—— *Save your Databases*

The SIARD Relational Database Archiving Solution
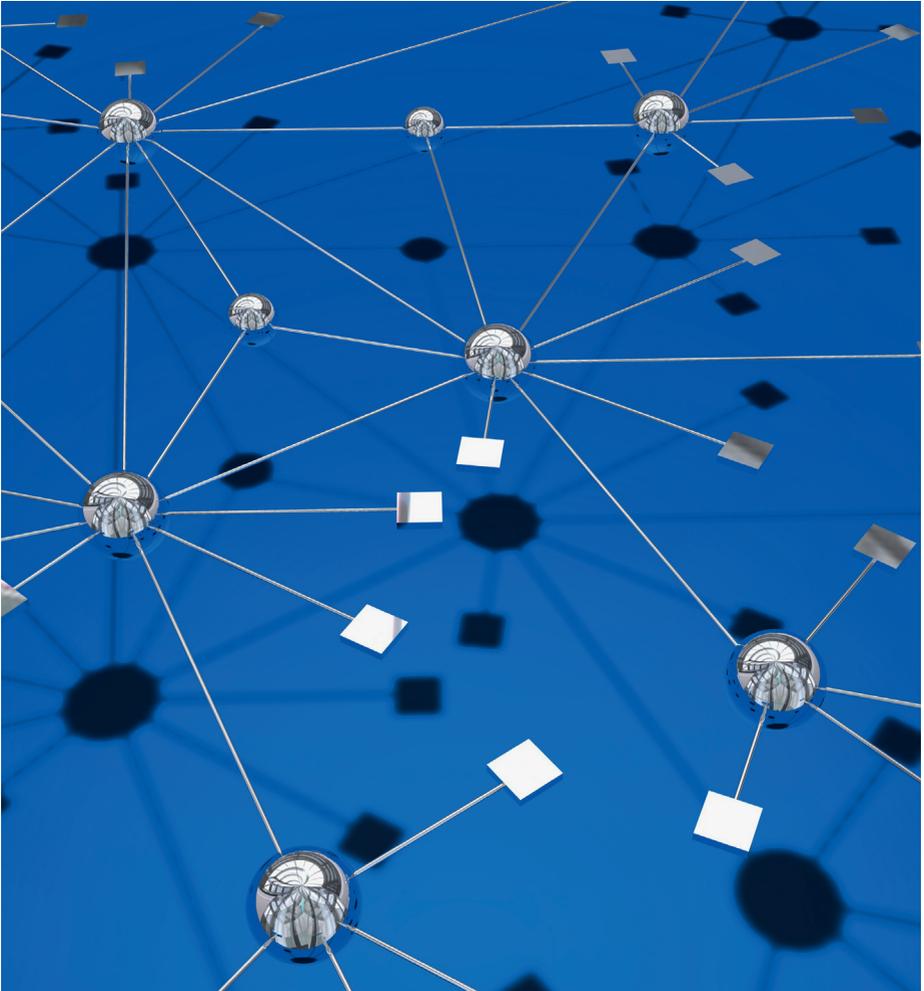
—— *Archiving Relational Databases*

Organizations frequently hold vital administrative and scientific data in relational databases[1]. Keeping this information accessible and interpretable for the future is critical. Yet, until recently, preserving relational databases for the long-term was virtually impossible due to a lack of standards.

The Swiss Solution

The Swiss Federal Archives (SFA) has found a two-fold solution. First, it developed the SIARD format (Software Independent Archiving of Relational Databases), an open, published, standardised archiving format for relational databases. Secondly, it provides a set of software tools, SIARD Suite, to convert databases into the SIARD format. SIARD format and SIARD Suite offer a unique archival solution to preserve and access database content including metadata[2] and relations over the long-term.

The SIARD Concept

To ensure that existing data will be accessible in the future, using open, published and standardised file formats is key. The SIARD format as well as the SIARD Suite software are based on internationally accepted standards such as XML, Unicode and SQL:1999.[3] They therefore guarantee a much longer lifespan for database content than any non-standardized, proprietary format.

The SIARD Format

SIARD is an open database format especially designed for archiving. The speci-fication is published on the SFA website and may be downloaded for free. The SIARD format is independent of the SIARD Suite software.

SIARD Suite

The SIARD Suite software converts databases into a collection of easy-to-handle XML files, thereby preserving content, relations and metadata. It allows to view the primary data and to edit the metadata according to each organization's indi-vidual policy. SIARD Suite consists of three main components:

SiardFromDb is a migration tool. It converts databases from three of the most wide-spread database systems (Oracle, Microsoft SQL Server and Microsoft Access) into a file in the archivable SIARD format. This file is an uncompressed zip-folder (PKZip/Zip64) carrying the file-name extension ".siard". It consists of an XML file for the content of every database table and of a single XML file for the metadata.

SiardEdit allows users to document and to update the metadata. SiardEdit also permits to search within the metadata. Users can also view the primary data and sort the view according to various criteria.

SiardToDb enables users to load SIARD files into any of the supported database systems: Oracle, Microsoft SQL Server or Microsoft Access. For instance, it is pos-sible to convert an Oracle database into a SIARD file and then upload the SIARD file into a new Microsoft SQL Server database. Thus, more complex searches with-in the archived primary database content can be conducted.

Terms of Use

The Swiss Federal Archives grants free usage of the SIARD Suite software under the legal license agreement.

SIARD in a Nutshell

— The SIARD format provides an open, published format for the long-term preservation of relational databases as well as a small, easy-to-install freeware package called "SIARD Suite".
— The SIARD format is based on internationally acknowledged standards such as XML, SQL:1999 and Unicode.
— SIARD Suite supports the most commonly used database formats: Oracle, Microsoft SQL Server and Microsoft Access.
— SIARD Suite can archive even very large databases.
— SIARD Suite is platform and vendor independent. It operates in a Java 1.5 (or higher) environment, running on Windows, Linux and Mac OS X.
— The SIARD Suite user interface is self-explanatory and user-friendly. SIARD Suite is available in English, German, French and Italian.
— SIARD Suite was developed by the Swiss Federal Archives and has been integrated in the digital archiving framework of the European research project Planets[4]. The SFA has declared the SIARD format as the Swiss Federal Administration's official archiving format for databases.

For more information, to order the SIARD Suite software and to sign up for a SIARD workshop, please visit www.bar.admin.ch

1) In relational databases, data are kept in tables (relations) which are logically connected.

2) Metadata describe the primary data and explain the meaning of the database tables and fields.

3) XML - www.w3.org/TR/xml; Unicode - ISO 10646; SQL:1999 – ISO/IEC 9075:1999

4) www.planets-project.eu