

# Semansys Implementation for XBRL Inline

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## Introduction

The purpose of XBRL Inline specification is to provide a framework of syntactic primitives, which allow embedding of XBRL data in HTML pages.

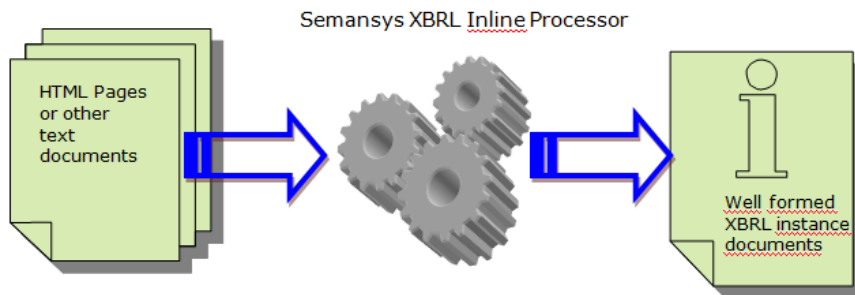
Inline XBRL provides a mechanism for taking financial and business information formatted in HTML, the universal language for web browsers, and adding to it hidden metadata which can be used to construct a machine-readable copy of the same information. That extracted, machine-readable, information is fully compliant with the [XBRL 2.1](#) standard and can be used by regulators and other consumers of financial information.

Semansys provides different complete product lines with desktop products and Web based architectures which allow various XBRL implementations. All of them provide Web connectivity (which is a very native feature of the XBRL standard). Supporting of Inline XBRL will allow Semansys product suite to extract and use XBRL instance documents, which are embedded in HTML pages and other type of text formats. In order to do so Semansys will provide a XBRL Inline processor (Conformant Processor), which allows extraction of XBRL data from text documents and output valid XBRL instance documents.

## Requirements

- **Format independent** – The input stream for the XBRL Inline processor is ANY type of text. It does not depend on whether it is XML well formed, or contain specific formatting tags such as HTML tags.
- **Compliant with Inline XBRL specification** – The XBRL Inline conformant processor will recognize specific elements and attributes, which are defined in the Inline XBRL specification. It can resolve taxonomy element names, ids and other XBRL data.
- **Available in both Semansys desktop and Web based product lines**– The Inline XBRL processor will be accessible from both Semansys platforms. Possibly it will be available also as a DLL for usage in other applications.

## Architecture



## Implementation

- Obtain the input document – download from Internet or load from the file system
- Lexical analyses – recognize the parts where XBRL information is embedded.
  - Compose XBRL structure
  - Resolve taxonomy elements
  - Resolve text fragments - content for items and footnotes
  - (optional) transform/canonize numeric and date formats to comply with XML standards.
  - Resolve XLink elements (for footnote links/resources)
  - Resolve any fraction fragments
  - Resolve any contextRef and unitRef attributes
  - Resolve references to schemas and linkbases
  - Extract items
  - Extract and compose tuple structures
- Save/upload the resulting text
- (optional) Do basic XBRL validation with Semansys XBRL Validators

## Inline XBRL use cases

Semansys XBRL technologies together with the Inline XBRL processor can be used in various situations to process and produce XBRL data.

- Standalone usage of the processor – The basic situation where web pages are downloaded from Internet and after that saved as XBRL instances.
- Combined with the Semansys **XBRL Reporter** – New option “Open HTML page” in the “Open” menu. This will internally extract the XBRL instance from the HTML page and display it in the document editor.
- Combined with the **XBRL Integrator** – Automatically recognize whether the result from the HTTP listener is a well formed XML. If not, the Inline XBRL processor will be used first to extract the XBRL instance and after that it will be processed and stored in the database as any other instance document.
- In Semansys **XBRL One** Web instance creator – The template documents can lead to a HTML page instead of to a XBRL instance file.
- In Semansys **XBRL Reporter** and **XBRL Composer** to generate inline XBRL information in the reports for the XBRL documents.
- Redistributable software **XBRL Component** – e.g. an ActiveX control, which can be embedded in other applications – e.g. reporting tools, which goal is to consume XBRL instances.

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