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# e-Builder Integration Toolbox

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**Microsoft®**  
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*Partner*

Custom Development Solutions  
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## Executive Summary

e-Builder Enterprise provides cost, schedule, workflow and document management with built in reporting as a complete integrated solution for managing capital projects and programs. At the same time, e-Builder realizes that commonly project data either originates from or must be available in external systems such as corporate accounting or partner project management tools.

Integration eliminates the costs as well as the potential errors associated with duplicate data entry and results in more timely access to more accurate information. We offer an extensive integration toolbox that facilitates this data exchange with external systems, including everything from zero-programming-required options to let you get up and running quickly, to standards-based, workflow-enabled web services application programmer interfaces (API) to support any process.

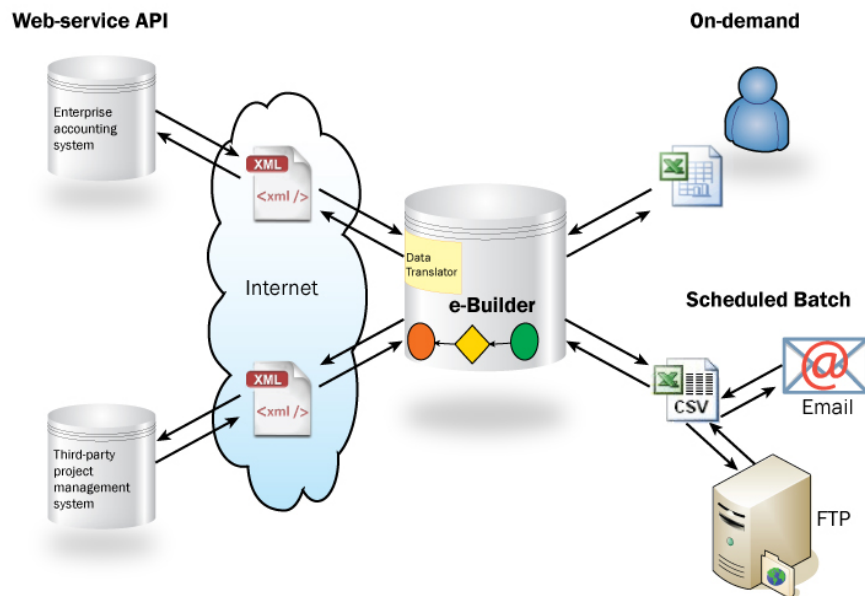
The e-Builder Enterprise platform is architected and designed from the ground up to support multiple methods of integration. This platform design enables e-Builder to accommodate your business requirements, IT constraints, and security needs ranging from point and click user-initiated batch imports and exports to real-time data exchange via standards-based XML web services and event driven integrations triggered through workflow. The e-Builder platform architecture provides virtually limitless options for the types of data and systems that need to be integrated.

### Integration Toolbox Technology

The e-Builder integration toolbox is designed to be quick and easy to use, allowing for rapid, lower risk deployments. The platform supports on-demand import and export, automated batch import and export, and real time updates and data retrieval via web services calls providing total flexibility during implementation. The e-Builder Enterprise platform includes a proprietary translation layer that supports rapid integration with other systems. The translation layer allows any XML schema to be used to exchange data with e-Builder without the need for custom programming. Integrations can then be further driven through e-Builder workflow allowing more granular control of the integration process.

These integration options may be used in any combination, and can be enabled and utilized at any time. The result is a system that is up and running quickly and grows as your business needs expand and evolve.

### e-Builder Integration Examples



## On-demand Import/export

e-Builder includes data import wizards for virtually all modules in the product including cost, schedule, and workflow. These wizards guide you through the import process letting you easily map the data in the import file to the data fields in e-Builder and preview the results prior to finalizing the import. Data exports leverage the powerful query builder included with the e-Builder Enterprise platform. Once the desired data fields and filter criteria are selected, the report output can be easily saved to a file that can be imported into another system.

Use e-Builder's powerful On-Demand option when the primary goal is to eliminate duplicate data entry and real time updates are not required. The On-Demand option is also ideal for initial data loads when new e-Builder projects are brought online, when the other system does not support automated integration, or when automated integration would be cost prohibitive.

## Scheduled batch Import/export

The e-Builder Enterprise platform includes a job processing engine that can execute tasks at predefined intervals. Tasks can be scheduled for daily, weekly, monthly or one-time execution. On-Demand imports and exports can be scheduled for unattended execution by e-Builder's job processing engine. Import files are automatically retrieved from the e-Builder document library or from an external FTP site while the export files can be delivered to any combination of e-Builder document folder, external FTP site, or SMTP email address.

The On-Demand import/export wizards provide the capability to immediately begin exchanging data with e-Builder Enterprise to prove out the data integration strategy and process. Then, as a next step, the batch import export can be instituted. If the system with which you are interfacing, such as your corporate financial package, also supports batch processing, scheduling the imports and exports using the e-Builder job processing engine will fully automate the process between the systems.

The scheduled batch import/export capability also includes error handling features to notify systems administrators of corrupt data, failed transports, and/or other data integrity issues that may arise.

One of the leading hospitals in the U.S. found that 30% of the invoices associated with its construction projects were paid late resulting in significant late fees. They turned to e-Builder Enterprise and the Integration Toolbox for a solution.

### Result

- Over 500 invoices per month are approved and routed electronically from e-Builder to the hospital's accounting system for payment.
- Payment information is transmitted from the hospital's accounting system to e-Builder so that the project managers have accurate and real-time vendor payment data.
- Average invoice approval turn-around was reduced from two weeks to two days and all late fees have been eliminated.

## Web Service API

The e-Builder web service API allows secure programmatic access to e-Builder data using industry-standard protocols such as SOAP, XML, HTTP and SSL. All project data, workflow, cost summary data and transaction detail is available for retrieval and updates through the API. At the same time that the API gives direct access to the e-Builder object model, it affords complete flexibility with respect to the manner in which the data is exchanged.

e-Builder supports industry-standard data exchange schemas such as AGCxml. Integration with AGCxml compliant systems requires no programming, and can be set up through configuration. If the system with which you are integrating does not support a standard data exchange schema, e-Builder's proprietary translation layer allows any XML schema to be registered for use by the API. Once a schema is registered, it is mapped to e-Builder process data and can be used to exchange data with the external system.

The API is best used when there is a need for real-time data exchange, when there is a high volume of transactions, or if you require more granular control of the integration. For example, the API can be used to retrieve new invoices entered into e-Builder and record them in your accounting system without duplicate data entry. Once invoices have been paid, the payment status and details are automatically updated through the API with no human intervention.

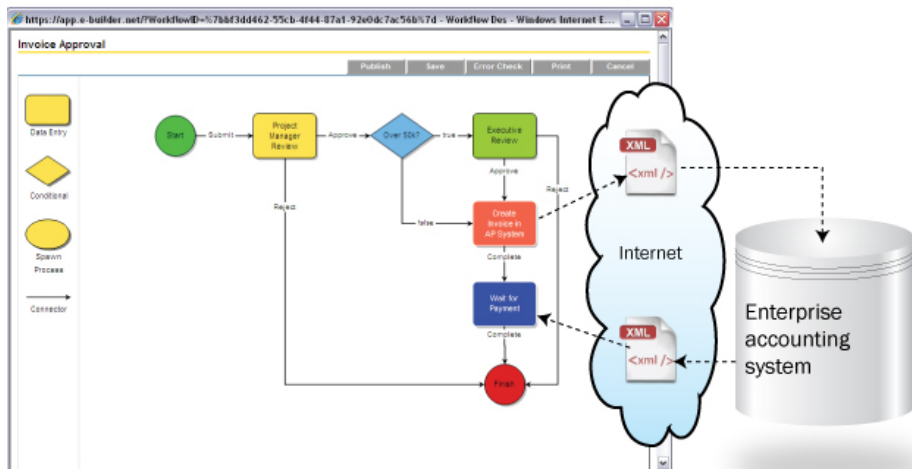
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### Workflow driven Integration

The web service API is fully integrated with the e-Builder Enterprise business process automation (i.e., workflow) engine. The two systems combine to provide powerful capabilities unique to e-Builder Enterprise. With these capabilities, one step in a structured workflow process can initiate an automatic data push to an external system and then wait for a response. A structured workflow process can also be initiated through the API.

By bringing together the web service API, our proprietary translation later and structured workflow integration, complex interactions with external systems can be configured without the need for custom programming on the e-Builder side. Integrations that would typically take weeks, or even months, now take only days to implement using e-Builder Enterprise.

### Workflow and Web Service API Integration



These concepts are extremely powerful as you are able to configure as part of your process exactly when the integration happens. For example, suppose an RFI is created within a general contractor's project management system and input is needed from the owner. Rather than the contractor having to rekey the RFI into the owner's e-Builder Enterprise system, the RFI is transmitted to e-Builder using AGCxml. The owner's RFI is populated with all relevant information from the contractor system but without including the contractor's proprietary information. It is then routed within e-Builder Enterprise per the owner's predefined structured workflow. At the point in the workflow that the response is ready, the RFI is packaged into an AGCxml document and automatically transmitted back to the

contractor system. This kind of seamless integration is just one example of what is achievable with e-Builder Enterprise.

### Getting Started

The e-Builder integration toolbox offers an extremely flexible set of options to support virtually any integration scenario. The suitability of one or more of the integration tools for a specific business situation depends on many factors, including your goals and objectives, the importance of data accuracy and timeliness in meeting those goals and objectives, the costs of manual data entry, the volume of transactions to be exchanged, and your current systems, in addition to any technology or IT security constraints you face.

If you are interested in exploring the possibilities, your account executive can introduce you to an e-Builder solution consultant who will work with you to understand your specific needs and develop a suggested approach.