# OpenXML Spreadsheet Markup Language Interoperability

**Products:**

Server environment: Red Hat Enterprise server, Oracle Express 10g, Tomcat5.5, Java 1.5

Client environment: Windows or Linux operating system, IE 5.5 and above or Fire Fox 1.5 browser

**Interoperability requirement**

In today's enterprise world, heterogeneous platforms and technologies are becoming a common infrastructure requirement. Governments and enterprises want best of the breed software applications, solutions and services for their organizational efficiency and agility. A typical enterprise could run applications (Human Resources, CRM, IT Management) across platform boundaries (eg: Windows, Linux), database servers (eg.SQL Server, Oracle & MySQL) and various types of middleware (.NET, J2EE, JDBC). These systems use different data access technologies (ODBC, JDBC, ADO.NET, Oledb) to process the data from heterogeneous databases and present to users for analysis and reports.

**Benefits to governements/customers**

This scenario demonstrates the benefits of heterogeneous systems supporting OpenXML to transfer data across process boundaries. It also articulates benefits in terms of efficiency, productivity & consistency. There are no barriers for third parties, either governments / customers or developers, to use the Open XML formats. The new Open XML Formats in 2007 Microsoft Office system were created using existing industry standards for XML and ZIP data. As long as people working with the formats are familiar with XML and ZIP technology, they will be able to access data in Office 2007 formats. By using XML as a common interoperability technology, when someone wants to move data from one type of system to another, that will be relatively easy to accomplish. The licensing mechanism is completely open, and the documentation is rich.

**This open approach results in:**

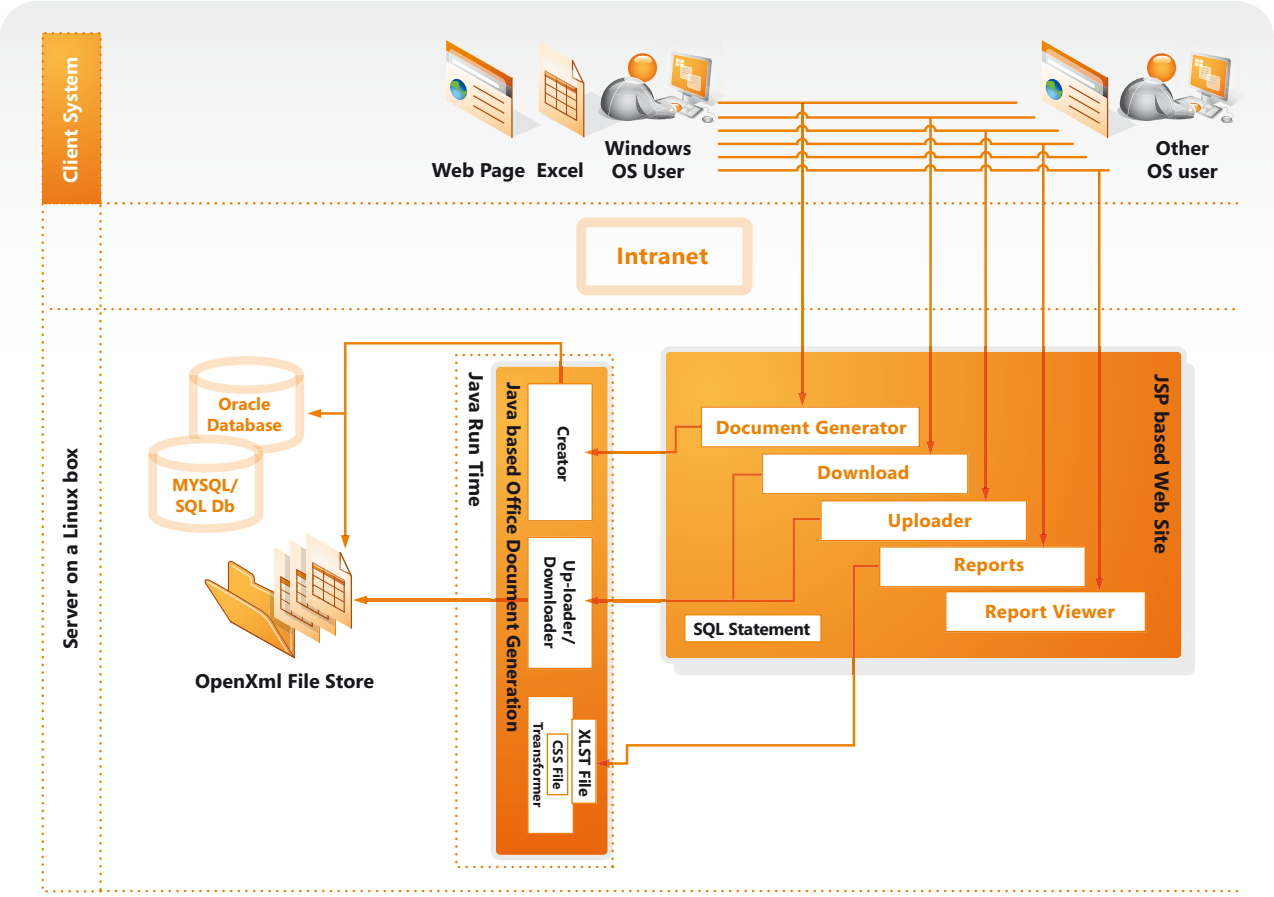
- Consistent way to transfer data from heterogeneous relational databases.
- Spreadsheet Markup Language generated by non-Microsoft applications on non-Windows platform can be opened using Microsoft Excel.
- OpenXML Spreadsheet generated by Microsoft Excel can be accessed by non-Microsoft platforms and products and modified on non-Microsoft platforms.
- The data integrity is maintained across platform boundaries.
- Standard XSLT (W3C Standard) can be applied on the OpenXML files to add rich usability to the OpenXML Data files for presenting on non-Windows environment.

Microsoft

# Interoperability by design

Connecting people, data and diverse systems.

## Architecture of the demo




**Generating Spreadsheet ML document from heterogeneous data sources**

Real world customer data is retrieved from Oracle Server. The Middleware application developed using java on Linux, will generate SpreadSheet ML file. The data is read from Oracle database XE.

**Viewing raw Spreadsheet ML file**

SpreadSheet ML file generated is a XML file packaged/zipped together as .xlsx. Each of these XML files can be opened in any editor to view the data and relationships. The file can be renamed as .ZIP, which is the standard for packaging spreadsheets.

**Windows User Experience of the Spreadsheet ML using Excel**

The ZIP file generated on Linux can be viewed in Excel 2007. The ZIP file can be renamed as .xlsx and opened using Excel 2007. Modifications can be done on the data in the spreadsheet.

**Non-Windows user Experience on Linux platform (XSLT - Spreadsheet ML)**

The .xlsx file can be copied to heterogeneous platforms like Linux. Style sheets (XSL Transformation) can be applied to the openXML .xlsx and the data in the xml file can be read on any browsers, Desktop productivity application and other ISV applications as well.