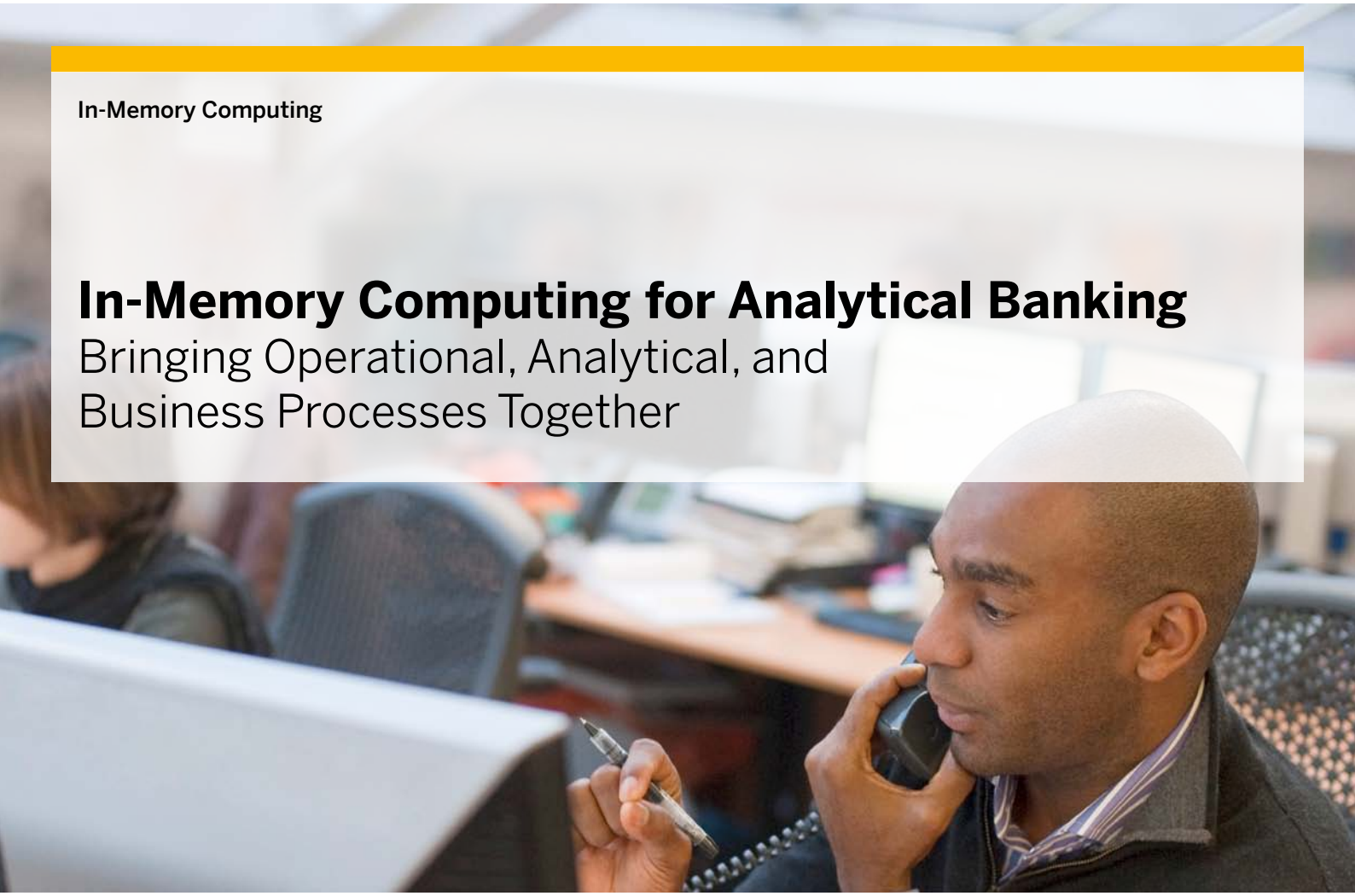
In-Memory Computing for Analytical Banking

Bringing Operational, Analytical, and Business Processes Together



Today's market environment for banks is both volatile and heavily regulated. Having the agility to manage in these extremes and react quickly to changing conditions is all about having access to the right data at the right time. In-memory computing opens up new possibilities for rapidly aggregating and processing mountains of data from disparate sources. You can make well-informed decisions more quickly, prevent losses, capture more profits, and handle regulatory reporting more effectively.

PROVIDING INFORMATION THAT IS TIMELY, RELIABLE, AND ROBUST

In the past, IT architectures for analytical banking have involved separate systems for business planning, accounting, risk and regulatory evaluation, financial analysis, and reporting (see Figure 1).

This can make it difficult to fulfill your regulatory requirements and may cause you to base measures of risk management on incorrect assumptions and data. You may also waste time reconciling data, which delays key business decisions. Today, you need an architecture that helps you:

- Make real-time or near-real-time decisions
- Make accurate profit, loss, and risk predictions
- Fulfill your regulatory requirements

In-memory computing helps you complete complex analyses and transactions in real time for faster, more effective business decisions in addition to reduced IT complexity and cost.

BRINGING ANALYTICAL, OPERATIONAL, AND SALES DATA TOGETHER

A separate analytical banking system may minimize changes in your data structures for customer-centric and transactional banking and help you meet performance requirements. However, you must maintain a very cumbersome and costly infrastructure for data replication.

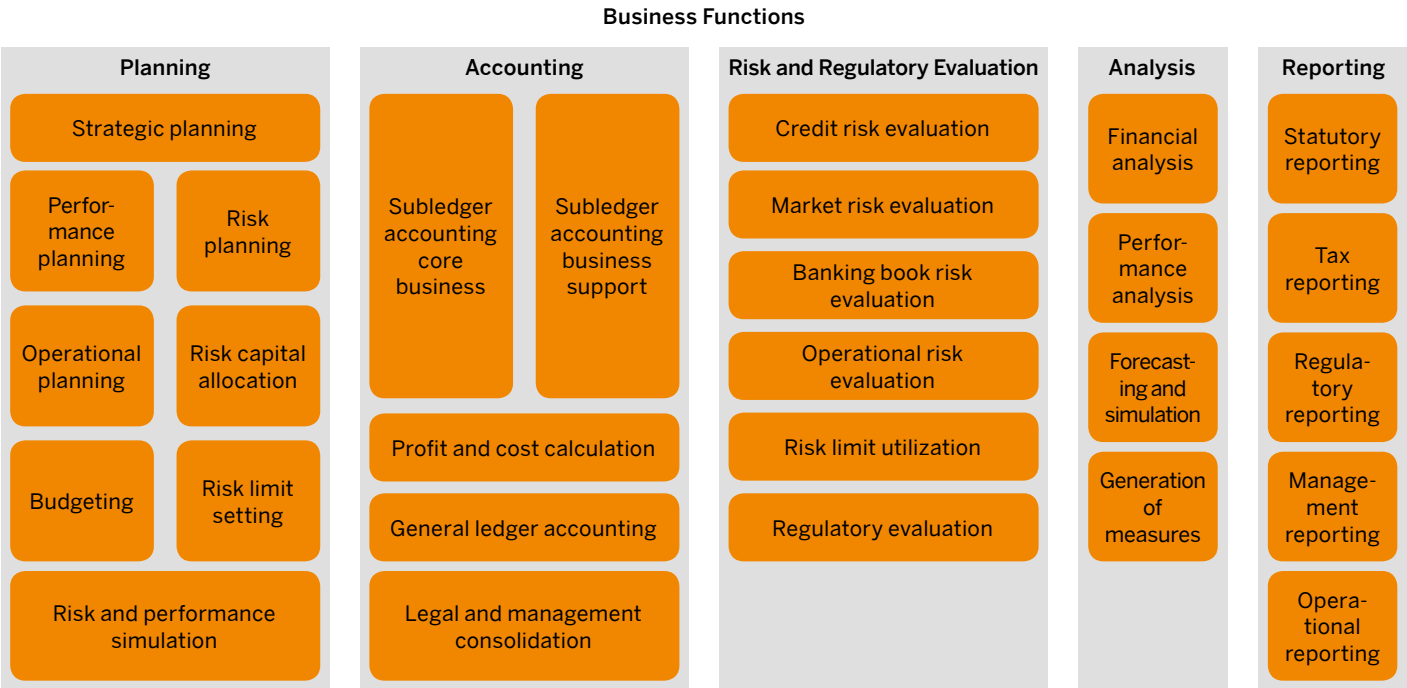
You can overcome this disadvantage – and still enjoy the advantages of a separate system – by introducing in-memory computing and real-time processing in three steps, over a time frame that suits your needs.

Step 1: Use In-Memory Computing in an Existing System
You can achieve quick wins by using in-memory computing with existing analytical banking systems. By storing data for financial analysis and risk and regulatory analysis on an in-memory database, you eliminate the need for aggregating data and increase the granularity of **subledger accounting.** You get direct access to accounting results at the transaction level immediately after daily and periodic processing.

You also obtain greater freedom in aggregating single positions for different **risk and regulatory** views and creating real-time simulations and stress testing. The granularity and scope of available information increase for **analysis and reporting.** A **business planning** data mart gives you a single source of truth here too.

Step 2: Integrating Analytical Data with In-Memory Computing
Using an in-memory database to integrate all your analytical data lets you manage financial positions and generate postings in near-real time. You can use the additional capacity in overnight batch processing to increase valuation frequency, allow daily accruals of performance calculations, handle additional processing for risk and regulatory evaluation, or provide earlier results for steering purposes. It is also easier to handle upcoming evaluations required by regulatory authorities and support complex evaluation methods.

Figure 1: Overview of Analytical Banking Functions



Making evaluations ad hoc or in parallel with each other and integrating additional market scenarios and business simulations lets you extend your analysis from actual results to future results. All customer-centric and transactional banking data is available to users for reporting, regardless of the granularity or complexity of their queries.

Step 3: Use In-Memory Computing for All Data
In the third step, customer-centric and transactional banking share the same database, so no replication is required (see Figure 2). You can process customer-centric and transactional banking data in analytical banking applications in real time and react immediately to changing business and regulatory conditions.

The database lets you consolidate functions for accounting and risk and regulatory evaluation and run both these functions and those for analysis and reporting directly from databases for customer-centric and transactional banking.

FINDING THE RIGHT PATH TO IN-MEMORY COMPUTING

By significantly streamlining data analysis, the in-memory computing technology offered by SAP HANA® appliance software can drive business and IT transformation in your organization. SAP HANA combines an in-memory computing engine with commodity hardware systems that can process massive quantities of real-time data.

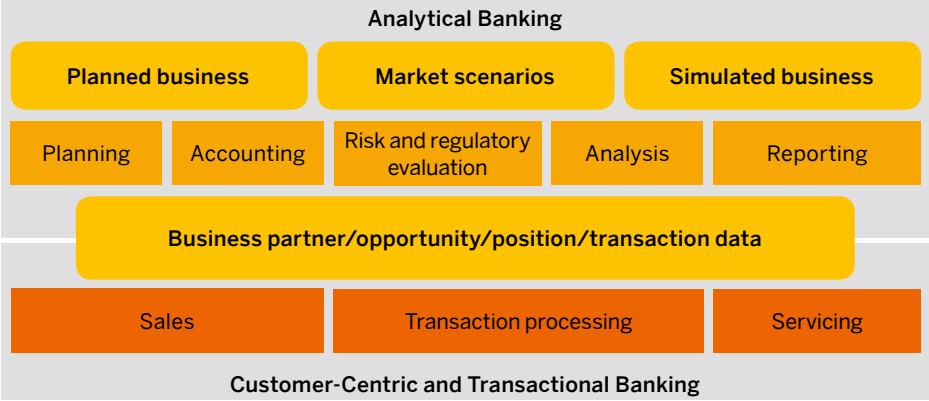
We can help you get the greatest benefit from in-memory computing by identifying the business processes it can transform and by implementing the software for that transformation. Together we can:

- Use in-memory computing to align your business and IT strategies
- Discover areas in which SAP HANA can deliver additional benefits and value
- Develop a business case for SAP HANA
- Develop a target architecture for your business processes and the supporting applications, including SAP HANA
- Derive the best transformation path to integrate SAP HANA into your business

We help you define a road map for each in-memory use case that reflects your overall business strategy, create a prioritized list of objectives for in-memory support, and determine how to meet those objectives. This road map answers the following questions:

- Where can in-memory computing deliver additional benefits and create value?
- What would a target IT architecture using in-memory computing look like?
- Which is the best transformation path to integrate in-memory computing?
- What are the benefits and risks of implementing SAP HANA, and when will the investment pay off?

Figure 2: Consolidate All Data in a Single In-Memory Computing



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Learn More

To read more about how in-memory computing can help you bring operational, analytical, and business processes together, please read the SAP thought leadership paper *In-Memory Computing for Analytical Banking*. The paper is available for download at www.sap.com/services-and-support/industry/banking.epx.

To learn more about the many ways that SAP HANA can help your institution, contact your SAP representative or visit us online at www.sap.com/solutions/technology/in-memory-computing-platform/hana/overview/index.epx.

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