



# DIP D2.6: Mapping and Merging Tool

Prototype Fact Sheet, 30 June 2006

**This version:**

<http://www.omwg.org/tools/dip/factsheets/MappingEditorFactSheet.html>

**Latest version:**

<http://www.omwg.org/tools/dip/factsheets/MappingEditorFactSheet.html>

**Previous version:**

None

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## Document Information

<b>IST Project Number</b>	FP6 – 507483	<b>Acronym</b>	DIP
<b>Full Title</b>	Data, Information, and Process Integration with Semantic Web Services		
<b>Project URL</b>	<a href="http://dip.semanticweb.org">http://dip.semanticweb.org</a>		
<b>Document URL</b>	<a href="http://www.omwg.org/tools/dip/factsheets/MappingEditorFactShe">http://www.omwg.org/tools/dip/factsheets/MappingEditorFactShe</a>		
<b>EU Project Officer</b>	Kai Tullius		

<b>Deliverable Number</b>	2.6	<b>Title</b>	Mapping and Merging tool
<b>Work package Number</b>	2	<b>Title</b>	Ontology Management

<b>Date of Delivery</b>	<b>contractual</b>	M30	<b>actual</b>	30-June-2006
<b>Status</b>	<b>version</b>	0.3	final	
<b>Nature</b>	Prototype <input checked="" type="radio"/> Report <input type="radio"/> Dissemination <input type="radio"/> Ontology <input type="radio"/>			
<b>Dissemination Level</b>	Public <input checked="" type="radio"/> Consortium <input type="radio"/>			

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<b>Abstract (for dissemination)</b>	This document contains information about installation of the Ontology mapping related tools delivered as part of the Dip OMS. The main focus is made on the Ontology Mapping Editor which allows to edit mapping documents specified in the Ontology Mapping Language. This page refers the reader to related documents (Tutorial, Theory document software packages (mapping editor, mapping language API)
<b>Keywords</b>	Ontology, mapping, alignment, language

<b>Version Log</b>			
issue date (dd-mm-yy)	revision no.	author	change
30-06-05	001	Creation of the document, requirements for the architecture and the mapping language	first internal version (version 1.0)
31-12-05	002	Mapping language, first implementation of the mapping API	second internal version (version 2.0)
09-06-06	003	Revised version of the mapping API and language, Mapping tool GUI	final version for internal review

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# 1. Availability and Contacts

Background Document

Version:

2.3, 30 June 2006.

**Download:**

[Background Theory Document](#)

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## Ontology Mapping API

**Version:**

0.2, 30 June 2006.

**Download:**

[mappingLanguage.jar](#)

**Contact person:**

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**Notice:**

The mapping language API has been jointly developed with the SEKT project (EU IST IP 2003-506826). <http://www.sekt-project.org/>

## Graphical User Interface

**Version:**

0.3, 30 June 2006.

**Download:**

The Mapping Editor is an integral part of the DIP Ontology Management Suite OMS (see user guide at: <http://www.omwg.org/tools/dip/oms/>)

There two options for download:

- Separate OMS plugins - <http://www.omwg.org/tools/dip/tools/plugins>, to be put under your "eclipse/plugins" directory (note that GEF plugins are a prerequisite).
- OMS standalone application - <http://www.omwg.org/tools/dip/tools/oms.zip>

Please see [installation instructions](#) for details.

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## 2. Introduction: Purpose and Functionality

The mapping and merging tool is a graphical user interface (GUI) for creating, maintaining and browsing ontology mapping constructs. The tool was developed as an eclipse plugin to leverage the eclipse benefits as a powerful platform.

The tool is designed with emphasis on the following core enterprise requirements:

- Scalability – Supporting mapping of large-scale ontologies is one of the primary goals of the editor. This means that the tool **cannot** hold an in-memory representation of the entire ontology including its sub-elements. This scalable design which is implemented in the deliverable tool set includes the loading of the subsets of the ontology from the repository as the user navigates the ontology graph.
- Usability – There is an emphasis on user-friendly GUI components, which provide an intuitive experience when working with the tool's interface.
- Integration – Through the following methods:
  - Usage of ontology mapping API for importing and exporting mapping

- files.
- Usage of the logical expression API to apply logical conditions to mapping rules.

## 3. Requirements

**Nature:** Tool.

**Interfaces (API, Web Services):** Graphical User Interface.

**Platform:** Eclipse 3.1 and above.

**Supported standards:** [WSMO](#), [OMWG Mapping \[1\]](#).

**Required Libraries (OMWG, SDK Cluster, WSMO-related):**

- All third-party libraries are bundled with the plugins.
- [WSMO4J](#) and [WSMO API](#) is a [WSMO](#) compliant API and a reference implementation for building Semantic Web Services applications. Specifically the supported versions are: [WSMO1.2 \[2\]](#) and [WSML0.2 \[3\]](#).
- [OMWG Mapping \[1\]](#): API for mapping ontologies.

**Required Libraries (others):**

- All other third-party libraries are also bundled with the plugins.

## 4. Licensing

- The Ontology Mapping API is available under the LGPL open source license, see: [LGPL license](#)
- The Mapping Editor is available under the IBM licensing agreement for DIP: [license.txt](#)
- In addition see the LGPL license for the following libraries required for runtime: Hibernate, wsmo4j, and omwg versioning: [LGPL license](#)

## 5. Installation and Usage

### 5.1 Installation Prerequisite

**Note:** If you have already installed the Ontology Editor eclipse tool provided by Unicorn (see <http://www.omwg.org/tools/dip/factsheets/OntologyEditorFactSheet.html>), the Mapping Editor is already installed.

#### 5.1.1 RDBMS

**Note:** If you have already installed the 'FOR' repository provided by Unicorn (see: <http://sw.deri.org/2005/03/diprdf/UnicornRepositoryFactSheet.html>), the MSDE RDB is already installed.

Install an RDBMS, the ontology editor will be backed by an RDBMS. A default free lightweight RDBMS is MSDE (Microsoft SQLServer Desktop Engine). MSDE may be downloaded at <http://www.omwg.org/tools/dip/tools/msde.zip>.

MSDE DB server installation:

1. Extract msde.zip.
2. Run setup.exe.

A message reading, "The instance name specified is invalid" may appear at the end of the MSDE installation, please ignore the message.

3. When the MSDE installation is completed, go to Start > Settings > Control panel > Administrative tools > services.
4. Start MSSQLSERVER service.

## 5.2 Installing Mapping Editor Plugins

The OMS plugins are available as separate plugins or bundled in a WSMO Studio. If you already have an Eclipse or WSMO Studio Installation, please download the 3 plugins from <http://www.omwg.org/tools/dip/tools/plugins>

- com.unicorn.eplugin.core\_1.0.0.jar
- com.unicorn.eplugin.dip\_1.0.0.jar
- com.unicorn.eplugin.gabase\_1.0.0.jar

Please put the plugins under your Eclipse / WSMO Studio "plugins" directory.

If you do not have an Eclipse / WSMO Studio installed, for your convenience download the OMS standalone - <http://www.omwg.org/tools/dip/tools/oms.zip>  
Simply extract the zip file, and run **%INSTALLTION\_DIR/oms/oms.exe**.

When Eclipse has opened, please open the "Ontology Management" perspective. Please note that the **first time** the ontology management perspective is opened, a warning message will be presented. Click "OK" for approval, it may take a while for the system is to build the repository configuration.

**Upgrade** - If you have a previous version of the OMS plugins installed:

- Close your Eclipse / WsmoStudio editor.
- Please note that the names of the plugins are the same as the currently installed, so the 3 jar files of the plugins should be replaced.
- Now, run Eclipse / WsmoStudio using -clean flag. (e.g. "C:\WsmoStudio\eclipse.exe" -clean -vmargs -Xms64M -Xmx512M).
- Please note that -clean flag is needed only for the first time running the editor so it would clear its cache holding obsolete plugin data. The flag significantly slows Eclipse down, since the cache is cleaned and repopulated.

## 6. Usage Examples

A detailed manual for the Mapping Editor is available at: [MappingEditorManual.pdf](#).

For the OMS overall user guide please see: <http://www.omwg.org/tools/dip/oms/>

## 7. Future Plans

- Stable version is planned to be released by September 2006.
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## Appendix

[1] Scharffe, François and de Bruijn, Jos. A Language to Specify Mappings between Ontologies. In IEEE SITIS'05, Yaoundé, Cameroon, November 27th - December 1st, 2005.

[2] D. Roman, H. Lausen, U. Keller (eds); J. de Bruijn, Ch. Bussler, J. Domingue, D. Fensel, M. Hepp, M. Kifer, B. König-Ries, J. Kopecky, R. Lara, E. Oren, A. Polleres, J. Scicluna, M. Stollberg: *Web Service Modeling Ontology (WSMO)*. Deliverable d2v1.2, WSMO, 2005. <http://www.wsmo.org/TR/d2/v1.2/>

[3] J. de Bruijn, H. Lausen, R. Krummenacher, A. Polleres, L. Predoiu, M. Kifer, D. Fensel: *The Web Service Modeling Language WSMO*. Deliverable d16.1v0.2, WSMO, 2005. <http://www.wsmo.org/TR/d16/d16.1/v0.2/>

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