Informix Office Connect
Version 2.0, for Microsoft Windows

Informix® Office Connect™ integrates seamlessly with Microsoft Excel to provide an intuitive environment for developing and deploying Excel-based applications requiring database connectivity. Using Office Connect, Excel users can retrieve database data and populate customized Excel applications to visualize that data effortlessly, without knowing SQL or the details of database structures.

Office Connect makes it simple to populate customized Excel worksheets with data retrieved from Informix and other ODBC databases, as well as databases accessible through OLE DB applications. Office Connect provides a graphical interface that enables Excel users and domain experts to visualize database data in Excel worksheets quickly and cost effectively.

Knowledgeable Excel users can install and use Office Connect without specialized training. Office Connect offers:

- an easy-to-use graphical user interface (GUI) that helps users rapidly customize Excel worksheets to visualize data retrieved from databases, without knowing SQL or understanding the intricacies of database structures;
- faster time-to-market at lower cost by eliminating the need for expensive, customized solutions to access database data and populate Excel worksheets with that data; and
- a standard interface and output format with which to display and manipulate all your business data, from a variety of data sources, providing a practical database connectivity solution.

Office Connect Overview

Microsoft Excel is well established as the de facto standard for visualizing, formatting, and presenting data in a worksheet format. Transforming business data from a relational database for visualization and presentation in Excel used to be a difficult task, requiring expensive customized middleware solutions and tools, as well as in-depth knowledge of database concepts and SQL. Now, using Office Connect, there is a seamless way for Excel users to take these applications from concept to prototype to production without relying on developers to create customized solutions.

Office Connect provides an intuitive yet sophisticated interface for creating user-defined models from database tables and columns to be viewed and modified from Excel worksheets. The drag-and-drop paradigm dynamically binds (virtual or actual) database tables and columns to an individual cell or a range of cells in one or more Excel worksheets.

Office Connect Architecture

Office Connect has two major run-time components:

- the Excel *add-in run-time module* extends Excel menus, toolbars, and windows to populate worksheets with database data without adding complexity for the user; and
- the *data access module* connects to the data source to retrieve the data.
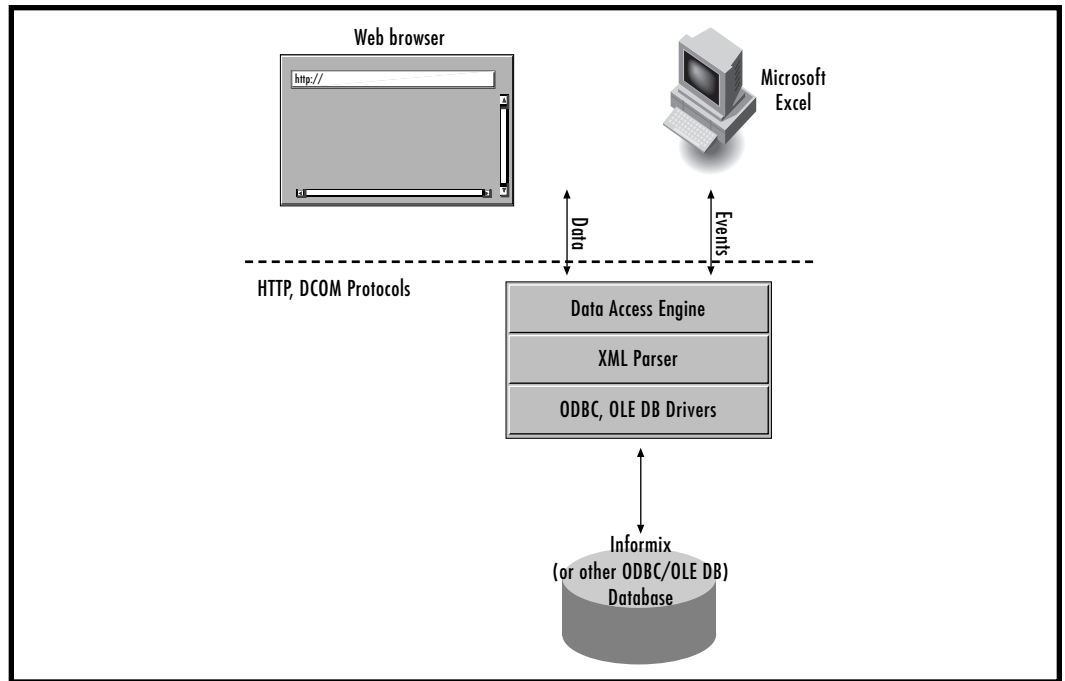
Figure 1: Office Connect Run-time Architecture.

The Excel add-in module is a Distributed Component Object Model (DCOM) server. DCOM is a set of Microsoft concepts and program interfaces that allows client program objects to request services from server program objects on other computers in a network.

The data access module has data drivers that connect to the data sources, which can be Informix and other ODBC databases, as well as databases accessible through OLE DB applications. The data access module also enables XML data to be transmitted using the HTTP protocol.

For an individual user, Office Connect can have a 2-tier architecture, with both the Excel add-in and data access components on the client system. In an enterprise environment, Office Connect can have a three-tier architecture, with the Excel add-in component on the client system and the data access component on a Windows NT server which then connects to a UNIX database server.

This allows the same instance of the data access component to be shared by multiple users. Because Office Connect is MTS-enabled, the data access component can use MTS connection pooling to share database connections.

Developing Data Models

In the development environment for Office Connect, a domain expert uses the *Model Viewer* to create physical data models based on knowledge of the underlying database structures. The domain expert uses SQL queries to set up the applications' data access functionality. The Model Viewer allows storage and manipulation of the imported objects from the database to create client-site objects called *virtual tables* to abstract queries without requiring additional data storage and *virtual columns* to represent calculated values such as aggregates. Once the domain expert has used the Model Viewer to define the set of available data objects (data views) that can be used in the

application, worksheet users can manipulate subsets of these views as dictated by their own application needs—defining ranges, for example—using standard Excel visualization and presentation metaphors.

Office Connect Features and Benefits

Office Connect gives Excel users access to database data without requiring database expertise. The following key features make Office Connect a unique, simple, and cost-effective solution providing database connectivity from Excel worksheets.

Model-Based Development
Office Connect's GUI enables you to create a drag-and-drop model of database structures (without using SQL) to populate Excel worksheets. You can graphically select which columns to display in the worksheets and the number of rows of data to be returned from database queries. Deployment is simple because the visual interface automatically generates SQL statements to retrieve data from the database.

Bidirectional Support for Binding Cells
Office Connect's cell binding features enable you to bind an individual cell to a database column, a range of cells to the entire table, and stored procedure parameters to a range of cells. You can also create persisted business templates that can be inserted into any worksheet. You can create these cell bindings using a simple drag-and-drop paradigm, eliminating the need to develop customized solutions.

Automated Connection Management
Office Connect enables an Excel worksheet to automatically reconnect to the database to which it was previously connected to read from (fetch) and write to (save) the data source. Multiple connections, to Informix and other databases, are supported. The distributed application environment is optimal for information sharing and easy access to documents and data.

Manual and Automatic Resync Options
Manual and automatic resync options allow you to refresh Excel worksheet data on demand or at user-defined intervals so that you always have fast, easy, and timely access to the time-sensitive information stored in the database. You can refresh data from the database in user-defined intervals from one second to one day. You can also refresh each worksheet or an entire workbook. If there are multiple worksheets in a given workbook and each points to a different database, the resync feature connects to each database, refreshes the data, and closes the connection.

XML Support
Office Connect enables you to share an XML design template for publishing and deployment between multiple users. You can publish the template information to the Web browser using XSL. The ability to use XML for all information enables database data to be presented as an XML result set.

Transaction Support
Office Connect offers superior performance in retrieving Excel data from Informix databases. Because Office Connect supports Microsoft Transaction Server (MTS), you can use MTS features including connection pooling, load balancing, and failover.

Server-Based Architecture
Informix Office Connect's server-based architecture makes deployment simple and alleviates the need to install software and updates to individual systems, while offering the flexibility to also be run from the client systems.

System Requirements
Office Connect has the following hardware requirements:

- Intel-based PC with a Pentium CPU or greater (single CPU is sufficient)

- 64 MB RAM

- 35 MB disk space is required for a minimal installation, 50 MB for a typical installation, and 80 MB for a custom installation

Office Connect is supported on the following operating systems:

- Windows 95 with the DCOM98 patch installed

- Windows 98 with the DCOM98 patch installed

- Windows NT 4.0 Workstation or Server with Service Pack 3 or higher

- Windows 2000 (Professional or Enterprise)

Office Connect requires Microsoft Excel 97 with Service Pack 1 or higher or Excel 2000.

Support for Foundation.2000 Extensibility Features
When used with Foundation.2000™ and Informix Dynamic Server.2000™, Office Connect supports the unique extensibility features of the Informix database server, making it easy to view complex data.

Foundation.2000 and its database server component, Informix Dynamic Server.2000, support *extended data types*, enabling you to store and retrieve data in addition to standard *built-in data types* such as characters and numbers in the Informix database. An extended data type is a data type that is not originally built into Informix Dynamic Server.2000, but, once defined, can be intelligently stored and processed using Informix's object-relational database technology. Office Connect supports both built-in and extended data types so they can be viewed in a standard Excel format.

A *routine* is a collection of program statements that performs a particular task within the database server. A *user-defined routine (UDR)* is a routine a developer can write using Informix Stored Procedure Language (SPL) or an external language, such as C or Java, to capture business logic and run that logic in the server, reducing the time it takes to develop applications and increasing the applications' speed. Once defined, UDRs perform operations specific to the data or application for which they are created, such as searching telecommunications, geographic, or financial data. Office Connect supports all Informix routines, including UDRs, so they can be viewed in an Excel worksheet.

A *time series* is a time-stamped series of data entries, such as minute-by-minute reports of stock prices and trading volumes. The Informix Time Series DataBlade™ module offers high performance access to time series data stored in Informix Dynamic Server.2000 and a rich set of routines to analyze time series data. Excel provides an optimal format to visualize, analyze, and graph time series data. With Office Connect, you can use a native interface to view time series data for graphical reporting in an Excel worksheet.

About Informix

Informix Software is the technology leader in software infrastructure solutions for the Internet—providing a fast, simple and complete way to bring businesses to the Web. Based in Menlo Park, Calif., Informix is the first and only company to integrate e-business and business intelligence on a true Internet infrastructure. The company's highly scalable Web engines, together with its personalized content management, real-time analytics and media asset management capabilities, offer customers a unique competitive advantage. For more information, contact the nearest sales office or visit the Web site at www.informix.com.

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