A Proven Approach for Successful Systems Integration

David Luttig
FIS Consulting Services
Introduction

System integration involves integrating existing (often disparate) subsystems and then creating unique and new value for the customer or end user. The following quote highlights the importance of gathering comprehensive business requirements across business units at Bank of America as they address their integration efforts.

“To a large degree the technological issues for developing a single system have been solved,” said John Schmidt, senior vice president, Bank of America Corporation. “It is more of a business issue now. We still have lines of business, different functional groups, still operating in silos.”

Successful integration planning efforts must encompass a broad scope to ensure that an initiative meets all specific business requirements. Even though applications may have been integrated in previous initiatives, each bank’s situation and environment is unique. In order to maximize success and minimize re-work, a business evaluation should start and guide each system’s integration effort.

This paper first describes the desire for best of breed solutions, which drive integration projects. It then elaborates on the required steps within a successful integration effort. The role of enabling middleware technology is then highlighted, followed by case studies of successful integration projects. Last, the importance of a business evaluation (the critical first step) is expanded upon.

Need for Best of Breed Drives Integration Efforts

The challenges of best of breed

When choosing between an integrated or best of breed approach, a bank should consider the following issues:

- How will the solution affect the employees?
- Which vendor will support which applications?
- How much will it cost to integrate the applications and what will be the impact?
- How quickly can I go to market?

These are just a few of the fundamental questions that should be considered in planning a best of breed solution that requires the integration of a number of banking applications and platforms.

Clients generally choose this route when a desired application is unavailable from their primary technology vendor. In some instances, it is due to a perceived functionality gap or cost difference. Quite often, a bank is surprised to learn that the cost and time to integrate these applications is more than they anticipated (if they anticipated it at all).

What causes the cost and time to appear so high, when the application is “already integrated?” To help understand the real time and effort associated with integrating a best of breed solution, the following diagram highlights the required steps for successful integration.

Regardless of the technology involved, financial institutions must follow these steps to address the complete set of integration challenges they face.

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DEFINING INTEGRATION

Perhaps the key element in understanding the total cost of selecting a best of breed solution is how one defines “integration.”

Each vendor involved in the project will have its own definition of an integrated solution. To some, it means that they have standard Application Program Interfaces (or APIs) used to perform specific functions within their application. For others, it means they can create and/or receive file interfaces in specific formats to exchange data with other applications.

Both these and other approaches constitute a form of integration with other applications. But buyer beware – you must ask vendors some very pointed questions relative to their definition of integration.

UNCOVERING BUSINESS REQUIREMENTS

Most third-party vendor applications are feature and function rich, providing banks with a host of configurations from which to choose. In addition, each bank’s operations and specific product offerings may differ for a number of reasons. This richness allows each bank to implement and use the functionality best suited to meet the business need; but it also means that no two implementations are alike.

As a result, real-time and batch interface points that are required for one organization may not be required for another organization. The integration for two different organizations using the same application may be very different; in fact there may be no such thing as a “standard” integration. Hence, it is very important to start every integration by understanding the business requirements.

MANAGING SOFTWARE VERSIONS

Most vendors who license and sell their software applications (as opposed to vendors who offer service bureau or application service provider models) support multiple versions of their solution.
A frequent cause for this scenario is when clients choose not to upgrade their systems, and consequently run an older or no longer current version of the application. In some cases, older versions of their application are “integrated” with the core banking applications, but newer versions have not been.

Therefore, two key questions to ask any vendor providing assurances that their application is already integrated to the core banking platform are: “Which version is integrated already?” and “Which version are you currently selling?”

UNDERSTANDING HARDWARE/SOFTWARE REQUIREMENTS

Many times, additional hardware and/or software are required to integrate a vendor application with core banking system. And usually, it’s the bank’s responsibility and expense to purchase, install and support these components.

Before committing to a best of breed solution, bankers should also understand the full spectrum of what, if any, additional hardware and software may be required to support their integration effort.

CUSTOMIZING THE CORE SETUP

FIS™ offers clients the ability to create highly customized banking products and services throughout their core processing platforms. As a result, no two core banking customers are exactly the same.

Much like the vendor’s application, customization provides many benefits to banks; however it can make integration much more complex and time-consuming. Moreover, the unique combination of features and functions may make integration exceptionally difficult, and in some cases, impossible.

DATA MAPPING CONSIDERATIONS

Another key factor to consider is data structure between two systems. If one system has fields that are longer than another system, there will be truncation of data. In addition, data types and data formats could differ between two systems. To prevent this, any integration needs to acknowledge and take into account a design that addresses this issue.

The Role of Middleware

A tool for integration – not ‘plug-and-play’

FIS utilizes a variety of enabling technologies to connect distinct applications into an integrated solution. Two of the most popular are Xpress and Connectware. These products consist of easy-to-use tool sets that allow interactive connections to FIS financial applications.

The following diagram depicts how third-party applications can connect to core banking applications using a common set of tools to retrieve and update banking data:
A Proven Approach to Systems Integration

FIS Middleware is available in several versions to support a wide variety of platform needs, including XML, JAVA, C++ and Web Services.

These products, while powerful, require knowledgeable subject experts who are able to map a bank’s specific business functions to the appropriate middleware function. And they must interpret the resulting data in a way that fulfills the bank’s needs.

Integration Case Studies

The following case studies highlight the challenges banks can face when integrating specific best of breed solutions.

A wire transfer integration

A mid-size FIS core banking client recently decided to enhance their wire transfer capabilities.

After several months of research, the bank made a tentative decision to purchase and implement a well-known product. Prior to signing the purchase agreement, this client contacted FIS regarding the vendor’s ability to integrate to their banking systems.

FIS was familiar with this vendor and recommended that the bank engage FIS to complete a business evaluation prior to completing their purchase.

After a six-week evaluation period, FIS was able to construct a blueprint to identify specifically what was required to complete the integration, what was needed to be done by each of the suppliers involved, how much the integration would cost, and when each major task could be completed.

The client then included this information in their purchase decision. Approximately four months later, the bank successfully and seamlessly completed the implementation and production cut-over from their old wire system to their new system.

Because the client knew the cost and implementation timeline before making their purchase decision, they were able to bring the new application in on-budget and on-time.

A consumer ebanking integration

An FIS core banking client recently decided to purchase an ASP version of a consumer ebanking application.
Based on the vendor’s statements that they were already “integrated” with FIS, the client moved forward, signed the contract, and then contacted FIS to begin the work of integrating the new application.

During the first meeting between the vendor, FIS and the client bank, FIS asked the following questions:

• What types of accounts, consumer or business, is this application for?
• Will they only be integrating deposit and loan accounts, or are they looking to integrate other types of accounts?
• Will they be sending and/or receiving any batch files with FIS?
• What data is on the files and what is the format of the file?
• What is the frequency and timing of the file exchanges?
• How many FIS clients do they currently support these batch interfaces for?
• What are the specific business functions that will require real-time interfaces?
• How many other FIS clients do they currently support these real-time interfaces for?

During the course of the meeting, it became apparent that the vendor was not supporting the batch interfaces for any other FIS client and they had limited experience with the middleware involved.

As a result, FIS spent the next several weeks estimating, revising, and re-estimating a variety of options to reduce the cost and timeline to a level the client could accept. Even after this effort, FIS’ costs were approximately 10 times what the client was expecting.

System Integration Best Practices

Certainly, nobody likes surprises, especially when they increase final cost or time-to-market.

When considering the integration of a third-party application, we strongly recommend that your bank engage FIS in conducting a business evaluation prior to committing to a product or specific plan. The FIS Consulting Services team has extensive experience working with financial institutions and third-party vendors on a wide variety of business application implementation and integration efforts.

Through experience, we have found that the integration project approach should be dictated by the complexity of the effort.

Many of these efforts involve relatively straight-forward and well-defined interface and integration points and can be completed using tested and proven project plans.

Some of these efforts require custom interface and integration points, changes to a variety of business applications, and well-defined requirements. In such cases, a well-defined project and implementation plan is needed to minimize costs and impacts to the financial institution and its clients.

For these complex efforts, the Consulting Services team has developed the following best practices regarding the approach to and execution of business evaluation that launches successful integration projects.

THE BUSINESS EVALUATION

The implementation and integration of any new business application will affect FIS’ current processing for your bank.

To help ensure the highest probability of success for the overall project effort, and to maximize FIS’ contribution to the project, it’s important for FIS to have the opportunity to understand, advise and contribute during the early stages of the project life-cycle.

The stages in the business evaluation are depicted in the following diagram:
During a business evaluation phase, FIS will work with the bank, the business application vendor, and any additional third-party vendors to:

- Review and advise on overall project plans while placing specific focus on FIS-affected areas, components and deliverables. Based on the Consulting Services team’s extensive history (100+ integration projects with third-party integration alone) in these efforts, best practices learned over time can be incorporated into plans that lower project risks and help ensure project timelines are met.

- Define and verify the high-level business requirements with respect to integration with FIS. As overall business requirements are identified and specific work-flow processes are determined, FIS Subject Matter Experts (SMEs) will be able to verify impacts to integration efforts and define the business requirements associated with the integration.

- Identify and investigate potential options/solutions for integration that may not be readily apparent to all involved parties. FIS provides a variety of solutions for both online (real-time) and batch integration that can enhance work-flows and business processes. Past project efforts have shown that understanding specific integration options early within project efforts will lead to the most effective implementation design.

- Review and advise on overall test approach and test plans. End-to-end testing for business application implementations and integrations requires coordinated test efforts across the financial institution, business application vendor, additional third-party vendors and FIS. Shared understanding across all parties regarding test phases and the goals of each phase, along with test environment requirements, is critical. FIS SMEs will also advise related to best practices employed in previous efforts with regard to testing.

- As business requirements are defined and work-flows determined, specific enhancements to FIS systems may be identified to support the planned implementation and integration. FIS SMEs will play a key role in identifying these needs, and subsequently working with internal FIS staff to develop estimates and plans to complete these efforts. Note that in many cases, FIS SMEs may be able to recommend alternative solutions to requirements, thus minimizing or removing the need for FIS system enhancements.

**DELIVERABLES FROM A BUSINESS EVALUATION**

The business evaluation will produce business scope and requirements documentation with a specific focus on required integration within defined workflaws. This documentation will include:

- Definition of the specific integration points required and FIS systems involved
• Definition of the specific transactions to be used within the FIS middleware product set, their relationship to specific integration requirements, and their required content to meet business requirements

• Definition of additional integration requirements not planned to be implemented through the middleware product set (For example, file downloads via the FIS Data Warehouse to populate customer and account information)

Business solution architecture will document the overall integration flows and inter-relationships among processing components.

Planning estimates will support the implementation and testing phases for the project. This will include, but is not limited to:

• Anticipated costs to assist business application vendors and additional required third-party vendors with required integration construction and unit testing. Actual middleware integration does not typically pose technical complexity, but assistance in correct product use and message construction by FIS will streamline efforts.

• Estimates for anticipated FIS costs for specific system enhancements or integration efforts. Specific examples could include enhancements to core systems or development of specific batch interfaces required to support processing.

• Anticipated costs for set up and maintenance of test systems to facilitate overall test strategy and to confirm processing results of transactions used within the core banking process. This will additionally include costs for transaction monitoring and issue resolution encountered during testing.

• If desired, estimated costs for FIS to provide quality assurance leadership or quality assurance analysts to work directly on aspects of required system and/or user acceptance testing.

Conclusion

The following table summarizes the key components that lead to successful application integration projects:

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<tr>
<th>Component</th>
<th>Successful</th>
<th>Unsuccessful</th>
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<tbody>
<tr>
<td>Define “integration”</td>
<td>✔️</td>
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<tr>
<td>Manage software versions</td>
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<tr>
<td>Understand hardware / software requirements</td>
<td>✔️</td>
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<tr>
<td>Uncover your business requirements</td>
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<tr>
<td>Customize your core setup</td>
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FIS recognizes that our core banking clients will sometimes choose the best of breed approach to resolving their business needs.

We believe the best way to achieve success is for the bank to fully understand the scope of work, ancillary costs, and expected delivery times prior to committing to the implementation. Using the FIS approach to systems integration – and starting with a business evaluation – the bank can address all business requirements up front leading to an optimal final solution.

Contact Us

For information about FIS Consulting Services call 800.822.6758, or visit www.fisglobal.com.