

Taxonomy Development and Extension Building

Tools to build and validate taxonomies and extension taxonomies. This includes management, viewing and exploration of taxonomy data.

The need for taxonomy development and extension building

To ensure consistency, the first part the reporting chain is taxonomy development. This is typically done alongside (if not by) the business, government, or regulatory body. Consider it a dictionary of terminology and rules that ensure that any data applied to it is reported consistent and unambiguously. As regulations or business needs evolve, so must the lexicon used to report in that business area. The coordination and communication of these changes is a major undertaking to ensure everyone is heard through the right avenues and their ideas taken forward. Therefore, taxonomies must be developed, reviewed, released, and maintained by the owner.

Businesses are also not static and what fits for one may not fit for the others. Though it is often thought that all businesses have basic principles (revenue, profit, etc.), it's often the case that for many aspects they need to provide additional details specific to their report. This can be in the form of the business owner providing additional facts or explanations, accountants providing their approach for depreciation, auditors providing footnotes, etc. Therefore, the taxonomies are often extended with this information which then becomes part of the chain.

Who are the typical users

If you are a preparer or accountant, use this software to understand reporting requirements imposed on you. If you represent a regulator or corporation, use this tool to visualize and explain your taxonomies to the people who need to use them. If you are a financial professional, use the xbrlOne Enhancer Viewer to analyze and study taxonomies, report about their features and transform their contents into alternative data formats.

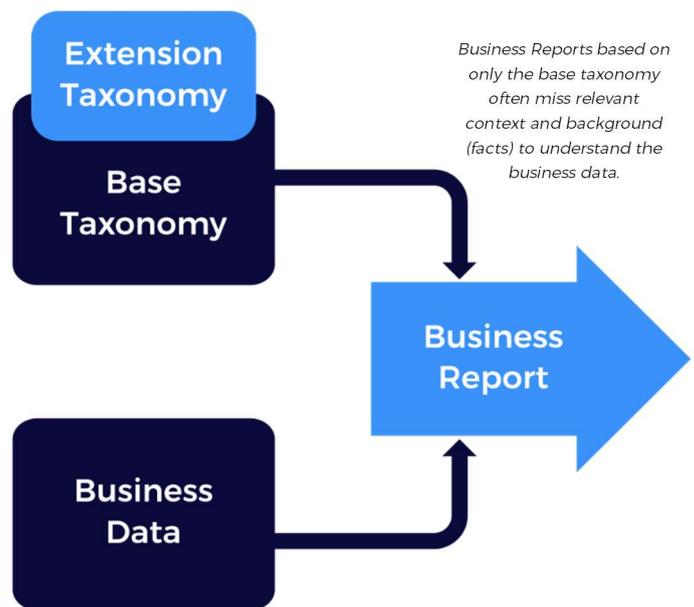
Additionally, any financial professional can create the needed company or industry extension taxonomy. This important step enables companies to report the facts that are important for that business report.

Why is this important to small businesses, enterprises, independent software vendors

The reporting chain starts with taxonomies. Therefore, being able to collaborate and create the interdependencies, information, rules efficiently is important. Individuals and companies that support regulatory bodies (private or public) to create taxonomies and

extensions need to be efficient to produce quality artifacts used by many people. Independent software vendors use these high-quality artifacts in their systems. If the artifact is appropriately designed, then they can be efficiently brought into the system during update cycles. Software vendors can also make their software more and more generic as the standard is applied more consistently.

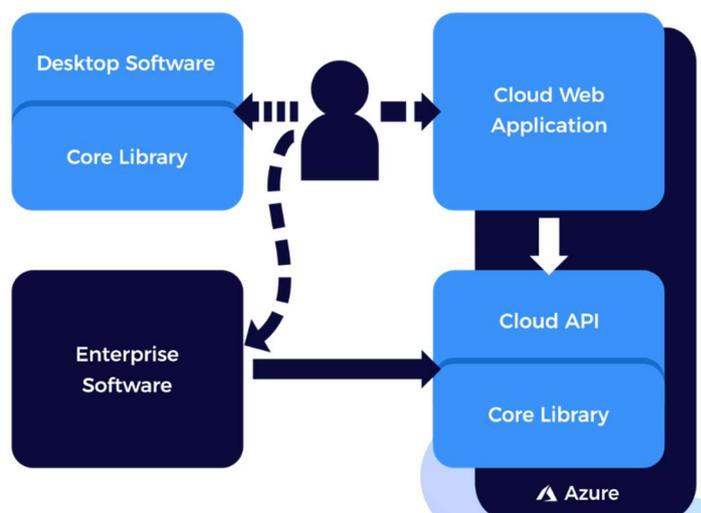
Regulators can also use the tools to create specific regulatory (extension)taxonomies as specific adds-on for more generic defined taxonomies. These extension taxonomies are made to support the need of reporting additional facts and information over and above the existing taxonomy created by the regulator.



How can Semansys help

We provide a variety of tools and functionality mostly focused on the desktop experience. Our tools support Taxonomy Viewing and Taxonomy Editing including Extension building. It also integrates with some of APIs to support additional steps in the chain (input/integration/import or validation).

Architecture





We have two major products in this space: xbrlOne Enhancer Viewer and xbrlOne Enhancer Extension Builder

xbrlOne Enhancer Viewer

The most powerful tool for exploring, understanding, explaining and commenting on XBRL taxonomies online.

Use xbrlOne Enhancer Viewer to explore and understand taxonomies, or to explain taxonomies to others. xbrlOne Enhancer Viewer reveals the structure and concepts concealed in the complicated XBRL standard.

Full featured online taxonomy viewing application for every user, company, and vendor around the globe for exploring and viewing XBRL taxonomies online. It is easy, flexible and complete solution for exploring XBRL.



Online Taxonomy Viewer as productivity tool

Our widely used xbrlOne Enhancer Viewer is renowned for its versatility and intuitive user interface. The tool is tuned to optimally support the financial professional who wants to understand and use an XBRL taxonomy. The very powerful and unique reporting functions can be used to obtain further insight in a taxonomy, to document and present taxonomies or parts of taxonomies, to archive taxonomy related information, to transform the data in the taxonomy for further processing, and for various other uses.

Easy, flexible, and versatile

By using the xbrlOne Enhancer Viewer it is possible to show one or multiple link roles by one single click. Users can easily choose the language which is available in the taxonomy. Taxonomy Viewer supports link role ordering and users can select the wanted display language and label roles. The intuitive user interface easily let users filter, sort, order, and view taxonomy meta data.

Commenting system

The built-in comment system allows users to take any taxonomy element or any other aspect of the taxonomy to provide a comment for the taxonomy owner. The comment system will simply compose a predefined email where the user can checkmark all items related to the element where the user wants to provide comment on. All details will be sent instantly to the taxonomy owner automatically by using the messages and event system of the xbrlOne platform.

Current benefits of the xbrlOne Enhancer Viewer

- Online taxonomy viewing
- XBRL specification 2.1 compliant
- Advanced reporting functionality
- Export to Excel and Word
- Multiple language user interface
- Support of element facets and enumerated list
- Support of link roles
- Supporting link role order and labels
- Support of complex types (tuples)
- XBRL dimensions (XDT) display
- Intelligent search to quickly select and find taxonomies and browse their elements
- Multiuser environment
- Granular control for taxonomy owners and regulators
- Taxonomy search, browse, compare and viewing. Including various taxonomy elements. Including any extensions or specialized taxonomies created by other groups.
- Extended reports on taxonomies to help users understand the relationships of the tables, links, and facts in the taxonomy.
- Intuitive user interface based on common user processes.
- Taxonomy validation to ensure base and extensions are valid and can be used further in the chain
- Available on Desktop and API for easy integration

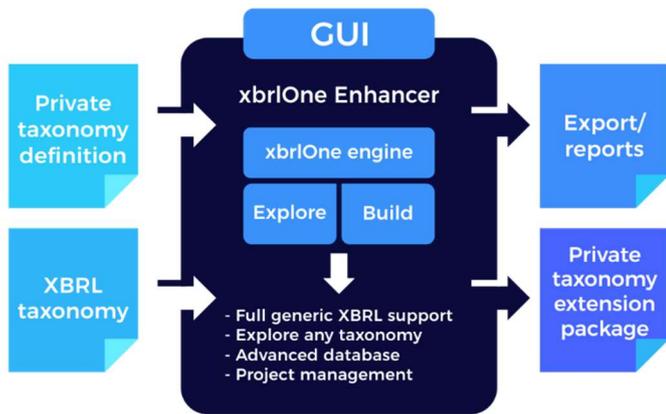
xbrlOne Enhancer Extension Builder

The easiest way to create your own extension taxonomy to report what you want.

Semansys introduces the xbrlOne Enhancer for creating extension taxonomies. It allows to create new concepts, definitions or relationships that a user can need for an XBRL document. This enables entities to extend the taxonomies made available by a regulator for entry points. With the xbrlOne Enhancer users can create extension taxonomies that consist new concepts to be included in an XBRL document. Import and extend any taxonomy easily with the xbrlOne Enhancer. Sender and receiver are both secured that all data is valid and will be accepted. xbrlOne Enhancer use the industry standard technology of xbrlOne

Working with xbrlOne Enhancer

It is easy to work with the xbrlOne Enhancer with the project-based control system. Users do not need deep XBRL knowledge and can start instantly creating extension taxonomies. Users will work with a comprehensive taxonomy viewer in the xbrlOne Enhancer where all taxonomy details are available. Users can import and extend any



taxonomy without any effort. Support of multiple labels in multiple languages is provided.

Reuse data

The xbrlOne Enhancer has a reuse existing data approach. An existing taxonomy is reused to the maximum with the xbrlOne Enhancer to promote the comparability of business reports

Extension taxonomy validation

An XBRL document based on the extension taxonomy needs to be validated when the taxonomy and its corresponding XBRL document are submitted. Using the xbrlOne Platform the preparer and receiver of the report alike can check whether the reported document is valid according to the standards. The submitted taxonomy must be XBRL valid, also known as technically valid and comply with the rules for extension taxonomies architecture. Sender and receiver are both secured that an extension taxonomy is valid and that the XBRL document will be accepted

Current benefits of the xbrlOne Enhancer Extension Builder

- Add new reporting elements
- Direct relationship with existing reporting elements
- Allow to add multiple labels in multiple languages
- Details are automatically inherited from parent element
- No need to specify dimensions, they are inherited from the parent automatically
- Select other data types if needed from the taxonomy
- Hide or prohibit a reporting element
- Hide a complete branch of elements with one mouse click
- Prevention of mistakes by system controlled SBR extension rules
- Import and extend any taxonomy
- Project workspace setup
- Easy to audit by an extension report
- Interface supports multiple languages
- Users can add own references

Upcoming features in the xbrlOne Enhancer Extension Builder

Today, the Extension Building functionality is available through a variety of different channels depending on the functionality. E.g. API, cloud/web interface or desktop interface. Our outlook is to provide the same functionality with regards to Taxonomy design, development, releasing, and management, but with an enhanced user experience and interface in a cloud and API first strategy. Additionally, we hope to merge the reporting aspects on validation results as part of the business process in the chain around analysis.

Want to hear more? Feel free to reach out to info@semansys.com and one of our colleagues will get back to you within a few days. Additionally, please visit our website at www.semansys.com for up to date product news and information.



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