# Integration
## technology

Make your business more agile and competitive
with near-real-time event-based integration.

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The software specialist for banking and finance

"Temenos' Integration Framework enabled us to go live in 5 months when otherwise it would have taken 3 times longer. And, because we were able to **launch so quickly** without any issues, we have massively exceeded our business case."

- Eric Muriuki Njagi - General Manager - New Business Ventures, Commercial Bank of Africa

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# What do our customers
## want and need?

Fast and efficient integration between systems

Near-real-time multi-channel banking 24/7

Business agility

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# Market background

It is not uncommon for a mid-sized bank to solicit dozens of different systems in order to run its business operations. Even simple transactions require the involvement of more than one business system and, often, of more than one channel. For example, an investment order initiated on a customer's mobile interface will be checked against constraints in the core banking system before proceeding. When a bank's systems are integrated in the traditional rigid batch-based manner, the bank can face significant business challenges.

Typically, banks have relied on vendor-specialized experts to develop complex coded interfaces between all of their systems. This approach, called point-to-point integration, is complex, lengthy and very costly to undertake and to maintain over time. Most worryingly, it prevents the bank from integrating new business systems fast and cost-effectively to support evolving customer requirements. In other words, the bank lacks tactical and strategic agility.

The second issue with traditional point-to-point integration is that it is more difficult to support real-time business across multiple channels. Instead, integration is usually done via cumbersome end-of-day batches. In addition to bearing costs and risks, batch-based integration causes some channels to show out-of-date information - a daunting competitive disadvantage in the era of digital banking.

Thirdly, point-to-point integration is not suited for the era of cloud computing because it makes the bank's internal systems dependent on the performance and availability of cloud-based applications. This exposes the bank to problems beyond its control – a risk no bank should be willing to take.

Finally, traditional integration limits the scalability of the bank. When too many interfaces solicit one system at the same time (for a particular business transaction to be performed), it can no longer perform its duties at the speed expected by the business and by its customers. The problem gets worse as the volume of business transactions increases.

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# Value proposition

The Integration Framework and products make banks **more agile** by enabling them to integrate systems much **faster** and more cost-efficiently, as well as more **competitive** and **profitable** by enabling **near-real-time**, highly scalable, self-assisted and multi-channel banking 24/7.

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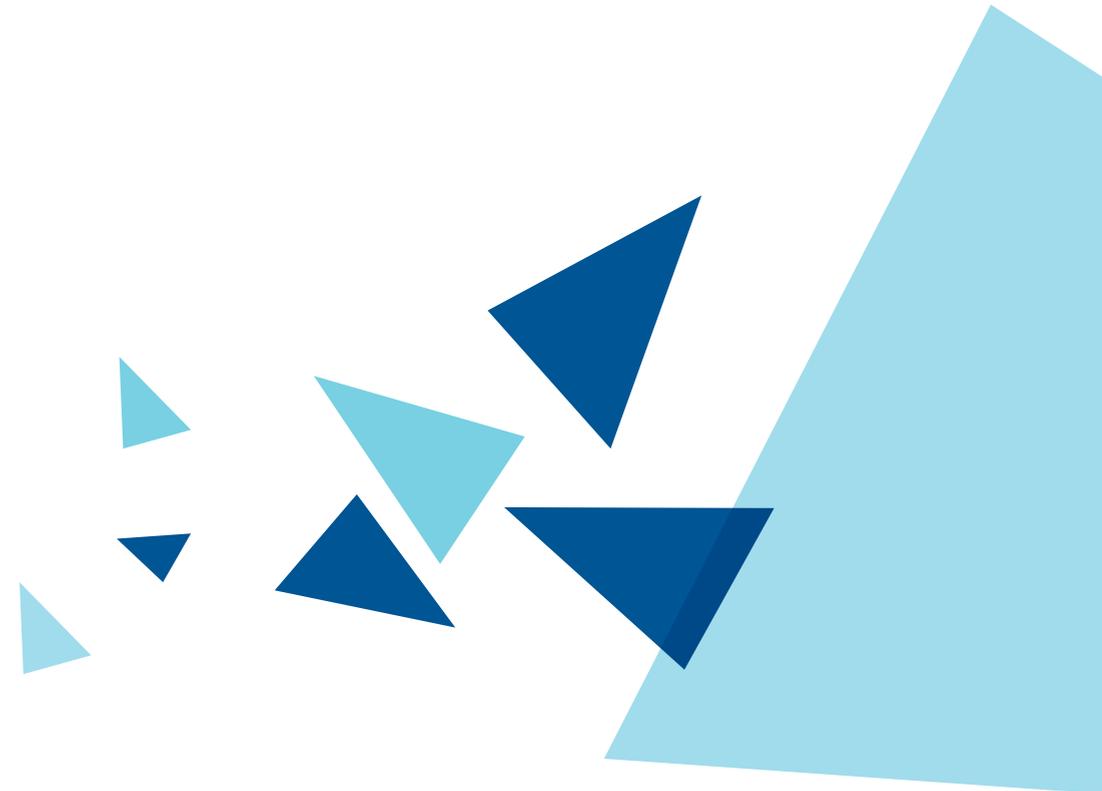
# Business benefits

Temenos' Integration offering makes the bank much more agile, competitive and profitable. Ultimately, it enables the bank to offer a superior customer experience, one that is much timelier as well as more attuned to evolving customer needs, even when business volumes are growing fast.

The bank can easily stay apace with evolving customer requirements as it is able to integrate any system, whether in-house or third-party, with its Core Banking system much faster and more cost-efficiently than before. Design Studio for Integration Events' intuitive graphical environment lets the bank determine though simple configuration what data should leave the Core Banking system (and when) and make it available in a standard format. The principal business benefit here is **agility**.

The bank is also able to provide its customers with a truly near-real-time multi-channel banking experience. When deployed as part of the Integration Framework, Design Studio for Integration Events lets the bank exploit event-based messaging to transmit changes to other systems in near-real-time. The bank no longer faces the time lags, risks and costs of end-of-day batch processing, notably multinational banks where central end-of-day processing affects business performance in other time zones. This approach also enables the bank to exploit innovative cloud-based applications in a risk-free manner. The principal business benefit here is **competitiveness**.

Thirdly, the Integration products significantly reduce the cost of integration over time. Because the bank can exploit commodity skills (instead of vendor-specialized experts) to perform integration through configuration, it eliminates the cost and risk of lengthy development, testing and maintenance cycles. Also, because the bank's systems are no longer solicited by multiple interfaces at once, the banking platform is much more scalable. The principal business benefit here is **profitability**.

The bank can achieve these benefits in very little time and very cost-efficiently. The products are easy to deploy and to run, causing no disruption to day-to-day business and generating near-immediate business returns.

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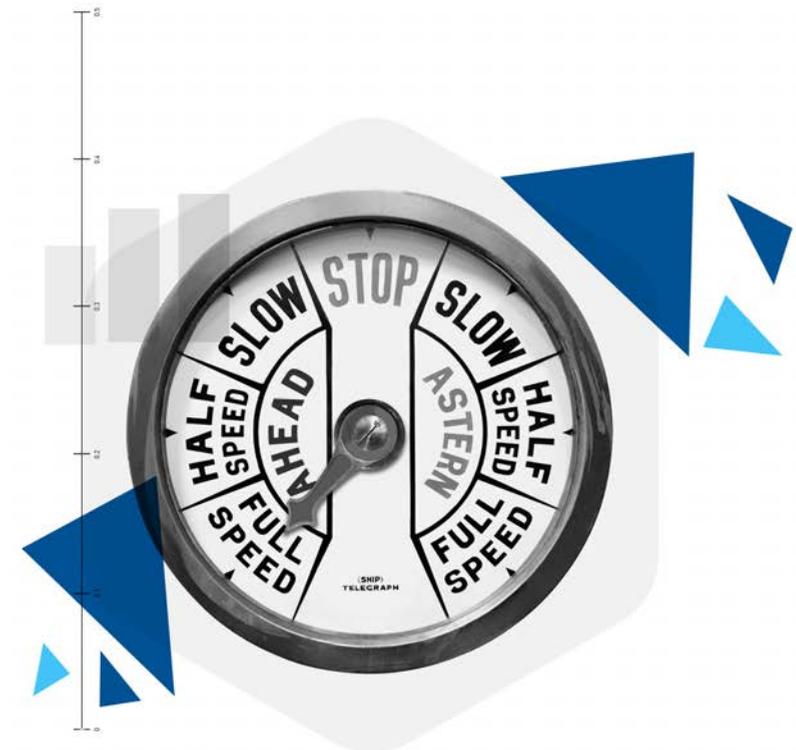
# Why customers use it

Agility: integrate any system rapidly and cost-efficiently

Competitiveness: provide near-real-time multi-channel banking 24/7

Profitability: reduce the cost of performing and maintaining integration

Scalability: performance of integrated services preserved as business grows

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# Products and key features

- Design Studio for Integration Events
- ESB adapters
- The Integration Framework

# Integration technology
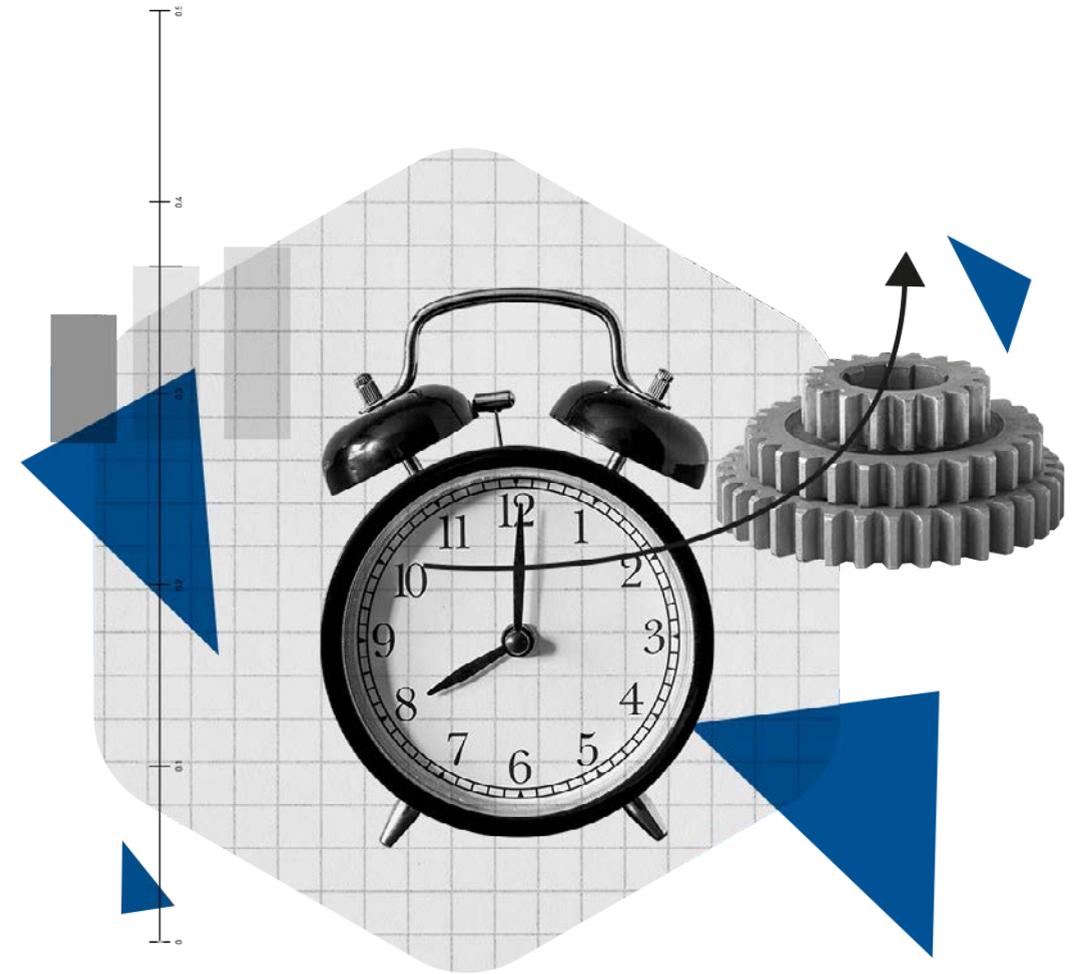
## Design Studio for Integration Events

**Easily configure near-real-time event-based integration messages**

This product provides an intuitive graphical environment that helps the bank easily configure what data should leave the bank's Core Banking system and when (when a given business event/transaction occurs). Because this is achieved through intuitive, form-based configuration (i.e. no coding), it can be undertaken by business analysts and integrators who do not have vendor-specialized skills.

Features:
- Eclipse-based Integrated Development Environment (IDE), readily usable by commodity specialists
- Enables the bank to create events, create flows, and deploy events and flows to Core Banking
- Facilitates updates by separating binary and data update processes
- Message files and descriptions (schemas) automatically created by Design Studio
- Leverages standard version-control (SCM) software

## Integration Framework

**Enable event-based, near-real-time, asynchronous integration**

The Integration Framework is not a product, but an architecture in which the bank exploits Design Studio for Integration Events *in combination with* standard third-party middleware (e.g. ESB that the bank may have), industry-standard messages and formats, as well as commodity skills (that the bank already employs). Implementing the Integration Framework enables the bank to have event-based, near-real-time, asynchronous integration between its systems.

Features:
- Exploits standard event message formats and descriptions to support easy integration between theCore Banking system and other systems
- Leaves the bank the choice between:
  - leveraging an ESB for message routing and transformation
  - exploiting a service in the Core Banking system that pushes messages out to messaging middleware such as Java Message Service or IBM WebSphere MQ
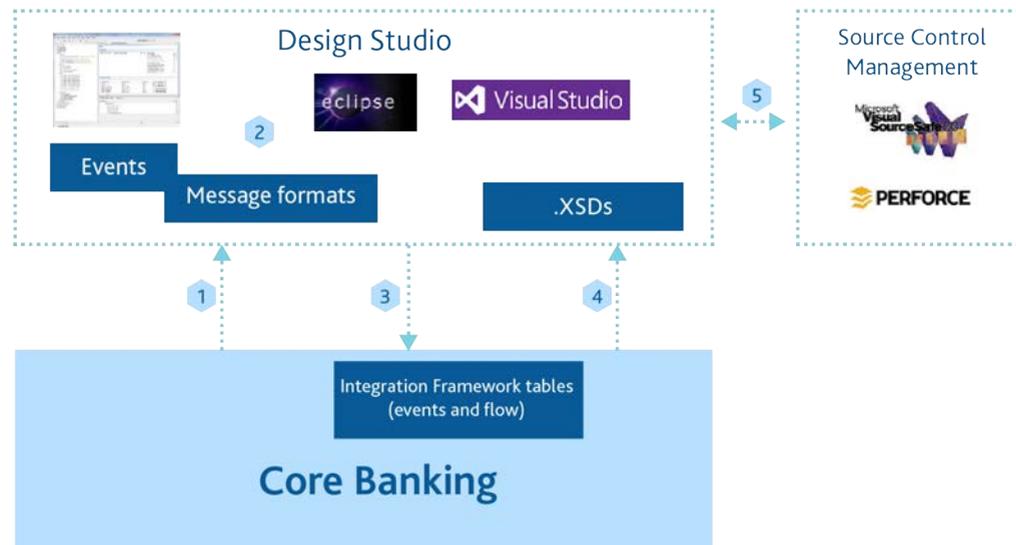
## Integration offering & functionality

## ESB adapters

**Leverage your ESB's design-time tools to perform transformation and routing**

The adapters are of interest to banks which choose to exploit an Enterprise Service Bus (ESB) in their implementation of the Integration Framework. Note that banks can deploy the Integration Framework *without* an ESB[1] . The adapter enables the bank's commodity specialists to use the ESB's design-time environment to perform routing and transformation work on messages coming from Temenos' Core Banking system.

Temenos provides ESB adapters for:
- IBM Integration Bus
- Oracle Service Bus
- Microsoft BizTalk
- TIBCO BusinessWorks
- Fiorano ESB
- Others upon demand

## Address these business challenges:

Lack of tactical and strategic agility

Time and cost of integrating new systems

Cost of maintaining point-to-point interfaces

Out-of-date data across channels

Inability to safely leverage cloud-based resources

Limited scalability

[1] This may be an option for a smaller bank that does not have, and does not want to purchase, an ESB. Instead, the bank can run a service (a "push service") in its Temenos Core Banking system that pushes messages out to queue in a messaging middleware, such as Java Message Service or IBM WebSphere MQ. An ESB is only mandatory for integrated Private Wealth solutions, for instance in Temenos' WealthSuite.

# The Integration Framework - how it works

## Integration Framework: design-time

Design Studio

eclipse    Visual Studio

Events

Message formats    .XSDs

Source Control
Management

Microsoft
Visual SourceSafe

PERFORCE

Integration Framework tables
(events and flow)

**Core Banking**

1. **Browse** the Core Banking system for things that can trigger events
2. **Define** integration events and message formats
3. **Deploy** the events and messages to the Core Banking system
4. **Fetch** schemas (.XSDs) generated by the Core Banking system
5. **Store** integration project in a SCM (optional)

## Integration Framework: run-time

1. Message is triggered when Core Banking transaction is committed

2a. ESB adapter collects messages emitted from Core Banking

2b. If bank has no ESB, Core Banking "push service"pushes out messages to middleware

3a. Events routed and transformed by ESB to match format expected by the other systems

3b. Events routed and transformed (using other means)
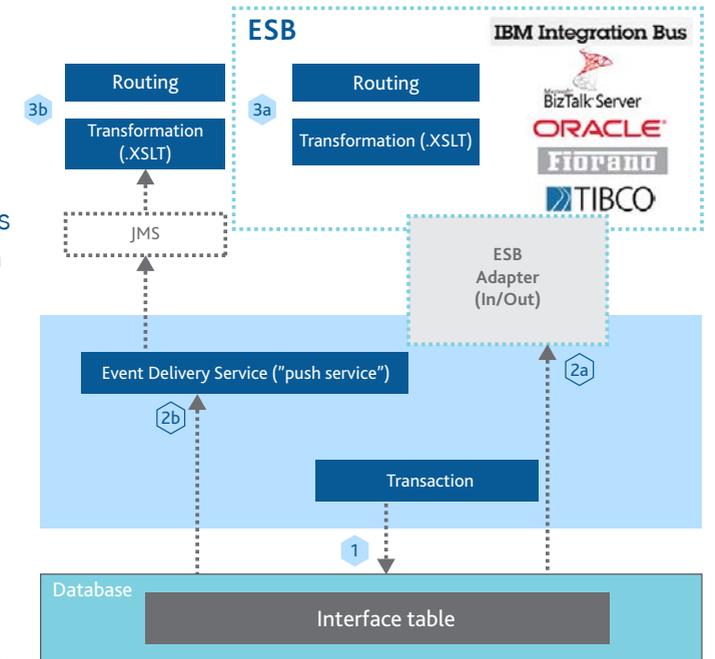
**ESB**

IBM Integration Bus

BizTalk Server

ORACLE

Fiorano

TIBCO

Routing    Routing

Transformation (.XSLT)    Transformation (.XSLT)

JMS

ESB Adapter (In/Out)

Event Delivery Service ("push service")

Transaction

Database

Interface table
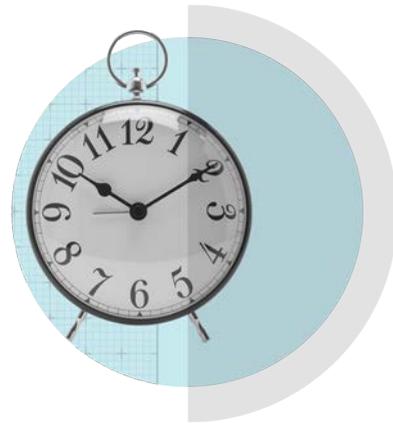
# Integration
technology

## Summary

By enabling fast and easy integration with any system as well as near-real-time multi-channel banking 24/7, Temenos' Integration offering will make your bank much more agile, competitive and profitable.

## Next steps

To hear more about our Integration offering,
contact us at sales@temenos.com

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