



# FIDIS

Future of Identity in the Information Society

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## *Summary*

This document is a report summarising the maintenance work carried out for the database on Identity Management Systems (IMS database) in the context of D3.15.

This report covers the fifth FIDIS period (April 2007 to March 2009).



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## Versions

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## Foreword

FIDIS partners from various disciplines have contributed as authors to this document. The following list names the main contributors for the chapters of this document:

<b>Chapter</b>	<b>Contributor(s)</b>
<b>1 (Executive Summary)</b>	Harald Zwingelberg (ICPP)
<b>2 (Migration of the IMS Database)</b>	Denis Royer (Goethe-Universitaet Frankfurt, Germany)
<b>3 (Future Plans for the Maintenance and Use)</b>	Harald Zwingelberg (ICPP)
<b>4 (Overview of new and existing Entries to the database)</b>	Harald Zwingelberg (ICPP)
<b>5 (Bibliography)</b>	Harald Zwingelberg (ICPP)

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## 1 Executive Summary

This report describes the maintenance carried out for the database on Identity Management Systems (IMS) in the context of FIDIS deliverable D3.15. In the fifth project period (April 2008 to March 2009) and the project's three month extension period (April 2009 to June 2009), which is covered by this report, the maintenance work mainly contained:

- Migration of the database to a wiki-based system as a simplified frontend to enable editing by FIDIS personnel beyond the projects lifetime and to encourage vendors and external users to contribute to the database. The wiki is provided by FIDIS WP1 (GUF). The migration of the data to the new format including minor updates and corrections to several entries was carried out as joint work by WP1 (GUF) and WP3 (ICPP).
- Update of existing entries with by applying the modified typology as developed in FIDIS Deliverable D3.17.

The old version of the IDMS database will remain publicly available via <http://imsdb.fidis.net>. The new wiki-based version is available via <http://www.fidis.net/interactive/fidis-wiki-on-ims/wiki/HomePage/>

Due to technical problems the wiki based infrastructure had not been available until April 2009. The migration of the content from the classical frontend to the wiki database needs to be done manually and is currently been carried out. By the deadline for this report for delivery to the EC-reviewers (May, 8th 2009) 3 out of the 44 records were transferred to the wiki. The migration will continue during May and will be finished by the end of June 2009.

The changes made in the database seemed to follow certain trends:

- Concentration of products and vendors as well in the sector of type 1 IMS as type 3 IMS.
- Increasing importance of social networks and related search engines
- Increasing number of hybrid types of IMS.

These trends had been further analysed and confirmed in the context of FIDIS Deliverable D3.17. The increasing number of hybrid types made it necessary to rearrange the numbering of the classes of IMS. These results will be incorporated into the database during the migration process thus updating all datasets.

## **2 Migration of the IMS Database**

Due to the semi-structured nature of the available IMS data and the integration of an appropriate create/edit workflow, it was decided to migrate the IMS database into a wiki-based system. Migrating to a wiki-based approach, a higher flexibility can be achieved with regard to:

- Easier editing of content, as additional information can be added on the spot without having a fixed frame/skeleton if additional information is available
- Various versions of IMS can be added to get a view on the development of a specific IMS
- Users are offered an easy to use interface for adding/changing data, in order to extend the database on IMS with missing data
- The resulting data in the wiki can be exchanged between different kinds of wikis without the necessity to adapt the data (MediaWiki compliant syntax)

### **2.1 Further Improvement of the Wiki Software**

In a first step, the requirements for the migration of the IMS database were collected, in order to offer the required functionality. Based on the descriptions in D3.11 and D1.3, the following main requirements for the extended wiki were derived:

- Categorisation of pages
- Notification of changes to the wiki editor

#### **2.1.1 Categorisation**

In order to offer an easy way to cluster specific pages together, a categorisation mechanism was necessary. Categories provide automatic indexes that are useful as tables of contents. Based on the approach taken by MediaWiki, a namespace-based categorisation was integrated into the wiki software. In order to add a category to a page, a user simply has to add a category wiki link by convention, at the end of the page):

`[[Category:Name]]`

One has to substitute the actual name of the category in place of *Name*. To be specific, in order to add an article called "Albert Einstein" to the category "People", one would edit the article and add "`[[Category:People]]`" (no quotes) into its page source somewhere. Also any number of category links is possible for a wiki page. The category links themselves are parsed from the body of a wiki page and displayed on the bottom of a page in a category box, allowing for an easy access (cf. Figure 1).



Related Categories: [ [Class 1 IMS](#) | [IMS](#) | [Type 0 IMS](#) ]

**Figure 1: Example for the Category Display in the Wiki Pages.**

By clicking on the links in the category box, the user is taken to the related category page, offering an alphabetical list of pages belonging to a certain category.

In the IMS wiki, the categorisation of pages is especially used for linking the IMS to the Types and Tiers of IMS. Moreover, further groupings related to other properties are possible, such as technology properties (e.g. LDAP based). In the course of the migration of the entries to the IMS wiki categories will be added by the editors. This will in particular be necessary for the new typology that will be applied to the database once all entries are migrated to the wiki (see below section 3.1). Further categories that may be useful to structure the database include “standard”, “software”, “supporting technology” or “social network”.

### **2.1.2 Change Notification**

In order to allow the wiki editors to easily manage changes from external contributors (vendors or users), an email-based workflow system and notification systems was developed and integrated into the dr\_wiki software (as of version 1.8.0). Whenever a user adds or edits a page, the wiki editor gets a notification email. Optionally, the wiki system hides the changed wiki page from being publically displayed and notifies the user that his/her changes have been submitted for review by the editor (cf. Figure 2).

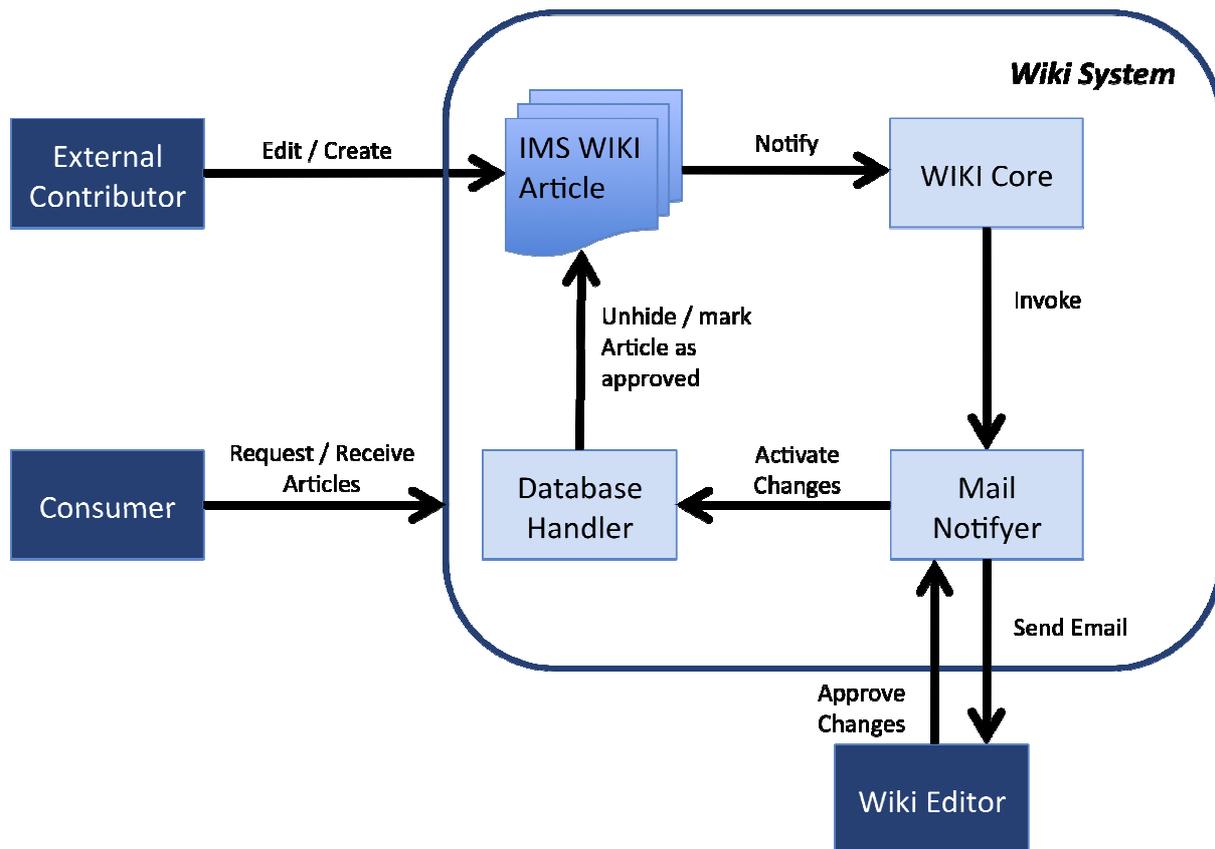


Figure 2: Internal Structure of the Notification System for the IMS Wiki.

Besides the rendered HTML body of the wiki page and the data of the contributing user (email, username, etc.), the sent email also contains links to approve the changes or delete a page directly (e.g. in cases where spam was submitted by a user).

Figure 3 shows the configuration screen for the email notification system of the wiki. Here, the email address of the admin, and the behaviour for the newly created page (hide/not hide) can be entered.

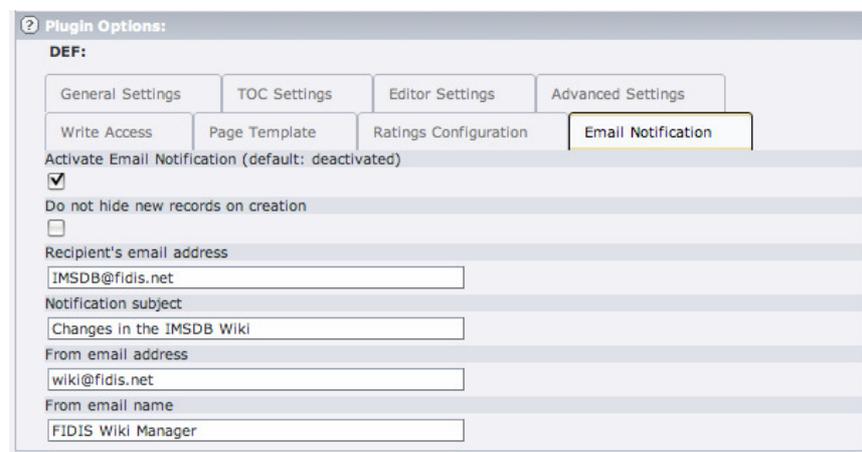
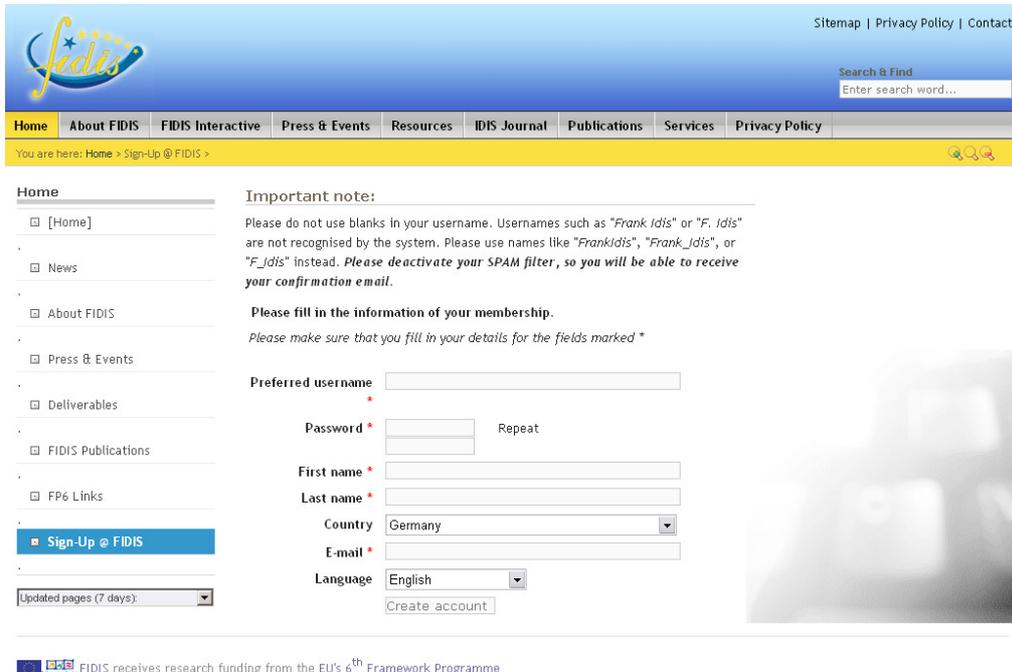


Figure 3: Plug-In Configuration for the IMS Wiki.

In order to fully use the notification mechanism, a login system was added to the FIDIS website. Accordingly, all external contributors need to sign-up for an account. However, in order to minimise the required data, only the username, real-name, and the email-address are necessary for the sign-up.



**Figure 4** subscribing to the IMS database

## **2.2 Structure of the Wiki System**

Based on the described changes of the dr\_wiki software, a general restructuring of the data entry and storage was made possible. As discussed in FIDIS deliverable D1.2, the general structure of the website is segregated into a public and an internal area, allowing for data separation. However, in order to reuse the already entered data of the wiki for the public and the internal website, the structure outlines in Figure 5 was built:

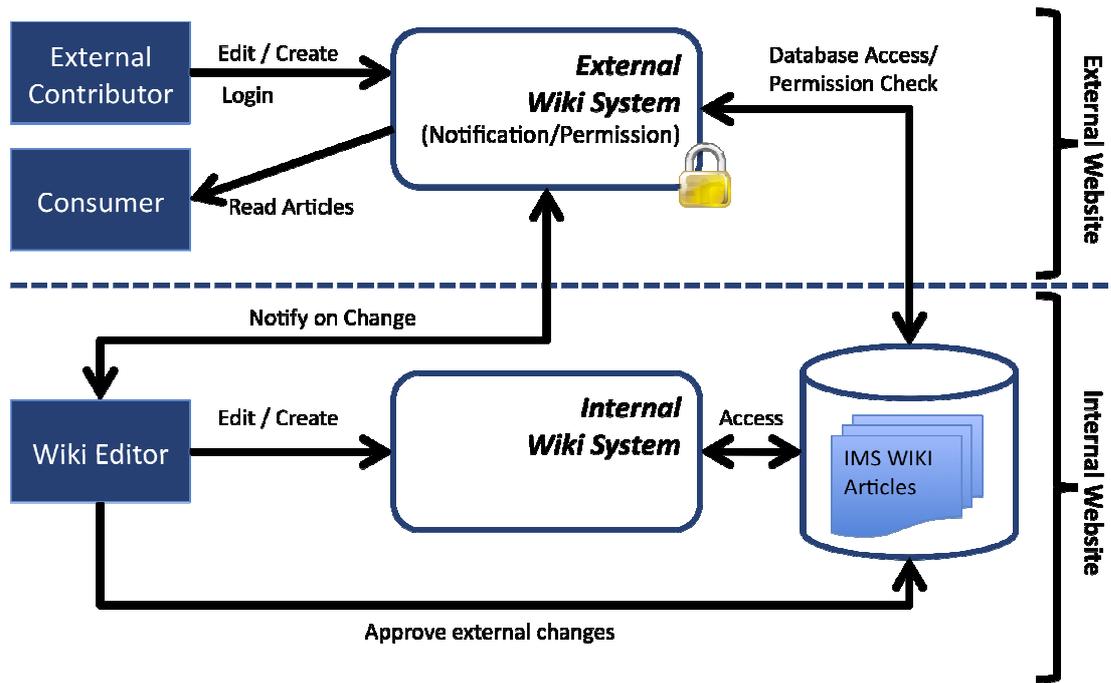


Figure 5: Structure of the IMS Wiki System.

The data of the IMS wiki itself is stored in the database parts of the backend. By linking this data to the wiki plug-in responsible for the display of the data on the public website, this data can be used as well. Also, by using the permission handling of the wiki software, external users can edit pages, once they are logged in.

### **3 Future Plans for the Maintenance and Use**

#### **3.1 Introducing new typology for IMS**

Due to the rapid increase of hybrid types of IMS the typology initially suggested within FIDIS Deliverable D3.1 (Bauer and Meints 2005) did not seem suitable to describe the variety of IMS anymore. Therefore the typology had been revised in FIDIS Deliverable D3.17 (Meints 2009). This included by reversing the numbering of the classes and adding a class 0 as follows:

- Class 3: Identity management is main functionality (or economic core) of the product.
- Class 2: The product is no genuine IMS, but IMS functionality is relevant.
- Class 1: The focus of the product has nothing to do with identity management, nevertheless IMS functionality is included.
- Class 0: The corresponding type does not apply to the IMS.

These class values will be assigned to the three types of IMS. The class value thus represents to which extent an IMS must be regarded as account management (Type 1), relies on profiling procedures (Type 2) or is user centric in nature (Type 3). For example social networks allowing users to organize their profiles are to a functionally relevant part user centric IMS (Type 3: class 2). But most social networks have an emphasis on profiling techniques to enable advanced search for other users, interest groups or to enable targeted marketing which seems to be economic core for many social networking platforms (Type 2: class 3). The organisation centric element plays a minor role in the enrolment and login procedures (Type 1: class 1).

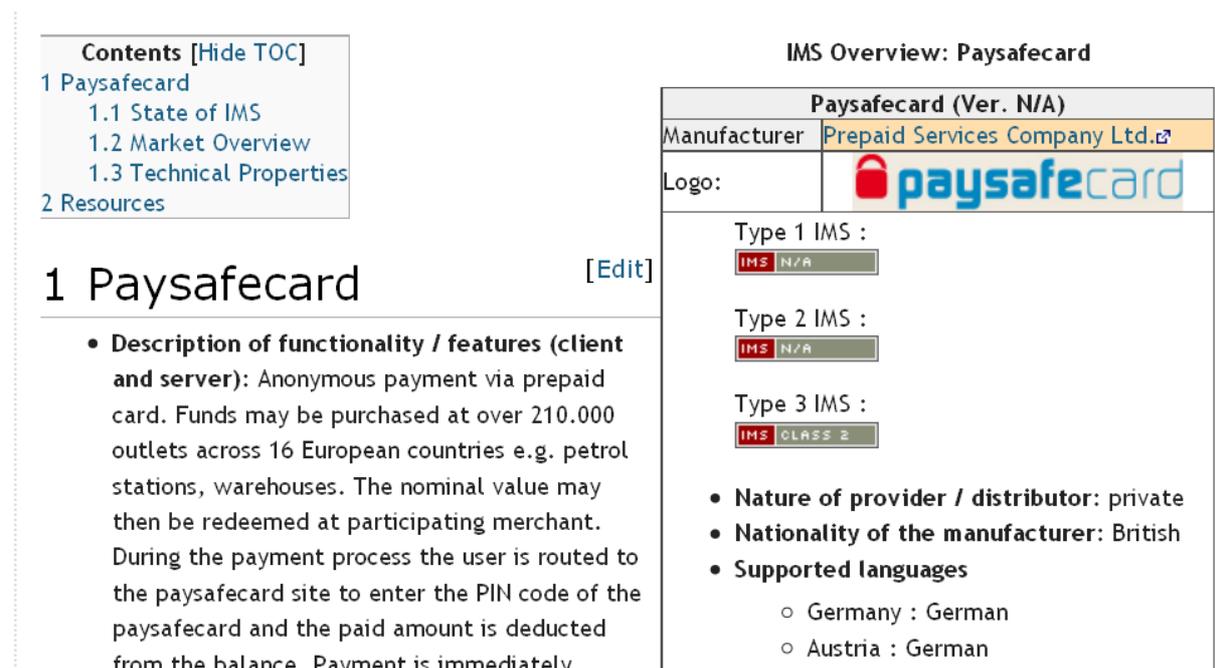


Figure 6: Future Display for a single-type IMS

For a classical IMS that fits only for a single type of IMS the class will be “class 0” displayed as “n/a” for two of the three classes (see Figure 6). A mixed type of IMS will show class-values for all three types of IMS. See the Figure 7 below which relates to a social networking site for business professionals.

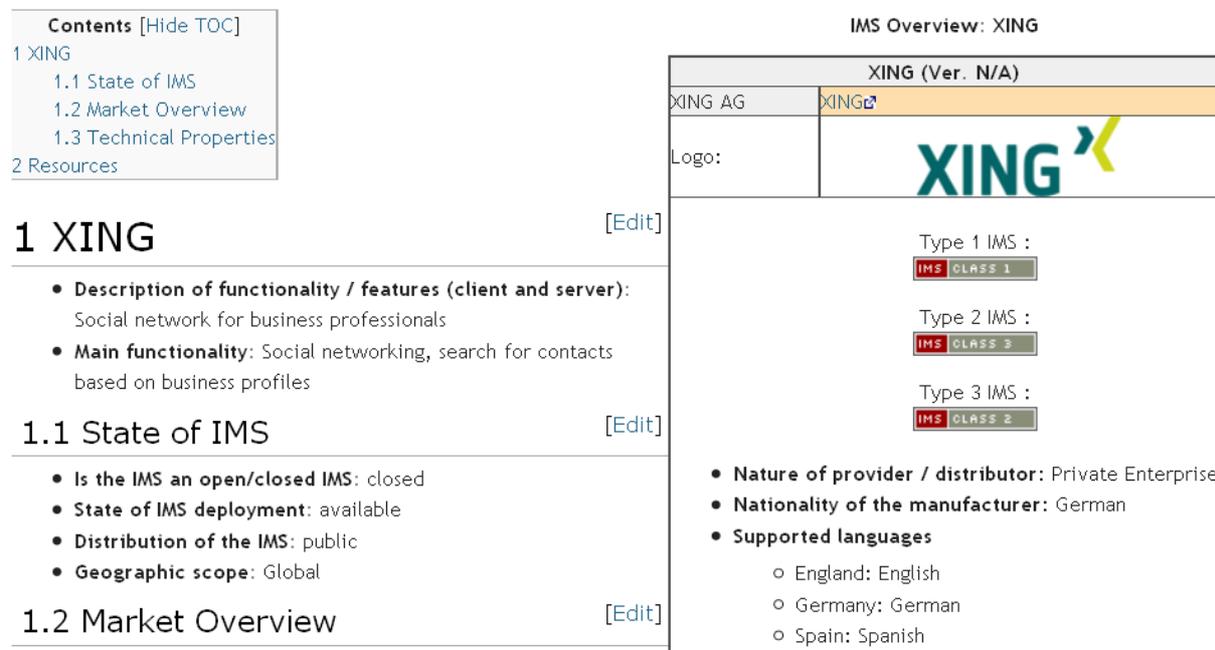


Figure 7 Future Display for a mixed-type IMS

In a clustering approach IMS from the database were re-evaluated to describe the new developments more accurately. There seven clusters of IMS could be identified and described. For more information please refer to D3.17 (Chapter 5.2).

### **3.2 Updating the database with the new typology**

In the course of the migration the old data will be transferred as is into the wiki format thus including the previous typology. Once the migration has been finalised, the IMS will be re-evaluated in accordance with the new typology. The history function of the wiki will allow accessing the initial typology.

The necessary re-evaluation has been done within D3.17 for those 34 out of 44 database entries already, that show a class value 3 for at least one type of IMS. The remaining IMS will be evaluated by the editorial team once the migration has been finished. In this course the database entries will also be updated as necessary. In particular in respect to newer versions of IMS and additionally supported languages updates might to be necessary. For example the global expansion of the social network XING made it necessary to add 8 further languages to its database entry.

### **3.3 Future Plans for Maintenance of the Database**

The introduction of the wiki based system allows participation by vendors, users and other third parties such as researchers from other identity related projects. The database will exist beyond the lifetime of the FIDIS project. The dr\_wiki software is published under the GPL licence and continuously further developed within an open source project. The Goethe University Frankfurt will continue to provide the hardware and web space to keep the database alive.

We think that the migration of the IMS database to a wiki will encourage third party authors or vendors that might have reacted reluctant to the idea of having to contact the editor in charge of the database before being able to contribute content. Furthermore the wiki will not start blank but contain quite some content taken from the database, thus avoiding a cold start effect. This will invite people to browse through the database and to contribute their content. Also the similar pre-existing entries make it easier for user to create new content by copying and editing an existing entry and modelling its contents to the then newly added IMS.

The quality of the content will be ensured by the editors. All change requests by users will generate a notification which will be routed to the responsible personnel within the editors' institutions for approval as described above (2.1.2). Also the editors plan to continuously feed data and updates into the database as new IMS get to their attention. This way the database may continue to provide a valuable resource for research in the area of IMS encouraging other users to perpetually contribute to the wiki.

## 4 Overview of new and existing Entries to the database

On May 8th the total of 44 entries existed within the database. All entries will be updated during the migration process in regard to the typology of classes. One new entry (Paysafecard) has been added to the database in the course of the 5th work plan. Paysafecard is a supporting technology for identity management. By providing a means for anonymous payment on the web, it supports the user centric approach to identity management. A doublet (Friendster) will be deleted during the course of the migration.

The following table illustrates the status of the database by May 8th 2009:

<b>No.</b>	<b>Database item</b>	<b>No.</b>	<b>Database item</b>
1	Advogato	24	KeePass Password Safe
2	iManager	25	OpenID
3	eBay	26	Kerberos
4	Visible Path	27	Norton Password Manager
5	Athens Identity Manager	28	Leverage Software
6	Sxip Network	29	Mozilla Firefox
7	Sxip Access	30	Liberty Alliance
8	CAcert	31	LOAF
9	Spamgourmet	32	Light-Weight IDentity (LID)
10	Shibboleth	33	123People
11	CIDAS	34	AN.ON - Anonymity Online
12	Roboform	35	Friendster
13	Cookie Pal	36	CookieSwap
14	Entegrity AssureAccess	37	My Password Generator
15	PayPal	38	Keygloo
16	Friendster	39	Entropy
17	Orkut	40	MozPETs
18	Opera	41	LinkedIn
19	HiPath Scurity DirX	42	Sxipper
20	Hushmail	43	XING
21	Jabber	44	studiVZ
22	OpenPrivacy	45	Paysafecard
23	JAP		

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