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# WHAT IS THE CORE OF EXTENSIBLE BUSINESS REPORTING LANGUAGE?

*The paper deals with general questions of business data communication, particularly it focuses on the XBRL open data format. The XBRL concept and taxonomy is analyzed to a grater extent as well as both circumstances supporting the concept and preventing it from its larger international use. Moreover, the structure and activities of the non-profit XBRL International association is described, together with a report on an XBRL implementation process carried out in the USA, EU and the Czech Republic. Finally a brief list of possible XBRL implementation impacts on financial reporting issues is discussed, mainly on-line reporting and continuous auditing is surveyed*

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**New requirements on corporate data communication.** With proliferation of computers an interesting, and due to its impacts significant, paradox occurred and still occurs. Dynamic development of computers caused that growing volumes of data in growing number of fields are being processed by information technology; however the methods of data transfer between particular subjects, participating on processing and use of the processed data, did not follow this rapid development. The computer systems' integration was very intensive within organizations, but did not reach the desired level among them, especially in cases, where effective agreement, on formats of transferred data between the, subjects could not be reached. Such an agreement is relatively simple between two contractual parties (Supplier – Customer), but difficult in a relationship Corporation – Investors. Globalization of the Economy rather worsened the situation. The result is a reality, where the communication between computers is paradoxically frequently provided by a man.

In the simplest form the communication can look like the following: data processed by the company by the means of the latest corporate financial system are presented on the Internet (e.g. financial statements in the Annual Report), but to a very sophisticated software of a financial analyst, or a stock broker the information is entered manually by copying it from one window of an Internet Browser or MS Excel into another window of the analytic software, manually by a relatively highly qualified operator, necessary to determine, which information form which line of the Company's financial statement belong to which entry field of the analytic software. Data transfer by this method concerns, according to statistical assessment, millions of

data worldwide, consuming tremendous amounts of labour of qualified personnel with disproportional risk of non-systemic errors, representing in the end effect high financial costs and risks.

Various initiatives are trying to solve the above described condition since the seventies of the last century, creating agreed consistent data formats, intended for information exchange between subjects, which accept and implement these formats into their information systems to be able to create and receive data in the prescribed format. Such Electronic Data Interchange – EDI systems achieved in certain areas and under certain conditions a high efficiency [1]. Systems of agreed fixed data structures are used e.g. between store chains and their suppliers, automobile makers and their subcontractors etc. In all such cases the informal power of one of the parties to enforce the utilization of such fixed format and the agreement of the other parties of "agreement" are impliedly expected.

What kind of approach, however, should be applied in cases, when processors submit information in a variable structure for recipients they don't know, in large numbers, and who are spread across the world in different language, technological and regulation environment? Corporate financial statements, submitted for the use on capital markets, are a typical example. The financial statements can be regulated according to the content of their separate items, but cannot be regulated as to their formal form (unified balance sheet form with numbered lines and a checksum at the end, as we used to know it in CR in the past, cannot be expected in the international environment). It is also impossible to perceive who, into what type of computer systems and what kind of data for the financial statements will enter. The information with identical content can be found in financial statements of different companies in different places, under different names in different languages and currencies, however it is desirable to be able to load the information into different software of the information user. The New York Stock Exchange publicly trades securities of app. 15 thousand corporations worldwide [2], submitting its quarterly financial statements and other supplementary data, processed in the investors' computer systems and by other users worldwide; the situation is similar on all major stock exchanges of the World. The probability of use of such information by users on an international scale is increased by the advancing globalization of the financial markets and the economy as well.

The described situation creates demand for solution, enabling to structure formally unstructured data and to tag them according to their meaning, so it can be read by other computer systems without the need of agreement on a fixed format between the participating subjects. The real chance for effective solution of the described issue is offered by languages based on marking particular parts of the data files according to its meaning (semantics), based on open format, designated as XML (eXtended Mark-up Language).

The XML language is a general solution of mark-up of random data and ahs in its principle nothing in common with any field of human activity. Its use is therefore independent and possible for any purpose. One of the emerging areas of XML language application if the communication of corporate data, leading to creation of specifically designed superstructure of the XML language, called XBRL (eXtended Business Reporting Language).

**XBRL Project. The XBRL Substance.** Imagine we want to find out the amount of fixed assets of IBM Corporation. It is sensible to expect the information is published somewhere on the Internet and the efficient tool to search for it could be for example the Google search engine. We can expect the information to be in English, so we enter "IBM fixed assets" into the search field. The 0.42 second search brings up 1,950,000 links, from which not even the first ones offer a relevant link to the information we are looking for, even though the search engine uses highly sophisticated algorithms and the meaning of the entered expression is, for most people, easily understood [see Figure 1]. Majority of the result information does not have anything in common with the information sought after (the amount of fixed assets) and links lead to offers of software for recording the fixed assets or means of financing them.

What is the cause of this failure? The information on the www pages are presented in the HTML [3] language, whose primary goal is to ensure correct display of data on the page, but it does not deal with the meaning of the content of the displayed data, therefore it does not make the semantic search for data on the Internet any easier. XML, on the other hand, does not deal with the formal look of the information (its display), but with the meaning. Even though both are Mark-up Languages, using tags to mark parts of the data, the utilization of the tags is principally different.

XBRL is a specialized superstructure of the XML, designed for interchange of corporate data. It is not a new bookkeeping standard, because it does not provide regulation of the content of the transferred data, but only its readability in the electronic form. The above mentioned regulation of such data in global communication of corporate data is, of course, necessary condition of the availability of the submitted information, but it is ensured by other standards – e.g. International Financial Reporting Standards (IFRS), published by the International Accounting Standards Board (IASB) [4] etc. XBRL therefore only expands the possibility and efficiency of distribution and ensures the meaning readability of accounting information in transfer between different computer systems.

From the above description it is obvious the regulation of the content and the meaningful readability are inseparably connected and are condition and support of one another. The readability of the meaning will not be utilized, until the transferred data are regulated according to the content and standards, ensuring the content regulation, will be accepted more intensively and supported by a global meaning readability of the transferred data as well.

The target vision for the future is, therefore, that data of the financial statements, assembled according to IFRS, are presented in XBRL, guaranteeing the comparability of the contents of the published data, as well as the interpretation of the meaning by a random computer system of the user, regardless of what computer system of the translator created them, on global scale.

**Taxonomy.** Creation of taxonomy – for a particular purpose – is the basic condition of efficient use of XBRL in a specific case. The taxonomy can be seen as a sort of catalogue of data elements (data vocabulary), that can appear in a given field of XBRL application and which ensures a score of information for each of the existing elements as verbal description, regulation rules, calculation relations to other elements etc. [see Figure 2].

These data catalogues (taxonomies) have to be created by somebody in the first place and only than can be used by application programs for tagging of the transferred data on the side of the translator, while on the other end of the recipient they can be, using the taxonomy, read by their meaning and entered into the user's application program.

Because the XBRL, as the XML, on which it is based, is an open format, the taxonomy can be crated by any institution or organization, with sufficient professional and technical prerequisites, but also with prerequisites of a sufficient authority to enforce the created taxonomy. The created taxonomies can be further developed by the original author or according to individual needs of particular users and translators as well, by simply adding further elements, necessary for proper tagging of the meaning of the presented data.

**XBRL International.** The XBRL creator and propagator worldwide is non-profit organization XBRL International. This organization, based in New York, has been founded in 1998 by 13 founding members, while the fundamental initiator of the foundation was the American Institute of Certified Public Accountants (AICPA). In 2002 XBRL International entered the international arena already with 140 members; currently there are more than 300 organizations worldwide.

The principle of the XBRL International operation is based on basic individual jurisdictions in individual countries, working also on a non-profit basis and with national members helping to propagate XBRL especially by creation of the taxonomy and by implementation of XBRL in various fields of possible use. Particular national jurisdictions have to go through defined stages of preparation and final approval, in order to reach the full member status in XBRL International, gaining the right to participate on the work and managements of XBRL International [6] at the same time.

The cooperation with International Accounting Standards Board (IASB) is an important milestone in the history of XBRL International in creating the taxonomy for financial statements according to IFRS. The taxonomy has been published for the first

time in 2002 [7]. The cooperation of IASB and XBRL International continues in mutual symbiosis. IASB use XBRL for higher support o f the use of IFRS and XBRL also uses the advantages of IFBRS for its wider propagation. The result is, aside from the taxonomy for financial statements according to IFRS, the taxonomy for general use in publishing the corporate data, created in cooperation of XBRL International and IASB. The taxonomy is available to the public free of charge – its use is welcome and recommended by both institutions. The cooperation between both institutions is supported by their close personal connection.

| **Positive Factors:** | **Negative Factors:** |
|---|---|
| – XBRL Application brings considerable savings on the side of the users of information, who are able to receive data automatically into their systems from various translators in different structures and forms, without the need of agreement on a fixed data structure.<br>– From the long term point of view the savings are achieved on the side of information translators as well, because their systems are, after the implementation of XBRL, able to react more flexibly to the changing internal and external conditions. Furthermore every data translator is in a certain way a user of the data as well, his system, after XBRL implementation, will be able not only to create data in XBRL, but also able to read them.<br>– XBRL implementation enables creation of outputs on the side of the translator that can be used multiple times by different users for different (even changing) needs, without the need to modify them individually. XBRL data create the only interface between the systems of the translator and the user.<br>– XBRL can be used not only for external reporting, but also for data transfer between different parts of the information system within an organization.<br>– XBRL breaks the boundaries between various computer platforms, operation systems and languages.<br>– Through the implicit feature of the taxonomy the application of XBRL enables increase of quality of the translated data, because the elementary control of ties between data is ensure, automatic references to regulation rules are provided etc.<br>– Data in XBRL can be restructured in the user's system more easily, translated into another language, different currency or different content regulating rules, because the meaning of each element of the transferred data is known. | – Application of the XBRL demands existence of a software on the side of the translator, as well as on the side of the receiver, featuring functions for processing data in XBRL format. This expectation is hardly always met. The latest version of programs of the MS Office package are ready to process data in the XML format (this in XBRL as well) and Microsoft Corporation is among the leading propagators of XBRL. Propagation of these versions of programs is bound to the innovation cycle of the software and to financial abilities of the companies, to upgrade such software.<br>– XBRL implementation into standard programs, such as Word or Excel, is not enough; the ability to work with XBRL is needed directly at the information systems of companies and users' application programs.<br>– Score of SW producers uses for exchange of data their own proprietary formats, working well between programs from one producer, with considerable investments made for their development and purchase, so the transition to XBRL is not so obvious.<br>– XBRL, enabling trouble free exchange of data between program systems of different manufacturers, paradoxically endangers their commercial policy and the interest not to allow products of other manufacturers to their clients.<br>– The benefit from the use of XBRL is usually larger on the side of the user, who has no power to formally demand the use of XBRL by the translator, who bears most of the XBRL implementation costs. |

**The prerequisites of XBRL application in practice.** Despite all the advantages of XBRL, described above, and even though there is an objective demand for such solution of corporate data interchange, the propagation of XBRL in practice is neither automatic nor simple.

Lets' analyze at least the major factors, supporting and preventing the propagation of XBRL:

The regulating bodies, in whose competence the setting of rules for publication of corporate data falls, have the critical influence in propagation of XBRL. Among them are the Securities Board, Central banks and banks in general, statistical bodies, governments and governmental agencies, supervisory bodies and inspection authorities etc. These authorities have the formal power to set rules for reporting of corporate data by the means of regulations, they issue within their competence, and thus are able to demand the use of XBRL.

Unfortunately the decision making of the above mentioned institutions is, in its character, conservative, subject to various, even irrational, influences and is many times unpredictable and mostly inflexible. However, there are exceptions to this pessimistic assessment.

**Conclusion – impacts of use of the electronic data exchange on the accounting reporting and audit conception – new trends.** Use of XBRL for communication of the corporate data, especially financial statements of companies, has impact not only on increase of efficiency of the exchange of such information, but it can also have an influence of a conceptual character on the entire structure of the accounting reporting and verification of data in the financial statements.

By the use of contemporary corporate information systems, open data formats and the Internet as the means of communication, the computer systems of the accounting information translators and their users can be connected on-line. Each accounting operation in immediately processed by the translator's system and converted into the XBRL statements, presented on the Internet, so they can be used on-line by the computer system of the user, who can react to the reported data himself or automatically. This organization of accounting information reporting breaks the current paradigm of financial statement prepared always with a given deadline after the end of a certain period, and creates the new term of "on-line reporting". The described technical possibilities are one side of the issue, there are, of course, issues of the content and limitations of such solution.

Any advancement for the traditional reporting for a period towards on-line reporting, but partially even the use of XBRL for traditional information for period may mean the change in the conception of accounting information audit. The Auditor

will have to put stronger accent on verification of the internal verification system during planning and implementation of the audit, and verification of tests, built into the translator's information system. The focus of his work will thus shift from the verification of material correctness of the particular operations to the verification of the reliability of the system for processing them, i.e. to testing of hypothesis, the reliable system cannot produce incorrect result with acceptable risk. Such verification of the reliability of the data processing system will not be possible to perform on a one-time basis after the end of the accounting period, presenting the auditor's finding on the statement, but it should take the form of continuous monitoring of the system, its reliability and changes made in its setting and operation; it could be expressed by permanent, not one-time, statement of the auditor on the reliability of the system as such and not on the financial statement – creating another new term "continuous auditing".

The possibilities and limitations of on-line reporting a continuous auditing are, however, an individual area, related to the subject of this contribution only indirectly, their implement ability will be evident in the future.

**Appendix**

***Figure 1.***

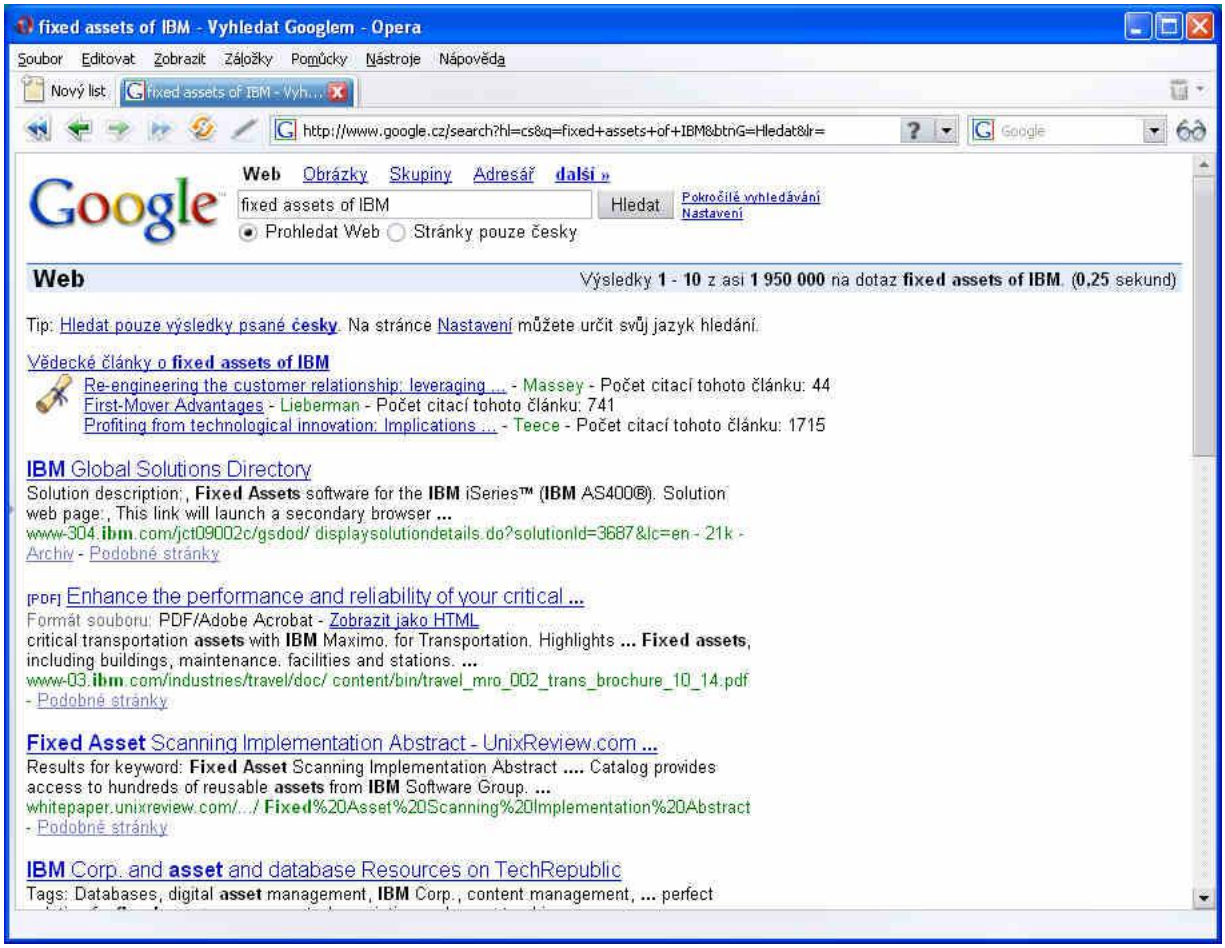
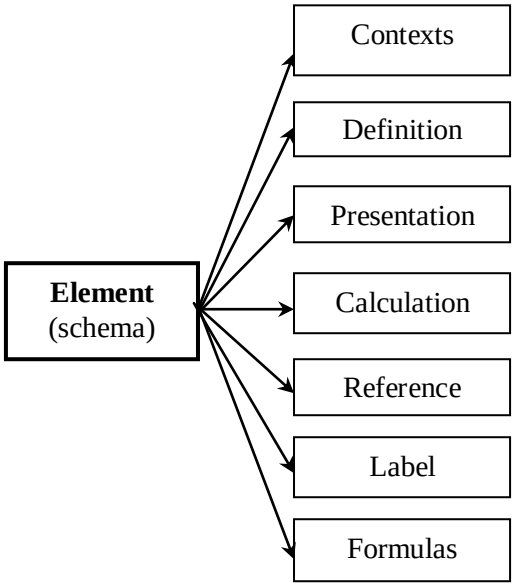


***Figure 2.***




## LITERATURE:

1. The initiative in this field reached the level of UN and a well known example is the UN EDIFACT system; in Czech Republic there is a commercial system EDITEL being used etc.

2. Tokyo Stock Exchange is now the leader, according to the number of traded corporations, ahead of New York Stock Exchange, and beside this and traditional European Stock Exchanges, other Asian Exchanges are rapidly developing.

3. Hypertext Markup Language.

4. International Financial Reporting Standard published by International Accounting Standards Board, see www.iasb.org.

5. Detailed information on the organizational structure, principles of operation and management, professional boards and basic jurisdiction can be found on XBRL International web pages at http://www.xbrl.org.

6. See http://www.iasb.org/resources/xbrl.asp.