

# Smarter Banking, Horizontal Integration, and Scalability



**Redguides**  
for Business Leaders

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- Understand the importance of horizontal integration for smarter banking
- Achieve end-to-end process visibility in a non-invasive fashion
- Re-invent the classical mainframe as a modern process-aware platform





## Executive overview

Today's economies and commodity markets are swinging rapidly, barriers to global competition are disappearing, and empowered customers are changing preferences and expectations faster than businesses can respond. Historically, banking processes have been bounded by the IT systems that drive them, and integration has been implemented through batch processing and data warehousing. Though adequate from a transaction processing perspective, this approach does not cater to the emerging need for horizontal integration of business processes.

From a horizontal integration perspective what becomes critical is end-to-end visibility and optimization, an integrated user experience, and a robust and scalable integration environment. It is imperative that the classical finance industry computing environments (such as mainframes) evolve to embrace these capabilities. Re-designing decades of existing solutions is not a viable approach, so how do we achieve end-to-end process visibility and optimization in a non-invasive fashion? The answer is that the computing environment itself, (CICS®, IMS™ and so forth) must provide capabilities (such as business event processing and integration on the glass) in a holistic fashion across vertical solution towers.

**Note:** The concept of *integration on the glass* means that the user can mash together various user interface components for a particular purpose without needing to change the underlying functionality.

By re-inventing the classical mainframe as a modern process-aware platform, it becomes a full-fledged participant in environments based on architecture paradigms such as service-oriented architecture (SOA), Web 2.0, and event-driven architecture. Merging the classical mainframe virtues with modern architecture flexibility combines the best of both worlds and provides a natural evolutionary path for the valuable portfolios of existing finance solutions.

This IBM® Redguide™ publication describes the principles for smarter banking from a business perspective, and discusses how to evolve existing environments towards a smarter banking paradigm. The primary audiences are executives, leaders, and architects that need to understand how to make use of classical finance industry computing environments as smarter banking differentiators.

# The need for smarter banking

Today we are witnessing an acceleration of market shifts. Economies and commodity markets are swinging rapidly, barriers to global competition are disappearing, and customers are changing preferences and expectations faster than businesses can respond. At the same time, personal, organizational and business networks are becoming more interconnected, instrumented and intelligent. Our planet is literally becoming smarter. This new world presents tremendous opportunities, but to capture them, financial companies must embrace the concept of smarter banking, as defined in Figure 1.

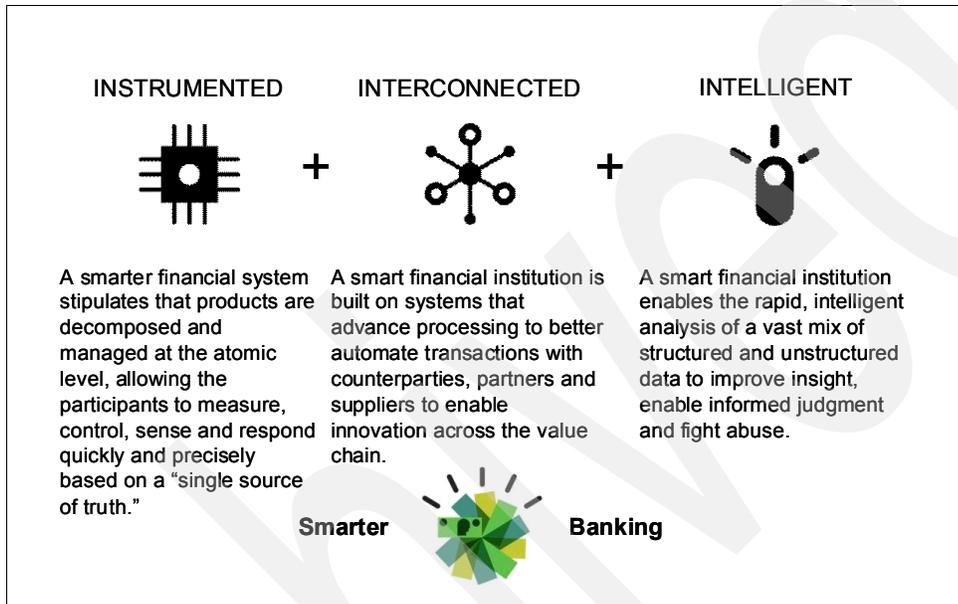


Figure 1 Smarter banking

Too often businesses find themselves restrained from meeting these imperatives by siloed processes and rigid IT systems that inhibit collaboration and slow the process of change. In fact, as illustrated in Figure 2, inflexible and complex operations in many cases prohibit financial companies from focusing on their clients in a holistic fashion.

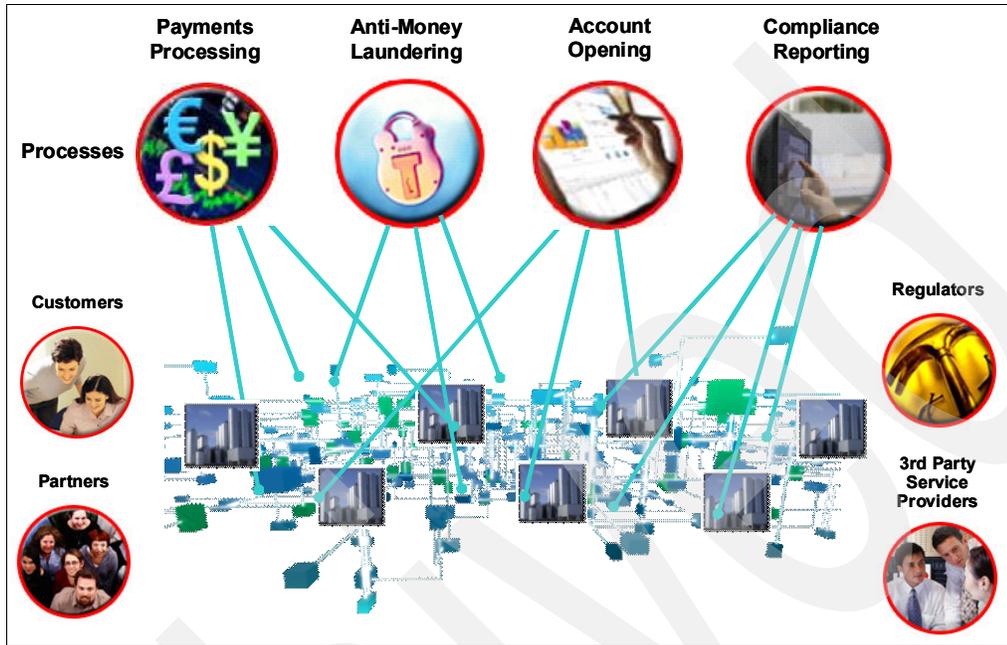


Figure 2 Siloed processes and rigid IT systems

Clearly, smarter banking solutions need to become more instrumented, interconnected, and intelligent. How do we achieve that goal without disruptive change?

Historically, banking processes have been bounded by the IT systems that drive them. Integration has been implemented through batch processing and data warehousing. While adequate from a transaction-processing perspective, this approach does not cater to the need for horizontal integration of business processes. Horizontal transaction processing is the ability to define and manage long-running business processes in a transactional fashion, horizontally orchestrating the valuable portfolios of existing finance solutions.

From a horizontal integration perspective, three capabilities are critical:

- ▶ End-to-end visibility and optimization
- ▶ Integrated user experience
- ▶ Robust and scalable integration environment

Whether based on a classical mainframe platform or hosted in a distributed environment, any modern banking solution must provide all three capabilities, embracing technologies and standards such as Web services, process orchestration, business event processing, Web 2.0 and so forth. Most of these have already been enabled in CICS Transaction Server. A similar evolution is occurring on other traditional computing platforms.

## End-to-end process visibility

Process improvements have been the primary concern of many CEO's for several years. Studies (such as the recent McKinsey survey and analysis of 100 companies in France, Germany, UK and the US) show that aligning business and IT efforts results in double the productivity gains of those efforts made in isolation. Smarter banking requires more than simple alignment of efforts, however. It requires a deep understanding of the business processes of the enterprise, as well as the ability to execute change on these processes in collaboration between business and IT.

Re-designing decades of existing solutions is not a viable approach to process improvement. So how do we achieve end-to-end process visibility and optimization in a non-invasive fashion? We need to enable businesses to understand what is happening soon enough to make a difference. There are two aspects of such understanding:

- ▶ **Business event processing**  
Providing timely visibility into the state and progress of business processes
- ▶ **Integration on the glass**  
Providing a user-oriented view point with just enough information to make appropriate decisions

Both of these aspects must be provided by the horizontal integration environment in a holistic fashion across all vertical solution towers.

An event-aware enterprise processes event information continuously for business insight and action. The evolution towards an event-aware enterprise is illustrated in Figure 3.

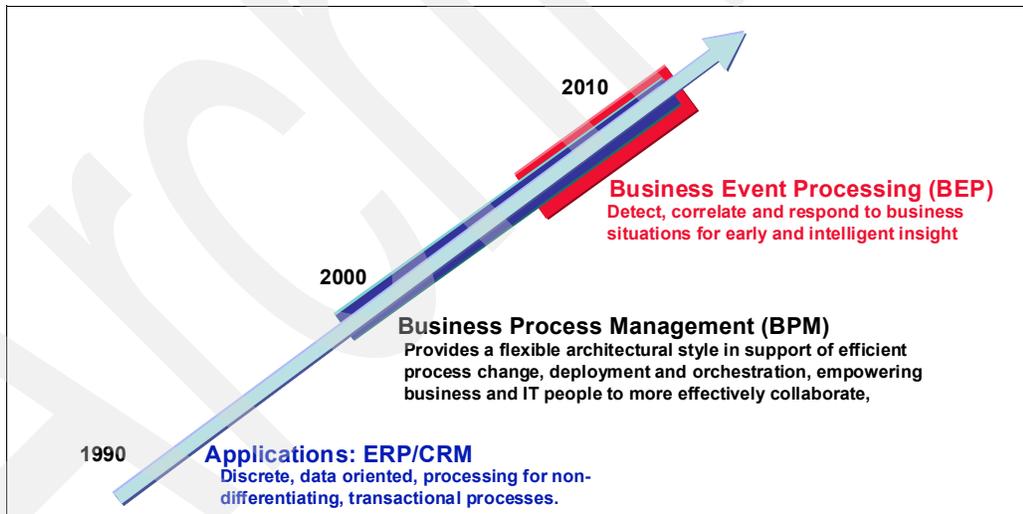


Figure 3 Evolution of the event-aware enterprise

The ability to instrument existing solutions, allowing them to emit business events without disruptive change, is a critical enabler for the event-aware enterprise. An example of how this can be done is the recently-added business event capturing capabilities in IBM CICS Transaction Server, where the operating system automatically collects and filters events without any change to that application. After the existing solutions are instrumented, we can collect the emitted events and use them to drive horizontal business processes and support intelligent decisions.

When the necessary operational visibility is in place, the next step is to provide the right information in the right context, and tailored to individual user needs. The concept of a mashup originated with Web 2.0 as an on the glass heterogeneous integration of information, functionality, and user interface. A mashup by its nature provides a horizontally integrated user experience, as illustrated in Figure 4.

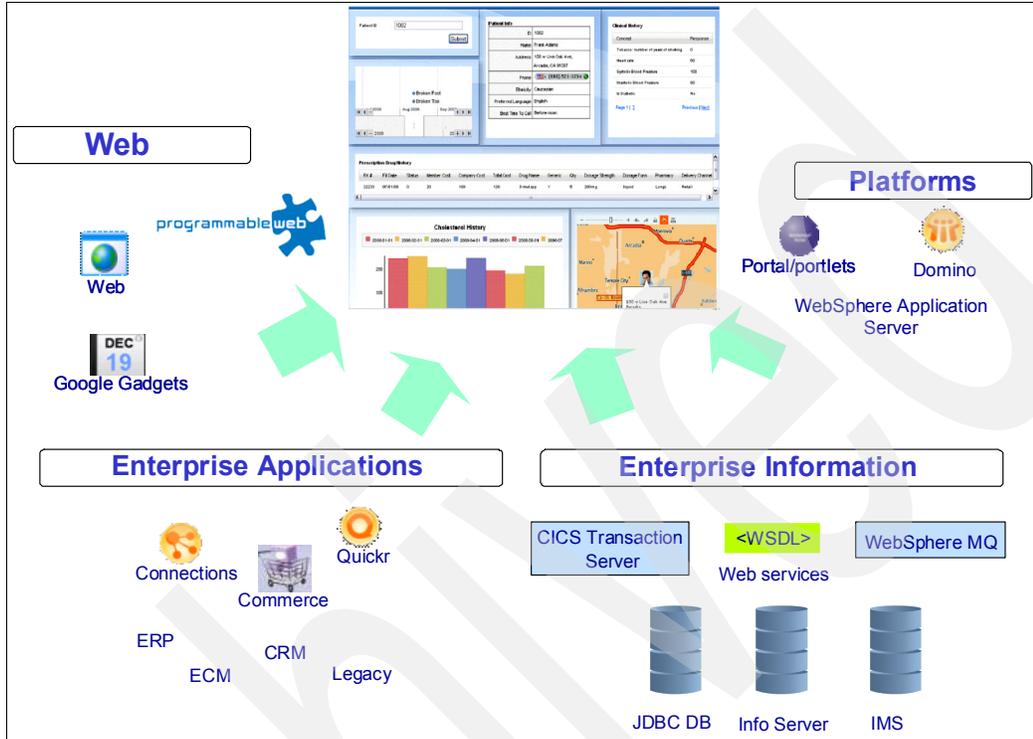


Figure 4 On the glass horizontal integration

Existing solutions running on a multitude of different technology platforms need to expose themselves as mashable resources. This is not an easy task because many of these solutions were not built for such integration. The only non-invasive way of achieving the desired result is by having middleware and infrastructure transparently expose existing information sources and transactions in a mashable format that can be understood by whatever Web 2.0 environment has been deployed. This is exactly the purpose of the recent Web 2.0 enablement of data on IBM CICS.

When end-to-end process visibility is achieved, the foundation is in place for process improvement both in terms of current operations and in terms of process re-engineering. Without process visibility as a pre-requisite, any process improvement is partly guess-work. In many cases the business processes inherent in existing solutions are not documented anywhere, hence the need to be discovered before they can be improved.

## Robust and scalable information systems

Process improvement inevitably leads to change. Yet smarter banking is not just about change itself. Smarter banking is about embracing change and retaining the classical virtues of well-managed enterprises. IBM white paper *Achieving business agility with BPM and SOA together*<sup>1</sup> introduces the notion of business agility, business performance, and business integrity as the three key differentiators for today's enterprises. IBM believes that to succeed, smarter banking needs to be based on robust and scalable information systems that ensure business performance and business integrity. If not, business execution suffers.

Transactional strength in information systems (the ability to execute and manage large numbers of concurrent transactions both consistently and efficiently) has been around longer than the concept of smarter banking. Yet, from a smarter banking perspective, how do we mirror vertical enterprise solution characteristics in a horizontal business integration domain?

When properly executed, (horizontal) process improvement relies on the robustness and scaling characteristics of the classical enterprise platform. In other words, the classical computing environments of the finance industry need to position themselves in support of horizontal transaction processing. In fact, merging the classical mainframe virtues with modern architecture flexibility combines the best of both worlds and provides a natural evolutionary path for the valuable portfolios of existing finance solutions. It is important to realize that there is no value to the business if optimized processes are not reliable, can not scale to the demands of use, or leave critical business information vulnerable to corruption or misuse. Maintaining business performance and integrity in the face of change requires a reliable, adaptable, and scalable environment, both technologically and organizationally.

The organizational scalability aspect is particularly interesting from a positioning perspective. In many cases, the specialized skill requirements for mainframe environments have been used as an argument against their continued viability as a strategic platform. Yet the skill requirements are really related to the available development and management tools, and not related to the underlying transactional strength of the platform itself. With the emergence of next generation tooling for the mainframe platform (such as IBM CICS Explorer™) this argument for perceiving the mainframe as an old-school platform disappears.

## References

Refer to the following resources for more information:

IBM white paper, *Achieving business agility with BPM and SOA together - Smart work in the smart Enterprise*, Claus T Jensen, Rob High, Jr., Steve Mills, 2009

[https://www14.software.ibm.com/webapp/iwm/web/signup.do?lang=en\\_US&source=sw-app&S\\_PKG=achagilbpm&S\\_TACT=108AY1MW](https://www14.software.ibm.com/webapp/iwm/web/signup.do?lang=en_US&source=sw-app&S_PKG=achagilbpm&S_TACT=108AY1MW)

IBM white paper, *BPM and SOA require robust and scalable information systems – Smart work in the smart enterprise*, Claus T Jensen, Rob High, Jr., Steve Mills, 2009

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[McKinsey]: London School of Economics, McKinsey survey and analysis of 100 companies in France, Germany, UK and the US

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<sup>1</sup> IBM white paper, *Achieving business agility with BPM and SOA together - Smart work in the smart enterprise*, Claus T Jensen, Rob High, Jr., Steve Mills, 2009  
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## Summary

Successfully scaling a smarter banking initiative requires careful thought and consideration. From an organizational perspective the enterprise needs horizontal visibility as well as appropriate skills to manage the business and IT operational environments. From a technological perspective the enterprise needs to establish a platform that scales with the success of the smarter banking initiative and ensures the integrity and reliability of business processes and services.

Though much is being said in the market place about the need for business agility, the complementary need for business visibility, robustness, and scalability is often understated and undervalued. Agile change at the cost of operational excellence is a fragile value proposition at best. To ensure success, smarter banking needs to be based on transparent, robust, and scalable information systems. If not, business execution suffers.

Providing end-to-end process visibility on a high performance horizontal transaction processing platform is a key differentiator for successful enterprises in their drive toward smarter banking. To that end, the scalable integrated tools and infrastructure offered by IBM are built to support transaction processing fundamentals, providing a good starting point and a solid foundation for the future.

## The team who wrote this guide

This guide was produced by a specialist working at the IBM European Products and Solution Support Center (PSSC), Montpellier, France, in collaboration with the IBM International Technical Support Organization (ITSO) Poughkeepsie center.

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