

Enterprise Integration

Sharing Information Across the Organization



Highlights

Complete integration support

- *Facility Wizard's platform, FileMaker Pro provides industry standard interfacing technologies*
- *ODBC, JDBC, SQL, and XML*

Interface types and data synchronization

- *One-way interface goes one direction from the external system to our application, or from our application to the external system*
- *Two-way interface ensures that data changed in either system is reflected in the other system*
- *Tight synchronization minimizes time-lag in updating one system from other to an insignificant level*

We are expert at external system integration

- *Systems types interfaced with include financial systems, supply chain management, and human resource applications*
- *Specific vendors interfaced with include Lawson Financials, PeopleSoft, and QuickBooks*
- *Database platforms interfaced with include Oracle, SQL Server, and MySQL*
- *...and many more.*

➔ Application software is not an island. Your organization's existing software systems and databases probably contain data that should be integrated with your new Facility Wizard application's data and functions. Such integration will extend the capabilities of your new application, as well as its relevance and use within your organization. A software vendor should provide a software platform, application software, tools, and expertise that support these integration requirements.

At Facility Wizard Software, we have the tools and expertise to integrate our application products with your other software and databases. We have successfully accomplished this for many of our customers.

Many Facility Wizard customers have required and obtained successful integration of our software products with their other software systems. The enterprise systems that we have integrated with include financial systems, supply chain management, and human resource applications. Specific examples include Lawson Financials, PeopleSoft, and QuickBooks, based on databases that include Oracle, SQL Server, MySQL, as well as many others.

Complete Platform Integration Support

Our software applications are developed using FileMaker Pro, a robust, high performance database system with an integrated visual design and development environment. More than 10 million units of FileMaker software have been sold to customers around the world. Customers include individuals and small businesses everywhere, 49 of the top 50 universities in the U.S., the top 250 U.S. school districts, and 70 of the Fortune 100 companies.

To support your integration requirements, Facility Wizard Software and FileMaker provide these common interfacing technologies:

- ODBC – Open DataBase Connectivity. ODBC is a standard, language independent, database access method that allows access to data regardless of the database system in which the data resides.
- JDBC – Java DataBase Connectivity. This is similar to ODBC, but is utilized for database systems implemented in the Java language, or that have an access layer implemented in Java.
- SQL – Structured Query Language. SQL is the standardized query language for accessing database information. SQL is used to access data using ODBC or JDBC.

- XML – Extensible Markup Language. This is a standardized format for transmitting information between software applications. XML is typically stored as readable text in text files. XML utilizes tags similar to HTML

Other Enabling Technologies and Techniques

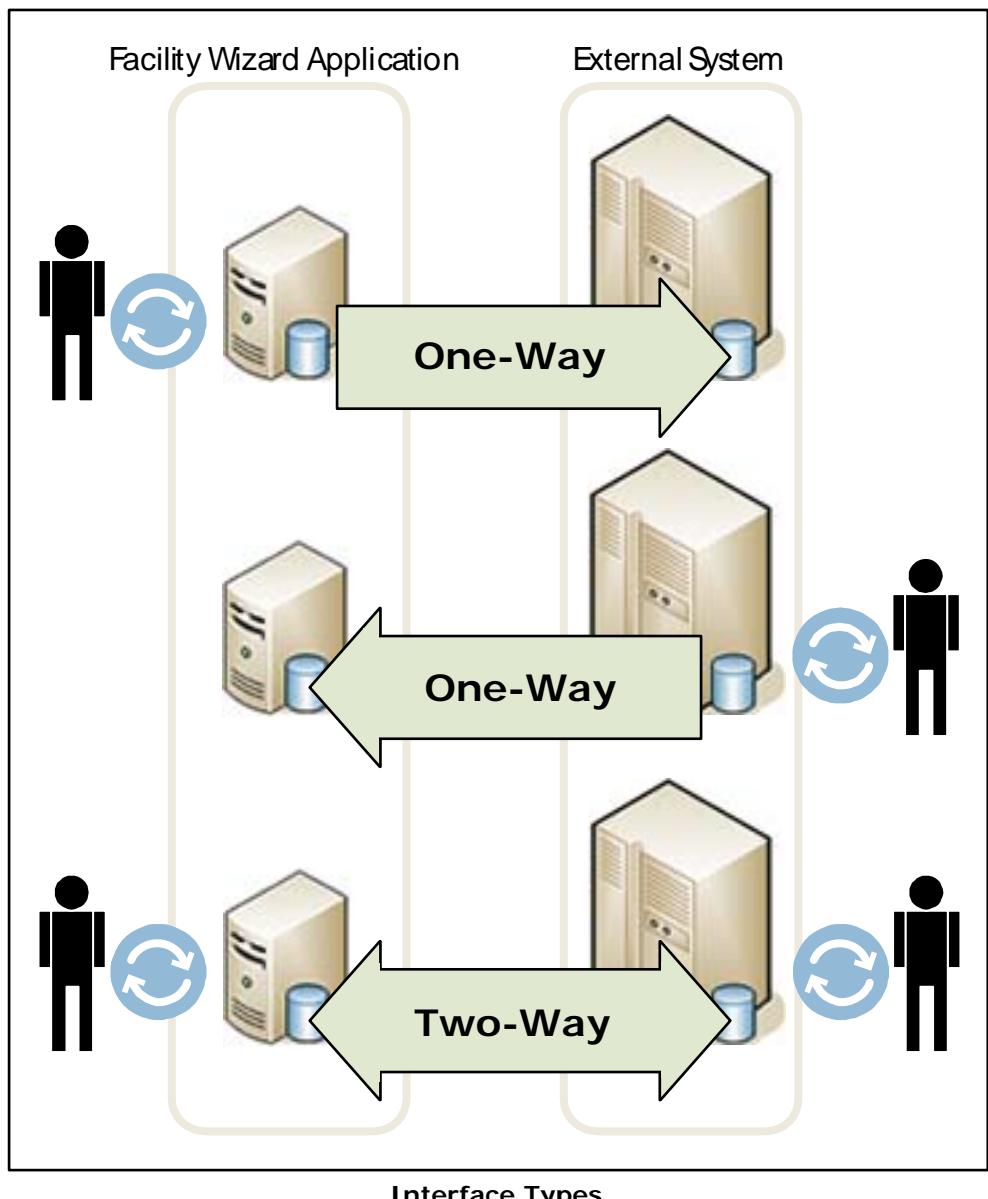
In addition to the interfacing capabilities provided by our development platform, at Facility Wizard Software we have also utilized other technologies and techniques to integrate our application products with external systems:

- Microsoft .NET, including Visual Basic and C# languages, as well as ADO.NET, the .NET platform's database access layer.
- Java platform and language.
- Various tools available from vendors or as shareware or freeware.
- Text files – Some of our interfaces will export data into a comma or tab delimited text file that is used to temporarily store data prior to it being imported into the receiving system.
- Microsoft Excel files – We also sometimes export data into Microsoft Excel files that are used for temporary data storage.

Interface Types

The key aspect of your integration requirements, for each enterprise system involved, is to identify the type of interface involved. There are three types:

- One-way interface – data is sent from the external software to Facility Wizard application.
- One-way interface – data is sent from the Facility Wizard application to the external software.
- Two-way interface – the data in the Facility Wizard application and the external software are fed in both directions, so that data updated in either system is reflected in the other system.



When data is updated from one system to another, that changed data will have resulted from either user interaction or from transaction processing. Many of the interfaces that we have implemented involve updating data resulting from transaction processing and not direct user interaction, for example G/L processing in financial systems.

Degrees of Data Synchronization

Sometimes an organization's integration needs require that data is kept up-to-date in two systems simultaneously. In this case, when the data is updated in one system, it needs to be fed into the other system. This allows users of both systems to see the same current data. At Facility Wizard Software, we are experts at understanding the requirements for, and implementing interfaces that maintain data currency between our software and other external software systems.

There will always be some time-lag between when data is updated in the first system by a user or transaction processing, and when that same data is updated into the second system. This time-lag, called *degree of synchronization*, can be substantial but acceptable, or with greater development focus can be minimized down to an insignificant level. When the time-lag between the two systems has been minimized, we refer to this as *tight synchronization*; conversely, when the time-lag is substantial but acceptable, we refer to this as *loose synchronization*.

The key high-level technical decisions for maintaining data currency between a Facility Wizard application and other software is "how" and "when" the changed data in the originating system is updated in the receiving system. For the "how", this may leverage one of the standard interfacing technologies that we introduced above, that is, ODBC, JDBC, SQL, and XML; for the "when", there are several technical strategies that we have successfully utilized:

- If loose synchronization is acceptable, then an interface can be utilized that executes according to a schedule. For example, such an interface can execute every hour, or overnight during periods of low or no system use.
- If a lot of data records are involved, such as data that originates from transaction processing, then a batch interface can be implemented. Batch interfaces aggregate data and then update it either according to a schedule, or when a certain threshold has been met in terms of the amount of data.
- Achieving tight synchronization requires a live interface. Designing this type of interface will have technical considerations that include record- or field-locking, and related usability issues such as response time for users attempting to access data that is being synchronized.

In addition to these high-level technical decisions, the technical and business decisions regarding the two-way interface also need to take into account the:

- Limitations of network and computer resources, including whether these should be upgraded.
- Budget for development effort required to implement the interface. It is important to note that if the requirement is to maintain tight synchronization between the Facility Wizard application and the other system, then the development work be greater when compared to that required for looser synchronization.

Flexible Technical Implementations

Here are some examples of various customer requirements that we have successfully implemented using these different types of interfaces, and achieving various degrees of synchronization:

Case: Rainmaker Platinum Accounts Payable (A/P) system needed to be updated with fixed payments generated from lease rent tables in Facility Wizard REportfolio™, and variable payments that were directly entered into REportfolio. Loose synchronization was acceptable, and a user initiated process was required.

Solution: A one-way interface was implemented from REportfolio to the Rainmaker Platinum A/P system. A custom function was implemented in which an authorized REportfolio user can initiate FileMaker scripting which derives the fixed payment data, and then exports the data for both the fixed and variable payments. This function performs a query resulting in the updated data, and then outputs the data into an Excel format file. The last step in the export function moves the file to a standard network directory. A custom function within the Rainmaker Platinum A/P system then imports the data.

Case: Active Directory repository contains personnel data that needed to be imported into Facility Wizard Workorderama™ orderers data. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from Active Directory to Facility Wizard Workorderama. First, a Windows scheduled task starts a FileMaker script execution. This FileMaker script first calls an external Visual Basic script that queries the Active Directory database using LDAP, with the resulting data written to a text file. Next, the data is imported into the Workorderama orderers data. This interface runs each night during off-hours.

Case: Timberline system contains rent payment records that needed to be imported into Facility Wizard REportfolio™ rent data. Loose synchronization was acceptable, with the interface being manually triggered by users when needed.

Solution: A one-way interface was implemented from Timberline to REportfolio. First, the user generates an Excel file from the Timberline system, which is written to a standard location. Next, the user manually executes a FileMaker script, which imports the data into a specialized buffer table in REportfolio where the data is reformatted. Last, the data is moved to its final destination as part of the REportfolio rent data.

Case: PeopleSoft Financials system contains capital project invoices, expenditures, internal charges and G/L journal entries that needed to be imported into Costs database in Facility Wizard Projecto™. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from PeopleSoft to Projecto. First, a scheduling tool executes an ODBC SQL query of PeopleSoft, with the results written to a text file with a standardized format. Then, a scheduling tool also initiates FileMaker scripting which imports the data into a specialized buffer table, where the data is formatted. The data is then moved to its final destination in the Projecto costs data. This interface runs each night during off-hours.

Case: Jones Lang LaSalle One View Financials system contains PO, invoice, and contract records that needed to be imported into Costs database in Facility Wizard Projecto™. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from Jones Lang LaSalle One View Financials to Projecto. First a scheduling tool executes a query in One View Financials, and exports that resulting data to a tab delimited text file. Next, FileMaker scripting is started. This execution transfers the file, using FTP, to the Facility Wizard server, and then imports the data into a specialized buffer table in Projecto. In the buffer table, the data is cleaned-up and supplemented, and then moved to its final destination in the Projecto costs data. This interface runs each night during off-hours.

Case: Proprietary system contains requests for capital projects and purchases, that needed to be imported into Facility Wizard Projecto™, with the ability to review and approve the requests. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from the proprietary system to Projecto. First, a scheduling tool initiates FileMaker scripting which performs an ODBC SQL query of the proprietary system and imports the data into a custom table in Projecto. The custom table is used by staff for reviewing and approving the requests. When a staff person approves a request, a custom function is executed to move the request to its final destination in the Projecto projects or purchases data. The direct interface from the proprietary system to Projecto runs each night during off-hours.

Case: Facility Wizard Workorderama™ and Facility Wizard Projecto™ needed building, room, department, and cost center data from external proprietary system. Loose synchronization was acceptable, and a user initiated process for the initial data export was required.

Solution: One-way interfaces were implemented from the proprietary system to Workorderama and Projecto. A manually executed function was programmed in the proprietary system for exporting the subject data to a tab delimited text file. The last step in the export function moves the file to a standard network directory. Once the file has been placed in the standard directory, a scheduling tool initiates FileMaker scripting to import the data. This process runs at night during off-hours.

Case: Business Objects system contains PO data that needed to be imported into Costs database in Facility Wizard Projecto™. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from Business Objects to Projecto. An export from Business Objects to a Microsoft Excel file is manually executed when needed, with exported files written to standardized filenames indicating date and time of export. Next, a scheduling tool kicks-off FileMaker scripting within Projecto, which imports the data into a specialized buffer table, where the data is cleaned-up and supplemented. The data is then moved to its final destination in the Projecto costs data. This interface runs each night during off-hours.

Case: Proprietary, mainframe-based risk management and insurance system needed to be updated with data from lease and permit records contained in a Facility Wizard custom property management system. Several thousand lease and permit records are updated daily, and those updates need to be reflected in the external risk management and insurance system. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from the Facility Wizard system to the external risk management and insurance system. A scheduling tool initiates FileMaker scripting which first exports the updated data into a text file with a standard fixed-character format. The file is then moved to a standard network directory using FTP. Once the file has been placed in the standard directory, a program within the risk management and insurance system parses that file to bring-in the changed data.

Case: Facility Wizard Projecto™ system required PO, invoice, expenditure, internal charge and G/L journal entries from Pathways Financial Management and Procurement Management system. Loose synchronization was acceptable.

Solution: A one-way interface was implemented from the Pathways system to Projecto. First a scheduling tool to execute a query in the Pathways system, and export to a comma delimited text file. Next, FileMaker scripting is started. This execution transfers the file, using FTP, to the Facility Wizard server, and then imports the data into a specialized buffer table in Projecto. In the buffer table, the data is reformatted, and then moved to its final destination in the Projecto costs data. This interface runs each night during off-hours.

The Facility Wizard Difference

At Facility Wizard Software, we have the experience to fully understand your external system interfacing needs, and to implement those requirements accurately with high performance and reliability. You can be confident that our knowledge and skills, combined with our technology platform, will result in a facility management or real estate administration solution that is an integral part your total computer software infrastructure.

About Facility Wizard Software

Facility Wizard Software develops and markets simple, powerful and flexible software tools and web-based solutions for facility management and real estate professionals.

The Facility Wizard family of software products is based on three fundamental principles. Our products are designed to be:

- SIMPLE. Making you feel comfortable with your software is our #1 priority. We never underestimate the importance of simplicity and usability.
- POWERFUL. Built for performance and productivity, with scalable tools and interfaces that reach out to your entire organization and integrate with enterprise applications.
- FLEXIBLE. Our standard products have all the core features you need and can be easily modified or custom-tailored to meet your current and changing requirements.

Available software solutions include asset maintenance and work order tracking, construction project and capital program management, and real estate lease administration. Facility Wizard Software is known for exceptional customer satisfaction.

Facility Wizard Software is a privately held corporation, with the home office in Chicago Illinois, and with branch offices in Ohio, Texas and California. The company has been in-business and profitable since 1992, and has served over 600 customers worldwide.



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