

IBM Industry Models For Insurance - The Insurance Application Architecture (IAA)



Insurance Application Architecture (IAA)

What is the Insurance Application Architecture (IAA)

The IAA is a set of information, process and integration models that represent leading practice systems development in the insurance industry. It is an architectural blueprint with detailed insurance business content that can be applied to initiatives on an enterprise-wide or specific project basis. It enables insurers to create detailed specifications and cross-enterprise architectures for information systems. These models represent over 300 cumulative person-years of development, incorporating input from many leading insurance organizations.

By providing a set of pre-defined business templates, IAA enables the scoping, specification and design of information solutions, which are:

- faster, through use of generic model specifications and designs
- cost effective, through reduced analysis costs and increased re-use of existing assets
- better, through increased quality and consistency
- lower risk, by building on good practice and by ensuring a strategic perspective

The IAA provides a common language for use across the organization. It typically supports over 80% of an organization's data, process and core application function analysis, and design requirements. The models are designed to be readily customized and extended to cover the specific requirements of a insurance organization.

The IAA is valuable for initiatives such as:

- data warehouse and mart development
- enterprise application integration
- message based architecture development
- business process re-engineering
- information systems scoping and requirements definition
- application systems package evaluation

Insurance Application Architecture (IAA)

IAA Foundation Models - for Communication and Standardization

Business Terms

..... improving standardization

Clearly defined **Business Terms** improve standardization. IAA provides a catalogue of over 2500 terms grouped in domains, providing an easy entry point to the models. These business terms are also mapped to the Business Model.

Business Model

..... describing business concepts

The IAA **Business Model** describes the business concepts relevant to the financial services industry and how these concepts relate to each other. There is a single business model in two representations. The Business Data Model is an entity-relationship model and the Business Object Model is a UML model. Using one or other representation for the Business Model is a question of personal preference since the focus at this level is on the business concepts. The main purpose of the Business Model is to serve as a communication mechanism between business and IT. It also provides a formalized view of the business to be used as a reference at any time in the life-cycle of a development project.

Business Activity Model

..... organization functions

Functional requirements are expressed in the **Business Activity Model** as business activities, elementary units of work that need to be performed as part of the business operations. It is possible to organize the activities differently, depending on the line of business or according to organizational principles.

IAA Information Models for Data Rationalization, Data Warehousing and Data Marts

Examples of the Business Scope of the Information Models

Analytical CRM Campaign answer analysis Campaign communication analysis Campaign cost analysis Campaign profitability analysis Campaign sales analysis Campaign analysis by customer CRM event analysis Cross-sell strategy analysis Cross-selling forecasting analysis Policyholder behaviour analysis Household value analysis Prospect optimization analysis Customer satisfaction analysis Customer risk analysis	Claims Efficiency Handling performance analysis Incoming recovery payments analysis Audit analysis Monthly close off analysis Statistical analysis Loss event analysis Intermediary Performance Continuous professional development Performance based on competency Agent training analysis Intermediary compensation analysis Intermediary production analysis Intermediary sales performance analysis	Business Performance Business volume analysis Policy event analysis Policy persistency analysis Surrender analysis Switching analysis Underwriting Analysis Solvency II Liabilities analysis for P&C insurance Expenses for Long Term Insurance Admissible Asset Analysis Summary of Premiums/Claims for P&C Solvency Analysis for P&C Statement of Solvency	Sarbanes Oxley Act Consolidated Financial Statements Analysis Consolidated Statement Of Cash Flows Consolidated Statement Of Changes in Shareholders' Equity Analysis Consolidated Balance Sheet Analysis Consolidated Statement Of Income Analysis IFRS/IAS Balance sheet net assets approach Balance sheet order of liquidity approach Balance sheet portfolio basis approach Cash flow (in)direct analysis Income statement by function/mature analysis Statement of changes in equity analysis
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IAA Process & Integration Models for Business Process Modeling, Application Rationalization, Integration, Component Based Development, and SOA

Examples of the Business Scope of the Process & Integration Models

Channel management Compensation plan establishment Interim agmt spec design Intermediary establishment Intermediary agreement administration Intermediary commission management Intermediary performance monitoring Claims management Anticipation / loss event maintenance Claim investigation/settlement Claim recording/recovery Claim reporting and statistics Claim validation Service and claim status	Fsa administration Account and mandate management Policy management Agreement recording Policy life cycle Policy modification Policy transaction Provider management Provider agreement administration Provider agreement specification design Provider establishment Provider performance monitoring Provider service delivery Provider support	Product portfolio management Product development Group scheme development Product development planning Product life cycle management Product performance management Underwriting Premium calculation Risk assessment Risk mitigation Underwriting decision Underwriting request Underwriting verification	Investment management Investment monitoring and reporting Investment operation Investment strategy Marketing Market research and analysis Marketing and promotion management Campaign management Promotion management Customer acquisition Application Policy offer Policy quotation
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IAA Product Models for Product Flexibility

Product Model

..... defining insurance products

Product Modeling is a set of specialized techniques for analyzing and defining financial services products. The **Product Model** provides a representative set of insurance products modeled using this technique across different lines of business. Modeling products in a consistent way is an essential part of modeling the insurance business. The Product Model presents an important accelerating factor as the delivered products can be used as templates and customized for company specific products.



IBM Component Business Model (CBM)

Insurance organizations are adopting a more componentized approach to their businesses, realizing substantial changes in the effectiveness, efficiency and flexibility of their organizations, driving sustainable growth.

A componentized approach:

- allows the organization to be more adaptive and to respond quickly to changing customer needs
- enables the organization to focus on achieving competitive differentiation
- optimizes interactions with partners, suppliers and customers
- allows the organization to identify and leverage best practice behaviors across the organization
- presents opportunities to shift the organization from a fixed to variable cost structure

The Component Business Model (CBM) is an organizing framework combining people, process and technology perspectives that drives substantial new insights and allows new methods of analysis for the organization. The CBM is a logical representation, or map, of a business that reveals its essential building blocks. A business component can be defined as the collection of the business activities it performs and its supporting people and systems requirements.

The Component Business Model can be populated with IAA content thereby transforming the CBM from components to solutions. The three key areas supported by the IAA are business intelligence, enterprise application integration and business process re-engineering. IAA provides proven, detailed insurance model content that supports more than 80% of the high level function components listed in the CBM.

Process & Integration: CBM Business Components, representing functional areas of a business, are underpinned by a number of IAA Business Processes. Tasks and activities in the IAA processes that are candidates for automation are then defined in further details in the IAA Integration Models by a series of template functional specifications and designs.

Data: CBM Business Components are underpinned by a number of IAA Business Solution Templates. Each IAA Business Solution Template can then be traced back to an entity-relationship data model such as Insurance Information Warehouse Model. The data model can then be used as the basis for the generation of databases (DW, or OLAP structures.)

Business Solution Templates

..... analyzing data for KPIs and reports

The **Business Solution Templates (BSTs)** provide a list of industry best-practice key performance indicators grouped by functional reporting areas such as marketing, financial analytics, profitability and risk and regulatory issues. These provide the basis for rapid customization and prototyping of customer reporting requirements into a range of OLAP reporting environments. The BSTs enable effective communication between business and IT and provide a consistent reporting structure for every data mart produced.

Marts & Sample Applications

..... ready-to-go reports

The **IIW solution** includes a number of **data marts and sample applications** which can be used to accelerate a data warehouse project. Each one is designed to focus on a particular business problem, in contrast to the Enterprise Model which is designed to be as open and flexible as possible. Samples include Campaign Management, Underwriting Profitability Analysis, Risk Pricing Analysis, Intermediary Performance Analysis and Financial Reporting.

Enterprise Model

..... designing the central data warehouse

The **Enterprise Model** is a logical model representing the information of the data warehouse and is derived from the IAA Business Model. It forms the strategic blueprint for implementing or re-engineering a data warehouse on a project by project basis. The model allows warehouse initiatives to be scoped, analyzed and designed in such a way that each project builds on the results of previous projects. The model includes content to cover profitability, analytical CRM, financial reporting, and risk management.

The **Insurance Information Warehouse (IIW)** is a combination of the Business Solution Templates, the Marts and Sample Applications, and the Enterprise Model.

Enterprise Component Blueprint

..... represent business functions as services

The **Enterprise Component Blueprint** addresses the definition of services architectures and of component-based development. The ECB helps with rationalising the functionality of concurrent systems by helping to represent the business functions as services. It gives a view of how the business could be supported by a fully componentized software solution.

Business Process Model

..... analyzing & designing business processes

The **BPM** consists of a set of over 200 key business processes across the entire insurance value chain, decomposing into over 700 activities. These are reused across business processes and performed by about 80 actors. The data input and output of the processes and activities is defined through the IAA Business Terms. The Business Process Design Model brings the content to the executable level from which you can generate Business Process Execution Language (BPEL) flows. It can be used as a basis to forward engineer to a run-time environment.

Interface Design Model

..... designing services & components

The **Interface Design Model** defines a standard set of interface definitions that promote the development of interoperable financial services software. It extends the applicability of the IAA offerings to the design phase of component-based development and integration projects. It also defines a set of highly reusable components for the financial services software industry by applying the principles of component based development. The business scope of the IDM is derived directly from the IAA Business Object Model. The IDM takes the analysis level concepts into the design domain, refining them to form components and interfaces. The IDM addresses topics such as application portfolio rationalization and application integration. The IDM can be further transformed, using Java transformation scripts, into a native Java Design Model (JDM), so that code can be generated using IBM Rational Software tools.

Specification Framework

..... modeling framework for products

The **Specification Framework** provides a highly abstract modeling of key requirements of the insurance business such as the definition and management of rules. For example it addresses the following:

- Definition of insurance products
- Flexible administration of insurance agreements (policies)
- Definition of flexible and reusable business rules
- Definition of flexible and reusable business calculations
- Reliable evaluation of rules and calculations

Master Data Management

IBM Master Data Management is SOA-based middleware designed to provide organizations the most flexible framework to support enterprise structured and unstructured data and business services, aligned with key business process. IBM brings together all the key core components required for a successful enterprise MDM strategy: information integration, content management, business intelligence, and master data management for specific data objects -- including product, customer, and supplier -- and master data solutions for specific industries.

WebSphere Customer Center (WCC) provides real-time, transactional customer data integration (CDI). Despite the significant time and resources already invested in CRM, many organizations still lack a true enterprise-wide view and update environment for their customers. By connecting these systems to an enterprise customer hub, WCC provides a unified view of the customer across multiple business and product silos. It delivers this single view and update environment to all channels and CRM applications, enabling multi-channel integration and consistent customer service.

