Scribe Insight and Microsoft BizTalk

BEST IN CLASS CHOICES FOR DATA VERSUS PROCESS DRIVEN INTEGRATION

June 2010

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Scribe Insight and Microsoft BizTalk: Best of Class Choices for Data versus Process Driven Integration

TECHNICAL BRIEF

For companies implementing new core business applications that include Customer Relationship Management (CRM) or Enterprise Resource Planning (ERP) systems, often the most difficult area to get one's hands around is integration. Integrating these applications with the other critical business applications in the enterprise delivers tremendous business value and can make or break the success of the implementation. After one gets past the first question "Why and how should this application be integrated to other applications in the business?" one still needs to determine: "What's the best approach to deliver the integration functionality?". For most companies, the old ways of creating these integrations with custom code no longer make any sense, especially given the availability of rich tools and platforms that dramatically reduce the cost, timeline, and risk associated with implementing and maintaining integration solutions. The key remaining question is which integration tool or platform is the best choice?

This paper attempts to bring clarity to this question for companies evaluating two best in class integration products, Scribe Insight ("Scribe") and Microsoft BizTalk Server ("BizTalk"). On the surface, these products seem to be very similar. They both effect integration between applications, they both have data mapping and transformation functionality, they both are enterprise scalable platforms, and they are both built on the Microsoft .NET technology stack. The reality is that they are more different than they appear and the decision to use one or the other depends entirely on the integration needs of the business.

Data Driven versus Process Driven

At the highest level, the greatest difference between the two platforms is that Scribe is optimized to support data driven integration needs while BizTalk is optimized for process driven integration scenarios. As the name implies, a data driven integration scenario is focused on the exchange of information amongst applications to ensure consistency across multiple systems. Process driven integration supports holistic business processes that span multiple applications. The following diagram represents a taxonomy of common integration scenarios and the degree to which they are data driven versus process driven.
Initial data migration – Extracting data that resides in existing or legacy systems and/or other applications and then merging and loading that data into a newly deployed application. Data migrations typically involve large amounts of data across many different data elements and must be executed within a limited time window.

Periodic data loads – Transforming and loading batches of data into an application on an ad-hoc basis. Examples include loading marketing lists, leads from trade shows, and product catalog updates.

Ongoing/automated data feeds – The automated batch or real-time integration of data that originates from a data source or application into a target application. Examples include nightly updating of purchasing data into an asset management system, weekly loading of payroll data from an external provider into ERP, or event-based integration of customer order data into CRM.

Data Synchronization – Ensuring that data that exists in two or more applications remains consistent when data is changed in one of the applications. Typically data synchronization is a real-time integration process and involves master data such as customer, vendor, asset, and product data.

Application to Application Processes – The ability to share information across business applications in support of a cross functional business process. An example is the conversion of a quote to an order within a CRM application that is then integrated into an ERP application for processing and fulfillment.

B2B/Supply Chain Integration – Integrating data across organizational boundaries to support a seamless process among multiple companies across a holistic supply chain process.

Long Running Processes – Supporting a process where the state of a business transaction must be maintained for a lengthy period of time and the state dictates the action to be executed on the transaction. An example is a purchase order approval process, where the transaction can exist in various states across days or even weeks and integration actions are executed based on a change in state.
The Murky Middle
We can take our previous diagram a bit further and overlay where Scribe and BizTalk fall along the spectrum of data driven and process driven integration scenarios.

For requirements that exist on each end of the data versus process driven continuum, the choice is fairly plain. For data migrations, periodic data loads, ongoing data feeds, and data synchronization, Scribe is the better choice. Conversely, BizTalk may be the better choice for supply chain integration or long running processes. To make a determination within the middle area of application to application processes, it is necessary to look a little more closely at the requirements.

Application to application processes would seem to imply that these are process driven integrations, but not necessarily. The key question is where is the business process logic going to reside? Is this logic going to exist above the application endpoints where the endpoints will be limited to serving up or receiving data to and from the centralized integration engine as requested? In other words, is the integration platform acting as a centralized Business Process Orchestration engine that operates outside of the individual applications? Or does the business process logic remain at the endpoint applications and the focus of the central integration engine is routing and directing the exchange of data between these applications based on the process events that are driven by the respective applications? Simply stated, is the orchestration distributed at the endpoints and the integration platform is serving as a Business Process Facilitation engine?
In the latter case where the business logic is left up to the endpoints, there is no need for a business process driven integration engine. The integration is focused on serving up the right data at the right time to each application to ensure that each application can manage its own discrete business process. A good example of this is the automation of an ordering process that involves both a CRM and an ERP application. In many companies, there is little desire to develop a holistic process across all functions given the complexities (including data ownership concerns, cross functional training issues, and the associated politics) with such an effort. The integration becomes a negotiated handshake between the two applications that enables each to manage their respective processes. The ERP application may provide the CRM application with updated pricing data to ensure accuracy in the opportunity management and quoting processes. The CRM application in turn may provide automated ‘order requests’ from those quotes that initiates the order fulfillment process in ERP. The ERP may then in turn provide order status updates back to the CRM application. In a Business Process Facilitation example such as this, the integration is a data driven activity and will best be accomplished by the capabilities inherent to a data driven integration platform.

In contrast, a business process that spans a number of different applications over an extended period of time, where the state of transactions within the process are changing, and those changes impact the execution of the business process, is best served by an orchestration approach. The front end of a manufacturing inventory replenishment process serves as a simple illustration. In this example, an inventory management/MRP application determines that it is running low on a particular inventory item and that a certain quantity should be ordered from a supplier. The orchestration engine can capture that replenishment need and provide it to the procurement system where the purchase requisition can be generated. The orchestration layer can then route that requisition through multiple approval steps (based on the rules determined by the company) and upon successful completion of the approval cycle, update the status of the requisition to ‘approved’ and the purchase order is issued. With business process orchestration, no single application is aware of the complete business process; the logic to coordinate the entire process is implemented in the orchestration layer.

When looking to establish data connections between processes that exist in the application endpoints, companies should look to a data driven integration engine like Scribe. When seeking to develop a centralized and holistic integration process that rides on top of the existing application endpoints within the business, companies should look to a process driven integration engine like BizTalk.
Finite vs. Abstract
Scribe Insight and Microsoft BizTalk appear to have overlapping capabilities to a large degree. While this is true, the approach to deliver these capabilities is dramatically different. Most of the effort in data driven integration scenarios is centered on rationalizing information across varying and disparate data models. The devil is truly in details and as a result a very finite and structured construct is required. Scribe is a purpose built tool specifically targeted to address this type of focused data driven integration. Conversely, process driven integration models are best served by a more abstract and unstructured construct. Data is best transformed into abstracted messages that can be routed through free flowing process logic. That said, there remains a need to rationalize data structures with the end point applications in a process integration scenario, but the percentage of the effort is significantly weighted towards the orchestration of the complex business process logic.

We can drill down a bit further into a few features common to both Scribe Insight and Microsoft BizTalk to further illustrate the architectural and functional differences.

Application Adapters – Adapters are technology components that allow the integration platform to communicate and interact with a specific application (such as Dynamics CRM, Dynamics AX, or Salesforce.com). While both Scribe Insight and Microsoft BizTalk provide basic connectivity, security, and integrated error messaging, Scribe Insight takes its adapters quite a bit further to support the intensity of the work to rationalize differing data models. This includes providing a rich presentation of schema information including a list of available objects, the related actions that can be executed against the objects, the relationships between objects, a list of values for various fields, and other field level validation information. Leveraging the APIs of the respective applications, these rich adapters incorporate the necessary data validation logic to ensure that all information is properly consumed into the application. Scribe’s event publishing is built right into its adapters, enabling users to graphically configure outgoing messages from a source system based on the source application’s workflow rules or changes to the data. These messages are dynamically created with built in support for two way integration scenarios, including capabilities for bounce back avoidance and cascading transactions.

Data Transformation – While both products provide robust mapping and formula engines for semantic data transformation (parsing name strings, field concatenation, phone number formatting, etc.), Scribe also provides built in capabilities for structural transformation. An example of structural transformation is the normalization of a single set of customer contact data into three related objects, such as company, contract, and address, in a target application. Scribe’s step control interface allows for the graphical definition of the structural processing rules. These rules can be based on record lookups, the results of previous steps, or error conditions (including transaction roll-back capabilities). Another capability offered by Scribe is built in key management that dynamically builds cross references between master records (such as customers, contacts, products, etc.) that exist in two or more applications to ensure the proper ongoing synchronization of these records and to ensure the referential integrity of child
and sibling records. While these extended capabilities for structural transformation and key
management can be developed through configuration and coding in BizTalk, they are not
inherently built into the product.

Orchestration – This is the process execution engine that automates and manages the flow of
the integration process. Both Scribe and BizTalk provide for automated scheduling, event-
based processing, message queuing, and guaranteed message delivery. Scribe’s step control
logic and multi-target processing capability enables a certain degree of process execution as
well. As mentioned earlier, BizTalk is set apart in this area by its level of abstraction and free
form process support. With BizTalk, a designer can create highly complex processing flows that
exist outside of the end point applications. Utilizing the BizTalk business rules engine, a
designer can visually create processing logic within a graphical interface. Once the process is
defined graphically, the rules are converted into a standard .NET assembly, where it can be
modified with explicit code if desired. The business rules engine can also establish rules that are
external to any specific business process, allowing for their use across a number of different
orchestrations. While execution of the entire process is spread across the endpoint
applications, the BizTalk orchestration engine implements the centralized logic that controls the
business process.

The following chart illustrates the relative weight associated with each of the above functional
requirements across our data driven to process driven integration taxonomy.
A few points that are worth noting:

- Business Process Orchestration is a very labor intensive activity regardless of the integration platform chosen.
- The use of an abstracted integration model inherent in a process oriented orchestration engine significantly complicates the data integration tasks of transformation and adaptation. Orchestration engines typically represent too much complexity, too much technology, and not enough built in data integration functionality to be effective in these data driven scenarios.
- The effort associated with an integration activity lasts long after the initial installation is completed. Business needs change, applications get swapped out or enhanced, and technology platforms get upgraded leading to a long tail of effort. When looking at the functional needs of the integration platform, the impact of this ongoing maintenance and configuration should not be taken lightly.
TCO leads the way

Total Cost of Ownership (TCO) is the key determinant when choosing an integration platform. For our purposes, TCO is the total cost to procure, develop, maintain, modify, support, and manage all of the integration solutions running on the platform, across the entire application lifecycle. TCO implies that the entirety of the integration needs of the company is being met by the integration platform.

The following graph illustrates the relative Total Cost of Ownership (TCO) of Scribe versus BizTalk across the different integration scenarios.

The significant overhead of the BizTalk platform, along with the requirement to write custom code to rationalize the data interfaces to the endpoints, results in a significant and costly barrier to entry for many of the data driven scenarios. Scribe carries a significantly lower TCO for the data driven scenarios. As significantly more complex business process integration scenarios are introduced, the TCO for Scribe increases as the product is stretched beyond its inherent functionality. With either product, there are certain scenarios on the extreme ends of the scale where the product is impractical for the need; therefore the TCO calculation is irrelevant.
**Scribe and BizTalk Working Together in the Enterprise**

The decision to use Scribe or BizTalk is not always one or the other. Companies that use BizTalk to support a number of business process driven integration needs across the enterprise can employ Scribe for the data driven integration needs that exist closer to the endpoint applications. These data driven integration processes can be seamlessly connected to BizTalk driven processes via Web Services and Microsoft Message Queuing providing the best of both worlds; rich capability and manageability without compromise.

Whichever product is chosen in the end, it is the goal of this paper to provide a framework to help companies make an informed decision for their business by choosing an integration platform that meets the business’ needs in the most efficient and cost effective manner.
About Scribe Software Corporation
Scribe Software Corporation provides cost-effective, no-coding solutions that can be used as the only tool businesses need to integrate virtually any application, data source or Software as a Service (SaaS) platform. Scribe solutions are simple to configure and provide ease of modification as business processes change. They are especially popular among organizations running Microsoft Dynamics CRM, Dynamics GP, Dynamics NAV, Dynamics AX, and Sage SalesLogix applications as well as Salesforce.com and Microsoft Dynamics CRM Online. Scribe Software is led by experienced technology executives from IBM, Microsoft, Oracle, AutoDesk, i2, Vitria, Dun and Bradstreet, and WebTrends. For more information about Scribe, please visit www.scribesoft.com.

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