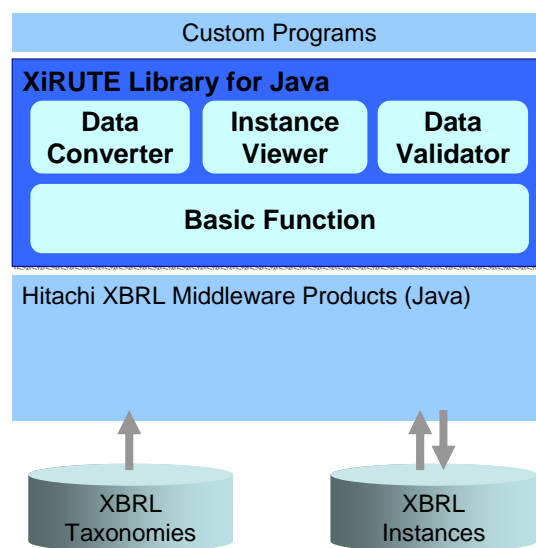


XiRUTE Library

Hitachi Group has implemented several XBRL systems by leveraging its comprehensive knowledge and expertise in system integration across industries. Based on these real experiences, Hitachi Group has applied and converted this know-how into a cutting-edge software product, XiRUTE. XiRUTE is comprised of Common Library Components and other utility packages. The Common Library Components of XiRUTE provides the following benefits to system /solution deployment in the real business world: (1) the ability to flexibly adapt to changes in technical specification and business needs, (2) high productivity to enable just-in-time system launch, and (3) high performance in processing large amount of financial information.



XiRUTE also provides support for the .NET platform.

◆ *Component Architecture masking XBRL complexities*

XiRUTE Library is the APIs (Application Programming Interface) for software developers to build XBRL systems. **XiRUTE Library** is designed for developers with little knowledge of XBRL so that they can build applications easily. **XiRUTE Library** wraps the XBRL-DOM (Document Object Model) functions. This wrapping is realized by the “**Basic Function**”, which is based on Object-Oriented data models. The Object data model wraps the complex structure of XBRL documents that are usually provided by XBRL-DOM libraries. **THEREFORE**, application developers need not to be bothered by the complex structure of XBRL document. Application development will be more streamlined through whole development processes.

◆ *Business Components as Utility Programs*

XiRUTE Library has several “*Business Components*” packaging typical business processes (such as convert, view, validate). These components also make it possible to achieve *high productivity* in XBRL system development.

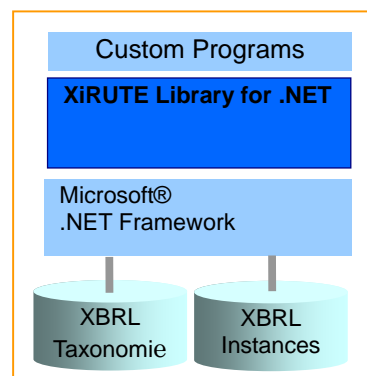
- **Data Converter** supports data conversion from proprietary data format (such as CSV files exported from Accounting Systems) into XBRL-instances and vice-versa. This facilitates financial information providers to put financial statements into XBRL instances.
- **Instance Viewer** enables the building of user-interfaces for viewing XBRL instances in several ways, such as drill-down with fold and expansion functionality. Also, it makes it easier to build company-to-company comparisons and time-series analysis.
- **Data Validator** provides two validations: *XBRL-validation* and *Business Rule Validation*. *XBRL-validation* enables validation of XBRL instances against XBRL Schema and Linkbases (Definition Link, Label Link, Calculation Link). **Business Rule Validation** enables validation of XBRL instances against user-defined business rules.

◆ XiRUTE Library for .Net

XiRUTE Library for .Net is the new XiRUTE Library product for the application based on Microsoft .Net Framework.

◆ *High Runtime Performance*

XiRUTE Library can handle bulk XBRL document processing with high performance. Core Library Components incorporates many innovative technologies to improve runtime performance: internal-composites from pre-compiled-taxonomies, subset objects extracted from internal-composites according to various contextual needs, and memory caching. These mechanisms are also implemented for Business Components as default. As a result, XiRUTE-based custom applications can achieve high runtime performance in handling large amount of financial information.



◆ Case Study

CASE: Hitachi High Technology Corp. has reduced system development cost by 60% in its financial information conversion system, by adopting XiRUTE Core Library Components.

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