IBM Banking Process and Service Models General Information Manual

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Executive Summary

Business Challenges

The pace of change in the financial services industry has accelerated markedly in recent years. Mergers and acquisitions, the introduction of channel architecture, the development of technologies such as internet banking and telephone banking, the introduction of insurance products into the branch network and the shift in focus from transactional systems to customer-facing systems such as operational single view of customer have all brought about extensive changes in the way financial services organizations operate. By necessity, standalone solutions have been developed, supported by an array of individual processes and procedures that often mimic and duplicate each other, but are sufficiently disparate to cause cost and training issues for financial services organizations, impairing the synergies and savings available to a coherent, strategic organization.

Adding new regulatory components such as Basel II Accord, Sarbanes-Oxley Act (SOX), Anti-money Laundering (AML), Know Your Customer (KYC), Single Euro Payments Area (SEPA) and Markets in Financial Instruments Directive (MiFID) to this scenario compounds the change management issues, and makes it harder to accomplish business objectives within a reasonable time frame and at a reasonable cost. In addition, the information technology paradigm is ever present, pressing the organization into technology solutions often misaligned with overall objectives. They can be hastily put together without sufficient input from the business, frequently disappointing in terms of value and functionality.

Is there a better way to achieve synergy among merged entities, deliver genuinely customer-serving processes, contain costs and employ technology in an effective and business-serving manner? Clearly these are not easy objectives to achieve, but financial services organizations that have done so successfully have enjoyed significant growth in market share, increased profitability and higher return on investment (ROI) for shareholders.

Successful Business Transformation with IFW Process Models

The secret to success is the adoption of a top-down strategic approach to the transformation of the business not constrained by specific technology, particular products or channels or organizational structure. Such a transformation would be a daunting task if undertaken against a blank canvas, and in reality would probably not succeed by virtue of the management input needed and the overall elapsed time to achieve results.

The IFW Process Models are a content-rich set of models designed specifically for financial services organizations. enhanced and extended to align with the requirements for risk and compliance and STP payment solutions. By using the models, the approach to transformation can be dramatically shortened, with consequent savings in time and money for the organization, the models represent leading practice and have been validated through use with many of the world's leading financial services organizations over several years. hrough access to process models, our customers report savings of approximately 40% in the analysis and design stages of any business process reengineering project. Customers also relate a 58% level of reuse of IFW collateral when undertaking their process improvements.

By adopting the IFW Process Models you will:

- Increase customer satisfaction, grow the customer base and reduce the cost of selling and servicing customers
- Identify opportunities to streamline processes, making service delivery cheaper and quicker
- Identify processes that essentially do the same thing and therefore should be amenable to rationalization. This reduces training and maintenance overheads, improves your cost-income ratio and provides better and less costly service to your customers
- Be better able to ensure completeness in terms of regulatory compliance and risk management, potentially releasing capital to provide additional lending and investment capacity

- Reduce time to market for new products and services by exploiting existing processes and avoiding process redundancy
- Align your business process reengineering (BPR) efforts to strategic objectives to ensure that you are doing the right things for the right reasons
- Specify requirements clearly to technologists so that high-quality solutions can be developed

The IFW Process Models can be used for:

Business Transformation
For example, BPR for post merger/acquisition integration, process centralization and process outsourcing
Regulatory Alignment
For example, Basel II Accord, SOX, SEPA and Reg NMS
Process Automation
For example, the creation of efficient straight-through processing (STP) payments or account opening processes amenable to automation

Business Transformation

Financial services organizations need to reengineer existing business processes on a continuing basis to meet objectives such as:

- Streamlining and standardizing processes following merger or acquisition
- Improving customer service for competitive advantage
- Reducing operational costs
- Meeting the requirements of regulators
- Adapting to new trends in the market
- Exploiting new products, channels and technology that become available

Reengineering processes can be particularly challenging when undertaken in the absence of a reference model. Without a model as reference, much time is often spent on capturing the “as is” position, and it is often difficult to get agreement on ordinary processes and definitions such as Product, Account or even Customer. These issues become exacerbated when the reengineering effort is spread over different geographies.

The IFW Process Models facilitate process reengineering by:

- Providing tried and tested standard definitions that are easily understood by business people and IT personnel
- Allowing the initiative to focus on the “to be” processes, saving time and effort
- Ensuring coverage based on years of accumulated in-depth knowledge of how best-in-class financial organizations operate

Regulatory Alignment

By using process models, you will be able to demonstrate that your processes not only help to manage risk wherever it may occur in financial services organizations, but you will also be able to demonstrate that you have modified and extended your processes for this purpose. This can be a significant factor in protecting your risk rating or even improving it. In practice, the IFW-model-driven approach enables financial services organizations to define their target business processes for reengineering and transformation in the areas of risk and compliance. The IFW Process Models, with a rich set of industry application processes, can be used as a key accelerator for a logical design in building new risk and compliance functionality.

The Basel Committee on Banking Supervision (BCBS) lays challenges at the door of all financial organizations trading internationally. Processes need to be modified to create division of duty and identify where operational, market or credit risks may arise in financial services organizations together with steps to manage such risks. Furthermore, it is necessary to demonstrate that these processes are in place and working in order to protect financial services organizations' risk rating with rating agencies and analysts. The IFW Process Models have been enhanced and extended to include process changes and new processes that help to align your financial services organization with the needs of the Accord.

SOX 2002 also has had dramatic implications for CFOs and CEOs. It places the burden of accurate and complete financial reporting and disclosure squarely on their shoulders, with penalties in the event of deliberate or possibly careless failures. The tactical challenges of implementing SOX can include:

- **Insufficient controls management**
  SOX requires that a company implements effective procedures related to the definition, documentation, testing, monitoring and enhancement of internal controls.
- **Unclear assignment of duties**
  New legislation introduces a host of additional responsibilities. Companies will need to know who is responsible for what in their organization.
- **Outdated document management strategies**
  Companies can encounter obstacles if they attempt to meet Section 404 demands using their existing content and document management systems.
- **Loose off-the-ledger audit trails**
  Any weak links in documentation, data consistency or other internal controls can result in unnecessary costs, frustration and reporting errors.
- **Inefficient IT infrastructure**
- **Resistant corporate culture**

The motivations of SEPA are both political and economic. The single currency has greatly enhanced the need to standardize the area of payments and reduce the complexity and costs across domestic and cross-border payments. SEPA addresses the needs of both electronic payments products and those of paper-based products, and eliminates national barriers, foster greater competition and help to drive down revenues and costs. IFW supports financial institutions in achieving their strategic payment objectives by adopting and leveraging best practices and open standards advocated by IBM's vision of SOA.

The purpose of MiFID is to:

- Protect investors
- Provide harmonization in the market across the member states
- Make liquidity in the marketplace more transparent and accessible

The directive impacts the operational, compliance and supporting functions within a firm. It will lead to a EUR 1 billion technology spend by capital markets participants, while creating a EUR 1.15 billion revenue-generating opportunity for the investment industry. It opens up the marketplace to financial institutions. Once the financial institution is registered in one member state, it will be automatically entitled to trade across all member states.

Process Automation

The creation of efficient, automated processes can have a significant effect on key business objectives, such as:

- Improving customer service, reducing attrition and enabling cross-selling opportunities
- Reducing costs
- Improving time to market for new products
- Developing new channels

The IFW Process Models can be of benefit in each of these cases in many financial services organizations around the world. Customer service is improved by quicker reaction times and improved quality of response to queries and complaints, the provision of self-service facilities such as internet and telephone banking and by creating the perception of a segment-of-one service with profitable customers. In terms of cost reduction, the IFW Process Models help by showing how to eliminate unnecessary steps in processes and where activities can take place in parallel rather than sequentially, with fewer touch points. Time to market is improved by using the models to identify where existing processes can support new products and new channels. This technique also reduces the number of product-specific and channel-specific, but redundant, processes in use throughout financial services organizations, reducing training and maintenance costs across a wide area.

Example: Payments Processing

Faced with increasingly demanding customers and regulatory pressures, financial services organization are urged to rethink their business strategy and operational plans towards payments. They are challenged to maintain profitability in the face of increased competition. The need to increase operational efficiency and cut costs has never been greater. These challenges are focusing minds within financial services organizations to achieve seamless, end-to-end, straight-through processing (STP) from customer initiation to interaction with real-time gross settlement systems (RTGs), such as Fedwire and TARGET2 to final notification of the involved parties, while simultaneously integrating value-added services.

Payment solution costs remain high due to the varied approach financial services organizations take to making, receiving and reconciling payments and the level of manual interventions in end-to-end processing. If financial institutions were to achieve maximum cost effectiveness, process efficiency and facilitate an enterprise-wide risk management approach, it is critical that they move towards more homogeneous and standardized business modeling that enables the elimination of a product-silo-development approach and maximize reuse of processes across product lines. Financial services organizations need to look at alternative to processing payments in the traditional paper format and move towards implementing electronic STP solutions that result in cost reductions and can cater for higher volumes. An institution needs to take an integrated approach to payments to reduce cost and complexity. This is a further key to achieving competitive advantage.

In order to achieve the objective of increased automation, the IFW Process Models help identify the commonality of processing across the diverse payment systems, thereby understanding those common elements that can be reengineered into non-interruptible and automated processes from file receipt all the way to reconciliation and customer communications. IFW forces financial services organizations to rethink their strategic vision and define payment solutions not in the standard product silo manner, but initiate the definition of commonality across products and systems rather in the current silo manner. By using the IFW Process Models, financial services organizations will benefit from a flexible payments framework that allows them to respond rapidly to market shifts, customer demands and regulatory requirements.

Example: Account Opening Processing

Similarly, account opening inefficiencies hamper efforts to attract customers and cut costs. Driven by customer expectations and competitive pressures from market leaders, financial services companies are reassessing their delivery and customer management strategies. By eliminating inefficiencies, they are able to reduce costs as well as attract and retain customers.

Account opening processes represent a substantial opportunity to improve the productivity of a critical customer-facing process, while driving down costs.

The IFW Account Opening Solution:

- Maximizes the speed of account opening
- Minimizes operational costs by replacing paper-based manual processes with electronic forms that simplify data capture and eliminate keying errors
- Maximizes responsiveness to customers and business productivity by leveraging a common content repository
- Manages risk and exposure to fraud by automating application processing and making the right credit offers to the right customers
- Optimizes costs and performance throughout deployment and ongoing operations by modeling and monitoring account opening processes
- Helps deliver real business value with an integrated solution that transforms the account opening process

Benefits of IFW Process Models

- Reduced development time, where 40% reduction for new solutions is typical.
- Ready-made processes constructed with customer focus, without the need to reinvent the wheel.
- Control flow logic pre-analyzed, saving a lot of time in BPR projects.
- Consistent activity naming standards bring common understanding to business and technology people.
- Parallel processing opportunities reduce processing times.
- Triggers enable you to see what stimulus starts an activity or activity stream and what results are produced when an activity is completed.
- Integration and consistency with all other IFW Models make your projects extensible.
- Extensive reusability of activities and processes translate into less process maintenance and reduced training costs, while enabling flexibility in the workforce.
- Customizable generic templates enable you to meet your organization's specific requirements.
- Business requirements are defined in a cheaper, faster, easier and more complete manner.
- Proven leading-practice content validated by world leading financial services organizations over many years.
- Improved quality of developed components on any technology platform.
- Flexible implementation of process with standards and variables applied to multiple implementation.
- Package selection is improved to match your needs.
- Results are delivered with a predictable, less risky outcome.

IFW Process Models

Introduction

Financial services organizations tend to manage the same functions and execute the same processes in a number of slightly different ways. Financial services organizations that employ preanalyzed, well-engineered process templates for 80% of their operations can redeploy 80% of their analysis effort into customizing their processes with reusable building blocks to create substantial competitive advantage.

People and groups who benefit from using the models are those involved in:

- **Process Definition**
  The models can support analysis of the current “as is” and future “to be” processes by defining the logical activities, triggers and dependencies that comprise processes and by specifying the business rules required to perform each activity. This information ensures an understanding of the complete business context (what, when, why and by whom) in which work is performed.
- **Information Technology**
  The models can support the definition and analysis of information requirements for systems development. This information is essential to ensuring that systems are aligned with business needs and that the necessary systems support and infrastructure are in place to enable the business to use applications effectively.
- **Change Management**
  The models can support the analysis and definition of roles, skills and training required to implement new processes. This information enables the assessment of current processes, design of future processes and construction of a plan to transform that future vision into reality. The logical design of processes in the graphical form of process diagrams aids the presentation, discussion and agreement of ideas for change among business users, consultants, analysts, system designers and managers.

The IFW Process Model material is derived from many sources such as:

- IBM consultants who stay in close touch with the financial services industry, its organizations and associations
- IBM’s industry specific consultancy practices
- Dedicated IBM Industry Models and Assets Lab
- Working with international financial services organizations worldwide
- The Bank for International Settlements (BIS) for Basel II Accord material

IFW Process Model material is under constant review, regularly tested and validated during client assignments. Enhancements and additions are made continually, released via standard software release procedures to those clients with maintenance arrangements in place.

Overview of IFW Process Models

Three individual Models make up the IFW Process Models:

- Financial Services Business Process Model (FSBPM)
- Financial Services Function Model (FSFM)
- Financial Services Workflow Model (FSWM)

The following is a summary of the individual models. Detailed information on the models is contained in subsequent chapters.

Financial Services Business Process Model - FSBPM

The Business Process Model contains as much as 80% of all processes undertaken by financial services organizations trading internationally. The business processes are broadly categorized into the following value chains, representing processes that span many business functions:

Sales and Relationship Management
Know Your Customer/Account Opening
Lending
Card Products Administration
Commercial / Syndicated Lending
Mortgages/MISMO
Trade Finance
Savings, Investments and Deposits
Transfer Services
Payments - Direct Debits/Credit Transfer/Deposit/Withdrawal
Cash Management
Wealth Management
Product and Marketing Management
Regulatory and Compliance
Best Execution/MiFID
Trade Processing
Corporate Actions
Asset and Liability Management
Human Resource Administration

This categorization is compatible with both FSFM and the IFW Banking Data Warehouse (BDW), providing consistency that is propagated throughout the entire model set of the Information FrameWork (IFW). Each individual process represents a strand of work financial services organizations must perform to be successful. The process content represents leading practice that has been validated by financial services organizations across the world over several years. The five categories outlined above are the highest level of abstraction and can be decomposed into processes, sub-processes, activities and triggers. Detailed descriptions of some of the processes contained in the model are given in later chapters of this publication.

Financial Services Function Model – FSFM

FSFM is a hierarchical set of predefined, global business functions for the financial services industry. The key objective of the model is to align executive-level goals and objectives as well as the general policies and directives throughout financial services organizations with the supporting information systems, applications and processes. FSFM identifies key areas that benefit from redevelopment and business reengineering. This is achieved by prioritizing functions for underlying process change, assessing the benefits and justification for change and reviewing all of this with the sponsoring executive or executive group. Once the business strategy, organizational structure and processes have been aligned using FSFM, the IT department can become involved to ensure that proposed solutions are equally well aligned. The result of this cross-functional dialog is that the eventual development of IT solutions meets the functional requirements determined by the business, and is aligned with business strategy in order to deliver sustainable value to financial services organizations.

Financial Services Workflow Model – FSWM

IBM markets the Financial Services Workflow Model (FSWM) as an important part of the IFW concepts. Leading financial services organizations worldwide have been using these structures together with other IFW offerings for the purpose of redesigning their business processes. FSWM comprises hierarchies of generic activities, trigger types and standard verbs in easily referenced structures.

Building complete processes from building block components and create effective, reusable process structures is not an easy task. Many financial services organizations who valued the IFW premise of enterprise-wide reusability asked IBM to predefine and analyze the key business processes, so that they could speed up their development efforts by refining and customizing a template rather than building processes from scratch. IBM worked together with world-class financial services organizations to define a set of reusable, enterprise-wide business processes. These business processes were developed to provide a generic level of processes that can be reused anywhere in the operation of financial services companies with customization for product, customer, application and organizational differences.

Considerable time can be saved in the definition and agreement of requirements, analysis and design and in coordinating development efforts across various projects through the use of business processes. Another strength of the business processes is that they can be used for building a learning-organization culture where intellectual capital belonging to each employee, gained through experience, education and talent, can be harvested using common terminology as a basic element of continuous improvement. The business process models can also be used to stimulate innovation, break the mould and create new business paradigms, focusing on the customer.

Business Scope of IFW Process Models

Business Processes are closely aligned with the Financial Service Function Model (FSFM) and grouped loosely into five high-level classifications:

Relationship Management

Relationship Management business processes directly affect customers of financial services organizations. The organization needs to manage customer relationships to find customers to whom products should be sold. This includes customer evaluation, query handling, personal selling and special customer handling.

Account Origination and Administration

Account Origination and Administration Business Processes directly affect the provision of services to customers. Financial services organizations need to negotiate contracts with specific customers identified, provide account administration services once the contract has been formulated and established as well as answer queries of all types in a standard way and provide channel servicing for product and service delivery.

Risk and Compliance Management

Risk and Compliance Management business processes show financial organizations where to rethink their business strategies and operational plans in the face of increasingly prescriptive risk and compliance regulatory requirements. The primary motivation for the multitude of risk and compliance initiatives is to enhance investor confidence and provide financial and ethical protection to the industry as a whole. IBM advocates an approach whereby senior managers understand, leverage and optimize the synergies across the various regulatory requirements. IFW can support financial organizations developing an integrated, strategic, enterprise-wide approach that results in increased internal controls and corporate governance, enhanced relationships with customers, improved decision making, at lower costs. Risk and compliance management is now a key business driver that traverses many regulatory issues and bodies such as Basel II, SOX, SEPA and OFAC.

Asset and Liability Management

The Asset and Liability Management business processes manage activities required to:

- Research investment alternatives
- Assess the value of assets for financial services organizations or their customers to take custody of assets and administer them for the benefit of a principal
- Balance the mix of assets held by financial services organizations
- Collect debts owed by customers
- Define business processes to manage activities required to obtain funds from depositors and other creditors, and to determine the appropriate mix of funds that balances the cost of obtaining funds with the return that can be earned on those funds

Product and Market Management

Product and Market Management business processes show that financial organizations are operating in a highly competitive global market place. In order to develop market offerings, such as including products, channels and market segments, that will give competitive advantage and bring those offerings to the market quickly, financial services organizations need to identify gaps in the marketplace for which to analyze market opportunities and direct market communications.

IFW Process Models and other IBM Initiatives

IBM Master Data Management

IBM Master Data Management is SOA-based middleware designed to provide organizations with the most flexible framework to support enterprise with 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 master data management (MDM) strategy:

- Information integration
- Content management
- Business intelligence
- Master data management for specific data objects
  - product
  - customer
  - supplier and master data solutions

IFW Process Models provide enterprise-wide, long-running and interruptible business processes that determine the order in which supporting applications, including MDM components such as WebSphere Customer Center, are called typically via services exposed with SOA.

IBM Component Business Model

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. 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 business activities it performs and its supporting people and systems requirements.

CBM can be populated with IFW content, thereby transforming CBM from components to solutions. IFW provides proven and detailed banking model content that supports more than 80% of the high-level function components listed in CBM. CBM business components, representing functional business areas, are underpinned by a number of IFW business processes. Tasks and activities in the IFW processes that are candidates for automation are then defined in further detail in IFW Integration Models.

IFW Process Models and Tooling

The challenges that enterprise-wide integration projects present to financial services organizations are best met by leveraging the capabilities of a wide range of tools, each with very specific capabilities. The preferences and skill sets of each analysis and design group that play a role in the project can also lead to the adoption of role-based tooling that meets the needs of the individuals doing the work as opposed to a one-size-fits-all tool. IFW, through the delivery mechanism of its repository, can facilitate round-trip bridging of its process-model intellectual capital from its repository to specific optimization environments, such as WebSphere Business Modeler. We maintain flexibility to target other tooling environments in accordance with customer needs and technological changes.

Financial Services Business Process Model

Introduction

BPM contains a large number of enterprise-wide, generic processes and sub-processes made up of thousands of activities and triggers.

Business process engineering projects involve:

- Defining the scope of the project by selecting business processes and making a working copy of the processes in scope
- Customizing the model copy by firstly applying any reengineering optimizations, incorporating best-practice ideas, increasing parallel activities and removing unnecessary activities
- Further customizing the models by making explicit any product and channel-specific activity names
- Adding organizational roles and responsibilities by introducing so-called swim lanes into the process
- Adding technology support and constraints by introducing data flows and system interactions

In this way, a generic process flow is made specific to a particular business situation. By starting with the same generic process flow specification wherever a specific process definition for that process is required, standardization and reusability are maximized.

For projects involved in process simplification, achieving common processes across products and channels, harmonization of processes from merged organizations, and so on, the steps outlined above are preceded by identifying strategies whereby the differing process flows are selected according to how well they can be brought into synchronization. Understanding the strategies to be achieved by a given initiative is a prerequisite for scoping processes and prioritizing process customization.

Uses of the Business Process Model

Strategic planning	BPM provides an accessible model of successful financial services management processes, operations and their interrelationships. BPM provides a framework for strategic planners to understand financial services organizations and the impacts of strategies in one area on another, to ensure that complete, consistent and integrated strategies are defined, and initiatives to implement them are effective.
Acquisitions and mergers	BPM provides a benchmark against which organizations can be compared. Once process similarities, differences and gaps are identified, the desired "to be" state and merged organizations can be effectively planned and implemented.
Organization structuring	With its focus on flows and interrelationships, BPM provides a strong framework for understanding work content and interdepartmental dependencies. BPM becomes a powerful analytical approach for structuring organizations to best enable process execution and delivery of required outcomes.
Competencies and skills identification	BPM provides a sound framework against which to identify and define required enterprise competencies as well as specific skills for human resources of financial services organizations. Once specific structures have been defined, activities can be allocated to organization units, and role-skill requirements can be defined to execute those processes. Recruitment, selection, training and development needs can be more effectively identified in the process context.
Design delivery of packaged financial services products (market offerings)	Products can be thought of as sets of conditions for arrangements delivered by processes, BPM provides a basis for quickly and effectively packaging conditions for delivery to the market by identifying and activating the relevant condition delivery processes.

Outsource the business	Most traditional, integrated financial services organizations view their organizations as centrally consolidated businesses. Together with analysis of the business environment, competition and market presence (current and future). BPM can identify process components that can be separated from the total financial services value chain to form viable economic businesses, and find unprofitable businesses that can be outsourced or eliminated.
Benchmark and managing best practice	BPM can provide a common activity model against which an organization can measure and benchmark performance within financial services organizations and with other companies to maintain best-practice information. BPM can be used to compare and improve similar processes across organization units, geographies and lines of business.
Costing and management accounting	Tailored to specific contexts, BPM provides a process base on which to develop costing and management accounting systems. The activities are preidentified for allocation, measurement and accumulation of data at the level appropriate to the management information requirement.
Business transformation, reengineering	Business transformation and business process reengineering involve the selection, analysis, design and implementation of business solutions, addressing change requirements across IFW dimensions such as strategy, structure, skills, data, function, process, solution, application, network and system. Effective business engineering uses processes as the basis for design with reference to the other dimensions. BPM provides the basic process logic from which to design more effectively and quickly any future processes and identify specific change requirements.
Continuous improvement	BPM provides the basis for establishing performance measurement and enhancement initiatives. They can be used to develop a specific model against which process effectiveness (fitness for purpose), service level (responsiveness and service quality) and efficiency (input/output ratio) can be measured for process performance improvement.
Specify business requirements to technologists	Using BPM as the basis of business process requirements gathering and analysis across the IFW dimensions means that clear, well-defined, technology-functional requirements can be defined to meet business needs more completely and accurately.
Application development and integration	As a result of using BPM for business requirements specification, application developers can analyze, design, code, test and implement applications to improve business performance. BPM is also useful in identifying shared information flows between applications when integration is required.
Package evaluation	Enhanced definition of business requirements enables application software selection decisions to be made with greater clarity and confidence. The features and constraints of off-the-shelf package solutions, associated communication and hardware are more readily identified if the full current and future business requirements are clearly defined.
Risk management	Risk Management processes enable the identification of processes where risk may arise in the business and activities to manage the risk, including internal and external reporting where required. Broad coverage of Credit Risk, Operational Risk and Capital Adequacy, including issues such as potential employee fraud, liquidity risk due to changes in market take-up or economic conditions, changes in counter-party risk and the establishment of risk policy are all included in the enhanced BPM offering.

Benefits of FSBPM

- Brings competitive advantage to financial services organizations by processing transactions more quickly and at less cost than its competitors.
- Reduces time to market for new product introduction.
- Assists in the improvement of customer service, encouraging retention and relationship development.
- Provides ready-made business process definitions with customer focus.
- Includes extensive reuse of activities and processes that reduce system support and staff training requirements.
- Encourages and promotes a common process language and understanding across disparate lines of business and organization units.

- Eliminates redundancy in process variations.
- Accelerates solution development, reducing development cost.
- Provides a framework to which new products and processes can be easily added.

Examples of IFW Business Processes

The following pages give an example of three IFW Business Processes, including a description, definition and graphical representation in WebSphere Business Modeler:

- Administer Outpayment
- Provide Loan Arrangement/Account Offer
- Provide Operational Risk Capital Allocation

Adminster Outpayment

DEFINITION: To be in direct charge of or to steward the outpayment on behalf of an involved party.

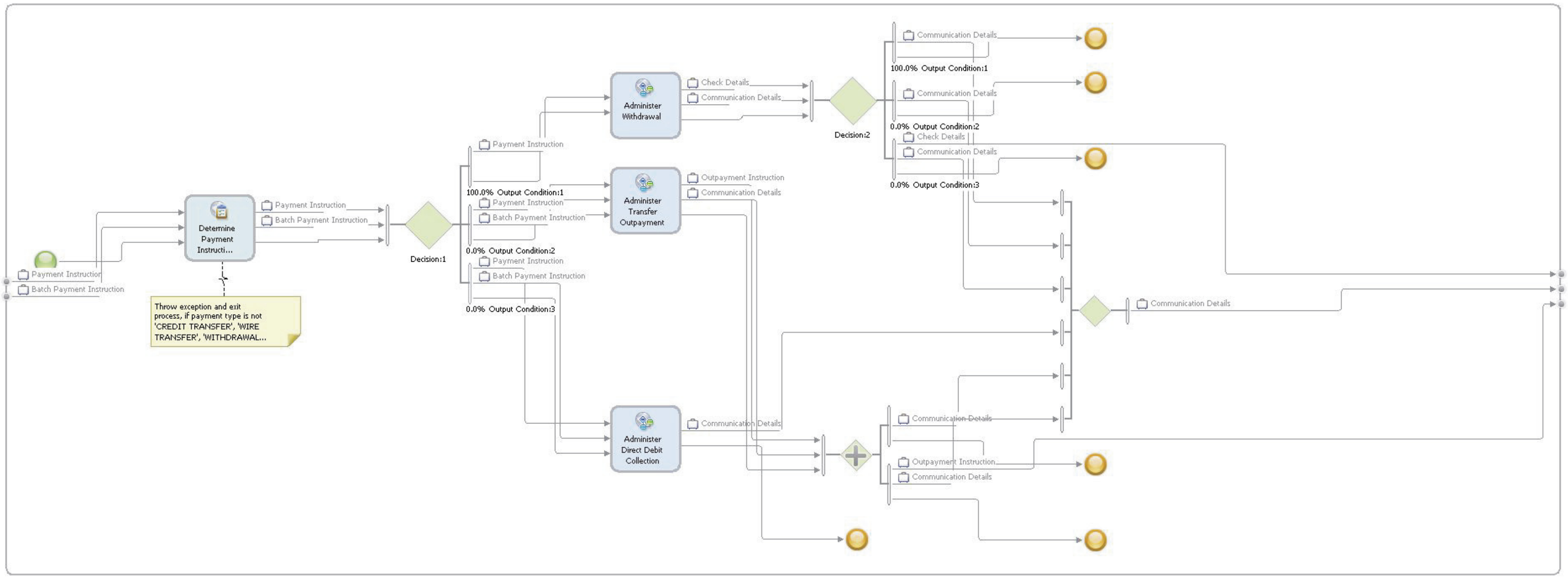
DESCRIPTION: This process encompasses activities necessary for the financial institution to process a request for outpayment and supply funds to a nominated beneficary or list of beneficiaries in a retail or wholesale (B2B, B2C) environment.

This process optimally facilitates a domestic or cross border payment using XML data transfers standards such as SWIFT (SWIFTNet Bulk Payments), Interactive Financial eXchange (IFX), Treasury workstation Integration Standards Team (TWIST), RosettaNet or Federal funds transfer system (Fedwire).

The motivation of corporates is to increase end-to-end Straight Through Processing (STP) rates of bulk payments. For example, SWIFT facilitates Bank-to-bank Bulk Credit Transfer XML message and Customer-to-bank Payment Initiation XML message. These allow the batching of an unlimited umber of payment instructions in an electronic file while leveraging the STP benefits of the MT103(+) and the technology benefits of the XML syntax.

The process includes the outpayment part of bill payment or where an outpayment is issued to an external supplier following an instruction received from a customer. This instruction can be received in person or in electronic (file) format. It also includes the issuing of guaranteed checks and official checks (i.e. Bank Drafts) in response to customer requests, where the funds for the official check are to come from a customer's business account.

WebSphere® software



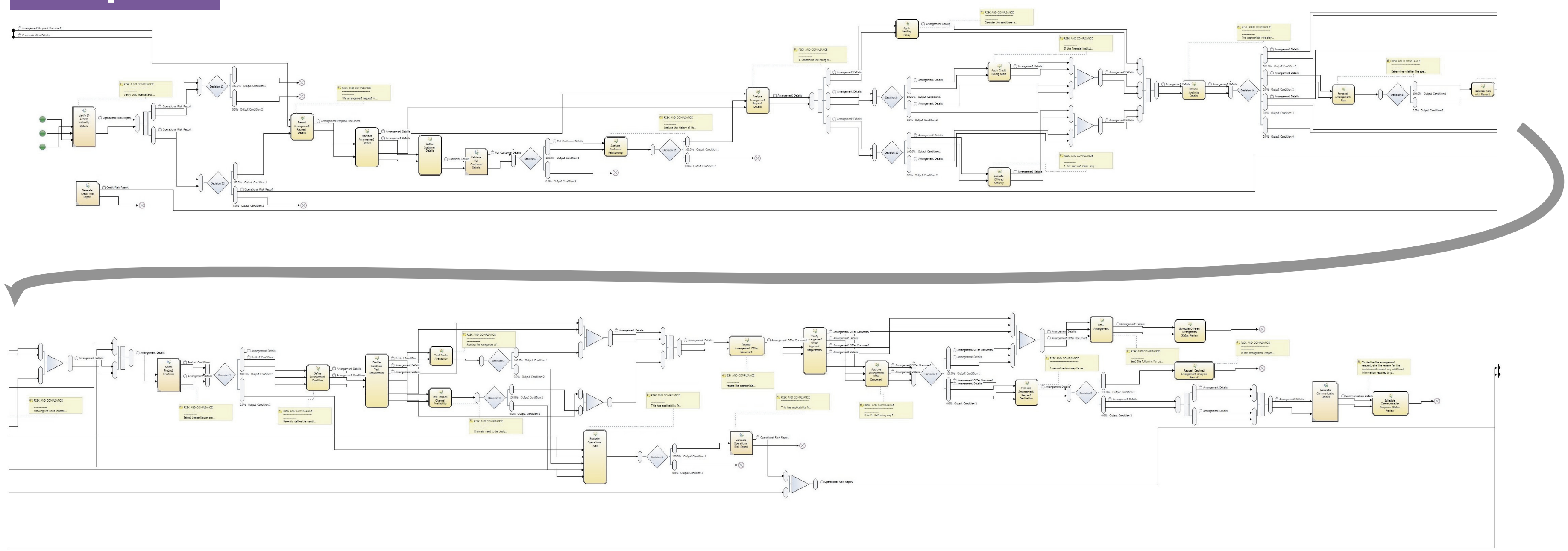
Provide Loan Arrangement/Account Offer

DEFINITION: To put a loan arrangement offer at the disposal of a customer; to supply a loan arrangement offer.

DESCRIPTION: This process encompasses the activities necessary for the financial institution to handle a request for a loan arrangement received from a customer (including any involved party relationship or potential customer) from the initial request (whether received in person, by mail, over the telephone, through a third party or sales agent), through to providing a response in the form of an arrangement offer (a tailored arrangement for the specific customer, the terms of which may be legally binding if accepted within a specific time period).

This workflow begins with the customer having a good idea of the type of arrangement required, based on product information previously received whether through enquiries, advertising, direct target marketing, and so on. It includes all the activities involved in negotiating the terms of the loan, including evaluating security, applying lending policy and rating scales, forecasting risk and pricing the loan to compensate for risk, making funds available for the future commitment and approving the loan at appropriate levels.

If an arrangement offer is not appropriate, the response to the loan arrangement request could be to generate a letter informing the requester that the Financial Institution is not prepared to make an offer under the terms that would satisfy the customer's stated requirements. If the arrangement is declined, then the analysis may be reworked and perhaps the detailed conditions ould be further negotiated with the customer. As a result of communication with the customer regarding the specific conditions of the arrangement (for example, pricing, changes in term, rates, required security, fees, and so on), amended arrangement request details would be recorded in the first activity of the workflow, to repeat the sequence of activities leading to approval of the arrangement offer. Any activities in which there are no changes in data are simply passed over to the next activity when the customer requests revised arrangement terms or when analysis rework is requested.



Provide Operational Risk Capital Allocation

DEFINITION: To put capital allocation at the disposal of, or to supply capital allocation to meet operational risk requirements.

DESCRIPTION: This process encompasses the activities necessary for the financial institution to provide sufficient capital to cover operational risk requirements. The financial institution retrieves the income statements for current and previous years, calculates the operational risk capital charge, allocates reserve funds and applies the accounting entry for the capital change. It also determines if a regulatory report is required and generates if necessary.

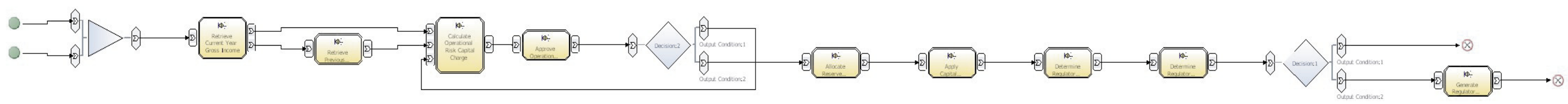
This process aligns with the requirements specified in Pillar 1 of the Basel II operational risk directives issued by the Bank of International Settlements (BIS).

(i) Basic Indicator Approach which specifies that a Financial Institution must hold capital equal to the average over the previous three years of a fixed percentage of positive annual gross income.

(ii) The Standardized Approach measures gross income across the suggested business lines and not across the whole Financial Institution. These suggested eight lines of business are corporate finance, trading and sales, retail banking, commercial banking, payment & settlement, agency services, asset management and retailed brokerage. In any given year, negative capital charges (resulting from negative gross income) in any business line may offset positive capital charges in other business lines without limit.

(iii) The Alternative Standardized Approach which specifies that banks maintain equity capital sufficient to protect depositors from losses and support asset growth. The capital adequacy standard in the banking industry is risk based capital, which allocates capital requirements by a risk weighting formula. The risk-based capital standard establishes an average 8% capital-to-asset ratio.

WebSphere® software



Financial Services Function Model

Introduction

The purpose of the Financial Services Function Model (FSFM) is to provide a hierarchy of standard business functions or areas of responsibility managed by financial services organizations. Functions in this hierarchy are normalized, which means that each function is exclusive and does not include any aspects of other functions. The hierarchy is also designed to be complete, which means that the hierarchy covers all functions carried out by financial services organizations, regardless of function owner or place. FSFM appears as a hierarchy of functions, where the lowest level of the hierarchy comprises the complete, non-overlapping list of functions required for financial services organizations to operate.

- Direction Management
  - Accounting Management
    - Account Classification
    - Financial Accounting
    - Management Accounting
    - Tax Accounting
  - Control Management
    - Compliance
    - Legal Supervision
    - Management Service
    - Operational Inspection
    - Operational Risk Management
    - Performance Evaluation
  - Strategy Management
    - Budget Formulation
    - Business Environment
    - Change Management
    - Coporate Governance
    - Corporate Policy Administration
    - Mission Establishment
    - Objetcive Establishment
    - Plans & Programme Establishment

The functional hierarchy does not represent an organization chart, but clarifies the functions at the lowest level of the hierarchy and enables navigation to them.

FSFM defines the terms that can be used in a consistent, enterprise-wide manner to identify functions carried out by financial services organizations. It provides a complete list of financial services functionsthat are independent of organizational structure, location, product line, channel or any other business aspect. In total, the model contains approximately 500 definitions of business management functions.

Uses of the Function Model

Scope business issues	FSFM allows rapid and complete scoping and comparison of the functional aspects of business issues and initiatives. By identifying functions involved in a particular issue, it is possible to create quickly a complete list of the business areas of responsibility to be considered in the initiative. If functions are similarly scoped for another issue, it is possible to compare and contrast the two issues using a common language and avoid duplication of effort in overlapping initiatives.
Determine information systems suitability	For example, an issue may be a proposed application system. Mapping the new system against the function model helps to gain a clear and complete functional profile of the proposed application. If we have already mapped key organization units against the function model (in other words, defining what functions are carried out by which organization units), it is possible to compare the new application scope with the organization unit scope, giving a clear picture of the impact of the new application on the various organization units.

Identify gaps	Similarly, if existing applications are mapped against the function model, the functional overlap between these applications and the proposed application can be readily displayed and evaluated to avoid duplication in application development and facilitate reusable solutions.

A Powerful Business Tool

FSFM is a vital tool in understanding the scope and impact of any new or existing business issue or initiative. Mergers and acquisition integration, organizational restructuring, new product and channel design, enterprise architecture design and application systems definition are but a few of the areas that benefit from the Financial Services Function Model. FSFM is a valuable business and IT planning tool and should be used at the commencement of any new initiative.

Specific uses include:

- Understanding the responsibilities of business units and the dependencies among them
- Integrating similar functions across business areas, supporting reusability of solutions
- Aligning business processes and organizational structure to strategy and prioritizing business requirements in functional terms
- Defining project scope clearly and avoiding duplication of effort with other projects
- Laying the foundation for the design of business process and application services/components
- Ensuring the completeness of SOA

Benefits

- Provides enterprise-wide definitions of business function, independent of organization structure or line of business.
- Forms part of a common language between business and IT.
- Provides a rapid and accurate scoping tool for new initiatives.
- Provides a predefined, readily customizable description of financial services functions .
- Helps to identify functional overlap.
- Can be used to identify ownership of business issues.
- Allows for the identification of processes that support individual functions.
- Helps to identify duplicate functions in multiple business units.

Financial Services Workflow Model

Introduction

The purpose of the Financial Services Workflow Model (FSWM) is to provide a consistent, enterprise-wide vocabulary for identifying and naming processes, activities and triggers independent of product, channel, organization structure and technology. Stripped down to its simplest form, business processes comprise a series or network of activities, each of which are activated as a result of one or more events or triggers occurring within their environment. When developing process architectures, the temptation is to define the structure of key processes, the interdependencies and sequences of flow within the process. However, it is extremely useful to have a set of predefined building blocks that identify the elements necessary to construct processes. FSWM is concerned with identifying the elements of processes rather than defining their structure and adds value in managing the basic process elements in a standard way to identify reusability.

Agreeing on a common lexicon

Having predefined activities, trigger names and definitions means that business analysts on different projects can use the same standard wording in modeling processes, as well as benefit from recognizing and reusing work from similar projects to speed up the development process.

Generating specific process activities within an enterprise-wide context

The activities and triggers within FSWM are designed to be independent of product, channel, technology and organizational structure. When financial services organizations design processes for a specific product, channel, organizational structure or technology, appropriate FSWM activities and triggers are copied to the new process design and then modified to reflect the specific requirements of the process at hand, such as specific product and channel, a mapping is maintained between the FSWM roots as well as the activities and triggers in the new processes.

Managing enterprise-wide processes

Mappings from FSWM to specific activities within financial services organizations processes provide a consistent, enterprise-wide index to processes. This reveals where similar processes are found in different parts of the enterprise. This encouraging reuse, avoiding redundancy and promoting business agility.

Constituent parts of FSWM

Triggers

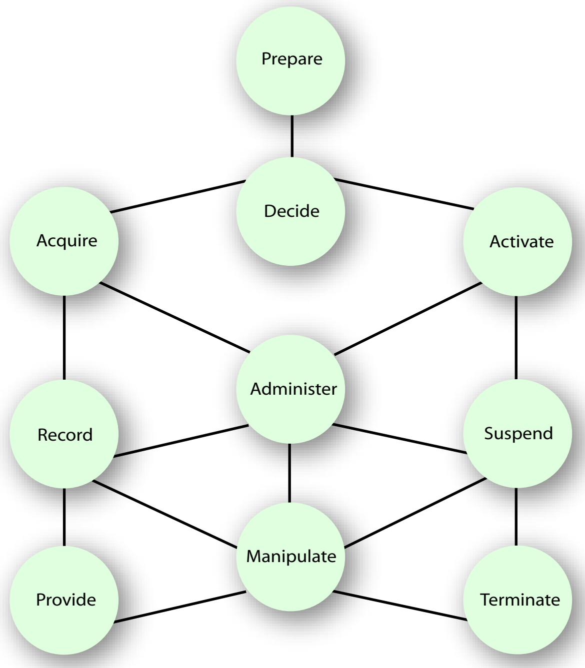
Business triggers, also known as stimuli or events, fall under one of six major classifications:

- **Communication driven**
  Communications received or sent by the enterprise
- **Condition driven**
  Changes in conditions or parameters
- **Decision driven**
  Decisions made by the enterprise
- **Incident driven**
  Expected or unexpected incidents noted by the enterprise
- **Opportunity driven**
  Business opportunities arising
- **Time related**
  Time passing or instants in time

FSWM provides a large set of well-defined trigger types to prompt the analysis of process input and output stimuli when building or customizing business processes.

Preferred Verbs

To ensure that processes and activities are identified and named consistently across the enterprise and their level of reuse optimized, it is necessary to have an agreed vocabulary. Naming an activity involves a verb and a noun. An activity does something to something, for example, “Accept Customer”. The rich set of nouns requires a set of standardized verbs for use in the modeling process. FSWM provides this verb set, classified by ten key, generic verbs expanded into a large number of specialized verbs that cover the complete life cycle of actions needed to be performed on objects. These generic verbs are:



Activities

The combination of the nouns and preferred verbs provides a comprehensive lexicon for naming activities in a consistent manner. Experience with this lexicon suggests that a starter set of frequently occurring activities, together with their definitions, is of significant value. In conjunction with a number of major financial services organizations, IBM set about developing such a generic activity set. While doing so, certain types of activity appeared many times, associated with different business concepts (nouns). For example, activities associated with “details”, “quantities” or “authorizations”. In summary, FSWM defines the terms that can be used in a consistent, enterprise-wide manner to identify activities and triggers that form the basis of processes of interest to financial services organizations.

Benefits

- Fast path to an enterprise process model often required by regulators.
- Consistent identification and naming of activities across the enterprise.
- Minimized redundancy of analysis and implementation.
- Greater consistency in the process design.
- Business requirements identified are cheaper, better and faster.

Other Important Principles of Construction

- Business processes may support many functions, while one function may be supported by many business processes.
- Business processes should have a designated business owner.
- Processes are implemented by teams of people, acting in different roles according to the skills profiles required to perform the constituent activities of each process.

- Activities may be manual or automated and performed by individuals, teams, application systems or automated routines, depending on implementation.
- Each activity requires data to perform the task and a set of business rules controlling the transformation of data into meaningful information, how the information should be interpreted and the appropriate decisions to be made.

Constructing Processes using FSWM

Examples of how to build processes:

Payments

Administer (IFW VERB) Out-Payment
Prepare (IFW VERB) Out-Payment
Gather (IFW VERB) Customer Financial Details
Modify (IFW VERB) Out-Payment
Analyze (IFW VERB) High Value Transaction
Authorize (IFW VERB) Transaction
Issue (IFW VERB) Out-Payment
Evaluate (IFW VERB) Operational Risk
Generate (IFW VERB) Operational Risk Report

Integration issues are a major concern for financial institutions. The existing infrastructure must be retained, yet, in order to meet the demands of today's business issues, a consistent architecture is required to maximize reuse and to support the development of new initiatives. Services-oriented architecture (SOA), as a basis for integration and as a means of structuring large-scale software architectures, are rapidly becoming the backbone of the modern financial institution. SOA can increase the speed of business changes, improve business efficiency and performance, as well as protect the privacy and security of critical information assets. SOA enables IT to align more tightly with business strategies in a cost-effective manner and in a secure and managed integration environment.

A key factor underpinning successful SOA is a common, enterprise-wide description of business concepts and processes of interest to a financial institution. Without this common language any attempt to support a consistent and flexible architecture will more than likely fail. The IFW Service Models provide this common language. The models support a complete and unambiguous description of the business services required to support the financial institution. The IFW Service Models enable the efficient and accurate gathering of requirements, and guarantees the consistency of definitions with a single integration effort or across multiple projects.

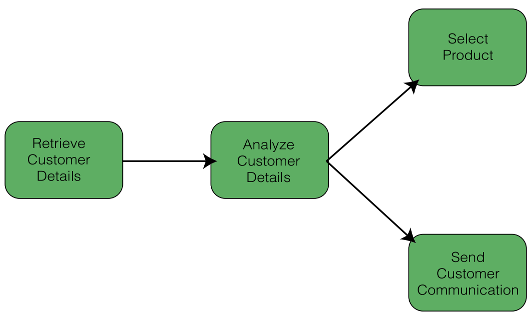
IFW Service Models are tightly coupled with IFW Process Models, describing the underlying services that support these processes at runtime. Using the IFW Service Models, business concepts can be traced from analysis level through design level refinements to actual component and message definitions that provide a quick start for the specification of common services within the organization.

The Financial Services Business Object Model

The Financial Services Business Object Model (FS-BOM) provides business content and guidance for SOA analysts, designers and systems developers. It is used to capture clearly any business requirements at a detailed level. Analysis of reusable elements within business processes defined by the IFW Process Models allow the identification of candidate business services that support these processes. For example, the business process for Account Opening will require the retrieval of "customer details". Other business processes, elsewhere in the financial institution, will have the same requirement. It is possible to identify a single solution that satisfies both these requirements and can be reused across the financial institution. This solution is a business service.

FS-BOM allows reusable elements within business processes to be explored further with the aim of identifying actual business services. FS-BOM is structured as:

- A set of use cases that describe service candidates
- A model of business concepts used by these use cases



Sample business process

Use Cases

Reusable elements within business processes are analyzed further within FS-BOM as use cases that aid requirements definition. These use cases are presented as:

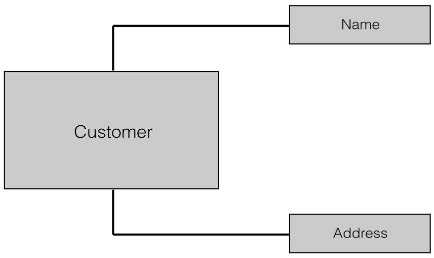
- High-level representations of the use case and the inputs and outputs of that use case as a whole
- Decompositions of these high-level use cases into sequences of business activities, the interactions between these activities and key business concepts within the model

Sample use case

IFW Process Models provide the context in which a requirement occurs, while the use cases in FS-BOM describe the actual requirements.

Business Concepts

Part of describing a requirement in a use case is describing the business concepts or classes involved in that requirement. For example, in the case of retrieving "customer details" it is important to be able to describe the customer details and how they relate to other concepts in the model. FS-BOM contains detailed UML models describing these classes.



Sample class

For example, the Customer class defines the characteristics, responsibilities and constraints that apply to every customer. Each class comprises:

- **Attributes**
  Describe a piece of information about the class. For example, the attribute dateOfBirth defined as part of Customer provides details on the customer date of birth. Using attributes, the business modeler can capture specific characteristics of any business concept.
- **Operations**
  Describe an action that can be performed on a class. For example, the operation getName, defined as part of Customer, will retrieve the name of that customer or perhaps a specific type of name depending on the requirements.
- **Associations**
  Describe a relationship between two classes. For example, a Customer having an Address. Often these associations will support the operations of the model, such as getCustomerAddress.

These classes modeled within FS-BOM are grouped into packages that represent specific business areas, supporting hundreds of business-level use cases. Packages allow:

- Clear separation of business concepts/classes
- Enhanced model readability
- Easier manipulation of the model as each package can be controlled independently

The use cases and business concept (class) definitions work together to describe fully the business requirements and rules of a financial institution with the aim of providing the information necessary to modelers designing SOA.

Uses of FS-BOM

- Capture more detailed requirements of particular business activities.
- Enforce consistency in captured requirements.
- Identify candidate services for SOA.
- Provide a point at which all business requirements can be definitively captured.

Benefits of FS-BOM

- Express requirements in a structured way.
- Designed to be understood by both business and IT, and acts as a communication bridge between communities.
- Provides an environment in which reuse possibilities can be identified and verified.
- Provides a firm basis on which integration or SOA solutions can be built.
- Enables consistency of definitions.
- Provides a ready-built model so you can focus on business issues rather than building a model from scratch.

Financial Services Interface Design Model

The Financial Services Interface Design Model (FS-IDM) takes the analysis-level use cases and concepts identified within FS-BOM and allows the financial institution to specify SOA that meets these requirements. This task is normally performed by a technical team within the financial institution, who make design-level decisions based on aspects such as the technology environment. This team works from a stable model of business requirements (FS-BOM) that eliminates the need for repeated requirements specification. This greatly increases the applicability of technical solutions and reduces the time to specify them.

FS-IDM was developed to:

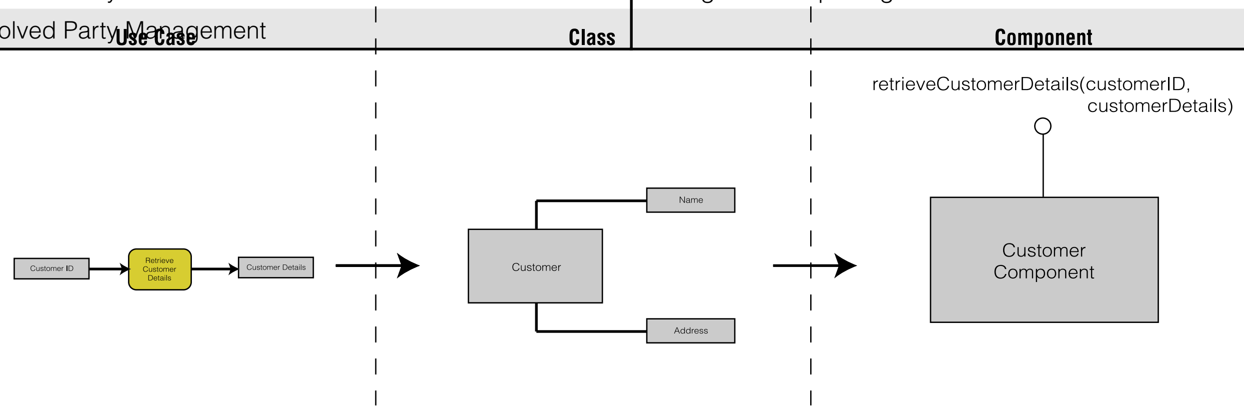
- Assist modelers in designing reusable services that meet the financial institution's stated requirements
- Define business components that support these services
- Define standard interface definitions that describe communications between software systems in the financial institution

Business Service Groupings

FS-IDM is structured as a component model, describing units of software that satisfy specific business requirements. The actual requirements supported by a component are described as interfaces with group-related services. The details of FS-IDM components are derived from the class models of FS-BOM, providing the detailed class definitions and relationships that describe how the component operates. The interfaces of these components are derived from the use cases of FS-BOM, describing the capabilities of these components and how they interact.

The FS-IDM components are designed to meet specific business needs, such as:

Arrangement Account Administration	Liability Management
Arrangement Management	Liquidity Management
Asset Management	Market Management
Capital Management	Product Development
Channel Management	Product Distribution
Collateral Management	Profit and Loss Management
Communication Management	Relationship Monitoring
Financial Market Offering Management	Risk Management
Financial Transaction Card Access	Special Customer Assistance
Financial Transaction Processing	Human Resource Management
Infrastructure Management	Arrangement Negotiation
Involved Party Evaluation	Arrangement Reporting
Involved Party Management	



Defining FS-IDM services based on FS-BOM use cases

Business Service Interactions

In a similar way that FS-BOM describes the sequence of business activities within a use case, FS-IDM describes the collaboration between services to meet a business goal. For example, the retrieveCustomerDetails service may call other, finer-grained services to perform required tasks, such as getCustomerName or getCustomerAddress. Collaborations between services are essential to a successful SOA as they prevent the definition of monolithic services that are less reusable across multiple projects.

Uses of FS-IDM

- Assists in SOA design.
- Provides component definitions for software development.
- Provides messages definitions for integration development.

Benefits of FS-IDM

- Allows you to construct services within a formalized model.
- Provides traceability back to business requirements.
- Structured to maximize reuse of business services.
- Enables consistency of definitions.
- Provides a ready-built model so you can focus on business issues rather than building a model from scratch.

Deploying IFW Service Models

FS-IDM remains a technology-independent view of SOA and requires transformation into the specifics of a given technology such as Web Services or XML messaging. However, some of this translation can be done automatically through the use of the IFW Service Model Generators, producing stubs and templates for use in an implementation environment.

For more information:

IBM Industry Models

Software Group

http://www-01.ibm.com/software/data/ips/products/industrymodels/

ibm.com