XBRL: Towards a diverse ecosystem

A discussion document on the technical evolution of the XBRL Specification

The XBRL International Standards Board (XSB)

February 2010

Invitation to comment

This discussion paper invites comments on the preliminary views of the XBRL Standards Board (XSB) regarding the technical evolution of the XBRL specification over the forthcoming decade.

This consultation exercise is designed to help the XSB evaluate the technical direction and related resource requirements of the XBRL International, Inc consortium (XII) over the next decade. These conversations will be carried out in a deliberate, professional and consultative manner. The exercise is being undertaken to ensure that the pace of XBRL adoption is sustained and, as far as possible, accelerated.

These activities imply no uncertainty about the stability of the XBRL standard. XBRL works well, and is used successfully in dozens of countries and by millions of companies. This paper is all about the future, the reality that technology must evolve, and our desire to make the XBRL specification a lasting and sustainable success.

In the course of these initial discussions with existing project teams the XSB has considered many options to enhance market implementations by addressing opportunities within XBRL; examples are described in this discussion paper. The XSB is seeking feedback on whether any or all of the options identified would meet the broader market goals of:

- making the standard easier for developers
- making XBRL information more comparable across taxonomies
- making XBRL information easier to consume alone or in combination with information expressed in other standards

The XSB invites comments on all matters addressed in this discussion paper.
Comments are most helpful if they:

- respond to the issues as stated and indicate the specific paragraph or paragraphs to which the comments relate
- contain a clear rationale
- include alternatives the XSB should consider

To facilitate responses the discussion paper includes specific questions in an appendix. Some of the questions address the broad goals outlined above and seek to assess their impact on end users of XBRL information, future users and project managers. Others are more technical and are principally directed to developers. The XSB seeks answers to both types of question and invites stakeholder organisations to engage both technical and business personnel in formulating their responses. Further, the XSB is interested in comments that address the benefits of acting or not acting along the lines proposed, alternative recommendations and resource implications.

The XSB is particularly interested in the commitment that members of the XBRL community are prepared to make in executing a development plan by providing personnel or financial resources. The XSB will use the responses received during this consultation to recommend to XII an XBRL Strategic Development Plan for measured and staged implementation over the next 5–10 years.

Please submit your comments in writing either online via http://www.surveymonkey.com/s/2010TechDiscussion or by letter addressed to Mr. Hugh Wallis, Technical Director, XBRL International, 2010TechDiscussion@xbrl.org, by 19th March 2010. Comments headed 'Confidential' will be restricted to the staff of XBRL International and members of the XSB. The Board will retain the right to publish excerpts from comments that have not been so marked.

Intended Audience

This document is addressed to all stakeholders in XBRL. This includes both developers and users, including end users, future users and project managers. Even if you feel that your main role as a stakeholder in XBRL is not addressed by a particular point, please consider how the targeted audience might view the material in a way that would best support your role.

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Contents

Executive summary

The XBRL Standards Board (XSB) has examined the highly successful development and adoption of the standard over the past decade, taking account of lessons, feedback and trends from major projects and the market. It concludes that in order to increase its momentum and capitalize on the opportunities to enhance business information processes in the decade to come, technical enhancements to the standard are desirable. It has formulated three goals:

Goal 1	**To make XBRL easier for developers**
Goal 2	**To make XBRL information more comparable across taxonomies**
Goal 3	**To facilitate the consumption of XBRL information for a wide range of existing and potential users**

This document includes a list of proposed technical development projects with objectives that individually and collectively meet these goals. The XSB now seeks responses from the XBRL community to its proposals. The implementation of any or all of these proposals will be conditional on their meeting with broad support, both in principle and in practice, from those who have the greatest interest in seeing the standard grow and prosper.

This consultation exercise is designed to help the XSB to consider the future technical direction of XBRL International, Inc. (XII). These conversations will be carried out in a deliberate, professional and consultative manner. The exercise is being undertaken to ensure that the pace of XBRL adoption is sustained and, as far as possible, accelerated.

These activities imply no uncertainty about the stability of the XBRL standard. XBRL works well, and is used successfully in dozens of countries and by millions of companies. This paper is all about the future, the reality that technology must evolve and our desire to make the XBRL specification a lasting and sustainable success.

1. Purpose of this document

The XBRL standard is now deployed around the world to report financial and performance information in an extremely diverse set of environments. Its widespread adoption is a testament to the utility and interoperability of the specifications that together make up the standard. XBRL has taken the 'paper paradigm', based on the centuries-old practice of individual entities compiling accounts periodically, and made it machine-interpretable. This has obvious advantages for enhancing business information processes.

XBRL can do more: its design contains the potential to move towards a complementary paradigm that is dynamic, on demand, in real time and comprehensive. However, in order to realise this potential, the standard needs to be easier to use, even more interoperable and simpler to consume. The XBRL Standards Board (XSB), the group responsible for managing the technical activities of XBRL International Inc (XII), has reviewed a range of technical options that they believe the consortium and its market community should consider.

Foremost in the minds of the XSB is the knowledge that XBRL underpins business information and reporting supply chains across six continents and is in use within hundreds of different reporting communities. It is endorsed, promoted or has been adopted by many bodies, including the technical working group of the International Organization of Securities Commissions (IOSCO); the Society for Worldwide Interbank Financial Telecommunication (SWIFT); the Fédération des Experts Comptables Européens (FEE); the Institute of Management Accountants (IMA); the American Institute of Certified Public Accountants (AICPA); the Global Reporting Initiative (GRI); the World Intellectual Capital Institute (WICI); the MicroFinance Exchange (MIX); Impact Reporting and Investment Standards (IRIS); and the International Accounting Standards Board (IASB).

It is essential to uphold and maintain this success. Any enhancements must provide a clear benefit while avoiding, as far as possible, negative impacts on the current program of adoption. The XSB considers that any changes that the consortium makes must:

- be the subject of extensive consultation
- add substantial value to the standard
- be backward compatible as far as possible: in cases where backward compatibility is not feasible, there has to be an obvious and cost effective path for migration to a revised standard
- be developed over an extended period (5 years or more)
- be produced in a highly professional manner and be accessible to all XBRL stakeholders

The XSB has prepared this document as a first step in the process of consultation. It sketches out the manner in which XBRL has evolved and has been adopted, highlights some areas in which the standard has room for improvement and outlines some goals that would enhance the standard and expand its adoption. Each goal has a number of subsidiary projects that would help achieve desired objectives.

The XSB needs input from the widest possible group of market constituents to help refine its objectives, and is seeking responses not only from those who are using XBRL to report information (such as filings to regulators), but also from analysts, investors and others who might wish to consume it. Using the accompanying questionnaire as a guide, you are invited to submit your comments on these proposals.

2. Origins of XBRL

In 1998 Charles Hoffman, a CPA with Knight Vale and Gregory in Tacoma, Washington, USA, began to explore how XML could be used to report financial information electronically. After two years of incubation within the American Institute of CPAs, the XBRL brand was launched in April 2000. By July of the same year XII, an international not-for-profit consortium, had released the XBRL 1.0 specification for use by commercial and financial companies around the world. On the basis of experience with the standard, and developments in technology, XII released XBRL 2.1 in December 2003. This has stood the test of time and so remains the recommended base standard today.

XBRL was designed to allow business information to be produced in electronic form, backed by strong metadata that provides definitions for the terms used as well as the relationships between those terms. The standard provides a way to represent, in human and machine-interpretable form, reporting concepts defined by accounting standards setters and regulators for financial or any other kind of business or performance report. These concepts are defined in taxonomies that are designed to meet the needs of particular reporting environments, such as US GAAP. XBRL also provides a way to add additional concepts needed for specific types of communication. This means that organizations can 'extend' reporting taxonomies to include terms unique to their own business. It also means that, for example, national standards setters can extend an international set of terms to meet the local market and/or regulatory needs.

This extensibility makes XBRL quite different from most other XML-based standards. XBRL is a framework that can be used to model particular spheres of business information. The standard itself does not model any particular environment: it is a toolkit for modelling business information. The approach, while relatively complex, is extremely powerful and flexible.

Since the release of XBRL 2.1, subsequent specification work has focused on the development of additional modules that enhance XBRL's applications.

- XBRL Dimensions 1.0, which reached recommendation status in September 2006, allows the authors of XBRL taxonomies to define and restrict dimensional information, such as segments and scenarios, with the benefit of greater reporting consistency and comparability.
- In June 2009 XII recommended the Formula 1.0 suite of specifications, which provides a syntax for performing calculations, defining assertions and expressing business rules using the data in an XBRL report.
- Work on Inline XBRL, a standard that allows XBRL instance information to be rendered with the formatting intended by the originator of the information, inside a web page, is approaching recommendation.
- Work continues on Versioning, a standard that defines the syntax and semantics of a versioning report that lists changes between two different taxonomies; and
- XBRL GL (XBRL Global Ledger), a module (which is actually a taxonomy) that allows a standardised representation of data typically carried in Ledgers (such as in relational tables).

XBRL has rapidly colonised the niche for regulatory and disclosure reporting, with substantial benefits in terms of transparency, efficiency and economy. The standard is sufficiently adaptable, however, to be imaginatively exploited in ways that could offer further valuable opportunities to the business community.

3. XBRL: rapidly expanding adoption

XII has rapidly acquired a global membership through a network of national jurisdictions (19 to date): national and international regulators such as HM Revenue and Customs in the UK; standards setters such as the International Accounting Standards Committee Foundation (IASCF); accountancy firms; software vendors; and other stakeholders in the XBRL community – a total of more than 600 member companies in 2009. Like other standards, XBRL benefits from the network effect. While XBRL is now used extensively in the regulatory sphere around the world, we are still in the relatively early stages of building an ecosystem in which XBRL information is generated, reported, reused, combined and analysed throughout the business community and all along the business reporting supply chain.

The primary drivers of XBRL's adoption as the standard for business information have been regulatory bodies. By 2011 every listed company in China, Japan and the US will have to report to its securities regulator, and on to the markets, using XBRL. A very significant number of financial institutions in EU member states must report in XBRL for supervisory purposes. Stock exchanges around the world are adopting XBRL for company disclosures, including those in India and South Africa. Every company in Spain, Belgium, Singapore and Denmark either produces its annual accounts in XBRL or will do so by 2011. Within the next 12 months, every business in Australia and the Netherlands will be able to file its tax, statistics, and accounting returns in XBRL. In 2011, every UK company will file its financial statements to the tax regulator using Inline XBRL. The IASCF has made XBRL taxonomies available for the accounting standards that are approved for use in 110-120 countries.

Many companies that file using XBRL also see its potential for internal purposes, comparing performance in different years or between different sectors, for example. Where disclosure information is reported publicly, as in the US, there are strong prospects for business analysts and other corporate players to make use of XBRL structured disclosures as input to investment decisions and modelling. The availability of public disclosures in a machine-readable format will prove to be of enormous value to the business community. As yet, however, this form of business information analysis is at an early stage.

4. Issues for XBRL users

While XBRL has been extremely successful in gaining traction in the regulatory, software and business communities, users have proposed a number of initiatives to continue this success. The XSB believes that enhancements to *implementation, comparison and consumption* are possible, through a carefully planned series of additions and revisions:

4.1 Ease of use

The manner in which XBRL was developed has led to a standard that, while powerful and flexible, can present challenges for software professionals when coming to the technology for the first time. There are a number of examples of this, including:

a. Software requirements were initially written according to assumptions about the way that people might use XBRL, as real-life use cases did not then exist. Existing requirements documents could be enhanced by incorporating actual use-cases that have come to light during the past few years.

b. The XBRL Specifications (which in turn require significant knowledge of the XML Schema specification as well as other XML specifications such as XLink) are lengthy and complex documents. They could benefit from more modularisation, and enhancements to the manner in which they are structured, to promote better understanding.

c. There are a number of opportunities for technical advances that will ease the task of developers. Examples include clarifying the semantics of comparison for XBRL concepts; introducing certain types of ordering within networks of XBRL information; and strengthening the mechanisms for structuring and interacting with links to authoritative reference literature that is not in XBRL format.

d. The Dimensions module could benefit from simplification.

e. For several pragmatic reasons, such as time to market, XBRL was developed directly in its syntax on XML. It evolved instantiated as a syntax rather than being derived from an abstract model. Many developers find that an abstract model of a language is easier to learn and implement.

f. The production of accessible introductory materials, such as tutorials, has not kept pace with the effort to bring new specification modules to recommendation status. In some cases the market has moved to fill these gaps, but there remains scope for XII to provide more help to developers and other users.

4.2 Ease of comparison

XBRL provides very few constraints on the manner in which XBRL taxonomies (the dictionaries of terms that act as metadata for XBRL information documents) are produced and managed. This affects the comparability of XBRL documents *when looking across taxonomies*. This is, of course, a problem that already exists in ordinary (paper based) financial and performance reporting. However, it should be an area in which XBRL can help. Some areas identified for improvement include:

a. The nature of the language means that different taxonomies might use the same name to mean different things or give different names to concepts that are essentially the same. This places a burden of standardisation across organizations and consumers that may use XBRL.

b. Differences in taxonomies from year to year or between one jurisdiction and another mean that the value of a fact in one year (or region) cannot necessarily be straightforwardly compared with its value in another year (or region) using XBRL. This is not a weakness of XBRL itself, but it remains a limitation on the value of the disclosures for comparative purposes.

4.3 Ease of consumption

XBRL documents can contain extremely valuable information about corporate or organizational performance. However, the standard was not designed to make extracting and analysing that information as easy as desirable. For example, the high level of normalisation within instance documents makes it easy to reuse information, but because metadata (such as labels and references) is stored elsewhere, i.e., in the discoverable taxonomy set (DTS), it is relatively cumbersome to combine different facts in a useful manner. There is an opportunity to consider how intelligent processing of instance information might be possible without DTS processing to retrieve metadata.

5. The changing business and technical environment

Since the launch of XBRL 2.1 both business reporting and technologies have evolved rapidly. In order for XBRL to thrive in this changing environment it is necessary to ensure that it is technically well positioned to meet these challenges and opportunities.

5.1 Business

In an economic climate that has shown its potential for great volatility, businesses seek to operate more efficiently through reducing their administrative burdens, while a goal of investors and regulators is to maximise transparency and ease of analysis of business results and disclosures. The Securities and Exchange Commission (SEC) now requires listed companies in the US to file in XBRL, and makes the disclosures publicly available. Standard Business Reporting, which has the potential to increase efficiency by massively reducing duplication among the concepts that have to be captured and submitted to government, has been implemented in the Netherlands and is being implemented in Australia and other countries. Within the EC, the Committee of European Banking Supervisors (CEBS) has developed the COREP (common solvency ratio reporting framework) and FINREP (financial reporting framework) XBRL projects.

Developments that have taken place in the fields of business intelligence, databases, languages, user interfaces and other standards are fuelling a greater demand for interoperability.

5.2 Technology

The 21st century is witnessing a transition from a world in which humans communicate with machines to a world in which machines communicate intelligently with each other. The Semantic Web is a development of the World Wide Web Consortium (W3C) that provides definitions of information and services such that the web itself can use meaning to respond to requests generated either by humans or machines. SemWeb is based on a metadata model known as the Resource Description Framework (RDF); the vocabularies constructed under this model are written using extensible knowledge representation languages such as RDF Schema and Web Ontology Language (OWL). Concepts are expressed using unique Uniform Resource Identifiers (URIs), making it possible to discover and assemble information from different sources.

Concepts in XBRL also use URIs; and a variety of academic and experimental initiatives have shown that it is possible to subsume XBRL information into a broader set of SemWeb resources. It should be possible to optimise such mechanisms, and SemWeb resources themselves could be used to enrich the semantics of XBRL taxonomies, with the particular advantage of intelligently uniting numeric and non-numeric information.

While many are attracted by SemWeb and techniques such as Asynchronous JavaScript and XML (AJAX) that underpin many Web based applications, a significant number of technologists are more likely to be interested in a range of more traditional technologies. The XSB is well aware that accounting software vendors and many end-users of financial information interact with performance information via database technologies as well as object-oriented languages such as C++ and Java. There are many large enterprises that, in addition to traditional SQL-based systems, rely on OnLine Analytical Processing (OLAP)-based business intelligence systems. Making XBRL more interoperable with a broader set of technologies would lower the barriers to the wider adoption of the standard.

6. A way forward: goals, objectives and projects

Interest in XBRL is growing worldwide. To stimulate its accelerated and ultimately ubiquitous adoption, the XSB has identified three goals to guide the technical development of XBRL over the next 5-10 years. These are:

Goal 1	**To make XBRL easier for developers**
Goal 2	**To make XBRL information more comparable across taxonomies**
Goal 3	**To facilitate the consumption of XBRL information for a wide range of existing and potential users**

Under these three headings, the XSB has drawn up a list of projects that could be undertaken in pursuit of these goals with objectives that would add value to what XBRL already provides. Most of these are technical and fall squarely within the XSB's remit; others are broader in scope and might best be pursued in conjunction with the XII Best Practices Board (BPB) or other parts of the XII organization. The nature, complexity, resource requirements and impact of any project that the XSB undertakes must be determined and constantly reviewed in the light of trends in XBRL's adoption, market requirements and the critically limiting availability of volunteer and paid resources to support them.

The XSB is currently contemplating a range of projects across a spectrum of complexity and impact. Priority among the projects under consideration has not yet been determined.

The XSB seeks the views of members of the XBRL community on the priority they would give to each of these projects, and the resources they would be prepared to commit, in order to see them implemented.

We reiterate that this consultation exercise is designed to help the XSB consider the future technical direction of the XBRL specification through the production of a Strategic Development Plan. The plan will be produced in a deliberate, professional and consultative manner, showing due regard for the importance of backward compatibility. The exercise is being undertaken to ensure that the pace of XBRL adoption can be sustained and accelerated. **It implies no uncertainty about the stability of the XBRL standard. XBRL works well and is being used in dozens of countries and by millions of companies. This paper is all about improving an already successful and market-tested XBRL.**

6.1 Making XBRL easier for developers

The XSB proposes:

Goal 1:	**To make XBRL easier for developers.**

To meet this goal, the XSB will consider a number of projects that demonstrably reduce the level of effort and learning that developers need to invest to become proficient in using XBRL within their systems and applications.

Developers approaching the XBRL family of specifications for the first time face a steep learning curve. Options available to the XSB range from production of improved educational materials, enhancements to the existing specifications and developing new and additional specifications that provide different technical doorways into the use of XBRL. These objectives can be summarised under the headings of **accessibility, real-life requirements and evolution**.

Objective 1.1 A more accessible XBRL

Several initiatives could be taken relatively quickly, without in any way altering the specification itself. Projects envisaged include:

a. The development of an 'XBRL Basics' tutorial for developers that takes them through the standard's features in a logical and progressive sequence.

b. Technical support such as lab sessions at conferences, webinars and implementation guides.

c. XBRL 2.1 is a large specification that can be difficult to grasp in its entirety. For ease of use, it could be partitioned into modules that can be assimilated one at a time. This effort would either be carried out in its own right, or as a further piece of work carried out in conjunction with one or more of the 'Enhancement' projects set out below (Objective 3).

d. At the same time as c above, and without deprecating any existing features, the suite of specifications could be re-factored to make them more user-friendly and comprehensible.

Objective 1.2 Real life requirements.

Developers may find XBRL more accessible if a high quality requirements document was available that contained use case examples that were fully traceable, with cross references, to the specification documents. This would involve:

a. Identification and development of relevant XBRL use case examples.

b. The production of a revised and complete set of functional requirement documents.

c. The clarification of 'additional' requirements that may arise in the application of XBRL but which are either out of scope for the specification (such as security or entity identification models) or currently under consideration as requirements.

Objective 1.3 Evolution towards a well-adapted XBRL.

As discussed above, XBRL lacks a unifying model that can provide a standard reference point for implementations. This could be addressed, without affecting the stability of the specification, by building a higher-level abstract model in Unified Modelling Language (UML). This model would provide a description of the 'nouns and verbs', or semantic elements, of XBRL.

With such a model it would be possible to develop additional standard representations of XBRL. These would involve other technologies that may be more accessible to a broad range of developers. The XSB envisages that this would be a 5-10 year project, again based upon resource availability that would build on the steps above. The model would incorporate modules that provide instructions for dealing with XBRL using some or all of the following:

- XBRL native serialisation
- SQL
- OWL/RDF
- API signature

In the XSB's view this idea has significant merit. It would provide for a number of different, but completely interoperable, mechanisms for dealing with XBRL. It would require considerable planning, vision, and in particular, strong architectural skills that have not hitherto been consistently available within the voluntary structure of the consortium. It would, however, meet the initial goal of increasing the accessibility of XBRL to developers. In due course, and if there were sufficient consensus, this has the potential to form the basis of a broader and more flexible XBRL specification.

6.2 Making XBRL data more comparable across taxonomies

The XSB proposes:

> **Goal 2:** **To make XBRL data more comparable across taxonomies**

Information represented in XBRL is initially defined in relation to a specific XBRL taxonomy. The requirement and demand for comparing information between taxonomies is a more recent market realization. The existing specification provides limited support to compare elements defined by different taxonomies, such as those representing accounting requirements within different jurisdictions. Opportunities exist to improve comparability in this context.

Accounting standards are designed to encourage consistent use of concepts across organizations operating in the same industry and across industries. National, and to a certain extent international accounting standards achieve this through defining disclosure frameworks that allow financial reports to be constructed that use very similar terms, narrowly defined. XBRL taxonomies are models of domain content standards, facilitating automated comparison of reported facts from different companies wherever the financial concepts conform to the principles and definitions set out in the originating standards.

For instance, comparability becomes a difficult and manual exercise as soon as financial reports based on different accounting standards need to be compared. This is one reason the world is gradually moving to adopt International Financial Reporting Standards (IFRS) promulgated by the International Accounting Standards Board (IASB). However, the convergence and adoption process is a lengthy one. Further, there will always be 'national' implementations of IFRS that diverge from the core standards, as well as industry common practices that tend to be national or regional in nature. The XSB must conclude that national accounting standards will be around for a decade or more.

XBRL models existing performance reporting ideas and frameworks. It does not change accounting or other performance reporting mechanisms: it allows them to be represented in a structured and re-usable format. XBRL can therefore do little to rectify inconsistencies between reporting frameworks. If it merely models the authoritative frameworks, it will perpetuate the existing inefficiencies associated with comparative analysis.

This problem is not academic: it is readily apparent looking across, for example, the IFRS and US GAAP taxonomies. Within national frameworks, firms of accountants are working to extend, in a duplicative manner, basic taxonomies produced by government agencies for regulatory and securities reporting. The end result is a set of taxonomies, each representing ideas that for many purposes can be treated as identical, but which are silos of concepts without links between them.

The XSB is interested in enhancing the underlying technology, and developing policies and/or mechanisms that can help foster comparability in XBRL taxonomies. The steps to achieving this include:

Objective 2.1 Requirements for comparability

The production of a set of requirements that include examples of the likely ways users will make comparisons between XBRL concepts and facts. Necessary parts of such a study would include:

a. clarifying the semantics of the different types of comparison

b. determining the manner in which different meanings and different versions of concepts need to interact

c. examining the problem of organizational naming: organizations (entities) may use more than one name in different regions or change their names over time. Comparability would be enhanced if XBRL could either use existing standards to represent the links between names that refer to the same entity, or incorporate such a mechanism natively

Objective 2.2 Taxonomy registries

Registry referencing within taxonomies would promote consistency in the naming of equivalent concepts across taxonomies, acting as a cross-reference for everyone.

The use of registries is common practice in many XML consortia and government standardisation efforts. Their introduction has implications for both technology and process. The use of a registry could either be relatively simple, emphasising the process aspects of the problem, or involve a new way to reference and maintain much of the metadata that is today contained in local or web based, taxonomies. These metadata registries would allow, for example, national, or company-specific concepts to be easily identified and adopted (via translation and the addition of relevant reference materials) for comparison purposes.

The XSB could promote the establishment of such registries by:

a. designing a framework for establishing taxonomy registries: A framework of this sort would need to support inheritance, promotion and extension between different registries, for example, a regulatory registry could inherit definitions and cross-references contained in a national or international registry. The regulatory registry could host extension elements provided by regulated companies. The regulatory registry could define links between extensions, asserting, for certain purposes, similarity across these individual pieces of metadata. If desirable, these concepts and links could be promoted into the national registry.

b. working with the BPB to determine a set of processes that would govern the operation of XBRL metadata registries

c. identifying and instantiating global dimensions, such as those relating to time, units and entity, for example, an XBRL metadata registry would need to contain ISO representation of country and currency codes, but could potentially be extended to capture entity identification measures used by various authorities

Objective 2.3 Namespace consistency

Determining and supporting ways that XML namespaces can be used consistently across XBRL taxonomies.

Objective 2.4 Profiles

Explicitly defining taxonomy profiles for specific purposes, to avoid differences in the architectures of taxonomies that undermine comparability.

6.3 Simplifying XBRL information consumption

The XSB proposes:

> **Goal 3:** **To simplify XBRL information consumption**

XBRL information is produced in the first instance to conform to the defined requirements within a particular reporting framework. Where such information is available to others, there is considerable potential for it to be analysed in combination with information of other types, both quantitative and qualitative, and from different sources.

Because of the precise and entity-specific nature of the metadata referenced in XBRL instance documents, XBRL information may not lend itself easily to such analysis. In principle, it should be possible to map from the native XBRL data model into one that is better suited to the needs of the user and that requires far fewer database queries to assemble complete definitions of individual elements. Steps that could be taken to facilitate this include:

Objective 3.1 Scoping study

Exploring the requirements of consumers (and potential consumers) of XBRL data for as wide a range of uses as possible, documented as UML use cases.

Objective 3.2 Abstract model

Constructing an abstract model (or extending the model described in Objective 1.3, above) as a starting point for understanding the issues involved in combining content from both XBRL and non-XBRL sources.

Objective 3.3 Metadata in the instance document

Where two or more facts in a document are related, inserting some metadata capturing the relationship into the document, so that languages such as XSLT could provide a minimal rendering of the data without needing access to the DTS for tree structure, labels, or data types.

Objective 3.4 Consumption object models

a. To enable XBRL documents to be transformed using XSLT

b. To enable XBRL documents to be interrogated using query languages such as XQuery, SQL and Sparql

c. To define the semantics of combining multiple XBRL instance documents, where the taxonomies are inconsistent.

7. Conclusion

This paper has provided an overview of discussions concerning the potential future technical direction of the XBRL specification. **The XSB seeks the assistance of the XBRL community in evaluating the goals set out above, prioritizing the projects that might be undertaken in pursuit of them and suggesting other routes toward the stated goals.**

The support of the community will also be a decisive factor in determining the level of volunteer and paid resources that the consortium can commit to these future endeavours. With your help the XSB intends to retain XBRL as a robust and flexible aid to business reporting and the consumption of business information that will meet the challenges of the next decade and beyond.

Using the following questionnaire as a guide, please provide us with your thoughts on how these goals might best be achieved or use the ONLINE SURVEY at http://www.surveymonkey.com/s/2010TechDiscussion

Appendix: Questionnaire

This document is formatted as an interactive form in which you can select check boxes and enter text to answer the questions. Alternatively you may print it and add your responses manually, or even provide a separate response in the format of your choice using these questions as a guide. If you use the interactive form approach with this document you will need to save the completed document with your changes and you may then e-mail it to 2010TechDiscussion@xbrl.org. You may also provide your responses online at http://www.surveymonkey.com/s/2010TechDiscussion - this also provides more room for detailed answers should you need the extra space.

As described in the discussion document entitled **XBRL: Toward a Diverse Ecosystem**, the XSB has identified three primary goals for evolving the XBRL technology. In summary, these goals are:

Goal 1	**To make XBRL easier for developers**
Goal 2	**To make XBRL information more comparable across taxonomies**
Goal 3	**To facilitate the consumption of XBRL information**

As a means of providing feedback to the XSB, this questionnaire provides a framework within which you can help the board to assess the viability and priority of the stated goals.

Some of the questions are addressed to developers and some to users, including end users, future users and project managers. Even if you feel that your main role as a stakeholder in XBRL is not addressed by a particular question, please consider how those targeted respondents might answer in a way that would best support your role.

1. General questions for developers

1a. Please describe your role as a user of XBRL specifications. Please select all that apply.

- ☐ i. To develop applications to generate XBRL documents.
- ☐ ii. To develop applications to consume XBRL documents.
- ☐ iii. Other (please specify)

_____

_____

_____

_____

1b. How many years have you/your organization been developing applications using XBRL?

- ☐ i. Less than 1 year
- ☐ ii. 1-2 years
- ☐ iii. 2-5 years
- ☐ iv. More than 5 years

1c. How many people in your organization work with the XBRL specifications?

- ☐ i. 1-5
- ☐ ii. 6-10
- ☐ iii. 11-20
- ☐ iv. 20-50
- ☐ v. More than 50

1d. What modules of XBRL you have used? Please select all that apply.

- ☐ i. Base specification
- ☐ ii. Dimensions specification
- ☐ iii. Formula specification.
- ☐ iv. Versioning specification.
- ☐ v. XBRL GL specification
- ☐ vi. Rendering (Inline XBRL) specification.
- ☐ vii. Other (please specify) _____

_____

_____

_____

2. General questions for all XBRL users

2a. What are the top three things you like about XBRL?

_____

_____

_____

_____

2b. In your opinion, what are the top 3 challenges facing XBRL today

_____

_____

_____

_____

2c. What, in your view, have been the most important developments in the world of business that have affected business performance reporting in the past decade?

2d. In the coming decade, what business developments do you foresee as having the greatest impact on the world of business performance reporting?

2e. What, in your view, have been the most important developments in technology that have affected business performance reporting in the past decade?

2f. What do you foresee as being the most important technological advances for business reporting in the decade to come?

Questions arising from numbered sections in the discussion document

3. Goal 1: To make XBRL easier for developers (see section 4.1)

3a. As you reviewed the XBRL specifications for implementation, were there areas in the specification where the original intent/requirement was unclear?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

_____

_____

_____

_____

3b. Have you found it difficult to read, interpret or understand XBRL specifications (see www.xbrl.org/SpecRecommendations)?

☐ i. Yes/No/No opinion

☐ ii. If the answer is Yes, did your difficulties relate to

☐ iii. Unfamiliar terminology?

☐ iv. Lack of familiarity with other XML specifications?

☐ v. Difficulty in accessing the particular information you required?

☐ vi. Difficulty in grasping the structure of the specification as a whole?

☐ vii. Other (please specify)

_____

_____

_____

_____

Please check all that apply.

Please give examples: _____

_____

_____

_____

_____

3c. As a developer, have you experienced problems with any of the following:

- ☐ i. Comparison of XBRL concepts
- ☐ ii. Lack of ordering within networks of XBRL information
- ☐ iii. Weak mechanisms for linking to authoritative reference literature that is not in XBRL format
- ☐ iv. Other

Please check all that apply.

Please give examples: _____

_____

_____

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_____

3d. While the dimensions module is considered quite flexible, some users have reported that it has been complex to implement/understand. Have you encountered difficulties in making use of the Dimensions module?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

_____

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_____

3e. Would XBRL be easier to learn and implement if it had been developed as an abstract model (as opposed to being directly instantiated into XML as it is currently)?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give reasons._____

_____

_____

_____

_____

3f. How helpful have you found introductory materials provided by XII, such as its web pages (e.g. www.xbrl.org/WhatIsXBRL)?

- ☐ i. Very helpful
- ☐ ii. Quite helpful
- ☐ iii. Neither helpful nor unhelpful
- ☐ iv. Not particularly helpful
- ☐ v. Not at all helpful

If you have used tutorials written by others, please give the title and author and say how well it meets your needs

_____

_____

_____

_____

3g. Please make any other observations about your initial encounter with XBRL, or about how the standard might be made more accessible.

_____

_____

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_____

Making XBRL easier for developers (see section 6.1).

To achieve the goal of making XBRL easier for developers, the XSB has identified some tangible objectives. Please answer these questions related to specific projects or initiatives which XII could pursue.

3h. To what extent is the standard's ease of use a factor in your implementation, or contemplated implementation, of XBRL?

- ☐ i. It is a leading factor
- ☐ ii. It is a significant factor
- ☐ iii. It is not significant

3i. How important is it, at a technical level, to make it easier to use?

- ☐ i. Very important
- ☐ ii. Quite important
- ☐ iii. Neither important nor unimportant
- ☐ iv. Of little importance
- ☐ v. Of no importance.

3.1 Objective 1.1 A more accessible XBRL

3.1a Would you like XII to produce, or cause to be produced, a tutorial for developers new to XBRL?

☐ Yes ☐ No ☐ No opinion

3.1b Do you think that the market has provided tutorials of sufficient quality as an alternative?

☐ Yes ☐ No ☐ No opinion

3.1c Would you like to see XII make more effort to provide technical support on specifications?

☐ Yes ☐ No ☐ No opinion

3.1d Would you find it helpful if the base specification were broken down into modules that could be assimilated in a logical sequence?

☐ Yes ☐ No ☐ No opinion

3.1e Would you like to see a refactoring of the existing specifications, without deprecating any of the existing features?

☐ Yes ☐ No ☐ No opinion

3.1f Please mention any further changes you would like to see that would make XBRL easier for developers, especially those coming to it for the first time, to adopt.

_____

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3.2 Objective 1.2 Real life requirements

3.2a How valuable would a set of requirement documents, providing use cases that were cross-referenced to the specifications, be?

☐ i. Very valuable

☐ ii. Quite valuable

☐ iii. Not at all valuable

3.3 Objective 1.3 Evolution towards a well-adapted XBRL

3.3a Would you like to see a unifying model of XBRL developed, serialised not only as XBRL but via other mechanisms, such as SQL, OWL or API Signature?

☐ Yes ☐ No ☐ No opinion

3.3b If such a model were available, what serialisations would be most useful to you? Please list them.

_____

_____

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3.3c Please say what benefits you would you derive from such a model.

_____

_____

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_____

3.4 Goal 2: To make XBRL information more comparable across taxonomies (see section 4.2)

3.4a Have you encountered difficulties with comparison of XBRL information because of a lack of standardisation in naming of concepts across taxonomies?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

_____

_____

_____

_____

3.4b Have you had problems with comparing XBRL information because of changes in definitions between one year and another, or one region and another?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

_____

_____

_____

_____

3.4c Have you encountered any other difficulties in comparing XBRL information across taxonomies?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

_____

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3.5 Making XBRL more comparable across taxonomies (see section 6.2)

To achieve the goal of making XBRL more comparable, the XSB has identified some tangible objectives. Please answer these questions related to specific projects or initiatives which XII could pursue.

3.5a Is XBRL metadata comparability an important issue now, or in the near future, for your use or contemplated uses of XBRL?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

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3.5b What benefits would you derive from defined comparison semantics and processes in the construction, maintenance, use and consumption of XBRL?

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3.5c What are the types of comparison that should be supported within XBRL?

_____

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3.5d Entities (organizations) may use different names in different regions. In your opinion, how can comparison of information across such entities be facilitated within the framework of XBRL comparability?

_____

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_____

3.5e Various XML standards make use of registries. Would XBRL semantics benefit from such a registry mechanism?

_____

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3.6 Goal 3: To simplify XBRL information consumption (see section 4.3)

3.6a Have you found the distribution of metadata across the discoverable taxonomy set (DTS) to be an impediment in extracting, analysing and/or merging data from XBRL documents and other sources?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples.

_____

_____

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_____

3.6b Please describe any other difficulties you may have encountered in trying to retrieve XBRL information, merge it with other information or present it for consumption.

_____

_____

_____

_____

3.7 Making XBRL simpler to consume (see section 6.3)

To achieve the goal of simplifying XBRL consumption, the XSB has identified several tangible objectives. Please answer these questions related to specific projects or initiatives that XII could pursue.

3.7a Do you envisage using XBRL information for purposes other than reporting to regulatory authorities?

☐ Yes ☐ No ☐ No opinion

If the answer is Yes, please give examples. _____

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3.7b What other sources of information might you wish to merge with information from XBRL documents?

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3.7c What query languages do you wish to use to search for information within XBRL documents?

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3.7d Would you be in favour of a set of projects, as outlined in section 6.3 of the document, designed to understand and capture the semantics of combining content from XBRL and non-XBRL sources?

☐ Yes ☐ No ☐ No opinion

4. Conclusion

4.0 Attempting any or all of the projects outlined in this document will require considerable resources in financial terms and more particularly in terms of the contributions of skilled software professionals.

In the event that you broadly support the goals outlined in this discussion document, and would like to see representative projects undertaken, to what extent are you prepared to contribute resources to accomplish them?

_____

_____

_____

_____

Thank you for your time and contributions in responding to this questionnaire. Your responses will greatly assist the XSB in its deliberations. You may also participate in this same survey ONLINE at:
http://www.surveymonkey.com/s/2010TechDiscussion