

## Enterprise Integration Backbone Repository

- 📌 Covers complete Integration Life Cycle: Process Analysis to ongoing Maintenance
- 📌 Different levels of Details: Event Flow Overview to Data Definition
- 📌 Clear Separation of Master Data and Project Specific Objects
- 📌 Efficient use by extensive usage of UML Profiles defining Stereotypes
- 📌 Successfully tested and applied in various EAI Projects

The t2b.EIBB.Repository is designed to manage all high-level information related to a company's information system architecture and its related integration backbone. We believe such an information system is mandatory in order to efficiently plan & manage IS.

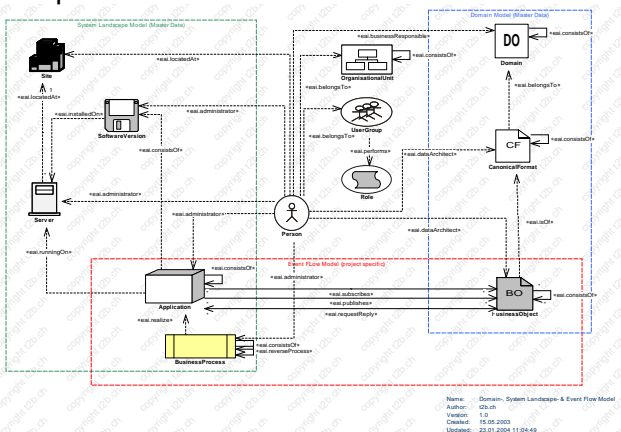
### Overview

The integration repository is a component of t2b's Enterprise Integration Backbone (EIBB) methodology and delivered as part of EIBB Ramp-Up consultancy.

Basically every user in the enterprise is interested in the information available in the repository, such as:

- Which systems are connected to the EIBB?
- What services do these Systems provide?
- What business processes are covered?
- What data is available on the EIBB?
- What is the meaning of a data element?
- What is the data flow between systems?
- Who is in charge for a system/integration?

The repository simplifies the development process for all members of the integration project and is the main tool for the integration competence center.



Communication between business and technical project staff is enhanced by linking business and technical process models in the repository, ensuring consistency across the whole project and across all projects.

### Views on the repository

The **Domain Model** focuses on Data and Formats. It shows which Canonical Formats are being used within a Domain as well as relationship between the Canonical Format and its various Business Objects actually being transported in the EIBB. XSD Schemas can be generated from modeled Business Objects.

The **System Decomposition Model** lists the components of a system on various levels i.e. modules, functions, services, and API's. The implementation of the components can be shown in a Business Process Model.

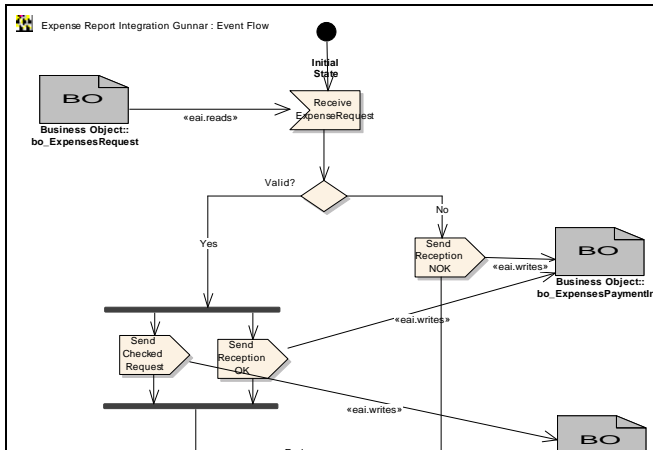
In a Service Oriented Architecture (SOA), component libraries are used to build applications. For process designers & software developers it is crucial that the available services are properly documented and indexed.

This is the only way to foster re-use and thereby justify the up-front cost of implementing stable, re-usable services.

The **System Landscape Model**, as its name indicates, shows the Hard- and Software Environment of the area of interest. It describes the relationships between Application, Software Version, Server, Site and Business Process.

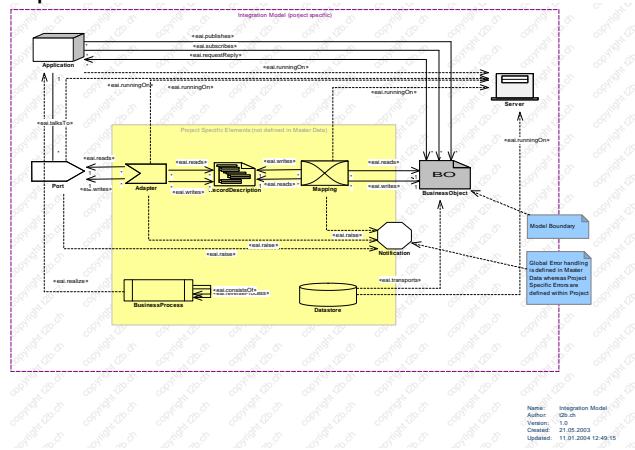
t<sup>2</sup>b provides vendor independent consulting and support in the area of integration. We help our customers with the design and build of IS architectures, information systems, integration backbones (based on EAI tools and other middleware). We help you to transform technology to business. Our goal is to become the industry's leading integration specialist in Switzerland by 2005 - serving the Top1000 companies.

The **Business Process Implementation Model** describes workflows and logical sequences within a business process.

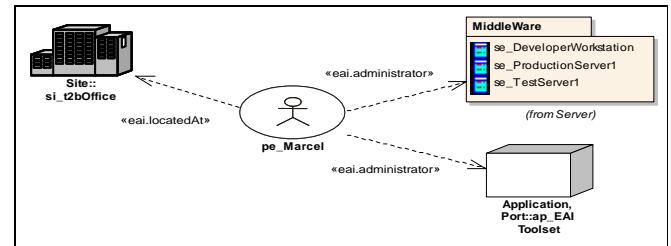


In contrast to the models described above which show the static part of the EAI system, the **Event Flow Model** concentrates on the dynamic aspects of an Integration Project. It shows the logical data flow between Applications and Business Processes.

The **Integration Model** takes parts of the Event Flow Model and adds more detail to it. It breaks up the publish and subscribe parts and adds details about the integration technical implementation.



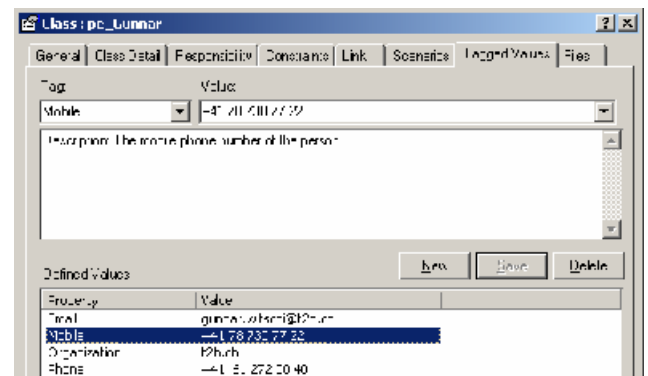
The **Responsibility Model** defines which Person is responsible for which part of the integration infrastructure.



### Ease of use

By using **UML Profiles**, which define EAI specific stereotypes and tagged-values, t2b's EIBB Repository is easy to use and can be extended to match company- or EAI-tool specific requirements.

When using predefined stereotypes, **tagged values** are automatically assigned to the elements, including a description, drop-down lists, and default values, thereby providing a comfortable data entry facility.



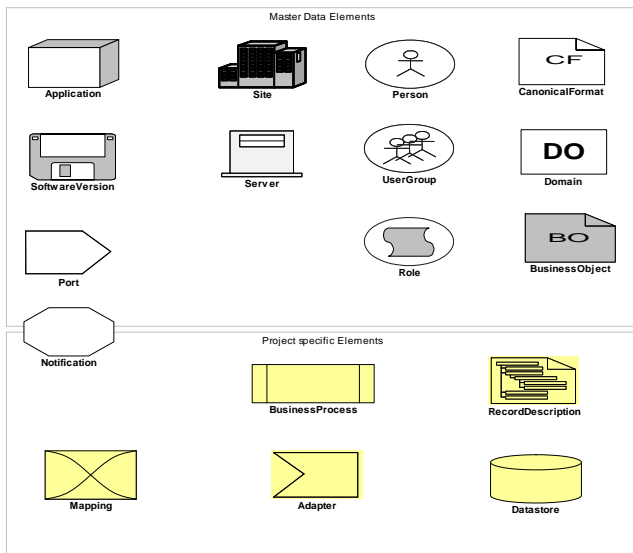
For more information please contact:

t<sup>2</sup>b AG  
Wanderstrasse 65  
4054 Basel  
Switzerland

internet: www.t2b.ch  
email: info@t2b.ch  
tel. +41 61 272 00 40

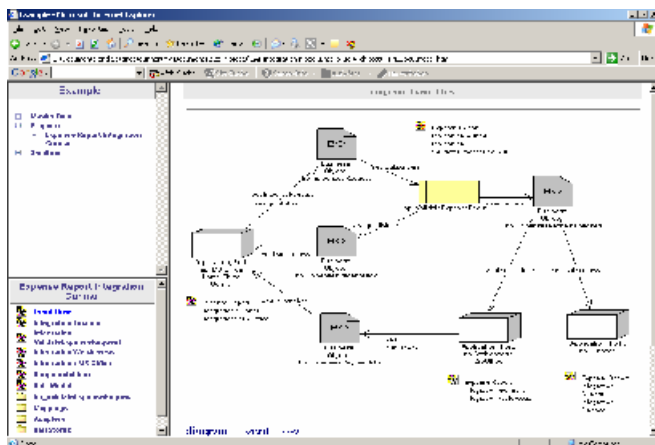


Clear symbols help to understand the meaning of the models right from start. **Master Data and Project Specific** elements are easily distinguished by the different colors.



The **EIBB repository user manual** gives clear guidance on how to develop data formats and how to design & document integrations. Integration design patterns can easily be copied for re-use.

Customizable **HTML and RTF Report** generation support the distribution to your clients across various platforms such Intranet and email.



The EIBB method strongly recommends sharing the EIBB repository with all users via a regular HTML export to a well-promoted intranet site.

## Technology

t2b is currently using **Enterprise Architect** from Sparx Systems. This UML Tool has all the functionality to support our repository, is easy to use and inexpensive.

However, we successfully implemented the same repository using **Rational Rose**. Both tools support XML import/export, which allows integration with other tools like version control or other metadata repositories.

The RDBMS supported for some of the extensions and the EIBB workbench are: MySQL, ORACLE, SQL server.

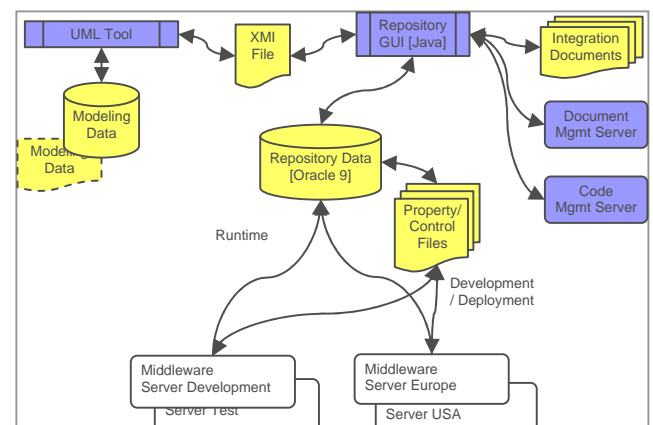
## Limitations

The EIBB repository & workbench are designed as the high-level documentation and management tool for the EIBB; they do not execute transactions, nor generate code.

The EIBB repository does not have adapters to import/export from other dictionaries/repositories and does not compete with Meta data repositories (MDRs). Also, mappings have to be defined with an external tool such as the XMLSpy XSLT editor or the EAI tool's mapping editor. Of course, the resulting documents can then be attached to the repository component.

## Architecture

An Oracle DB serves as the central hub storing UML Models, Development and Runtime Data as well as links into other (Meta-) Data stores.



For more information please contact:

t<sup>2</sup>b AG  
Wanderstrasse 65  
4054 Basel  
Switzerland

internet: www.t2b.ch  
email: info@t2b.ch  
tel. +41 61 272 00 40



## Extensions/EIBB Workbench

The base version of the repository includes the static view and modeling of the integration landscape. When this system is filled with a customer's life data, it is an immensely valuable source of information for the enterprise and its integration competence center(s).

The repository can be extended by the following modules and then becomes the **EIBB workbench**.

All EIBB methodology documents can be integrated into the UML repository, so that there is a single source for all EIBB related documents. Basically the UML representation serves as an indexing/search utility only in this case. Therefore this part of the workbench is called the **EIBB Method Index (EMI)**.

The **Integration Knowledge base extension (IKB)** provides a facility to classify and search "EAI developers best practices and code snippets", as well as any other type of external documents to the repository. The link is done via URL, the document store itself can be with whatever technology preferred by the customer (file system, RDBMS, etc.).

Adding the **Integration Program-Planning & Management (IPPM)** module extends the model to cover the requirements of the EIBB manager. It basically provides the EIBB *Integration Project Guideline's* deliverables model and an estimation framework, as well as a few reports on these extensions such as:

- Future planned activity by priority and week
- (Un)Finished projects / deliverables by date
- Workload by person / type / week

This is not supposed to replace MS Project or each projects detailed project plan, which can of course be linked to the repository. Instead it is a high-level status tracking and process control tool for EAI competence center managers.

Customers might want to track the effort per IPG deliverable in order to refine the estimation model, but this data should only be added after the project completion.

The **Integration Code Management extension (ICM)** allows the addition of source and compiled code to the repository and also provides a simple version control facility. This module can easily be adapted to the specifics of the chosen EAI-tool.

The **Integration Monitoring & Performance extension (IMP)** allows the tracking of the system performance, errors, and problem fixing. Of course the trace data has to be generated to the RDBMS by the integration code. Example java code is provided with the module. The IMP model allows the easy documentation of threshold values and also displays problem areas graphically.

## Planned extensions:

The **SAP system landscape importer (SLI)** finally is a utility to import system definitions maintained within the SAP system landscape.

The **IS Portfolio Management Module (PMM)** will extend the scope of the EIBB workbench to the general application planning and cover the phases "project idea" to "credit approval". We believe that this process can reuse much of the data already available in the repository, such as the system landscape model, the domain model, existing flows etc.

We will add the portfolio management process model with its specific milestones and deliverables.

Detailed features are still under discussion.

Other features will be added in coordination with our customers.

For more information please contact:	<b>t<sup>2</sup>b</b> AG Wanderstrasse 65 4054 Basel Switzerland	internet: <a href="http://www.t2b.ch">www.t2b.ch</a> email: <a href="mailto:info@t2b.ch">info@t2b.ch</a> tel. +41 61 272 00 40
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