



CX-044

**Description of the Business Process within the
supervision of banking related to XBRL processing
Internal Draft updated 2005-08-31**

Documentation for software vendors

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Introduction

When adapting the taxonomies provided by COREP and changing the technical environment according to the new data format, supervisors – who usually have no experience with XBRL – are confronted with different challenges which require handy solutions to make XBRL interesting and to reduce initial hesitations and migration burdens. Since there are already working software solutions that support the process of banking supervision, supervisors must be convinced of the advantages that come along with XBRL. Besides the cost, the usability and the ability to integrate the new software in existing environments are key technical issues which the success of this project depends on.

The available document wants to describe some of these processes for which supervisors might demand a technical solution. So it can be used as a guideline for software vendors to prepare their presentation for the September workshop in Brussels. Further aims are to define initial requirements, to state what kind of interoperability to existing IT environments is needed and thus to give software vendors a first orientation about the solutions that are needful for supervisors. The September workshop is a good opportunity to present first solutions and to socialise with supervisors and start discussing more detailed tasks and aims.

The document begins with a description of preparations a supervisor has to perform to implement and use the COREP taxonomies. After that, a typical business process for a European supervisor is outlined that mainly consists of receiving, validating and processing financial data reported from a commercial bank. Based on this business process, key requirements are defined. The following chapter deals with a sample business process supported by software developed by the XBRL-COREP team. This process and the supporting tools are represented during the September workshop, and since the software of XBRL-COREP is just a proof-of-concept that is not sold to supervisors, software vendors might take this process as an initial hint for own solutions. The last chapter summarises additional tools and solutions that can be demonstrated during this workshop to give a benefit to supervisors.

1 Preparations of the supervisor

Since the COREP taxonomies are designed to be both extensible and reducible by any supervisor according to national regulations, the first important step for a supervisor is to adapt the COREP taxonomies. This process must be supported by software solutions.

A meaningful presentation for supervisors should show

- how to add additional labels in the national language,
- how to add/subtract a measure element to a COREP taxonomy (a column within a template),
- how to add/subtract a dimension element to a COREP taxonomy (a row within a template),
- how to increase/decrease the restrictions within a template (the „grey cells“).

The second important part for supervisors during the presentation is to create a new taxonomy from scratch. A presentation could include how to do this with only a few elements. During the presentation it should also be pointed out the aptitude of the tool(s) to

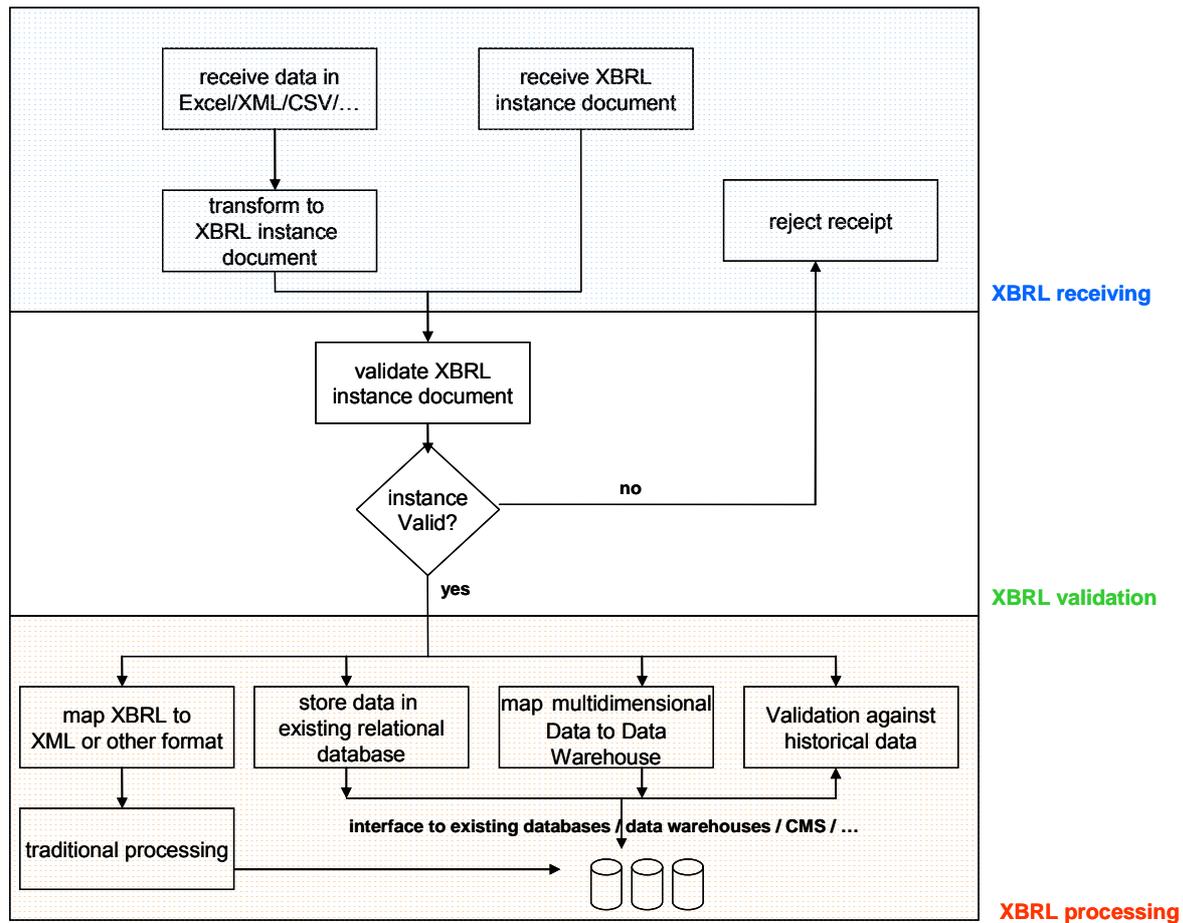
- favour a taxonomy definition or maintenance by more than one administrator (e.g. locking the definitions updated by a specific administrator, updates consolidation),
- favour the reuse of previous definitions,
- give further “configuration management” facilities (e.g. impact analysis).

It must be considered that not only adapting and creating taxonomies is an important issue for supervisors, but also maintaining them.

Showing these steps is a good introduction in how to handle and customise the taxonomies provided by COREP, and, in general, in how to develop and maintain XBRL taxonomies in a multi-administrator environment.

2 The business process of supervision

The following figure outlines main components of the supervision business process and how it is affected by the new data format XBRL:



2.1 XBRL receiving

Today, data from commercial banks is received in various formats. Adapted XML formats, flat file formats (including CSV: comma separated values), proprietary formats of mainframe computers or host systems and even paper-based reporting are all used.

Although a supervisor might migrate to XBRL within his internal systems, he is not likely to force commercial banks to change the reporting data format at the beginning. So an important issue for supervisors is to map the existing reporting data formats to XBRL. Software vendors are asked to provide solutions that support the mapping from one or several data formats to XBRL instances.

2.2 XBRL validation

The next step within the business process is to make sure (according to the realistic possibilities) the reported data is valid. One advantage of XBRL compared to other data formats are its extended validation possibilities. To make supervisors able to benefit from these possibilities, software vendors are asked to present how their tools support XBRL validation. A supervisory business case for validation is the confrontation between the data sent by commercial banks and some other data already present in the supervisor's data base.

Both complete, user-controlled applications and integrable engines that work automatically within existing environments (e.g. J2EE- or .NET-applications) are interesting. A report of the validation results should be created to reject invalid instance documents; in this case, it would be interesting to show the tools ability to handle a proper error text, depending on the error, possibly including also the indication of the wrong data. Another issue is the supported amount

of validation by the tools today („only“ XBRL 2.1 validation or already validation of dimensional and/or formula linkbases).

2.3 XBRL processing

After validating the data, it has to be stored in an existing relational database or a data warehouse (since warehousing is an interesting aspect concerning the new multi-dimensional capabilities of XBRL). However, relational databases outweigh data warehouses and are more commonly used; therefore the presentation should concentrate on OLTP rather than OLAP.

Several different scenarios are possible:

- The first scenario is the supervisor provides the additional reporting in XBRL but does not want to change his internal systems and his data model at the beginning. To perform the traditional data processing, a mapping from XBRL to the existing reporting data format is necessary (e.g. mapping from XBRL to XML or a flat file format). This ensures the supervisor does not have to change his internal data model, his validation processes and the interfaces to other resources. Software vendors are asked to provide tools that support this kind of mapping.
- The second scenario is a supervisor wants to store the reported XBRL data in his existing database according to his existent data model. Therefore a mapping from the XBRL instance document to a relational database is necessary. Software vendors are asked to show technical solutions that interact with different databases (Oracle, IBM DB2, PostgreSQL...) and perform this mapping. For demonstration purposes, it might also be sufficient to show simple examples or just to demonstrate how for example the appropriate SQL syntax is gained from an instance document.
- If other solutions are available, these might be demonstrated, too. Any solution that makes the reported instance document persistent (maybe as a native XML document) and creates customised reports and statistics based on these instance documents is welcome.

3 A sample business process with supporting tools

To ease the creation of test cases and to proof the concepts are realisable, the XBRL-COREP team developed several tools (mainly mapper tools) to map a certain data format to an XBRL instance and vice versa. These tools are represented during the workshop to show supervisors a proof-of-concept and one way how the business process can be supported by software. It is neither intended to maintain these tools for a long time nor to sell them to supervisors.

3.1 Preparations of the supervisor

A sample taxonomy is adapted according to real requirements of one or more countries. By using a taxonomy editing tool, it is shown how an additional label is added, how measure or dimension elements are added or removed and how the restrictions of the taxonomy can be changed. The tool itself does not play an important role, more important is the fact that an adaptation is easy and can be done by means of existing software.

3.2 XBRL receiving

The demonstration pretends the commercial bank submits their data in Excel spreadsheets and the supervisor maps this to XBRL (see chapter 2.1). Therefore one of the COREP templates (included within the template coreptest.xlt, which can be obtained from <http://www.corep.info>) is filled with data and submitted by using a web application of the XBRL-COREP team. This web application maps the submitted Excel spreadsheet to an appropriate XBRL instance file. This is a sample realisation of the use case described in chapter 2.1. Of course the submission format is not limited to Excel, but the XBRL-COREP solution only supports this format today.

3.3 XBRL validation

The validation of the instance file is done by a validation engine that is integrated within the web application. The validation is performed directly after creating the instance file, and validation results are shown in the browser.

3.4 XBRL processing

The first of the scenarios described in chapter 2.3 is demonstrated, the mapping from an instance file back to the initial reporting data format (in this case, this is Excel). Another web application receives a validated instance file, performs a second validation with another validator and maps the instance file back to an appropriate Excel spreadsheet. Now the supervisor could use his existing environment to further process this Excel spreadsheet, but validation was done through XBRL!

This process is a sample of what can be demonstrated in this workshop. Apart from the mapping to a relational database, it supports the most important steps for a supervisor with appropriate software solutions. That's what is important for supervisors during this workshop: To convince software already exists or is going to be developed that supports the handling with XBRL.

4 Further use cases & requirements

Since XBRL is quite a new technology for supervisors, they are interested in the interoperability with standard software, as for example Microsoft Office. So interesting questions are:

- Can an instance file be created by using a standard software, e.g. Microsoft Excel?
- Can an instance file be accessed by using a standard software, e.g. Microsoft Excel?
- A possible working scenario is that the IT department develops the initial release of the national taxonomy (starting with an Excel file?), but maintenance and further modifications are performed by a business department (because they also maintain the data model and the validation details). So it is interesting how the maintenance of taxonomies is supported by software solutions and how difficult it is for a non IT expert to modify taxonomies.

As said in the introduction, the presented software should be integrable and must interoperate with other resources, as for example:

- databases,

- data warehouses,
- content management systems and
- other applications.

A supervisor is not likely to change all his systems and technical processes according to XBRL immediately. A step-by-step migration is rather more possible, therefore interoperability with existing solutions is a main aspect.

Comments

During several discussions with colleagues from the Deutsche Bundesbank (German banking supervisor) it became clear the most important technical process that must be supported is the mapping between various data formats to XBRL and vice versa. Another very important issue is the mapping from XBRL data to a relational database, since the data model is not going to be changed and the existing database is going to be kept. These might be interesting aspects to other supervisors too, and thus it might be helpful to focus on these points during the presentation. It is also advisable to perform a consistent example business process based on the descriptions above (especially chapter 3). Of course not every detail must be taken into account, but the following steps are recommended:



Final Remarks

Contributions, suggestions, ideas and possibilities are more than welcome. This document is open to all industry collaborations, in order to show the supervisors the actual advantages of XBRL in relation with traditional proprietary solutions. Please collaborate via the COREP yahoo group or send a message to info@corep.info.