

## Core System Modernization – Where Do I Start?

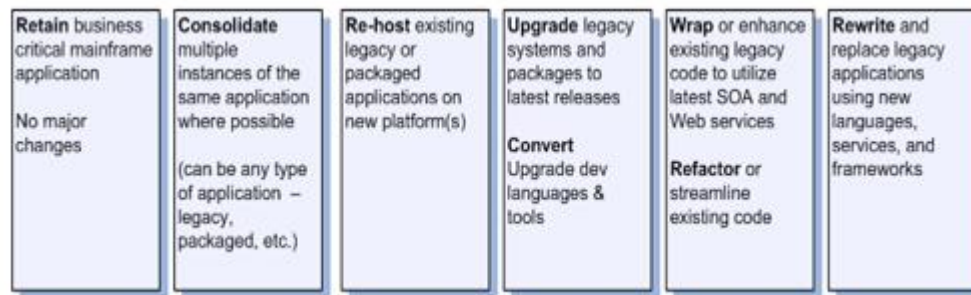
### *An Enterprise Architecture Approach to Evaluating*

#### *Core System Modernization Options*

By George Simotas

Core banking systems at many banks in the United States were developed in the 1970s and 1980s. These systems are oriented based on siloed, lines of business and use traditional, older mainframe technologies (mainly COBOL and assembly languages). These older technologies simply do not provide the flexibility bankers need today to keep up with an ever-changing business environment that is becoming more customer-centric rather than product-centric.

Banks wanting to shift to a customer-centric model will require some form of core system modernization, for which there are multiple approaches (See Fig. 1).



Source: IDC, 2009 Application Services Demand Side Survey Results, Doc # 218106, April 2009; IBM

Fig. 1

Once they have decided to evaluate core system modernization approaches, bankers need to ask themselves three critical questions:

- Where do I start in determining what core system modernization approach is best suited for my bank?
- What are the most important factors I should consider in assessing my options?
- Do I have the resources to evaluate my options objectively?

This article explores how taking a top-down, Enterprise Architecture-based view provides a systematic, objective starting point for assessing core system modernization options and provides insights into the critical factors to consider in evaluating the approach that best fits the organization.

## Where Do I Start?

Many bankers are finding that legacy core systems are unable to support their current business needs quickly and cost effectively. For example, banks today often are faced with a business environment where:

- Significant challenges to increase profitability exist due to the current economic and regulatory environments
- Rapid changes in consumer behaviors and channel preferences continue to put a premium on speed-to-market
- Regulatory changes demand timely and accurate reporting

Given this environment, the first question that comes to mind is, “Where do I start in determining what core system modernization approach is well suited for my bank?” Using a top-down, Enterprise Architecture framework (see Fig. 2) provides a systematic, objective starting point for determining any needs for change and helps identify what modernization approach aligns with the bank’s business strategy.

Having alignment between the current business strategy and enterprise architecture will help enable a bank to:

- Create operational efficiencies to be more responsive to market and customer needs
- Increase customer retention and acquisition opportunities by tightly linking their needs and desires into the bank’s business model

The first step in using an Enterprise Architecture framework is to confirm/update the business strategy by assessing customer desires and requirements, investor needs, economic conditions, regulatory requirements and the capabilities of the bank’s workforce.

The second step is to design the Enterprise Architecture based on the updated business strategy. The Enterprise Architecture shows the relationships and interdependencies between the organization, its processes and the information, Information Technology systems, and the infrastructure that it uses. The architecture provides a consistent set of principles, models and guidelines that give direction and set boundary conditions for IT system planning and development.

The third step is to compare the existing enterprise architecture with the new architecture design and identify the gaps between the two. The gaps will serve not only as a roadmap for what changes are needed to support the business strategy, but will also help determine whether core system modernization is needed and which of the multiple approaches may provide a fit based on the current needs of the bank.

## What are the Most Important Factors I Should Consider in Assessing My Options?

The business strategy will define what the bank wants to do. The enterprise architecture will define how it will do it.

When it comes to preferred core system modernization approaches, there is no clear answer or rule-of-thumb that can be based on quantitative factors, such as asset or deposit size, number of branches or number of employees. A number of modernization options are available that are appropriate for different sized banks.

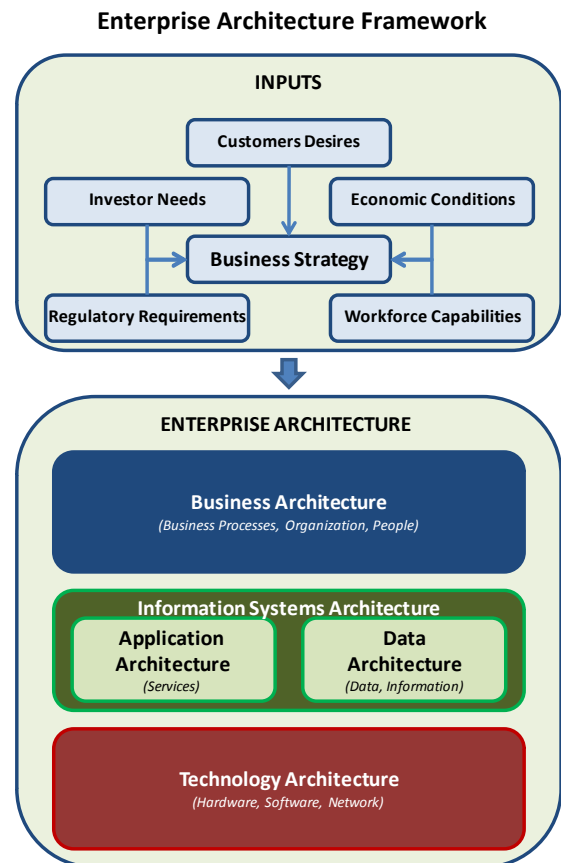
Critical analysis of several factors is required to determine the best option for the bank's specific strategy. The most important factors in assessing the options for modernizing core systems include:

1. **Defining the Target Business Architecture** – Simply put, business architecture defines who does what, why do they do it, when it is to be done, how it is to be done and where it is to be done.

According to The Open Group Architecture Framework, Business Architecture includes the:

- Business model, strategy, drivers, goals, policies, and operating model
- Stakeholders and their roles and relationships
- Functional decompositions, business capabilities and organizational models
- Business processes and workflows
- Business rules that capture the assigned authorities, responsibilities and policies relevant to the business processes
- Funding and operational cycles
- Third-party suppliers of hardware, software, and services; their roles and responsibilities

Defining the Business Architecture first serves as a critical input into evaluating IT planning, application, data, and technology architecture, and business solution delivery options.



Source: The Open Group Architecture Framework; Hitachi Consulting Analysis

Fig. 2

2. **Evaluating the Economic Benefits** – Costs and benefits of core system modernization can vary depending upon what approach is used. Clearly, alternatives need to be evaluated for their potential payback, return on investment and total cost of ownership calculations, as well as the impact to the bank’s efficiency ratio.

Typically, half of the savings from core system modernization comes from reductions in IT spend; the other half comes from streamlined business processes. An often overlooked factor in the economic analysis is the impact on revenue growth that may be realized through core system modernization. Opportunities for increased revenue from new product development and benefits from improved cross-sell ratios resulting from new core system capabilities may be significant.

3. **Assessing the Risks** – Any core-system modernization effort entails potential risk. Assessing the risk exposure is critical to determine what core-system modernization option is best for the bank, e.g.:
  - Skills of IT resources – if the skills of the current IT staff cannot easily support newer technologies, a fully outsourced, “Rip and Replace” solution may be appropriate
  - Customer disruption – a staged modernization option may be less disruptive to customers than a “Rip and Replace” solution
  - Culture – a bank with a medium-to-high level of risk tolerance may choose a hybrid approach to core modernization

#### **Do I Have the Resources to Evaluate My Options Objectively?**

Banks need to review the capabilities of their staff to determine whether they have in-house resources with the necessary expertise and skills to lead an effort to evaluate core system modernization options. Third parties are often brought in to collaborate on and facilitate the evaluation process, given that they possess:

- A defined and systematic methodology to make the process objective and rapid
- Independence to navigate through potential conflicting priorities
- Knowledge of available options to focus analysis on a short-list of solutions
- Insights to help bolster business case analysis

## In Conclusion

Shareholder, customer and regulatory pressures are causing banks to seek out ways to address a rapidly changing business environment. Since existing core systems are unable to keep up with these changes, banks are looking to modernize their core systems, either through replacement, augmentation or a hybrid approach. Careful consideration must be given to what modernization approach best suits the organizational needs.

No single recommended core system modernization approach exists based on bank size. Business strategies and priorities, customer orientation, risk exposure and time-to-market needs are some of the key dimensions that drive the decision to select one of the multiple approaches available. Banks that use an Enterprise Architecture framework -- which combines a top-down perspective with a view toward their end-state architecture -- will be better able to determine what approach to core system modernization is well suited to support their business strategy.

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