



# 19<sup>th</sup> XBRL International Conference

“Reducing regulatory burden with XBRL: a catalyst for better reporting”

June 22-25, 2009

Paris, France

## Track 5 - Open Source for XBRL: Reducing middleware integration burden

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# Open Source for XBRL: Reducing middleware integration burden

## Summary

- Open Source role in XBRL reporting data flow.
- Open source XBRL tools state of art.
- Real Case: Integrating open source XBRL processors.

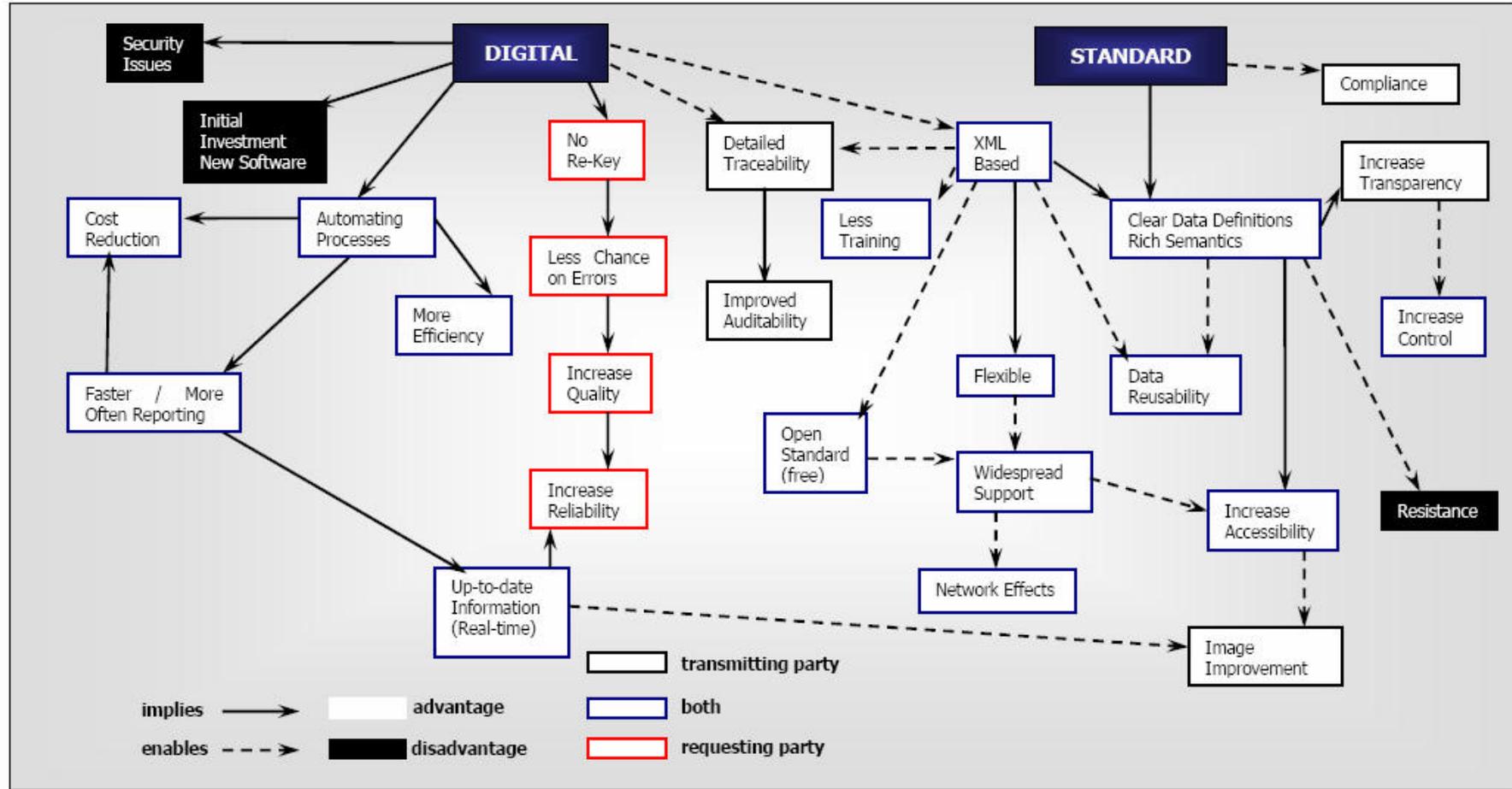
## Open Source for XBRL: Reducing middleware integration burden

# Open Source role in XBRL reporting data flow

- XBRL offers major benefits at all stages of the information supply chain where XBRL-tagged data can be **reused and shared**.
- The benefits are seen in **automation**; cost savings; faster, more reliable and more accurate handling of data; improved analysis; and better quality of information for decision-making.

# Open Source for XBRL: Reducing middleware integration burden

## Open Source role in XBRL reporting data flow



# Open Source for XBRL: Reducing middleware integration burden

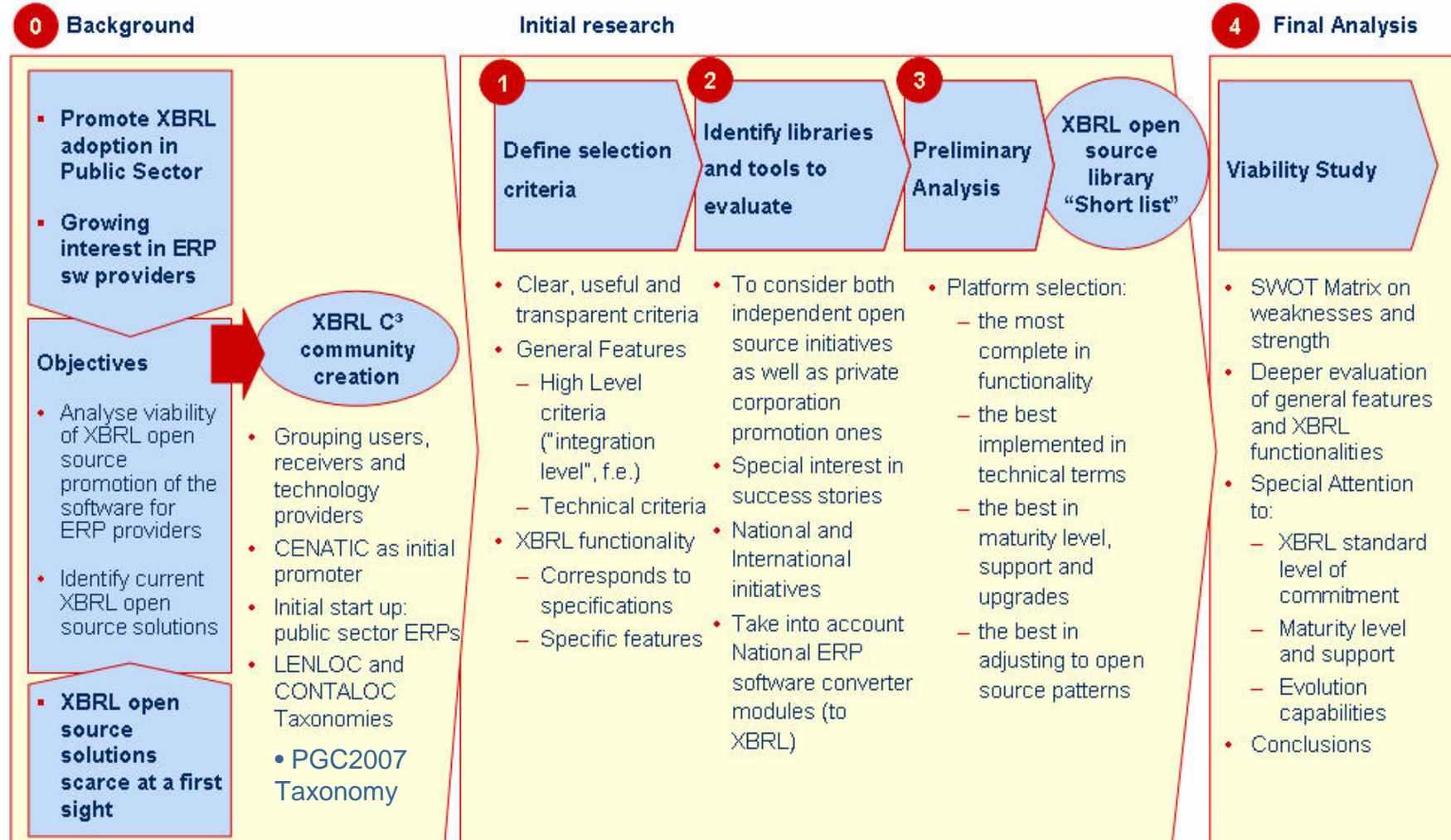
## Open source XBRL tools state of art

"CENATIC in Spain published an XBRL open Source study dated April 2008 [\[link\] http://observatorio.cenatic.es/](http://observatorio.cenatic.es/)

- “- CENATIC is the **National Reference Centre for the Application of Information and Communication Technologies based on open source initiatives. It is a public foundation created by the Ministerio de Industria, Turismo y Comercio within the spanish government.***
- *CENATIC's **project to promote the knowledge and best practice of open source software**, created as an open collaborative effort involving public sector entities, private corporations, universities, R+D+i groups and the business users and developer communities of these technologies.*
  - *CENATIC initiatives, in coordination with the public corporate entity Red.es, look forward to promote the use of **interactive data XBRL as the standard language for the financial information data exchange.***
  - *XBRL as an open and royalty free standard has been the objective of an specific open source study.”*

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art



# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

	Criteria	Weight
Commitment and level of platform support	▪ Licence type	High
	▪ Existence of promoters	High
	▪ Availability of success stories	Medium
	▪ Number of Developers in the community	Low
	▪ Frequency of new software releases	Medium
	▪ Year of last software version released	High
	▪ Availability of Documentation	Medium
	▪ Support channels (phone, email, forums, rss-feed, ...)	Low
	▪ Participation of the developer community in XBRL Spain or XBRL International working groups	Medium
	Technical criteria and those related to integration	▪ Source code available in multiple programming languages
▪ Operating Systems / Platforms supported		High
▪ Ease of integration		High
▪ Other open source libraries/tools integration		High
▪ Availability of APIs		High
▪ IDE integration tools		Medium

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

### Criteria

### Weight

#### XBRL specification conformance

- XBRL 2.1 specification compliance High
- XBRL 2.1 Conformance Suite Test compliance Medium
- XDT 1.0 dimension specification compliance High
- XDT 1.0 Conformance Suite Test compliance Medium
- Formula specification (Candidate Recommendation) support Medium
- Formula Conformance Suite Test support Low
- Versioning specification support Low

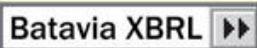
#### Specific XBRL features

- Transformation formats implemented Medium
- ETL mechanisms to enable XBRL generation Low
- Availability of XBRL APIs High
- XBRL processing methods to validate taxonomies High
- XBRL processing methods to edit taxonomies Low
- XBRL processing methods to validate instance documents High
- XBRL processing methods to edit instance documents Medium
- XBRL processing methods to read/navigate through instance documents High
- XBRL processing methods to execute Formulae and Functions Low
- XBRL processing methods for taxonomy versioning metadata Low

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

Identify libraries and tools for evaluation in the initial research

	<b>xBreeze Open Source Edition</b> <ul style="list-style-type: none"><li>▪ Promoter: UBMATRIX (USA)</li><li>▪ UBMATRIX open source version of the commercial XBRL processor</li><li>▪ GPL Licence</li></ul>		<b>ABRA XBRL Processor</b> <ul style="list-style-type: none"><li>▪ Promoter: ABZ Reporting (Germany)</li><li>▪ XBRL processor based on the transformation language XSLT</li><li>▪ It is distributed under Apache 2.0 licence</li></ul>
	<b>XBRLAPI.org</b> <ul style="list-style-type: none"><li>▪ Promoter: Galaxy Pty. Limited (Australia)</li><li>▪ Hosted on Sourceforge, under LGPL Licence</li></ul>		<b>XBRL Taxonomy Generator</b> <ul style="list-style-type: none"><li>▪ Promoter: Max Coletti (Italy) personal initiative, hosted on Sourceforge</li><li>▪ Under GPL Licence</li></ul>
	<b>Batavia XBRL Java Library (BXJL)</b> <ul style="list-style-type: none"><li>▪ Promoter: Batavia Business Reporting (Netherlands)</li><li>▪ Batavia offer their XBRL library under a temporary evaluation licence (AGPL)</li></ul>		<b>SICALWIN XBRL Module</b> <ul style="list-style-type: none"><li>▪ Promoter: Aytos CPD (Spain)</li><li>▪ Proprietary module for XBRL generation according to LENLOC Taxonomy</li><li>▪ Included inside SICALWIN product</li></ul>

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

### xBReeze Open Source Edition SWOT Analysis



#### WEAKNESSES

- The API is not very intuitive.
- Complex package and classes architecture
- The performance is not remarkable

- Extending functionality via a development community could be tough.
- The addition of features using the library, such as the development of an XBRL viewer, may not be quick to implement.

#### THREATS

#### STRENGTHS

- Good documentation and examples.
- Fast start up and easy to integrate "black box"
- A Complete solution conforming to XBRL and XDT specifications
- Very stable and thoroughly tested.
- Additional conformance suite test and implementation tools available.

- It offers a trusted and robust XBRL validation engine out of the box with zero cost of implementation.

#### OPPORTUNITIES



# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

XBRLAPI.org  
SWOT Analysis



### WEAKNESSES

- There is no a fully functional version released.
- It doesn't provide a fully XBRL conformant processor, able to perform validation.
- The documentation is not extensive, and the number of examples is not sufficient, which makes implementation more difficult.

- Being mainly a personal initiative, there is a risk that development may be discontinued.

### THREATS

### STRENGTHS

- Excellent support and level of response.
- Very good XML integration and Database connectivity.
- It offers cache level facilities for processing taxonomies.
- The API is very intuitive.

- It provides a very good base for the creation of new XBRL functionalities and services from scratch.

### OPPORTUNITIES

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

### Batavia XBRL Java Library (BXJL) SWOT Analysis



Batavia XBRL >>>

#### WEAKNESSES

- Steep learning curve.

- It provides a temporary evaluation licence, not truly an open source initiative.

#### THREATS

#### STRENGTHS

- A complete solution conforming to XBRL and XDT specifications.
- Very clear and intuitive API
- Fast to deploy and integrate
- Very good performance
- It provides conformance suite testing tools and implementation.

- It provides a very good base for creation of new XBRL functionalities and services from scratch
- It offers a trusted and robust XBRL validator with a minimum cost.

#### OPPORTUNITIES

# Open Source for XBRL: Reducing middleware integration burden

## Open source XBRL tools state of art

- XBRL open source initiatives are scarce.
- **xBreeze, from UBMATRIX and Batavia XBRL Java Library (BXJL) are the most complete solutions**, in terms of technical criteria, and their XBRL specification support and the XBRL specific features provided.
- The scope of the study does not include the edition and creation of taxonomies and instance documents. One important feature on processing XBRL is the validation engine, where both xBreeze and BXJL libraries includes. The BXJL remarks on XBRL validation, but their licence is not truly open source, dependent upon some type of agreement with Batavia.
- The development which is most focused on an open source community is the **XBRLApi.org** project, promoted by Galaxy. Despite the lack of some XBRL components in the beta version it could be extended with new features and components.
- Although none of the tools evaluated provides all of documentation, ease of use, ease of set up, functionality and performance to the standard of other open source technologies, **the combination of these libraries offers a sufficient base for the development of an XBRL service platform or suite for processing and interchange of XBRL documents.**

CENATIC [\[link\]](http://observatorio.cenatic.es/) <http://observatorio.cenatic.es/>



## Open Source for XBRL: Reducing middleware integration burden

# Real Case: Integrating open source XBRL processors

**INTECO** is the National Communication Technology Institute in Spain for society development through projects in the innovation and technology areas.

**INTECO** develops several initiatives in Security, and Quality Centre. The promotion of **XBRL** as an standard data language is aimed as a key reference model for the Information Society in 2008.

**INTECO** has been developing with the support of **Atos Origin** the design of several software components, under open source licence **LGPL**, to be integrated as an API library in third party software for generating and validating **XBRL tagged data** according to new spanish General Accepted Accounting Principles taxonomy (**PGC2007**).

Objective: Provide an integration library isolating **Tagged XBRL services** in a layer

→ used by the generator side **ERP software** providers

→ used by the reception side (**Registros Mercantiles**, financial entities, investment communities, etc,)

→ data volume: more than **600K financial statements** from SMEs

# Open Source for XBRL: Reducing middleware integration burden

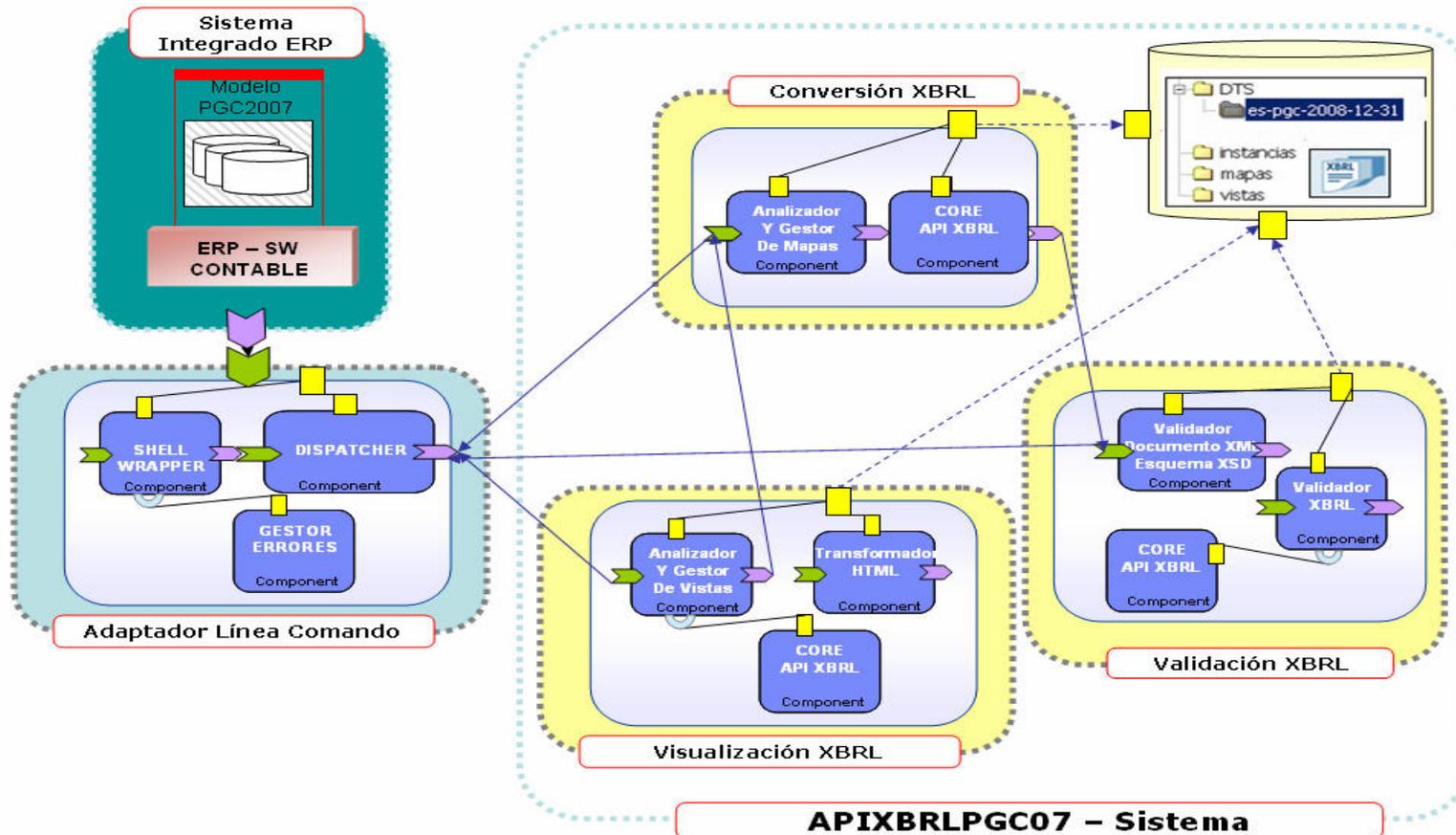
## Real Case: Integrating open source XBRL processors

### Services Exposed:

- Generate XBRL from an XML simple file
- Generate XML simple file from an XBRL instance document
- Validate XBRL instance document
- XBRL viewer for financial statements

### Integration Scenarios:

- Java API library
- Web Services
- Command Line shell wrapper



## Open Source for XBRL: Reducing middleware integration burden

# Real Case: Integrating open source XBRL processors

As a result June 2009:

- today the Java API Library is being integrated by more than 40 ERP providers
- it is being assembled by reception tools in Registros Mercantiles
- It is being used as a reference model for additional data flows.

INTECO Open Source for XBRL Generator is available in Spain, based on the Spanish GAAP taxonomy.

In April 2009 the source code of this project has been released under LGPL licence.

[Link] [http://www.inteco.es/Calidad\\_del\\_Software/descargas/api\\_xbri\\_pgc2007/](http://www.inteco.es/Calidad_del_Software/descargas/api_xbri_pgc2007/)

## Open Source for XBRL: Reducing middleware integration burden

# Open Source tools for XBRL

These real cases using open source tools for integrating XBRL services represents an alternative scenario for automating the use of XBRL tagged data in the reporting chain.

→ <http://observatorio.cenatic.es/>

→ [http://www.xbrlwiki.info/index.php?title=Open\\_Source\\_y\\_XBRL](http://www.xbrlwiki.info/index.php?title=Open_Source_y_XBRL)

→ <http://www.inteco.es/>



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*Thank you for your attention*

*Merci pour votre participation*

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