



White Paper

Enterprise Enabler® and SharePoint 2010

Or “Why SharePoint Needs Enterprise Enabler”

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Enterprise Enabler® and SharePoint 2010 Or, “Why SharePoint Needs Enterprise Enabler”

SharePoint 2010 represents a significant milestone for Microsoft. This release evolves the SharePoint line from a document workflow and file sharing service with some collaboration into an enterprise platform for many different information applications and end user scenarios. Tightly integrated with SharePoint 2010, Stone Bond's Enterprise Enabler® significantly enhances the data interaction capabilities of SharePoint. This is true with all manner of applications and data sources, leveraging Enterprise Enabler's data virtualization and federation features.

According to a 2011 AIIM report on SharePoint Strategies and Experiences, the top three areas of focus for SharePoint usage has been Collaboration, Document Management and File Share and Replacement. Moving forward, combining Enterprise Enabler with SharePoint takes the opportunities to an altogether different and higher level for workforce collaboration from data federation.

Stone Bond Technologies worked closely with Microsoft during development of SharePoint 2010. The result was a solution that ensures tight integration to efficiently and securely bring data live from virtually any back-office or cloud systems into SharePoint. With this integration, the data normalized and orchestrated as an on-demand service to be used when and how it is needed for any specific business solution. Businesses, independent software vendors (ISVs), and IT consultants can now think beyond the historic constraints and develop solutions that have never before been possible.

Marrying SharePoint with Enterprise Enabler means that users from all levels including, IT, business analysts and even management end users now have access to dynamic and powerful tools that simply did not exist before. The tools enable the user to build connections to applications or create data mashups that easily incorporate the necessary interaction within the data enterprise; including LOB systems, databases, messaging systems, ERP systems, cloud apps, and others.

With Enterprise Enabler's ability to generate virtual relationships across multiple sources including disparate data, and SharePoint 2010's new CRUD (Create, Read, Update, and Delete) capabilities, there is no longer a need to build staging SQL databases to feed the applications. Eliminating the staging database means that the write-back is meaningful, that data comes in live, is written back live, and there is never a copy made. Further, end user security and transaction rollback can be honored.

Scenarios in Action

An Oil and Gas Services Company needs to keep track of progress of hundreds of projects worldwide at various stages of their lifecycles. The information required for a good analysis comes from many sources, including Salesforce.com, Journyx, SAP, various custom applications, and countless spreadsheets. Each week, the company undertook a tedious process involving a dozen people accessing data and passing them through the management approval chain before all of the information was consolidated into a final spreadsheet that gave management a view of the entire breadth of projects.

With Enterprise Enabler and SharePoint 2010, the teams were able to implement a greatly streamlined process. The teams are now able to accessed data live from their multiple sources, align and consolidate as an external entity, and make available to management and others in SharePoint views.

The overall result is that the teams now have a streamlined workflow, access to timely information as a result of automated data orchestration thus supporting better decision making.

Healthcare providers operate under strict regulations with respect to the data they capture and use while availability of the right information at the right time is essential to providing quality care. Due to the inherent structure of EMR systems, not all of the necessary decision making data is included in the EMR system and must be accessed through other siloed and disparate systems. The result is the total patient history record does not necessarily provide an appropriate view to enable various operational situations.

With Enterprise Enabler feeding SharePoint virtual views of patient data, historical and latest status of the current visit and patient flow data a complete patient history, the latest status of the current visit and patient flow data provided through RFID patient monitoring can be combined within SharePoint applications specific to each department in the hospital. This creates a streamlined workflow as patient record information is orchestrated as an on-demand service it streamlines workflow and provides data as it is needed to improve the quality of healthcare service and leverages critical business and healthcare data across the entire enterprise.

BPM workflow software vendors that build human workflow on top of SharePoint have points in the workflows where users need to make decisions based on current data from various sources. Native SharePoint connectivity is limited to a few sources, and only one at a time, *which means that a staging database needs to be in play along with appropriate custom programming in order to access the data for display*. The staging database brings with it inherent risks in the decision making process. Namely, how old is the data, how was it normalized, when was it normalized and what had transpired in my enterprise over the days or weeks since the data was ‘staged’?

Using Enterprise Enabler, these vendors can quickly configure complex data access from multiple sources and automatically generate the hooks to SharePoint’s CRUD features by creating “external list” definitions in the Business Data Catalog.

Leverage existing list-based views with virtual views using SharePoint 2010. One interesting use case is a company that already is heavily invested in earlier versions of SharePoint. As their business and reporting requirements have changed, they now want to take advantage of the virtual views of data. The data in their present SharePoint environment resides in old SharePoint Lists, and regulations prevent them from migrating the data from those lists to new databases.

By using Enterprise Enabler to virtualize and federate the data, the company now has the ability to view all the data, from all points, databases and applications, without actually combining any of the latent or present data. Again, the company has the power to make business decisions with a complete view of the enterprise.

What is so special about Enterprise Enabler with SharePoint?

First, the agility required to support the ubiquitous and democratic nature of SharePoint simply cannot be found in the legacy integration products from IBM, Informatica, Tibco, SAP, Oracle and Microsoft. The time to deploy cannot keep up with the explosive growth of SharePoint’s presence. Smaller integration software providers either focus solely on, cloud integration, web services as endpoints, on specific

verticals, or have a limited scope of functionality. It is here that you need to ask yourself if your current integration middleware and adapter tools are giving you the flexibility and visibility your enterprise needs?

As a .NET based product, Enterprise Enabler is a natural as far as compatibility with SharePoint. Working closely with the MS SharePoint 2010 development team for nearly two years before its release, Stone Bond developed the jointly architected interaction as a "Custom Connector" that resides on SharePoint Server. This means that any time a SharePoint end user interacts with a web part referencing data from all available sources including internal and externally available data, SharePoint passes instructions to Enterprise Enabler to create, read, write, update, filter, associate, etc., along with the end user's security token. Enterprise Enabler takes all the necessary actions to interact with multiple backend systems and sources simultaneously, aligning and transforming the data and confirming security.

In contrast to other SharePoint, integration tools, including the built-in SharePoint Designer, Enterprise Enabler:

- Bi-directional integration within SharePoint as well as External Content via BCS
- Accesses a wide range of data sources, including SAP, Salesforce.com, EDI, FaceBook, LinkedIn, Exchange Server, web services, messaging systems, and many others
- Goes beyond "mashup," which brings multiple data sources together, by providing a full transformation engine
- Supports Single Sign-on security
- Automatically generates the full-featured BDC metadata and uploads it to SharePoint.

Enterprise Enabler can be configured for this type of interaction without any programming. A single environment is used to configure, test, and deploy the connectivity, making it easy to adjust as backend systems or the requirements change.

Benefits

The efficiencies brought to an organization by Enterprise Enabler and SharePoint can dramatically reduce the cost of implementing and maintaining a wide range of corporate business solutions, allowing more investment toward the strategic aspects of IT. Accomplishing critical business and data accessibility solutions quickly can influence an enterprises competitive advantage and position it as an agile organization that can respond better to whatever opportunities or crises arise. SharePoint and Enterprise Enabler, together, bring agility to the table.

- It is possible to quickly develop solutions that are not possible or practical with other tools
- Implement federated bi-directional live access to backend or cloud systems, as well as spreadsheets and electronic instruments

- In situations where regulatory controls, or pragmatic guidelines, prohibit making copies of data, it is easy to build applications that have access and update to that data from a virtual browser view
- Significantly reduce development and maintenance time and cost by eliminating the necessity for a staging database
- Begin reducing the pervasive use of spreadsheets by providing a practical alternative
- Leverage the skills of business analysts and data analysts and reduce the need for specialized technical skills
- Where technical skills are needed, use .NET programmers instead of higher cost skills sets like ABAP, Oracle, Informatica
- Very rapid implementation of the data access part of a SharePoint application deployment aligning and transforming across multiple sources:
 - Bidirectional with SharePoint Lists (including data workflow logic and triggers)
 - Read-only with BDC external lists in SharePoint 2007
 - Bidirectional with SharePoint 2010 External Lists
 - Bidirectional with WSS applications
- Eliminate the need for anyone to understand the complicated underlying structure of SharePoint's Business Data Catalog's (BDC) external content data definition
- Eliminate extra work if, for example, a SharePoint 2007 integration, WSS (accessible via Enterprise Enabler ADO.Net Driver), or SharePoint 2010 needs to be migrated to any of the others, it can be done with a couple of mouse clicks
- These same benefits are available for WSS applications as Enterprise Enabler's ADO.Net driver and for SharePoint 2007 with read-only, and, of course, as web services
- Because Enterprise Enabler can be embedded and or rebranded, Independent Software Providers and Systems Integrators can offer Enterprise Enabler as part of their own product or services offering

Combined Architecture

The figure below illustrates a typical implementation of an Enterprise Enabler custom connector residing on the SharePoint 2010 server with Enterprise Enabler's runtime engines on a separate server. As demand dictates, the execution can be distributed across multiple servers. For SharePoint 2007, which invokes the various functions as web services as defined in the BDC, Enterprise Enabler resides on any

server, scalable in the same way. For WSS applications, Enterprise Enabler provides an ADO.net driver that executes the reads, writes, filters, and federated queries with the Enterprise Enabler server residing on any server. Any integration deployed for WSS, SharePoint 2007 or SharePoint 2010 can be redeployed on any other with a key click or two, or just as easily as a web service.

These models are particularly appropriate where the integration is initiated by an end user interacting with a browser application such as SharePoint. For SharePoint Lists, which differ in that the List data is actually stored in SharePoint, Enterprise Enabler resides on its own server and reads or writes to Lists when a process is triggered.

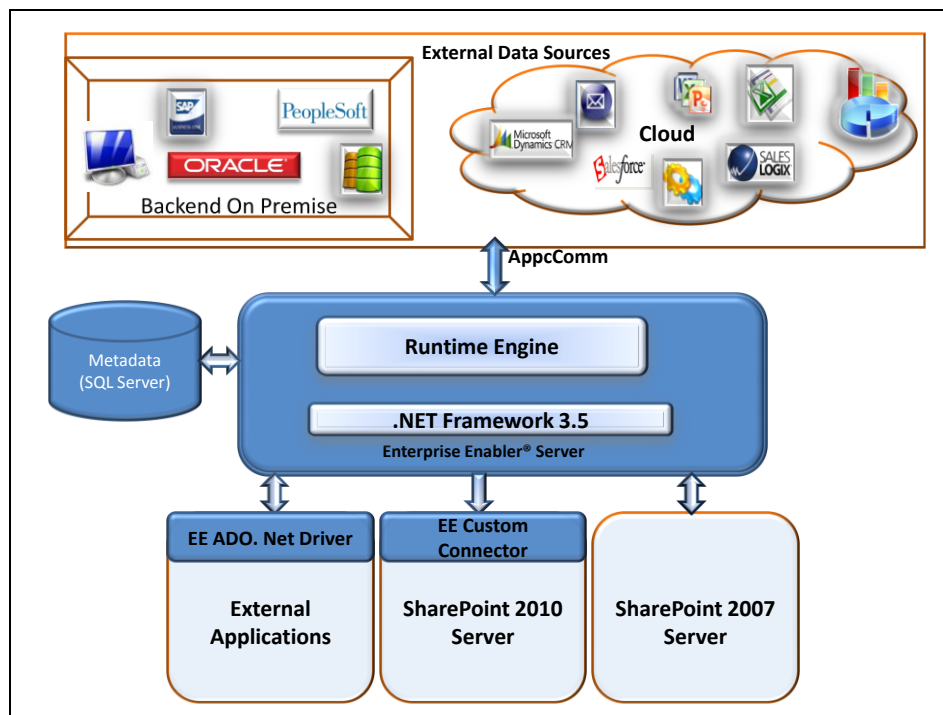


Diagram: Run Time Architectures

Enterprise Enabler Studio is a single environment that a data or business analyst can use to build reusable metadata components that define the integration. The metadata repository may contain metadata that is shared and reused for various integrations besides SharePoint connectivity. During development, all of the Enterprise Enabler run time components are in play to support live test connections, mapping validations, and testing of results along the way, and all within a single environment.

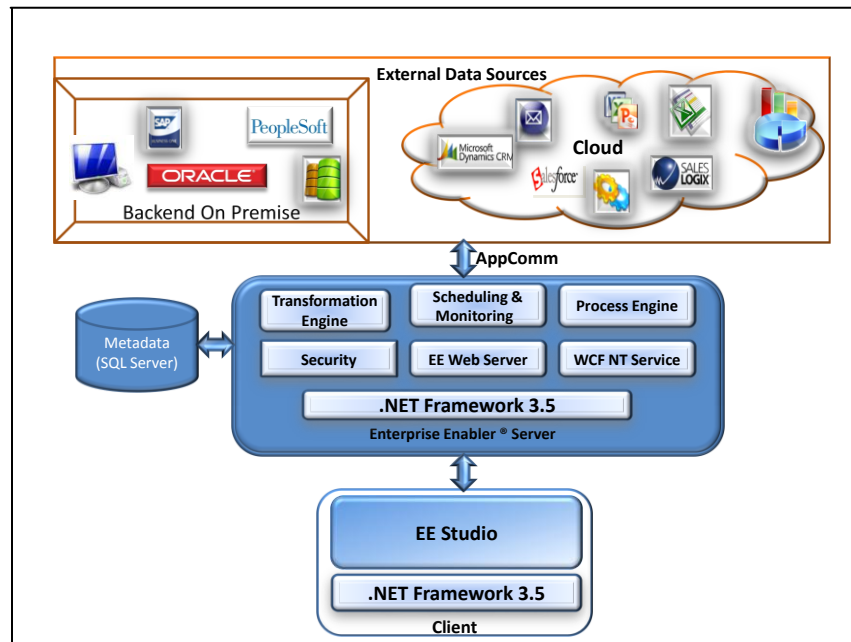


Diagram: Design Time Architecture

User Experience

Building integration is done within Enterprise Enabler Studio, using its graphical designer to define the appropriate metadata. In most cases, programming is not necessary, even when mashing up data from multiple sources. Enterprise Enabler's AppComm's discover the data, schema, or services for each application and presents it for selection of the subset of data that is of interest for the integration. Since they are discovered, the user is seeing all data fields, including customizations to the application. For example, the SAP AppComm discovers all of the RFCs, including custom-built RFCs and presents them for selection. A metadata component called a "template" is created for each source. The data schema for the target SharePoint entity is usually built from a surrogate xml or database table. The analyst builds the mapping visually and indicates specific things like name, filters and associations that will be acknowledged by SharePoint. Enterprise Enabler will automatically generate the bi-directional maps for all CRUD operations as well as the XML BDC metadata definition, which it uploads to SharePoint as desired.

Videos that show how quickly SharePoint integration can be defined are available on Stone Bond's website at [Stone Bond How to Videos](#).

Conclusion

Combining SharePoint and Enterprise Enabler opens the corporate imagination for tectonic shifts in the way we think about the constraints that integration traditionally imposes on data accessibility. Enterprise Enabler is the only full-featured integration software that is tightly integrated with SharePoint and does not require significant programming to implement. The bottom line is an agile enterprise with a dramatically reduced IT budget.

To discover your new paradigm in SharePoint usability visit us at www.StoneBond.com.

About the author

Pamela Szabó, Executive Vice President, CTO, and Founder

Ms. Szabó is the primary architect of Enterprise Enabler. She has spent the majority of her career working with information technology, with experience ranging from technical programming, computer graphics, robotics, analysis, and design, through project management as well as the "softer" aspects of implementation work, including business process re-engineering and change management. As a result of several years focused study of integration requirements of information systems for the energy industry, she became interested in making integration easily available to scientists, engineers, and data analysts without being dependent on a programmer. Her overall concept, architecture and philosophy has become Enterprise Enabler. Ms. Szabó holds a BS, summa cum laude, in Computer Science from the University of Houston.

About Stone Bond Technologies

Stone Bond Technologies is an award-winning provider of agile integration software solutions under the product name Enterprise Enabler. Our core product, Enterprise Enabler, automates complex bi-directional aggregation, transformation and manipulation of entities among multiple lines of business applications. Stone Bond's software can be used to dramatically reduce costs, improve business process productivity, and rapidly create the "agile" enterprise. For more information, please visit www.stonebond.com

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