Overview

Inconsistent, incomplete and inaccurate data spread across multiple operational systems – such as deposits, loans and wealth management – often results in banking executives making business decisions based on “instinct” rather than reliable analysis. What if you could consolidate data across the institution? What if it were easily accessible for analytics and reporting? SAS makes it a reality.

SAS Banking Analytics Architecture provides a scalable business analytics framework for serving your analytical and business intelligence needs. The framework takes data from multiple, disparate operational systems, then formats, cleanses, transforms and stores it in a central data warehouse. The banking data model acts as a single version of the truth that stores information that is detailed, accurate, consolidated and complete.

Challenges

• Multiple operational systems. Different lines of business and departments/functions may use their own systems, which results in scattered, inconsistent data.
• Incomplete data. Banks often lack historical or detailed data, and it may also be difficult to access and combine data held in disparate systems.
• Data inconsistencies. Lack of standardized data entry procedures, invalidated data (e.g., incorrect addresses), duplicate records and human error result in poor data quality that is time-consuming to fix.
• Unreliable reporting. Business units may use different terminology for the same data item or business process.

Benefits

• Ensure that your data is always consistent, accurate, verifiable and up-to-date.
• Access clear, structured data whenever you need it.
• Deliver critical information to the right people at the right time.
• Adopt a single solution that eliminates overlapping, redundant tools and systems.
• Gain a complete, integrated view of all enterprise data.
SAS delivers a solid foundation for implementing an enterprise data warehouse that provides accurate insight into your business. By consolidating the vast amount of banking-related data into a single repository, you can ensure consistent reporting across multiple business units - and that enables business managers to make fact-based decisions with confidence. You can then apply predictive analytic techniques, such as market basket analysis and decision trees, to the data to enhance reports and derive more proactive benefits.

**Data That’s Consistent, Accurate, Verifiable and Up-to-Date**
Access the data you need whenever and wherever you need to – and be confident in the validity and timeliness of that data. A banking data model lets you correct, standardize and verify data to provide accurate, up-to-date business intelligence and meet regulatory reporting requirements. You can also acquire and consolidate historical data from both internal and external sources for use in analysis and reporting.

From older, legacy systems to the latest risk management applications, SAS can access and process data from virtually any hardware platform or operating system. This saves time, shortens the learning curve and gives decision makers the information they really need.

**A Complete, Integrated View of All Your Enterprise Data**
A comprehensive data dictionary covers all key banking subject areas, including marketing, finance, risk and compliance across consumer and corporate banking, mortgage lending, wealth management and investment banking. Predefined logical and physical data models serve as a single version of truth, standardizing more than 8,000 banking data elements and ensuring consistent terminology and reporting throughout the organization to support key business decisions.

**Clear, Structured Information for All Who Need It**
Easy-to-use, web-based reporting makes it easy to communicate critical business information to the right people within your institution. Comprehensive business intelligence capabilities meet the needs of every type of user, including:
- Managers looking for dashboards.
- Groups that want to view and build reports on the web.
- Business analysts who need advanced data exploration software.
- IT staff members who need to deploy, manage, control and maintain the solution.

**No More Overlapping, Redundant Tools and Systems**
The flexible, reliable SAS Banking Analytics Architecture is a complete solution that supports all your data integration and reporting needs. It eliminates the piecemeal approach of linking and managing technologies from different vendors. It also lowers your overall costs, reduces risk and enables faster results.

**Why SAS?**
SAS delivers a solid foundation for implementing an enterprise data warehouse that provides accurate insight into your business. By consolidating the vast amount of banking-related data into a single repository, you can ensure consistent reporting across multiple business units - and that enables business managers to make fact-based decisions with confidence. You can then apply predictive analytic techniques, such as market basket analysis and decision trees, to the data to enhance reports and derive more proactive benefits.

**Capabilities**

**Banking Data Model**
A comprehensive data model serves as a single version of the truth for an enterprise data warehouse that covers all key banking areas. Historical information is stored at a granular level to accommodate your reporting and analytical requirements. The framework supports consumer and corporate banking, mortgage lending, wealth management and investment banking, and has the flexibility to extend to new lines of business. It also includes:
- A comprehensive dictionary that describes banking data elements.
- A complete mapping of physical data structures to business terms.
- Logical data model (in navigable HTML format), physical data model (as ERwin data model) and SAS metadata
- Ability to deploy in multiple databases, including SAS, Oracle, Teradata, Microsoft SQL Server and DB2.
- Business data definitions that are consistent with global banking data standards.
- Support for a variety of business issues, including Basel III.

![SAS Banking Analytics Architecture](image-url)

**Figure 1.** Example implementation framework for SAS Banking Analytics Architecture.
Data Management
An enterprise data management environment is designed to meet the full spectrum of your data management needs. This includes the ability to access data from virtually any system in any form, transform and cleanse data in real time, and handle data migration and synchronization federation projects – all through a versatile environment that is easy to deploy. The data management environment also includes:

- Wizards for accessing source systems, creating target structures, importing and exporting metadata, and building and executing extract, transform and load (ETL) process flows.
- A dedicated GUI for profiling data and identifying and repairing source system issues, while retaining the business rules for later use in the ETL processes.
- Data cleansing and augmentation, and can be customized for real-time processes.
- Enterprise connectivity to data sources – ODBC, IBM DB2/UDB, Microsoft Access and Excel, Microsoft SQL Server, Netezza, Oracle, Sybase, SAS, Teradata, banking core systems and more.
- Support for both unstructured and semi-structured data.
- Data quality embedded into all processes.
- Data cleansing provided in native languages, with specific language awareness and localizations for more than 20 worldwide regions.
- An interactive GUI that enables data stewards to profile operational data and monitor ongoing data activities.
- The ability to migrate or synchronize data between database structures, enterprise applications, mainframe legacy files, text, XML, message queues and a host of other sources.
- The ability to join data across sources for real-time access and analysis.

Analytics
SAS Banking Analytics Architecture enables you to perform powerful data mining and statistical analyses, including ANOVA, regression, multivariate analysis, survival analysis, Bayesian analysis and mixed models.

Reporting and Business Intelligence
Comprehensive, easy-to-use business intelligence software provides insights to empower users at all levels to make better business decisions faster. Capabilities include portals and dashboards, report viewing, report building, advanced data exploration, Microsoft Office integration, guided analysis, metadata management, guided SAS OLAP cube creation and application development. In addition, the framework includes:

- A web-based, interactive reporting interface for business users.
- Query capabilities for all levels of users across multiple BI interfaces.
- The ability to slice and dice multidimensional data using a special slicer dimension and by applying filters on any level of a hierarchy.
- Critical first-alert, call-to-action dashboards for performance results.
- Dynamic business visualization tools for interactive data exploration, visual queries and more.
- Access to SAS capabilities for data access, reporting and analytics directly from Microsoft Office, including Word, Excel and PowerPoint.
- Wizard-driven report creation within Microsoft Office tools.

The SAS® Difference

Banking data model
- Jump-start your reporting processes with banking-specific logical and physical data models.
- Provide a single source of information for an enterprise data warehouse.

Superior data management
- Consolidate data from multiple legacy systems into a single version of the truth.
- Improve data quality by eliminating or reducing data inconsistencies.
- Gain confidence in your data’s integrity throughout the institution by automatically validating data as part of the data integration process.
- Load data from the data model to reporting and analytic solutions with prebuilt data management capabilities.

Lower total cost of ownership
- Gain a single, unified environment for integrating, sharing, centrally managing and using data.
- Employ award-winning business intelligence technology.
- Disseminate information throughout the bank using a portal framework for scorecarding, dashboards and other reporting capabilities.
- Readily access online reports on performance data in historical comparisons with drill-down capabilities on the latest key metrics.