XBRL Processing Engine (XPE)

UBPARTNER

A powerful and flexible XBRL processor to validate, transform and generate XBRL documents.

Why UBPartner XPE?

XPE offers the richest set of XBRL processing features:

- *Read, validate, and write XBRL documents and taxonomies.*
- *Ability to dynamically load XBRL Formula and to optimize their execution.*
- *Developer-friendly APIs with comprehensive library of code samples.*
- *Extract and transform XBRL data from instance documents.*

In addition, XPE offers:

- *Proven performance and scalability for the largest and most complex XBRL systems*
- *Total support for the complete XBRL Standard*

xBRL Certified Software™

The UBPartner XBRL Processing Engine (XPE) is the platform of choice for government agencies, market regulators and leading application software vendors. It has been designed to make the process of developing and deploying XBRL-based applications as simple as possible.

XPE can support high volume, large-scale collection systems; delivers unrivalled performance for large and complex XBRL taxonomies, and yet, can also plug easily into client applications.

Built upon an extensible object-oriented architecture, it supports both taxonomy and instance document validation and can be used to transform XBRL from and into various other file formats.

Continually updated and tested, XPE fully conforms to all the latest XBRL standards and is fully certified by XBRL International.

Complete XBRL Functionally

Organizations that collect, process, and generate XBRL documents will benefit from a highly scalable and powerful processing engine, while developers looking to XBRL enable their financial management and reporting applications will find that XPE has all the features and flexibility they are looking for.

Today, XPE is the technology platform for every kind of XBRL project, from Taxonomy design and generation to large scale validation systems.

Flexible Integration

XPE is delivered with a functionally rich software development kit, so that it can be used to build XBRL-based applications or integrate XBRL capabilities into existing applications or web services. The XPE API is available for both .NET and Java environments.

Unrivalled Performance

In tests, XPE always performs well across a range of real-world tasks and it is continually tested and enhanced to ensure that it meets the requirements of the latest taxonomies.

Recent improvements have focused on the efficient handling of very large documents and formula processing optimization. The result is an XBRL processing engine that delivers exceptional performance. In benchmarks against other similar general XBRL platforms.

Total Conformance

XPE supports the complete set of XBRL standards, including:

- XBRL Dimensions and Formula
- Inline XBRL
- Table Linkbase and Enumerations

XPE is also tightly integrated with XSLT and XPath 2.0, which means it can be readily extended and customised.

Advanced XBRL Processing

The UBPartner XBRL Processing Engine has been continually developed to ensure that it meets the growing requirements of the XBRL community. Advanced and innovative features include:

Flexible Validation Levels – enable the systems designer to determine which parts of the validation process are undertaken at each step – XBRL syntax, Formula, Filing Rules, or all of them. Enabling multi-phase processing in time critical environments.

DOM or Virtual Object Model (VOM) – Some taxonomies, such as the EBA's CRD4 and EIOPA's Solvency II taxonomies, are highly multi-dimensional and can result in the production of large XBRL documents (> 100mb). VOM mode enables XPE to breakdown the XBRL instance document into smaller objects on which to operate, enabling it to process large and very large instance documents (1GB+) without serious performance degradation. DOM is more efficient at handling smaller documents, such as ESMA ESEF annual returns, by holding everything in memory.

XBRL Formulas Pre-processor and Optimizer – Formulas are one of the most powerful of XBRL features and taxonomy authors are including increasing numbers of greater complexity in their taxonomies. XPE formula optimizer first analyses the formulas and then uses in-built intelligence to determine how best to execute them efficiently.

Validation and Formula Partitioning – An advanced feature to enable larger documents to be validated with a relatively small memory footprint. It optimizes and groups related data sets and formulae into units of work for efficient processing.

Advanced Tracing – As XBRL taxonomies include more complex business rules (XBRL Formulas) developers require more advanced trace and debug modes to help them identify issues.

Flexible Outputs – enable the developer to customize validation reports to suit the needs of the application.

Each option can be configured individually to deliver a truly customisable XBRL processing platform that can be tailored to meet any need.

Next Steps in XBRL

The XBRL standard is being continually improved and enhanced and UBPartner plays an active role in the XBRL community, working groups and standards bodies. We see ourselves playing a major role in feeding requirements and identifying potential solutions to the adoption of XBRL by our customers and partners.

In the next few years, the major enhancements will include recommendations for the Open Information Model (OIM). OIM will enable XBRL data to be presented in other formats.

Initially, OIM will support:

- xBRL-JSON
- xBRL-CSV

UBPartner is already working, as part of XBRL Europe, on how to apply and implement the new formats and plans to provide update releases as the new OIM specification are moved to Recommended Status by the XBRL Standards Board.

UBPartner's commitment to supporting all XBRL specifications and the XII certification process, protects any partner's or customer's investment in XBRL systems.

Operating Systems Supported:
- Microsoft Windows 7, 10
- Microsoft Windows Server System 2003, 2008
- Red Hat Linux
- Enterprise Linux 5

Memory:
- Minimum: 4 GB
- Recommended 8 GB RAM or greater for large XBRL documents.

.NET Edition:
- Microsoft .Net Framework 4.0 or later

Java Edition:
- Oracle Java 8 Java Runtime Environnent

Disk Space: 135 MB minimum