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Redix Product Family
White Paper

Redix International, Inc.

Contents

Introduction

Redix International, Inc. is an enterprise software company. Redix develops software and provides services to help organizations convert their proprietary or organization-specific data to standardized data. Among the standardized formats supported are X12, EDIFACT, XML, NSF, UB92, HIPAA, HL7, NCPDP, and PDF. Redix software also performs validation and acknowledgement functions to help organizations achieve immediate standards-compliance. Lastly, Redix provides comprehensive consultation, training, and execution services to handle all software-translation and compliance issues. Since 1994, Redix has developed solutions for more than 3,000 organizations worldwide.

Problem Statement

As XML and EDI spread throughout the world and as different enterprises implemented XML and EDI in their respective industries, the task of managing XML and EDI relationships became more and more complicated. Enterprises have discovered that they did not gain the expected benefits from their XML or EDI applications unless it was fully integrated into their system. Secondly, an increasing number of enterprises have discovered the need for an XML/EDI system that exchanges messages in seconds, rather than hours. Thirdly, since enterprises have many trading partners that implement XML or EDI standards in different ways, enterprises wish to use a single interface to integrate XML or EDI into their system in order to meet all of their trading partners' needs.

Furthermore, although the trend towards standardized formats is strong, each draft format undergoes a lengthy, time-consuming revision process before it is fully standardized and adopted. In the meanwhile, some enterprises choose to continue using their proprietary or industry-specific formats. Other enterprises, however, choose to adopt the draft formats. Therefore, supporting both the industry-specific or proprietary formats and the draft formats is crucial.

Redix Solution

Redix International, Inc. understands these problems. As a result, Redix has developed an AnyToAny and AnyToXML Format Converter Engine that helps enterprises define a single interface between their own format and their trading partners' formats, regardless of whether the formats are draft, industry-specific, proprietary, or standardized.

As opposed to traditional engines that employ a three-step approach, the Redix AnyToAny Format Converter Engine combines data validation, translation and mapping, and database access into a single process to eliminate unnecessary file I/O. The Redix ONE-PASS approach is significantly faster than other approaches and allows for the exchange of messages in seconds and milliseconds, rather than in minutes and hours as with competing solutions. The Redix AnyToAny Format Converter Engine is ideal for real-time XML/EDI and Electronic-Commerce applications.

In addition to the AnyToAny and AnyToXML Format Converter Engines, Redix has developed the GUI Mapper, numerous optional add-on modules, the HIPAA Package, and several predefined maps.

AnyToAny Format Converter Engine

Written in C++, Redix AnyToAny Format Converter Engine runs on Windows 2000/XP/Server 2003/Vista/Server 2008, Linux, and various versions of the UNIX operating systems, including Sun Solaris, HP-UX, and AIX.

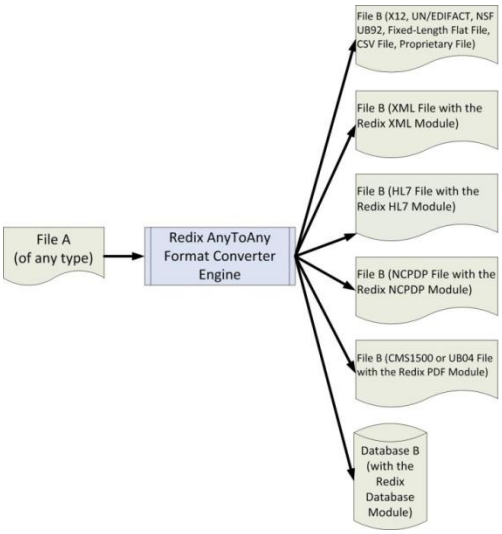
The engine can be used for conversions between:

- X12 and their clones. Support all X12 transactions in version 3040, 4010, 4020, 4030, 5010, 5020, 5030, 5040, and 5050
- UN/EDIFACT and their clones. Support all EDIFACT transactions in versions 94A, 94B, 95A, 95B, 96A, 96B, 97A, 97B, 98A, 98B, 99A, 99B, and 00B.
- NSF (version 2 and 3.01), UB92 (version 4 and 5)
- Fixed-Length flat file
- Comma Separated Value (CSV) file
- Proprietary File
- XML (with XML module)
- NCPDP (with NCPDP module)
- HIPAA (with HIPAA Package)
- HL7 (with HL7 module)
- Database (with Database module)
- CMS 1500 or UB04 (with PDF module)

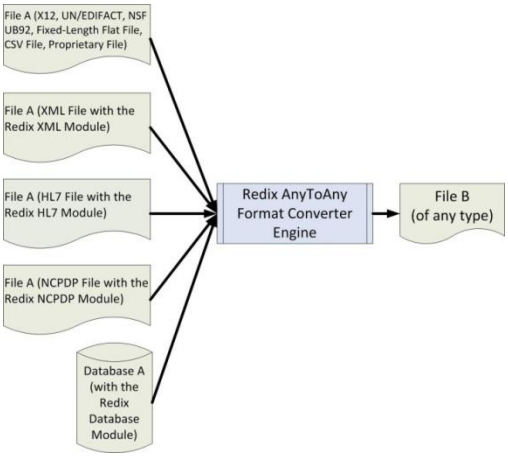
Besides its conversion capability, the engine also provides the following functionalities:

- Works with all EDI standards including the ISO 9735 (EDIFACT), ISO 7372 (Data Element Sets), ASC X12, TDI, and proprietary formats
- API (Application Programming Interface) lets the user seamlessly integrate the Redix AnyToAny converter engine to existing applications with minimum programming efforts
- Provides C/C++/C#, VB/VB.Net, Command Line, and Java interfaces
- With the GUI Mapper and the XML module licenses, the user will have the support of the following XML standards:
  - Open Applications Group (OAG) 7.0
  - RosettaNet 1.1, 2.0
  - CommerceOne's xCBL Version 2.0, 3.5
  - Open Travel Alliance (OTA) 1.0
  - Petroleum Industry Data Exchange (PIDX) 1.0
  - Chemical Industry Data Exchange (CIDX) 2.0
  - Mortgage Industry Standards Maintenance Organization (MISMO) 1.0
  - cXML 1.1

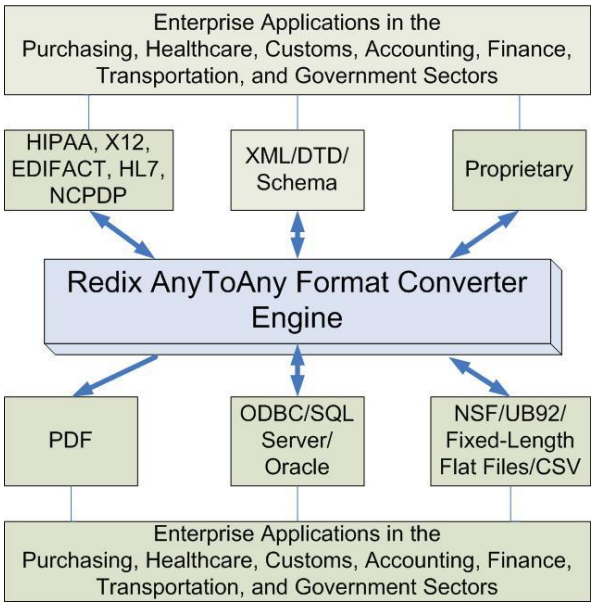
The following diagram shows the inbound data flow for an enterprise using the Redix AnyToAny Format Converter Engine.



The following diagram shows the outbound data flow for an enterprise using the Redix AnyToAny Format Converter Engine.



The following diagram shows the data flow for an enterprise using the Redix AnyToAny Format Converter Engine and two different applications:



For instance, an enterprise may have two applications. One application may produce an XML file, while the other application may take X12 files as input. With the Redix AnyToAny Format Converter Engine, the enterprise can convert an XML file from the first application into an X12 file that is used by the second application.

Add-on Modules

Redix modules are optional add-ons to the Redix AnyToAny Format Converter Engine that add additional functionality. Multiple modules may be added onto a single engine, and the modules do not have to be installed during the initial engine installation.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the AnyToAny Format Converter Engine. For example, if the enterprise needs to convert NCPDP files to any other format, then the enterprise should purchase a separate NCPDP Module license. Similarly, if the enterprise wishes to convert XML files to any other format, then the enterprise should purchase an XML Module license. The following is a list of possible modules that can be added onto the AnyToAny Format Converter Engine.

Module	Description
XML	Enables the AnyToAny Format

	Converter Engine to handle all well-formed and schema/DTD-based XML files
RMAP	Enables the AnyToAny Format Converter Engine to work with all Redix RMAP predefined maps
Database	Enables the AnyToAny Format Converter Engine to access any ODBC-compliant database, e.g. Oracle, SQL Server, MySQL, etc.
NCPDP	Enables the AnyToAny Format Converter Engine to handle all NCPDP files
HL7	Enables the AnyToAny Format Converter Engine to handle all HL7 files
WPC-XML	Enables the AnyToAny Format Converter Engine to work with all Redix XML-HIPAA predefined maps
PDF	Enables the AnyToAny Format Converter Engine to generate PDF files from any input file. Also enables the engine to work with all Redix HIPAA-PDF predefined maps.

With Redix GUI Mapper and EDI Authoring Tools

If an enterprise wishes to use a GUI (graphical user interface) to create and maintain message-type definitions and maps, it can purchase a Redix GUI Mapper with EDI Authoring Tools license.

AnyToXML Format Converter Engine

The Redix AnyToXML Format Converter Engine converts non-XML messages (such as flat files or EDI files) into well-formed XML messages. Users can define the XML tag-style by using one of the following styles:

- Full Description (e.g.. <PurchaseOrderDate>)
- Record/Segment Name with Sequence Number (e.g., <BEG_05>)
- Record/Segment Name with Element Number (e.g., <BEG_373>)
- RosettaNet
- Microsoft BizTalk

The Redix AnyToXML Format Converter Engine is ideal for those enterprises that wish to build an XML repository or are looking for a way to create an XML file that they can then use as an internal XML schema. Written in C/C++, Redix AnyToXML Format Converter Engine runs on Windows 2000/XP/Server 2003/Vista/Server 2008, Linux, and various versions of the UNIX operating system, including Sun Solaris, HP-UX, and AIX.

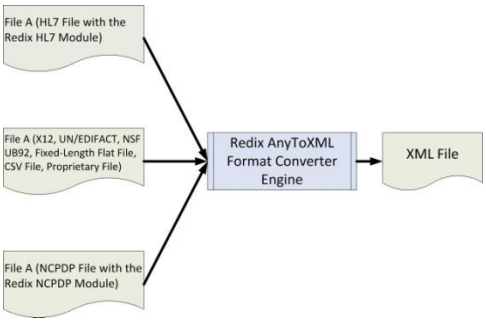
The engine converts convert files of the following types to XML:

- X12 and its clones, including versions 3040, 4010, 4020, 4030, 5010, 5020, 5030, 5040, and 5050
- UN/EDIFACT and its clones, including versions 94A, 94B, 95A, 95B, 96A, 96B, 97A, 97B, 98A, 98B, 99A, 99B, and 00B
- NSF (version 2 and 3.01), UB92 (version 4 and 5)
- Fixed-Length flat file
- Comma Separated Value (CSV) file
- Proprietary File
- NCPDP (with the Redix NCPDP Module)
- HIPAA (with the Redix HIPAA Package)
- HL7 (with the Redix HL7 Module)

Besides its conversion capabilities, the engine also provides the following functionalities:

- Works with all EDI standards including ISO 9735 (EDIFACT), ISO 7372 (Data Element Sets), ASC X12, and other proprietary EDI formats
- An API (Application Programming Interface) lets enterprises seamlessly and easily integrate the Redix AnyToXML Format Converter Engine with existing applications
- Provides C/C++, C#, VB/VB.Net, Command Line, and JAVA interfaces

The following diagram shows the data flow for an enterprise using the Redix AnyToXML Format Converter Engine.



Add-on Modules

Redix modules are optional add-ons to the Redix AnyToXML Format Converter Engine that add additional functionality. Multiple modules may be added onto a single engine, and the modules do not have to be installed during the initial engine installation.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the AnyToXML Format Converter Engine. For example, if the enterprise needs to convert NCPDP files into XML files, then the enterprise should purchase a separate NCPDP Module license. The following is a list of possible modules that can be added onto the AnyToXML Format Converter Engine.

Module	Description
NCPDP	Enables the AnyToXML Format Converter Engine to handle all NCPDP files
HL7	Enables the AnyToXML Format Converter Engine to handle HL7 files

With Redix GUI Mapper and EDI Authoring Tools

If an enterprise wishes to use a GUI (graphical user interface) to create and maintain message-type definitions and conversions, it can purchase a Redix GUI Mapper with EDI Authoring Tools license.

Network Server-Based AnyToAny Format Converter Engine

The Redix Network Server-Based AnyToAny Format Converter Engine allows users to access the engine through a local area network. Because the Network Server-Based Engine only runs on the Windows platform, clients of the engine can only run the Windows platform.

The Redix Network Server-Based Engine can be accessed by both Redix and non-Redix applications. The Redix applications that can access the engine include the Redix GUI Mapper, HIPAA Package client, etc., while the non-Redix applications that can access the engine include any of the user's applications that the user can link and integrate with the Redix engine by using the Redix API. Each client system needs a CAL (Client Access License) in order to access the Network Server-Based Engine.

Add-on Modules

Redix modules are optional add-ons to the Redix Network Server-Based AnyToAny Format Converter Engine that add additional functionality. Multiple modules may be added onto a single engine, and the modules do not have to be installed during the initial engine installation.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the Network Server-Based AnyToAny Format Converter Engine. For example, if the enterprise needs to convert NCPDP files to any other format, then the enterprise should purchase a separate NCPDP Module license. Similarly, if the enterprise wishes to convert XML files to any other format, then the enterprise should purchase an XML Module license. The following is a list of possible modules that can be added onto the Network Server-Based AnyToAny Format Converter Engine.

Module	Description
XML	Enables the Server-Based AnyToAny Format Converter Engine to handle all well-formed and schema/DTD-based XML files
RMAP	Enables the Server-Based AnyToAny Format Converter Engine to work with all Redix RMAP predefined maps

Database	Enables the Server-Based AnyToAny Format Converter Engine to access any ODBC-compliant database, e.g. Oracle, SQL Server, MySQL, etc.
NCPDP	Enables the Server-Based AnyToAny Format Converter Engine to handle all NCPDP files
HL7	Enables the Server-Based AnyToAny Format Converter Engine to handle all HL7 files
WPC-XML	Enables the Server-Based AnyToAny Format Converter Engine to work with all Redix XML-HIPAA predefined maps
PDF	Enables the Server-Based AnyToAny Format Converter Engine to generate PDF files from any input file. Also enables the engine to work with all Redix HIPAA-PDF predefined maps.

With Redix GUI Mapper and EDI Authoring Tools

If an enterprise wishes to use a GUI (graphical user interface) to create and maintain message-type definitions and maps, it can purchase a Redix GUI Mapper with EDI Authoring Tools license.

RMAP Module

The RMAP (Redix Map for HIPAA) Module is an optional add-on to the Redix AnyToAny and Network Server-Based AnyToAny Format Converter Engines. The RMAP Module consists of a collection of HIPAA maps. These maps convert a file in the Redix internal format into a HIPAA file, and vice versa. Files in the Redix internal format are CSV (Comma Separated Value) files that encapsulate HIPAA data into a more concise and readable format. Many businesspeople find the Redix internal format easier to understand, while many programmers/system engineers find the format easier to program with because of the fewer number of records and fields. As a result, many Redix clients have adopted the Redix internal format as their own internal format for storing healthcare data.

Enterprises can use the RMAP Module to create HIPAA files. For example, if an enterprise wishes to create a HIPAA 837 Professional file, then the enterprise should first create a file in the Redix internal format instead of in the HIPAA 837 Professional format. After creating the file, the enterprise can simply plug the file into the Redix HIPAA map in the RMAP Module to generate the corresponding HIPAA 837 Professional file.

Enterprises can also use the HIPAA maps in the RMAP Module to validate and convert HIPAA files into files in the Redix internal format. The Redix HIPAA map will first validate the incoming HIPAA file. Only after the HIPAA file has been validated and deemed HIPAA-compliant will the file in the Redix internal format be generated.

The Redix internal format is a logical alternative to the complicated HIPAA format. Because the Redix internal format encapsulates the same data as the latest HIPAA formats, if an enterprise is able to store his healthcare data in the Redix internal format, then it does not have to worry about whether or not its data is HIPAA-compliant.

If an enterprise were to continue using his proprietary internal format alone, it would likely encounter future non-compliance issues. Non-compliance issues often involve resubmitting claims and wasting time and money. Redix is committed to ensuring that the RMAP Module and all other Redix products remain in total compliance with the latest HIPAA standards.

With Additional Database Module

With the optional Redix Database Module, data stored in the Redix internal format can be written to an ODBC-compliant database or generated from an ODBC-compliant database. Please refer to the Redix Database Module for more information.

The RMAP Module includes maps for each HIPAA transaction. The maps are divided into two categories: HIPAA to RMAP for users that receive HIPAA files, and RMAP to HIPAA for users that submit HIPAA files.

Database Module

The Redix Database Module is an optional add-on to the Redix AnyToAny and Network Server-Based

AnyToAny Format Converter Engines. It allows the Redix engine to interact with any ODBC-compliant databases during the conversion process. Users can use the Redix Database Module to convert messages of any type to/from a database (Oracle, SQL Server, DB2, Sybase, Informix, InterBase, SQLBase, and MySQL). The Redix Database Module also supports the native API of the target DBMS (database management system), e.g., Oracle/oci and SQL Server/OLE-DB, so applications developed with the Redix Database Module can run more swiftly.

Users can access ODBC-compliant databases with Redix software by entering OFD (Output File Descriptor) statements. Users can use standard SQL statements, views, and stored procedures to interact with a database. The Redix Database Module only supports the Windows platform.

With the GUI Mapper or HIPAA Package

For enterprises that use the Redix GUI Mapper or HIPAA Package, the Redix Database Module allows users to:

- Perform drag-and-drop operations to easily create a map between a message and a database
- Create the database schema, as well as a map between a message definition and the created database. The Redix GUI Mapper and HIPAA Package allow users to create a "self-mapping" database map that automatically generates a database schema and map from a message definition

After the map is defined, the Redix GUI Mapper or HIPAA Package with Database Module will generate a Redix OFD file with the appropriate SQL statements that will allow the Redix engine to interface with the database directly.

With Additional RMAP Module

For enterprises that already use the Redix RMAP Module, the Redix Database Module includes predefined database maps for all twelve RMAP transaction types. The predefined database maps are for use with Microsoft SQL Server and Oracle databases.

NCPDP Module

The Redix NCPDP Module is an optional add-on to the Redix AnyToAny and AnyToXML Format Converter Engines. The NCPDP module supports the NCPDP Telecommunication standard (Version 5.1 and D0), Batch standard (Version 1.1), and Script standard (Version 5.0).

With the Redix AnyToAny Format Converter Engine and NCPDP Module, users can convert data between the following formats:

- NCPDP Telecommunication
- NCPDP Batch
- NCPDP Script
- X12, UN/EDIFACT and their clones
- Fixed-Length Flat File
- CSV
- Proprietary File

With the Redix AnyToXML Format Converter Engine and the NCPDP Module, users can convert the following types of NCPDP data to XML:

- NCPDP Telecommunication
- NCPDP Batch
- NCPDP Script

For enterprises that use the Redix GUI Mapper or the Redix HIPAA Package, the Redix NCPDP Module provides drag-and-drop operations that allow the users to easily create a map between a non-NCPDP message and an NCPDP message.

PDF Module

The Redix PDF Module is an optional add-on to the Redix AnyToAny and Network Server-Based AnyToAny Format Converter Engines. The PDF Module allows users to convert an

EDI/HIPAA/XML/CSV/Flat File transaction into a PDF. Other features of the Redix PDF Module include:

- Creates Interactive Forms
- Supports 40-bit and 128-bit encryption and digital signatures
- Supports the importation, splitting, and merging of PDF files
- Supports JavaScript functions and actions
- Supports full-access to content streams

Redix has utilized the Redix PDF Module and the AnyToAny Format Converter Engine to develop several predefined PDF maps for the healthcare industry. One of the most widely distributed maps is a map that converts a HIPAA 837 Professional into a HCFA 1500 PDF file. A similar map converts a HIPAA 837 Professional file with NPI information into a CMS 1500 PDF file.

XML Module

The Redix XML Module is an optional add-on to the Redix AnyToAny or Network Server-Based AnyToAny Format Converter Engines. The XML Module adds the XML capability to the engines. With the Redix AnyToAny Format Converter Engine and the XML Module, users can convert the data between the following formats:

- XML
- X12, UN/EDIFACT and their clones
- Fixed-Length Flat File
- CSV
- Proprietary File

If the user has both the GUI Mapper and the XML Module licenses, the user will have the support of the following XML standards:

- Open Applications Group (OAG) 7.0
- RosettaNet 1.1, 2.0
- Open Travel Alliance (OTA) 1.0
- xCBL Version 2.0, 3.5
- Petroleum Industry Data Exchange (PIDX) 1.0
- Chemical Industry Data Exchange (CIDX) 2.0
- Mortgage Industry Standards Maintenance Organization (MISMO) 1.0
- cXML 1.1

WPC-XML Module

The Redix WPC-XML Module is an optional add-on to the Redix AnyToAny or Network Server-Based Format Converter Engines and the XML module. The module contains 24 HIPAA XML maps. These maps convert HIPAA messages to XML messages followed WPC (Washington Publishing Corporation) Schema and vice versa.

HL7 Module

The Redix HL7 Module is an optional add-on to the Redix AnyToAny or Network Server-Based AnyToAny Format Converter Engines. HL7 module adds the HL7 capability to the engines. With the Redix AnyToAny format converter engine and the HL7 Module, users can convert the data between the following formats:

- HL7 version 2.3 and 2.4
- X12, UN/EDIFACT and their clones
- Fixed-Length Flat File
- CSV
- Proprietary File

With the Redix AnyToXML Format Converter Engine and the HL7 Module, users can convert the following data to XML formats:

- HL7 version 2.3 and 2.4

For users who have the GUI Mapper or HIPAA Package license, the Redix HL7 module provides drag-and-drop operations to allow the users easily implement a map between a non-HL7 message and a HL7 message.

GUI Mapper with EDI Authoring Tools

The Redix GUI Mapper with Authoring Tools is a GUI application that helps the user to:

- Create and maintain messages
- Create and maintain maps
- Test a map (with the additional Redix AnyToAny Format Converter Engine)
- Generate the mapping files, i.e., IFD (Input File Descriptor) and OFD (Output File Descriptor), to be used in a production environment. The mapping files, together with an input file, can be used to access the Redix AnyToAny Format Converter Engine through API (Application Programming Interface).

Add-on Modules

Redix modules are optional add-ons to the Redix GUI Mapper with EDI Authoring Tools that add additional functionality. Multiple modules may be added onto a single GUI Mapper, and the modules do not have to be installed during the initial GUI Mapper installation. The GUI Mapper is fully compatible with all Redix modules.

The Redix GUI Mapper with EDI Authoring Tools does not include the Redix AnyToAny Format Converter Engine, so users have to purchase separate engine license in order to test a map in the GUI Mapper.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the GUI Mapper. For example, if the enterprise needs to convert NCPDP files to any other format, then the enterprise should purchase a separate NCPDP Module license. Similarly, if the enterprise wishes to convert XML files to any other format, then the enterprise should purchase an XML Module license. The following is a list of possible modules that can be added onto the AnyToAny Format Converter Engine.

Module	Description
XML	Enables GUI Mapper to handle all well-formed and Schema/DTD-based XML files
RMAP	Enables the GUI Mapper to work with all Redix RMAP predefined maps
Database	Enables the GUI Mapper to access any ODBC-compliant database, e.g. Oracle, SQL Server, MySQL, etc.
NCPDP	Enables the GUI Mapper to handle all NCPDP files
HL7	Enables the GUI Mapper to handle all HL7 files
WPC-XML	Enables the GUI Mapper to work with all Redix XML-HIPAA predefined maps
PDF	Enables the GUI Mapper to generate PDF files from any input file. Also enables the engine to work with all Redix HIPAA-PDF predefined maps.

XML GUI Mapper with EDI Authoring Tools

The Redix XML GUI Mapper with Authoring Tools is a GUI application that helps the user to:

- Create and maintain non-XML messages
- Create and maintain XML messages
- Create and maintain non-XML maps
- Create and maintain XML maps
- Test a map (with the additional Redix AnyToAny Format Converter Engine and XML module)
- Generate the mapping files, i.e., IFD (Input File Descriptor) and OFD (Output File Descriptor), to be used in a production environment. The mapping files, together with an input file, can be used to access the Redix AnyToAny Format Converter Engine through API (Application Programming Interface).

Add-on Modules

Redix modules are optional add-ons to the Redix XML GUI Mapper with EDI Authoring Tools that add additional functionality. Multiple modules may be added onto a single XML GUI Mapper, and the modules do not have to be installed during the initial

GUI Mapper installation. The GUI Mapper is fully compatible with all Redix modules.

The Redix XML GUI Mapper with EDI Authoring Tools does not include the Redix AnyToAny Format Converter Engine and XML module, so users have to purchase separate engine and XML module license in order to test a map in the GUI Mapper.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the XML GUI Mapper. For example, if the enterprise needs to convert NCPDP files to any other format, then the enterprise should purchase a separate NCPDP Module license. The following is a list of possible modules that can be added onto the AnyToAny Format Converter Engine.

Module	Description
RMAP	Enables the XML GUI Mapper to work with all Redix RMAP predefined maps
Database	Enables the XML GUI Mapper to access any ODBC-compliant database, e.g. Oracle, SQL Server, MySQL, etc.
NCPDP	Enables the XML GUI Mapper to handle all NCPDP files
HL7	Enables the XML GUI Mapper to handle all HL7 files
WPC-XML	Enables the XML GUI Mapper to work with all Redix XML-HIPAA predefined maps
PDF	Enables the XML GUI Mapper to generate PDF files from any input file. Also enables the engine to work with all Redix HIPAA-PDF predefined maps.

HIPAA Package

The Redix HIPAA Package contains:

- Redix AnyToAny Format Converter Engine
- GUI Mapper with EDI Authoring Tools
- Predefined maps
- HIPAA database, which incorporates all the HIPAA transaction sets:
  - o 270/271: Health Care Eligibility/Benefit Inquiry and Information Response
  - o 276/277: Health Care Claim Status Request and Response
  - o 278 request/278 response: Health Care Services Review – Request for Review and Response
  - o 834: Benefit Enrollment and Maintenance
  - o 835: Health Care Claim Payment/Advice
  - o 837: Health Care Claim: Institutional
  - o 837: Health Care Claim: Dental
  - o 837: Health Care Claim: Professional

Features of the Redix HIPAA Package:

- Supports Six Levels of Testing recommended by WEDI/SNIP
- Various X12 databases, including the X12 standard Version 4010, 4020, 4030, 5010, 5020, 5030, 5040, and 5050
- HCFA (Health Care Financing Administration) database, which includes the NSF Version 2.0, 3.1 and the UB92 standard Version 5.0 and 6.0
- Predefined maps between the HIPAA Professional Transaction Set and the HCFA standards

Additional Information:

- All the predefined maps can be cloned and modified to accommodate the user's requirements.
- Users can view the translations simultaneously, while performing drag-and-drop operations between two tree structures.
- The package consists of complete map reports with sorting capabilities.
- The package automatically generates Interface statements to integrate the Redix AnyToAny engine. The statements can be in one of the programming languages: Visual Basic, C++/C#, or JAVA.

Add-on Modules

Redix modules are optional add-ons to the Redix HIPAA Package that add additional functionality. Multiple modules may be added onto a single

engine, and the modules do not have to be installed during the initial HIPAA Package installation.

The Redix HIPAA Package includes an AnyToAny Format Converter Engine, so users do not have to purchase separate engine license in order to use the HIPAA package. The HIPAA package is fully compatible with all Redix modules.

Depending on the enterprise's needs, the enterprise can purchase separate module licenses in addition to the HIPAAP Package. For example, if the enterprise needs to convert NCPDP files to any other format, then the enterprise should purchase a separate NCPDP Module license. Similarly, if the enterprise wishes to convert XML files to any other format, then the enterprise should purchase an XML Module license. The following is a list of possible modules that can be added onto the HIPAA Package.

Module	Description
RMAP	Enables the AnyToAny Format Converter Engine to work with all Redix RMAP predefined maps
Database	Enables the AnyToAny Format Converter Engine to access any ODBC-compliant database, e.g. Oracle, SQL Server, MySQL, etc.
XML	Enables the AnyToAny Format Converter Engine to handle all well-formed and Schema/DTD-based XML files

Benefit 1

Redix products give the user full control over the conversion of the user's application data formats to the data formats that are used by the user's trading partner.

Benefit 2

Redix products incorporate sophisticated modern computer technologies including object-orientated programming, modern compiler and rules based system to provide ease-of-use, high performance, flexible and user-friendly data conversion tools.

Benefit 3

Immediate compliance with major EDI or XML standards.

Implementation

The Redix AnyToAny Format Converter engine requires three files: an input data file (e,g, an EDI file, HIPAA file, XML file, or a flat file), an Input File Descriptor (IFD), and an Output File Descriptor (OFD). The Input File Descriptor (IFD) uses a proprietary Redix format to describe the structure and segment/element definition of the input file, while the Output File Descriptor (OFD) uses a Redix-proprietary scripting language to describe the output file formats. Depending on the user's needs, the user can configure an OFD to generate one or more output files.

The IFD describes the structure and element/segment definition of the input files and serves as the compliance-checking criteria for the input files. If any errors occur during the compliance-checking procedure, the Redix AnyToAny Format Converter engine will generate a compliance-checking report, and depending on the errors reported, the OFD portion of the conversion may or may not continue. The converter provides two interface methods: API (Application Programming Interface) and command line. The API method provides you with several "C/C#/C++/JAVA/VB/VB.Net" functions, which allow the user to interface with the user's applications. The Command line method allows the user to interact with the Redix AnyToAny Format Converter engine on the operating-system level.

The Redix GUI Mapper allows users to create message definitions and maps. Once a map is created, the GUI Mapper can automatically generate the IFD and OFD. Note that the GUI Mapper is not required on the production system; only the IFD/OFD and a Redix AnyToAny Format Converter engine are required on the production system.

Here is a summary of the procedures that a user needs to follow in order to interface with the Redix AnyToAny Format Converter engine:

1 Prepare the message definitions for both the input (source) and the output (target). If the input message is an EDI message, the user can use the Redix GUI Mapper to extract the message definition from a given standard. If the message is an XML message, the user needs to import the message's corresponding DTD or W3C Schema. If the message is a proprietary file, the user can use the GUI Mapper to define the user's message. Ensure that both the input and output messages are verified without errors.

2 Use the Redix GUI Mapper to create the map. Use the Mapper's drag-and-drop feature to map the fields. Enter OFD statements as the conditional map statements.

3 Use the GUI Mapper to test the conversion. If verification is successful, then the user can create the IFD and OFD.

4 Copy or ftp the IFD/OFD to the production system. In the production system, the user should use an API (such as redix_app_extA), or the Command-Line prompt (e.g., run the "redix" executable) to integrate with the user's applications.

Summary

The Redix AnyToAny Format Converter engine is the most advanced and flexible EDI utility available for both XML and EDI translation software today. The Redix engine allows a user to construct a seamless integration of the user's existing EDI applications with minimum programming effort. As opposed to the traditional three-step approach, Redix AnyToAny Format Converter engine combines data validation, data translation and mapping, and database access into ONE process to eliminate unnecessary file I/O. The Redix ONE-PASS approach is much faster, making the Redix AnyToAny Format Converter engine ideal for real-time EDI applications.