Preserve. Promote. Participate.

Moving XBRL forward

The XBRL International Standards Board (XSB)

October 2010

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Table of Contents

Executive summary

We are at a key moment in the growth and adoption of the XBRL standard. XBRL International, Inc. (XII) and the XBRL community agree that we need to act now to achieve common goals founded on the following guiding principles:

- Protect current investments in XBRL
- Encourage the adoption of XBRL worldwide
- Prepare XBRL for new opportunities in the future

At the request of XII, the XBRL International Standards Board (XSB) has spent the last eight months consulting with stakeholders about goals and objectives. From that process come six strategic initiatives:

	Initiative	Primary Benefit
1	Create an abstract model	An abstract model provides a conceptual framework for understanding XBRL and gives developers a strong foundation for implementing XBRL solutions.
2	Produce training materials	High-quality training materials lend support to developers and those new to XBRL.
3	Define standard API signatures	API signatures assist developers with their implementation of XBRL solutions.
4	Reorganise existing specification	A reorganisation of the XBRL specification will make the specification easier to understand.
5	Enhance data comparability	Data comparability widens the applicability of XBRL data across project and international boundaries.
6	Develop application profiles	Application profiles reduce the scope of XBRL implementations by breaking up the XBRL specification into components.

Now we need your help. We need a commitment of resources—both skilled volunteers and financial support—to execute on these strategic initiatives. XII cannot make these changes alone; your involvement is crucial to achieving our common goals.

Whatever your contribution, you can be assured that your support will result in an XBRL standard that is easier to explain, learn, implement, enhance, and use.

Purpose of this document

The purpose of this document is three-fold:

- Invite all stakeholders to get involved in advancing the XBRL standard
- Outline the strategic initiatives proposed by the XSB for enhancing the XBRL standard
- Discuss how the initiatives position XBRL for the future

Important: The strategic initiatives proposed in this document are not intended to compete with or replace the efforts of current XII working groups and task forces. Rather, the XSB expects that executing on these initiatives will ultimately benefit and support their ongoing efforts.

Invitation to get involved

XII invites you to consider how you can help to execute on the strategic initiatives presented in this document.

- For volunteers, we encourage you to review the list of resources and volunteers identified for each initiative to see if you can fulfil one or more of the roles required; we cannot execute on these initiatives without your invaluable insight, skills, and experience.
- For those representing organisations, we ask that you consider assigning personnel to the effort. In addition to—or instead of—allocating personnel, you may want to direct funds towards this effort; all financial support will be used strictly to enable the execution of the initiatives and the dissemination of the results.
- For people currently involved in XII working groups and task forces, we encourage you to assess how the initiatives affect your deliverables and consider volunteering to help execute on these initiatives; your perspective will be extremely useful.

The Call to action section describes how your investment can lead to new opportunities in the future.

Strategic initiatives

The Initiatives section of this document provides an outline of each initiative. Each initiative begins with a description of the initiative, followed by the benefits associated with executing the initiative, a recommended approach, the required resources and volunteers, and finally the interdependencies with other initiatives or organisations.

If you are interested in learning about the consultation process that led up to the development of these initiatives, see the Review of the discussion document and outreach programme section.

XBRL for the future

The proposed initiatives will enhance the XBRL specification and add complementary artefacts and frameworks. The Looking forward section describes how executing on these initiatives now will ensure that the standard is flexible enough to adapt to current trends, evolving standards, new markets, and emerging technologies in the future.

Call to action

As with all open standards, the success of XBRL depends on the efforts of skilled volunteers and the support of the organisations that benefit from using the standard. Everyone involved in XII and its member jurisdictions want to take this opportunity to thank our many volunteers and supporters for their generous contributions throughout the past decade. Without you, the XBRL community would not be where we are today—in a position to enhance the standard and expand the use of XBRL into new channels.

Your support will be vital in achieving the goals and initiatives outlined in this document. Providing such volunteer resources is obviously not without its cost, but as XBRL continues to grow and evolve, there are ever greater opportunities from which all stakeholders can benefit. Consider for instance:

- *Software, ERP, and BI vendors* can expand market opportunities for their XBRL-enabled solutions by helping to ensure that the next stage of adoption is driven by a network effect created by newly empowered developers. Making XBRL accessible and easy to understand for SQL and functional language professionals is within our grasp. Help make this happen and be at the forefront of the next wave of interoperable, interdependent, intelligent business and enterprise reporting and analysis.
- *Regulators, exchanges, and government agencies* can look forward to improved processing capabilities empowered by XBRL-enabled software tools. In addition, your stakeholders can expect an increase in the sophistication, ease of use, and choices available in the XBRL-enabled software that they use.
- *Banks and financial institutions* can reap the benefit of intelligent, interoperable business reporting in credit analysis, portfolio analysis, private equity, and SME lending initiatives by helping us take XBRL to the next level. Help make it easier to implement, easier to adopt, and easier to base comparative applications on this rich new source of performance information that the entire business community can leverage.

Your contributions—great or small—will ultimately be the catalyst that brings these initiatives to life.

To get involved, please complete the form in Appendix A and send it to the email address noted at the top of the form.

Review of the discussion document and outreach programme

In February 2010, the XSB published the discussion document entitled *XBRL: Towards a diverse ecosystem*. This marked the beginning of an extensive consultation process regarding the future of XBRL. The XSB followed up with an outreach programme designed to encourage discussion and feedback among XBRL stakeholders.

In the discussion document, the XSB defined three goals for the future of XBRL:

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

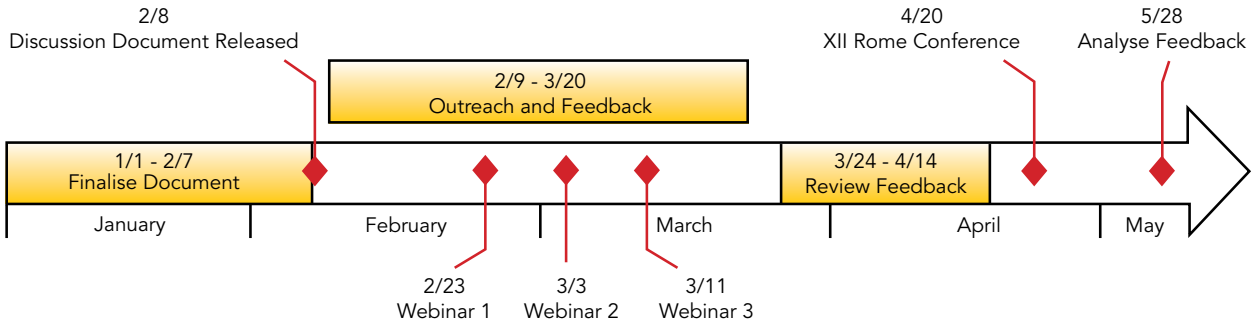
The XSB identified the current challenges associated with each goal and described a set of objectives for achieving the goal. The following table paraphrases the goals, challenges, and objectives found in the discussion document.

Goal	Current challenges	Suggested objectives
1 – Make XBRL easier for developers	• Specification is hard-to-read and understand • Dimensions module is complex • Lack of an abstract model • Lack of a common understanding of original drivers (use cases)	1.1 Expand the resources for developers • Provide more tutorials and technical support • Improve modularity of the specification 1.2 Consolidate and validate requirements • Document contributing use cases • Document original requirements 1.3 Increase the adaptability of XBRL • Develop a unifying abstract model • Improve the alignment with commonly used technologies, such as SQL
2 – Improve XBRL comparability	• Hard to compare similar concepts across taxonomy / period boundaries	2.1 Provide framework(s) for comparability 2.2 Promote consistency through taxonomy registries 2.3 Facilitate consistency in namespaces 2.4 Develop taxonomy profiles
3 - Make XBRL data easier to consume	• Cumbersome to combine different data in a useful manner • Constant need to look into taxonomy even for simple processing	3.1 Conduct a scoping study to understand consumption requirements 3.2 Facilitate the integration of data from XBRL and non-XBRL sources 3.3 Provide basic metadata directly in instance document 3.4 Ease the transformation burden in consumption models like XSLT, XQuery

The discussion document included a survey as one method of gathering feedback. The survey asked specific questions related to the goals and objectives. It also asked both developers and users of XBRL some general questions about who they are, how they use XBRL, the evolution of business reporting, and their willingness to provide resources to support enhancements to XBRL. Appendix B contains a summary of the results of the survey.

Following the release of the discussion document, XII conducted an extensive outreach programme to encourage members of the XBRL community to provide feedback. XII contacted regulators, standards bodies, and software firms to invite their comments and concerns. Representatives from XBRL jurisdictions located around the world were also contacted and asked to provide input. Finally, XII advertised in a variety of media, both traditional and online, to raise awareness of and encourage participation in the consultation process. Appendix C contains details about the outreach programme.

The following figure summarises the XSB timeline, from the finalisation of the discussion document to the XSB meeting in which members analysed the feedback:



Timeline of XSB consultation activities

Initiatives

The XSB was pleased to receive a high level of feedback in response to the discussion document and subsequent outreach programme. XSB members analysed the feedback, assessed the level of support for each proposed objective, and identified common themes.

Following lengthy discussions, they arrived at the following set of initiatives:

Initiative	**Address Goal 1** (Make XBRL easier for developers)	**Address Goal 2** (Improve XBRL comparability)	**Address Goal 3** (Make XBRL data easier to consume)
1. Create an abstract model	Yes	Yes	Yes
2. Produce training materials	Yes	Yes	Yes
3. Define standard API signatures	Yes		Yes
4. Reorganise existing specification	Yes		
5. Enhance data comparability		Yes	Yes
6. Develop application profiles	Yes		Yes

In formulating the initiatives, three important principles guided the work of the XSB:

- Protect current investments by ensuring the stability of the XBRL specification
- Encourage the adoption of XBRL worldwide
- Prepare XBRL for new opportunities in the future

In particular, the XSB was careful to respect one of the guiding principles of the consultation process, that is, to retain the stability of the XBRL specification. The following text from the discussion document resonated with those providing feedback:

> *These [consultation] 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.*

This text has been translated into the stated principle of "strive to retain backward compatibility" that must underlie the execution of any of the initiatives described herein.

For each initiative, XSB members outlined an approach for achieving the initiative, the benefits associated with the initiative, the required resources, and the dependencies between initiatives. The following sections contain the results of their efforts. All of these initiatives will require volunteer and financial commitment from the community if they are to be successfully implemented.

Initiative 1 – Create an abstract model

An abstract model is a tool that benefits both management and implementers. Management-level professionals commonly use abstract models to assess how a new technology fits into their current technology stack. Software engineers and developers rely on abstract models to visualise the architecture and behaviour of systems as well as business processes and data structures.

An abstract model for XBRL is a key foundational artefact that will complement the existing XBRL specification. In fact, the need for an abstract model was a very common theme in many of the responses received by the XSB, and it was easily the most requested initiative of the six proposed activities. In many ways, an abstract model will lead to a more unified and common understanding of the XBRL specification.

Benefits

Of the six initiatives, the XSB determined that this initiative stood out as yielding the greatest and most immediate benefit to the community. A first and foremost benefit is that capturing the semantics of XBRL as an abstract model will decouple the standard from any specific technology, thereby protecting the longevity of the standard. The abstract model also sets the groundwork for some of the other initiatives, such as Initiative 3 – Define standard API signatures.

From a business perspective, an abstract model of XBRL offers the following benefits:

- provides a meaningful context and simplified vocabulary for discussing how XBRL can be applied to a specific target domain, which means that conversations about the capabilities and merits of XBRL would no longer require a deep technical understanding of the XBRL specification
- provides managers with a higher-level understanding of how XBRL can be most effectively applied to their projects
- helps knowledge workers quickly gain a comprehensive understanding of the value and capabilities of the XBRL standard

From a technical perspective, an abstract model:

- speeds the learning curve for those implementing XBRL
- facilitates the integration of XBRL with other technologies
- predicts how complex systems that use XBRL will behave under a variety of scenarios
- describes the underlying structures and relationships implied at the syntactical level
- unifies the existing XBRL modules to ensure that they continue to interoperate with one another as they evolve

Recommended approach

The most recognised specification for creating abstract models is UML, which stands for Unified Modelling Language. UML is an open standard. The XSB proposes that UML be used to define and capture the semantics of the XBRL specification in terms of an abstract UML model. The model will likely include use case diagrams, class diagrams, object diagrams, and other such diagrams necessary to capture sufficiently the technical design of XBRL.

The UML model will:

- describe the overall functionality of the XBRL specification
- identify the major components and properties of the XBRL specification, or in other words, define the nouns or primary entities of the XBRL specification

- define how the major components interact with each other and what behaviours they perform, or in other words, define the verbs of the XBRL specification
- predict and explain how the XBRL specification and its applications react to external inputs
- list what outputs the XBRL specification and its applications generate in response to external inputs

The team for this initiative requires experienced software professionals who are familiar with analyzing, capturing, and defining complex systems in terms of an abstract model. These individuals will decide what types of artefacts will yield the greatest benefits and then generate each of those artefacts through a collaborative and iterative effort.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *Programme Manager* – provides the vision to the team by defining the tangible deliverables and expressing how those deliverables bring value to the XBRL community
- *Project Manager* – leads the team by defining the set of goals to be achieved, implementing a process to achieve those goals, and driving the efforts of the team to ensure the goals are met
- *UML Modellers* – express abstract concepts in UML and capture the discussions from the team as concrete UML diagrams
- *Software Architects* – understand and express software concepts from a high-level and translate software requirements into architectures that can fulfil those requirements
- *XBRL Practitioners* – share their experience in working with XBRL at both the syntactical and application level
- *Business Reporting Domain Experts* – share their expertise in business reporting and help to frame the work in terms of real-world requirements and use cases

Dependencies

This initiative has no dependencies itself, but serves as a dependency for other initiatives.

Initiative 2 – Produce training materials

A common theme in the feedback received by the XSB was that developers desire more and better learning materials, as well as guidance on the implementation of software support for XBRL. In addition, non-technical stakeholders want to eliminate the need to learn XML in order to understand the business value of XBRL. This initiative addresses the XBRL community's desire for a comprehensive, high-quality set of training materials and support documents.

Benefits

High-quality training material provides the following benefits:

- eases the adaptation period for developers new to XBRL
- accelerates the implementation of XBRL solutions
- communicates the power of XBRL and how it improves business processes
- promotes greater consistency among XBRL applications by demonstrating best practices and clarifying how XBRL is intended to be applied

Recommended approach

The XSB recommends creating the following materials:

- **XBRL primers** – The XSB proposes creating primers for a variety of topics related to the learning and application of the XBRL specification. Each primer will provide an overview of a topic followed by a discussion of the topic's fundamentals. Examples and diagrams will be used liberally throughout the primer to help novice readers grasp the concepts being discussed. Where appropriate, more advanced techniques may be presented. Primers should be about 20 pages.
- **White papers** – White papers can explore, from a technical perspective, how XBRL developers have applied the specification. These papers provide an opportunity for XBRL experts to share real-world implementation solutions. White papers should be about 10 pages.
- **Case studies** – A case study describes a specific business process and shows how that process was enhanced using XBRL. Case studies provide managers and other business professionals with a broad understanding of how XBRL can meet business needs, without needing to understand the details of XBRL. They also offer an opportunity for members to share successes and learning experiences. Case studies should be about 5 pages.
- **Tutorials** – Tutorials outline the recommended way to approach an implementation and include useful tips, tricks, and caveats. As with the primers, there should be a tutorial for a variety of topics related to learning XBRL. In addition, the XSB recommends creating a companion library of short video clips that last no more than 3-5 minutes on any given topic.
- **Samples** – A robust collection of samples will help developers understand what approaches have been used by others.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *Publications Coordinator* – defines what gets published, sets development priorities, recruits authors, markets the products, and looks out for interesting topics to address
- *XBRL Experts* – contribute on a variety of technical subjects and act as subject matter experts for training materials

- *Project Representatives* – contribute case studies based on their experience
- *Software Developers* – contribute realistic implementation samples and act as subject matter experts for tutorials and other documentation
- *Academics* – contribute a more abstract and theoretical perspective and propose ideas for applying or enhancing XBRL
- *Technical Writers* – collaborate with contributors and subject matter experts to produce and polish documentation and training materials

To ensure the accuracy and relevance of the documentation and training materials, the XSB recommends that a review panel be formed to validate and approve the material before publication.

Dependencies

There is no interdependency with the other initiatives. The potential exists, however, for overlap with some of the activities initiated by the XBRL International Best Practices Board (BPB). Coordination with the BPB will be required.

Initiative 3 – Define standard API signatures

An application programming interface (API) enables software applications to connect to and interact with other technologies. The XSB proposes to standardise the APIs created for XBRL by providing the blueprints for them in the form of API signatures. An API signature describes the characteristics that an XBRL-based API should have—for example, the name of functions, their input types, and their output types—while leaving the choice of technology and the implementation details up to the software vendor or individual implementing the API.

In the future, a well-adopted set of standard API signatures will provide more choice, consistency, and interoperability in the software and tools used for XBRL-based projects.

Benefits

Standardising how XBRL interfaces with other technologies offers the following benefits:

- provides software developers with a familiar point of entry into XBRL
- serves as a useful learning tool for developers wishing to incorporate XBRL
- encourages open source implementations of the API signatures
- leads to greater consistency across vendor tools and promotes greater interoperability across vendor implementations of XBRL

Recommended approach

The XSB recommends developing publicly available, standard XBRL interfaces that are interoperable across different vendor products, platforms, and programming languages.

The outcome of this initiative will be a set of API signatures, one for each of the following three technologies:

- mainstream programming languages, such as Java and C#
- relational databases and possibly Common Warehouse Metamodel (CWM) repositories
- Web services via an appropriate scalable interface set, such as WSDL or REST

The XSB recommends that the implementation team take the following approach:

1. Solicit and assess the APIs currently in use and in development by the XBRL, CWM, and ontology communities.
2. Survey how these approaches and architectures map to the proposed UML model for XBRL (see Initiative 1 – Create an abstract model) and the implementation requirements outlined below.
3. For each target technology (programming languages, databases, Web services)
   a) Define the API signature.
   b) Research the viability of providing test suites to assess the level of conformance of any given implementation of the API signature, and implement those test suites that offer a clear benefit.
   c) Develop overview, specification, and tutorial documentation for the API signature.

The resulting API signatures need to meet the following requirements:

- conform to the UML model developed under Initiative 1 – Create an abstract model
- be structured in a modular fashion to facilitate future extension and evolution
- be capable of interfacing with existing XBRL resources, such as the functions registry
- leverage, where possible, contributed API architectures solicited from the community

- consider ontological and semantic support in the XBRL community
- be independent of XBRL artefact serialisation (currently XML)
- support life cycle operations, such as the creation and updating of data
- support SQL in a non-vendor-specific manner

The recommended team structure to execute this initiative is a working group.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *Programme Manager* – provides the vision to the team by defining the tangible deliverables and expressing how those deliverables bring value to the XBRL community
- *Project Manager* – leads the team by defining the set of goals to be achieved, implementing a process to achieve those goals, and driving the efforts of the team to ensure the goals are met
- *Software Architects* – provide their experience at designing software from an interface perspective and understand how commonly applied software design patterns can lead to clean and robust API design
- *XBRL Practitioners* – provide their experience from building XBRL applications to help define the set of interfaces which will be the most useful

Dependencies

This initiative requires completion of Initiative 1 – Create an abstract model.

Initiative 4 – Reorganise existing specification

XBRL has grown from a single core specification into a family of specifications, or modules. The developers of the newer modules—such as the Formula, Inline XBRL, and Versioning modules—have been able to take advantage of a more modern, structured approach to defining features and functionality. A common theme in the feedback was a desire to make the entire specification more tractable by restructuring it and separating the simple aspects from the advanced ones.

Benefits

A reorganisation of the specification provides the following benefits:

- breaks up the specification into smaller, more manageable modules
- clarifies how the various modules are dependent and related to each other
- improves cross-module addressability so that the modules can provide links into each other where needed
- provides better alignment between modules and their test suites
- improves organisation of the various modules, so that those who are new to XBRL can find their way around easier
- differentiates between basic and advanced concepts, so that those who are learning XBRL can focus on the fundamentals
- enriches the modules with greater structure, easier comparison, and more effective source control

Recommended approach

The first stage of this task is to reorganise the XBRL 2.1 and Dimensions 1.0 modules. The second stage is to reorganise the Formula, Inline XBRL, and Versioning modules.

> **NOTE:** Modifying the semantics or syntax of XBRL is strictly out of scope for this task.

Currently, some modules are in Microsoft Word format while others are in XML. As part of this initiative, modules in Word documents should be converted to XML before being reorganised. XML is the preferred format, both for the structure it provides as well as the opportunities for implementing automated tools.

To leverage fully the transition to XML, the team needs to consider the set of tools required, such as tools for editing, reviewing, and version control. In particular, the team should define the types of tools that will be needed, assess the available tooling in the marketplace, assess the cost-benefits associated with a custom-built set of tools, and then implement the tools. Ideally, tooling decisions should be made before the team begins any editing-related activities.

The XSB recommends the following approach to reorganising the specification:

1. Survey XBRL developers for feedback on how the specification stack should be organised and modularised.
2. Define the dependencies between the modules.
3. Apply the UML model to the XBRL specification to ensure consistency between how the model organises the modules and how the modules themselves are organised.

4. Map out an implementation plan that identifies the tasks and the order in which the modules are worked on.
5. Execute the plan by assigning those tasks to technical writers.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *Publications Coordinator* – maps out a plan for reorganizing the specification
- *Technical Writers* – perform the actual work of reworking the modules so that they do not lose any of their meaning
- *XBRL Software Developers/Testers* – have experience in working with the modules at a fine-grained level and can provide insight into the subtler interpretations of the modules
- *XBRL Experts* – participate on a review panel to ensure that the reworked modules are still consistent with the originals

Dependencies

This initiative requires completion of Initiative 1 – Create an abstract model. It serves as a dependency to Initiative 6 – Develop application profiles.

Initiative 5 – Enhance data comparability

One of the driving forces behind the success of XBRL has been its inherent ability to automate and streamline the information systems which process, analyse, and compare data expressed in XBRL. The increasing volume of XBRL data being accumulated at a global level is inspiring ever-more creative ways of tapping into the full potential of XBRL, especially as it relates to issues of data comparability. This demand for increasingly sophisticated ways of comparing XBRL data has brought focus on some improvements which need to be addressed when applying XBRL data comparisons across international, jurisdictional, and taxonomy boundaries.

In the discussion document, data comparability was one of the three primary goals, and the XSB received an extensive amount of feedback on the objectives associated with this goal. By formalising and enhancing data comparability frameworks at a global level, we can look forward to increased adoption and more varied applications of XBRL.

Benefits

Improved data comparability provides the following benefits:

- increases the usefulness of the XBRL information that organisations already have by enabling new and easier comparisons
- breaks down the virtual silos that are created due to jurisdictions and taxonomies
- provides richer analysis because analysis models can potentially be applied across a wider set of data
- elevates the value of XBRL to be that of a truly global standard

Recommended approach

The XSB recommends a consultative, market-based approach to this initiative led by an XSB task force. The scope of this task is to develop an interoperable way to construct comparators that allow concepts in different taxonomies to be compared in defined ways.

There are a number of different ways in which this task could be implemented and the XSB expects that there will need to be significant discussion with relevant stakeholders. In particular, the team will need to identify the challenges of comparability and understand how end-users want to compare data. The resulting framework needs to be able to deal with not just heterogeneous business reporting frameworks, but heterogeneous taxonomy architectures.

The task force will need to carry out the following tasks:

- engage the community in identifying the comparability challenges
- identify the core use cases relating to comparability
- review real-world use cases to identify the differences in implementation across taxonomy boundaries
- prioritise the types of comparisons that should be supported
- identify and outline a set of technology initiatives to address comparability
- consider initiatives proposed in the discussion document, such as registries, namespace consistency, and taxonomy profiling
- review the current Versioning and Formula modules, identify what can be leveraged from the existing work, and identify any new modules that might be required

This initiative will need to be performed in close conjunction with the BPB as it involves significant outreach to the implementer community to identify use cases for data comparability.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *Domain Experts* – understand a particular domain, and understand how XBRL could be applied to their domain
- *XBRL Taxonomists* – provide experience at expressing and capturing financial reporting models onto XBRL taxonomies
- *XBRL Practitioners* – provide experience in implementing and operating XBRL-enabled systems, and understand the challenges that current systems pose to data comparability
- *Financial Analysts* – provide the use cases that explain how XBRL data needs to be consumed and analysed
- *Accounting Professionals* – provide input on how financial data is prepared and communicated; also provide use cases for understanding how financial data factors into day-to-day business decisions

Dependencies

There is no interdependency with the other initiatives. Coordination with the BPB will be required.

Initiative 6 – Develop application profiles

Application profiles provide a means to decompose the XBRL specification into logical components, describe the dependencies between those components, and provide a standard way to declare which components are relevant in a given context. As such, profiles can be used to communicate the subset of the XBRL specification that is relevant in a given project, or they can be used by vendors to describe the capabilities provided by their product offering.

Most XBRL projects do not use 100% of the specification. The availability of application profiles for components of XBRL would improve how managers define their need for XBRL solutions to vendors. For example, instead of saying to vendors "we need XBRL software", managers can say "we need XBRL software that has a profile which supports Dimensions and Inline XBRL".

Benefits

The adoption of XBRL profiles offers the following benefits:

- provides a means of decomposing the XBRL technology stack into simpler components
- provides a means to reduce the scope of implementation for developers and XBRL projects
- provides vendors with the flexibility to select the components that they wish to support, rather than implementing the entire XBRL specification
- allows XBRL project representatives to communicate the XBRL processing requirements related to their project
- establishes a metric through which managers can make more informed business decisions
- enables vendors to provide a profile definition to assess the suitability of their solution against project requirements
- enables analysts to gather statistics on how XBRL is being applied in the marketplace

Recommended approach

The application profiles will be defined in an XML format and will express the XBRL technology stack in terms of logical, interconnected components. XII will define a number of example profiles as part of this project—including a profile that defines the entire family of XBRL specifications—so that they can be used as templates to build other profiles. Vendors, project managers, and other users of XBRL can then use the templates as a starting point in the definition of their own custom profiles.

Presuming an adequate foundation laid by the modelling effort in Initiative 1 – Create an abstract model and the specification reorganisation effort in Initiative 4 – Reorganise existing specification, the transition to and definition of application profiles could be relatively straightforward. If so, then the execution of this initiative may require only a task force whose objective will be to formalise the syntax used to describe the profiles and the components thereof. Input from the BPB will be required to define common templates and to provide a review of the components available.

Resources and volunteers required

Some of the specific roles and responsibilities include:

- *XML Technologists* – design the XML schema that will define the content model for application profile documents
- *XBRL Practitioners* – provide their experience from using and applying XBRL to help define the logical components of XBRL

Dependencies

This initiative depends on the completion of Initiative 1 – Create an abstract model and Initiative 4 – Reorganise existing specification. Coordination with the BPB will be required.

Looking forward

In formulating the initiatives presented in this document, the XSB made every effort to ensure that the work done to achieve the initiatives would also provide the groundwork necessary to enable the XBRL standard to adapt to changing markets, current trends, evolving standards, and emerging technologies.

Changing market landscape

As the XBRL standard becomes more widely adopted, the XSB envisions new strategic opportunities arising for vendors. For example, as other markets and channels—such as business intelligence and ERP—embrace XBRL, vendors will have the opportunity to develop more sophisticated applications of XBRL and differentiate themselves based on those applications. The proposed initiatives are intended to further solidify the foundational aspects of XBRL, thereby freeing vendors to respond to the changing market landscape with innovative XBRL-based solutions.

Current trends – open source software

One trend that has had a big impact on technology in general is that of open source software. Open source software has the obvious benefit of cost-savings, as many open source software products are available free of charge as long as they are used in accordance with the terms of their licensing agreements.

For the XBRL community, open source software can also provide developers with tools to get started quickly on their projects. For example, consider the open source *Inline XBRL Extractor* tool freely available from XII. It was originally created to prove that it was possible to extract an XBRL instance document from an Inline XBRL document. The tool, however, demonstrated immediate benefits to the Rendering Working Group, helping them to speed up their work and identify issues in their processes. The result is a tool that is now freely available as a robust and exemplary open source implementation to the XBRL community.

The XSB anticipates that many of the initiatives prescribed by this document, in particular the API signatures, will foster the creation of additional open source projects, which will in turn benefit XBRL adoption overall.

Evolving external standards

The XSB continually monitors the external technology landscape that underpins the XBRL specification. As standards such as XML Schema, XLink, XPath, XQuery, and XSLT continue to evolve, the XSB will play an active role in assessing what impact such advances may have on the interoperability and usability of the XBRL specification. Executing on the proposed initiatives now, especially the abstract model, will enable the XSB to communicate changes more easily to the XBRL community.

Emerging technologies

Emerging technologies—such as the Semantic Web—may also have an impact on how the XBRL specification evolves in the future. The XSB keeps an eye on emerging technologies and, if there is potential benefit for XBRL, initiates a dialogue with the appropriate parties. By creating an abstract model and reorganising the specification, the XSB will be in a better position to communicate the benefits for XBRL and to enhance existing modules or add new modules as required.

Conclusion

As summarised in the Initiatives section, the XSB is confident that the initiatives proposed in this paper will go a long way towards meeting the goals set out in the consultation process:

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

Furthermore, the benefits associated with each of the initiatives confirm that these initiatives meet the spirit of the three guiding principles in the following ways:

Principle	Description
Protect current investments...	...by ensuring backward compatibility and securing XBRL as a standard for the future.
Encourage the adoption of XBRL worldwide...	...by making XBRL easier to explain, learn, implement, and use.
Prepare XBRL for new opportunities in the future...	...by reorganising the specification, and adding complementary artefacts and frameworks, to make XBRL more flexible and adaptable.

But without your expertise and support, these strategic initiatives remain just that, initiatives. We need your commitment to help execute these initiatives.

To register your interest in contributing to one or more of the initiatives, please complete the form in Appendix A and send it to the email address noted at the top of the form.

Thank you for your time and consideration.

Appendix A – Registration form

Instructions: Register your interest in supporting these strategic initiatives by completing and saving this interactive form and emailing the saved form to volunteers@xbrl.org. Alternatively, you can complete the form online at http://www.surveymonkey.com/s/2010Initiatives.

Contact name: _____

Name of your organisation: _____

XII Jurisdiction (if any): _____

Email address: _____

Phone number: _____

What type of support would you like to contribute?

- ☐ I would like to volunteer my time and skills.
- ☐ I represent an organisation willing to allocate personnel as volunteers.
- ☐ I represent an organisation willing to provide financial support.

Volunteers

1. If you are volunteering your own skills, please summarise your skill set.

_____

_____

_____

_____

2. If you are registering others in your organisation, please list their names, email addresses, and skill sets.

Name: _____ Email: _____

Skill set: _____

_____

_____

_____

Name: _____ Email: _____

Skill set: _____

_____

_____

_____

Name: _____ Email: _____

Skill set: _____

_____

_____

_____

3. Please select the initiative(s) in which you are interested and the role(s) that suit your skill set. If you are completing this form to register others in your organisation, indicate the name of the volunteer beside each role.

Note: You may select more than one initiative, and you may select more than one role per initiative.

☐ Initiative 1 – Create an abstract model

- ☐ Programme Manager _____
- ☐ Project Manager _____
- ☐ UML Modeller _____
- ☐ Software Architect _____
- ☐ XBRL Practitioner _____
- ☐ Business Reporting Domain Expert _____

☐ Initiative 2 – Produce training materials

- ☐ Publications Coordinator _____
- ☐ XBRL Expert _____
- ☐ Project Representative _____
- ☐ Software Developer _____
- ☐ Academic _____
- ☐ Technical Writer _____

☐ Initiative 3 – Define standard API signatures

- ☐ Programme Manager _____
- ☐ Project Manager _____
- ☐ Software Architect _____
- ☐ XBRL Practitioner _____

☐ Initiative 4 – Reorganise existing specification

- ☐ Publications Coordinator _____
- ☐ Technical Writer _____
- ☐ XBRL Software Developer/Tester _____
- ☐ XBRL Expert _____

☐ Initiative 5 – Enhance data comparability

- ☐ Domain Expert _____
- ☐ XBRL Taxonomist _____
- ☐ XBRL Practitioner _____
- ☐ Financial Analyst _____
- ☐ Accounting Professional _____

☐ Initiative 6 – Develop application profiles

- ☐ XML Technologist _____
- ☐ XBRL Practitioner _____

Financial Support

If your organisation is willing to provide a financial contribution, select the initiatives that you want to support. You will be contacted to discuss the level of support you are able to provide for each initiative.

- ☐ Initiative 1 – Create an abstract model
- ☐ Initiative 2 – Produce training materials
- ☐ Initiative 3 – Define standard API signatures
- ☐ Initiative 4 – Reorganise existing specification
- ☐ Initiative 5 – Enhance data comparability
- ☐ Initiative 6 – Develop application profiles

Appendix B – Summary of feedback

The XSB was pleased with the quantity and quality of the surveys submitted. In response to the discussion document and outreach, we received 45 survey responses. The majority of the survey responses were complete, with responses to questions in every section. The XSB particularly appreciated the efforts made by many of the respondents to elaborate on their multiple choice answers with further descriptions, comments, and suggestions. This feedback found its way into many of the final recommendations.

This section begins with a profile of the respondents, followed by the common themes that surfaced from the entire survey, and finally a summary of feedback by goal.

Profile of respondents

Based on the number of people who volunteered their country of residence, the respondents represent a geographically diverse demographic. The XSB found this diversity very valuable during their analysis because the survey input reflected the interests and needs of XBRL participants worldwide, rather than one localised group.

In terms of the types of organisations represented by the respondents, more than half of the responses originated from three categories: software/service firms, regulators, and XBRL jurisdictions. This statistic is not surprising, given that these three types of organisations represent areas in which XBRL has been widely adopted. Clearly, participants in these categories have the expertise and interest to want to enhance the standard and encourage adoption rates.

Respondents by Geography

Country	Total
USA	6
Australia	4
Canada	3
China	3
Spain	3
Switzerland	3
Belgium	2
France	2
India	1
Italy	1
Korea	1
Netherlands	1
Poland	1
South Africa	1
UAE	1
Not disclosed	12
Total Respondents	**45**

Respondents by Category

Country	Total
Software/Service Firm	10
Regulator	10
XBRL Jurisdiction	7
Industrial Body	3
Academia	2
Individual	2
Consulting Firm	1
Unknown	1
Not disclosed	9
Total Respondents	**45**

Common themes

The XSB identified common themes which resonated throughout the survey responses and, in many cases, arose repeatedly in the feedback for more than one goal. These common themes played an important role in helping the XSB to formulate and prioritise the initiatives.

- Revisit the underlying requirements behind XBRL
- Create an abstract model of XBRL
- Enable more open source implementations of XBRL
- Simplify the Dimensions module
- Provide more and better learning materials and guidance on the implementation of software support for XBRL
- Make the specification more tractable by reorganising it and separating the simple aspects from the advanced ones

Feedback by goal

These sections provide a representative summary of the type of feedback received on each of the primary goals.

Goal 1: Make XBRL easier for developers

- Create an abstract model to facilitate integration with SQL, OWL, and other technologies
- Open-source, reference implementations of APIs can be a boon to developers
- Developers need more learning materials, better examples, better support
- Dimensions module needs to be over-hauled and clarified
- Too much flexibility, while powerful, leads to complexity and confusion
- Provide requirements and use cases
- The core specification is too complex for many users and could benefit from a reorganisation
- For non-technical users, eliminate the need to learn XML in order to understand the business value of XBRL

Goal 2: Make XBRL information more comparable across taxonomies

- General agreement that comparability is difficult—participants suggested various approaches to addressing this challenge
- Embrace semantic technology
- Investigate techniques and methodologies which could perhaps bridge the gap between disparate accounting and financial reporting practices
- The notion of a registry was generally received positively
- Prior concept name practices should be changed
- Standardise names
- Do not change namespaces
- Standardise APIs and/or models
- Create rules (but there was no mention of formula approaches)
- Versioning work in progress may be applicable (such as aspect-based fact identification mapping)
- There is a certain lack of insight to the technology that is currently available in XII

- There are no silver bullet proposals
- Doing something is important

Goal 3: Facilitate the consumption of XBRL information for a wide range of existing and potential users

- Issues with XBRL processors and parsers
- Issues with interoperability of the XBRL standard with other standards
- Issues with integration with other data from other sources
- Issues with storing data in databases
- Finding information expressed in XBRL on the Web (such as via Google searches) is difficult
- Lack of abstract model
- Issues with the presentation of dimensional data
- Specification is difficult to read and is not free of issues
- Some query languages are preferable to others
- XBRL is and will be used in a number of scenarios

Appendix C – Summary of the outreach programme

The XSB followed the publication of the discussion document with an extensive outreach programme to the XBRL community through the following channels:

- Direct outreach to 60+ projects (regulators, standards bodies, software firms)
- Direct interaction with Jurisdiction representatives
- Press releases
- Media interviews
- Blog interviews/coverage
- Webinars
- Broad email communication
- XII internal mailing lists
- xbrl-public, xbrl-dev, xbrl-gl-public mailing lists

Additional coverage was seen across a variety of media, including:

- Special news stories in the following publications:
  - Web CPA
  - CPA Advisor
  - CPA Success
  - Smart Pros
  - Compliance Week
  - Accountancy
- Numerous blog postings
- Twitter

Glossary

Abstract model

An abstract model is a high-level representation of a complex system with the details (that is, the complexity) removed.

API – Application Programming Interface

An API is a documented interface that defines how a software application connects to and interacts with another technology.

API signature

An API signature for a given technology defines the basic elements—for example, name of functions, their input types, and their output types—that an implementation of an API for that technology requires, while leaving the implementation details up to the software vendor or individual creating the API.

Application profile

Application profiles define the logical components of XBRL, describe the dependencies between the components, and provide a standard way to declare which components are relevant in a given context.

BPB – XBRL International Best Practices Board

The BPB manages the production, dissemination, and continual improvement of work products that describe methods and processes for successful development, implementation, integration, and use of the XBRL specification.

CWM – Common Warehouse Metamodel

CWM is a specification that defines "standard interfaces that can be used to enable easy interchange of warehouse and business intelligence metadata between warehouse tools, warehouse platforms and warehouse metadata repositories in distributed heterogeneous environments." *(Source: Object Management Group)*

DTS – Discoverable Taxonomy Set

A DTS is a collection of taxonomy schemas and linkbases, which together define a collection of metadata and terms that can be used to add meaning to data.

Jurisdiction

XBRL International is composed of local jurisdictions, which represent countries, regions, or international bodies and focus on the progress of XBRL in their areas as well as contributing to international development. Jurisdictions promote XBRL and organise or sponsor the creation of taxonomies, notably for the main accounting standards for business reporting in their area.

Module

XBRL started out as a single core specification, but has grown to include Dimensions, XBRL GL, Formulas, Versioning, and Inline XBRL. These additional specifications are referred to as modules within the context of this document. The proposed reorganisation of the XBRL specification may see some of the existing specifications broken up into additional modules.

Open source software

Open source software is designed in such a way as to provide open access to the source materials used in creating the software, including source code. Open source software is bound by licensing agreements which may vary in their restrictiveness.

REST – Representational State Transfer

REST is an architectural style that defines how Web applications can be accessed over a network. It is not in and of itself a standard, but does make use of a variety of Web standards, such as HTTP.

SQL – Structured Query Language

SQL is a computer language designed for querying and managing data in relational databases.

UML – Unified Modelling Language

UML is a specification that defines "a graphical language for visualizing, specifying, constructing, and documenting the artefacts of distributed object systems." *(Source: Object Management Group)* Organisations use UML to create abstract models of their systems.

WSDL – Web Services Description Language

WSDL is "an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information." *(Source: W3C)* In other words, it is an XML-based language designed to describe Web services.

XML – eXtensible Markup Language

XML is "a subset of SGML (Standard Generalized Markup Language) used to enable generic SGML to be served, received, and processed on the Web." *(Source: W3C)* XML is used to encode documents containing structured information. XBRL is an XML-based language designed to encode business and financial data.

XSB – XBRL International Standards Board

The XSB manages the production of the consortium's technical materials. It is charged with setting priorities for the creation of new material and ensuring all material is of a uniformly high quality, with the goal of accelerating adoption of XBRL around the world.