td>• Platform - Oracle</td>
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<tr>
<td></td>
<td>• Platform - KM, PLM, DS (z.B. Livelink, SAP PLM, SAP BW)</td>
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<tr>
<td></td>
<td>• Platform - Microsoft</td>
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<td></td>
<td>• Platform - Open Source</td>
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<td></td>
<td>• Platform - diverse</td>
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<td></td>
<td>• OS - MS Windows</td>
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<td>• OS - Unix</td>
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<td>• OS - Open Source</td>
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<td></td>
<td>• OS - Others</td>
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<tr>
<td></td>
<td>• DB - Oracle DB Server</td>
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<td>• DB - MS SQL Server</td>
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<td>• DB - Informix DB Server</td>
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<td>• DB - Others</td>
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<td></td>
<td>• Middleware, Application Server</td>
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<td></td>
<td>• Office Applications - (Microsoft etc.)</td>
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<td></td>
<td>• System-, Net-, Information Security (Cisco, etc.)</td>
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<td></td>
<td>• Others</td>
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<td></td>
<td>• &lt;not applicable&gt;</td>
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36
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<th>No</th>
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<th>SBS Core Metadata elements Set</th>
<th>SBS Name of Attribute/ Picklist</th>
<th>Descriptions, Remarks</th>
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<tbody>
<tr>
<td>11</td>
<td>KB Core → ShareNetCore. Quality Level</td>
<td>M / Maturity Level</td>
<td>M / Maturity Level</td>
<td>Definition: This element provides qualifiers to define more ShareNet specific information in order to improve the administration of the content objects. Answer the question: “What is the quality level of the resource?” Maturity Level in knowledgemotion: Set per default “KA-Candidate”; only changeable by Community Manager / Core Expert. Definition Feedback: Allows the user of the knowledge object to add comments and feedback to the resource. Usage: KeM, Sales Service, CoC, Intranet, Project Base.</td>
</tr>
<tr>
<td>12</td>
<td>→ ShareNetCore. SBS Knowledgebroker</td>
<td>M / Community Usage Workaround: Providing Picklist with all named CB’s</td>
<td>M / Community</td>
<td></td>
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<tr>
<td>13</td>
<td>O / Lifecycle Information</td>
<td></td>
<td>O / Lifecycle Information</td>
<td>Definition: This element provides information to related documents in order to improve the administration of the content objects.</td>
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</table>
Conclusion

As a conclusion we can state that for each of the three use cases described, we are going to implement a prototype. At the moment, the first prototype for use case 2 (Knowledge asset upload) is up and running. Referring to the SEKT technology, it uses Text Garden and GATE components developed in Work Package 1 and 2. The next step will be to build the prototype for use case 1 (Retrieval), which will make use of WP5 components (e.g., Search & Browse Facility). Use case 3 (Reuse) needs further elaboration and is expected to make use of mining technology (WP1) and ontology mediation service components (WP4).

The further enrichment of the Siemens core metadata model is also scheduled and will be facilitated by applying the diligence methodology, developed in WP7.
Bibliography and References


O’Dell, C., Grayson, C (1997). *If Only We Knew What We Know: Identification and Transfer of Internal Best Practices*, Houston: American Productivity and Quality Center (APQC)


Additional recommended literature

Knowledge Management and Project Management:


Communities of Practice:
