Quotation

Underwriting

Re- Insurance

New Business

Endorsements

Claim Management

GIS General Insurance System

SIDAT HYDER

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1. Introduction & Background

Sidat Hyder – General Insurance System (GIS) is a suite of modules providing complete solution for general insurance administration, alongwith maintaining relevant accounting information and fulfilling the management's requirements by generating Management Information Reports.

The solution has been developed using state-of-the-art technology and runs on a variety of technological platforms. It has been designed for usability across both the company's intranet as well as over the Internet, according to the deployment suitable with the organization.

Sidat Hyder – General Insurance System (GIS) in its present state is a result of years of efforts put into the product by our business consulting and software development experts and incorporates feedback from previous systems by our valued customers.

Focused to serve as the technology partner for our customers, we maintain dedicated development and support teams to deliver powerful functionality for current needs, while providing solid platform for future ones. Our business solutions are there to grow with your business needs.

1.1 History

This version was developed in late 80's for IBM AS/400.	Version 1
This was developed under FoxPro in late 80's for PC environment using LAN.	Version 2
Enhanced version of Version 2, developed in mid 90's. This version is based on Client/Server Technology with option of Sybase SQL Anywhere/MS SQL Server 2000 as back end and PowerBuilder as development tool.	Version 3
This was developed by using the power of Internet technology to offer on-line quotations, policy services, claims, intimations etc. The system has been developed on J2EE standards (browser – based application) using JavaScript and HTML as the front end tool and Oracle 10g, DB2 & MS SQL Server can be used as backend database engines.	Version 4 (Latest Version)

Table 1.1

1.2 Features

The system has the following features:

Product Configuration:

Provides user-defined product definitions which include business class, risks/ perils, discounts, charges, clauses and warranties flexible enough to cater expansion and modification with new insurance practices.

Easy to use:

The forms are dynamic and colorful, having been designed to follow a logical workflow. Pop-up windows are available to select the desired code rather than having to remember them. Buttons and dialog boxes are available for easy navigation. This Graphical User Interface (GUI) makes the software easy to use, reducing training costs and increasing user performance.

Parameterization:

The system is highly parameterized and uses a product definition concept. All entities like currencies, branches, locations etc. are parameter driven.

Data Integrity:

In order to reduce data entry errors and ensure data integrity, data entered by the users is validated by the system against a set of parameters or default values, which are set up at the time of system installation or configuration. The suite is a set of integrated modules and therefore provides a single point for data entry, preventing duplication of data between different modules/departments.

Security- Provides Multilevel Authorization:

Each user is assigned a user-id, password and security-level having a well-defined personal menu. When the user commits a transaction, the system checks his/her authority level and also saves the user-id and date/time as a part of transaction. Similarly, when users log into the system their personalized menu appears on the screen, thereby restricting their access to functions relevant to their work.

Audit Trail:

The system maintains an audit trail for each transaction being created or updated. For this purpose, the system records transaction reference number, user-id, date and time as a part of each transaction.

Accounting Interface:

Provides the user an interface to set standard debit/credit entries (vouchers) against each type of transaction. The system at the time

Features
*Product Configuration
* Easy to use
* Data Integrated
* Multilevel Security
* Audit Trail
* Accounting Interface
* Multicurrency
* Multi Branch
* Excel Interface
* Multiple Platforms

of transaction entry within any of its modules generates vouchers automatically by referring to the set up entries. These vouchers are then transferred to their respective General Ledger Accounts.

Multi-Currency:

The system deals with multiple currencies, maintaining exchange rates with respect to different foreign currencies on a daily basis for different rate-types (e.g. spot selling, etc.).

Multi Branch:

The system is designed around a multi-branch environment, with the facility to consolidate data at regional or head office level.

Excel Interface:

Excel interface is used for producing both MIS reports and financial statements subject to the acquisition of the complete SHMA Accounting System

Multiple Platforms:

The system is capable of running under Windows as well as Linux/Unix environment. The system is designed to work with different database engines. Presently, the system supports Oracle 8i or above, DB2 & MS SQL Server.

Centralized & Distributed Environment:

The system is capable to running in both centralized and distributed environments.

2. Sidat Hyder-General Insurance System

Sidat Hyder – General Insurance System (GIS) comprises three sets of shells, each of which contains a number of modules and functions. Below is a brief description of these shells:

Global Application Shell

Parameter Management Layer

Security Management Layer

Transaction Routing Layer

Transaction Audit Layer

General Insurance Application Shell

Product Configuration Module

Quotation Module

Underwriting Module

- New Business Module
- Alteration Module
- Renewal Module

Re-insurance Module

Claim Processing Module

Supporting Application Shell

MIS Reporting Module

Accounting Module

Document Imaging

2.1 Global Application Shell

2.1.1 Parameter Management Layer

The system is highly parameterized and uses a product-definition concept. All other entities like currency, branches, location, etc., are parameter driven.

2.1.2 Security Management Layer

The Security Management Layer (SML) is the main key to enter into any of the module(s) of GIS for which a user has access rights. The basic purpose of this layer is to record group and user profile(s) along with the parameters like identification details, information and facilities available, the dates and times at which the system may be accessed and other information required for security management.

The module also allows definition of different types of parameters like GIS modules, options, functions, programs, etc., which will be used in setting up of group and user profile(s). Due to these setups, the application administrator can generate custom-based user/group menus, so that when a user logs into the system, his/her personalized menu will appear on the screen.

Security module offers features such as Global Security Policy, GIS module repository, user-defined holidays, business activity, menu generation on group and user level, group and user-level access rights, time and location-based user access etc.

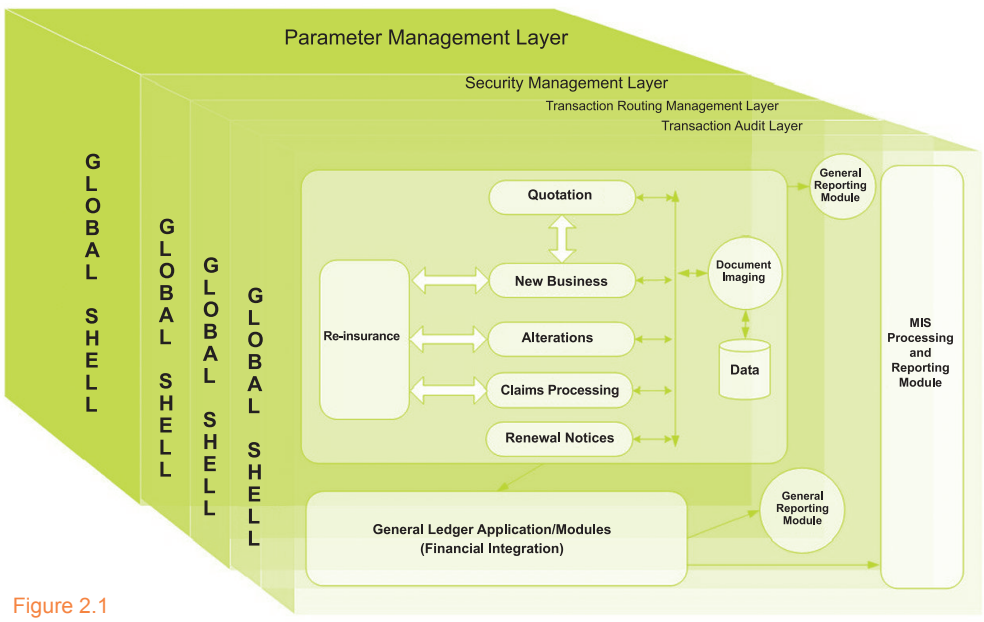


Figure 2.1

2.1.3 Transaction Routing Layer

The system provides real-time transaction management in a way that the users can easily and quickly access transactional records. The system has built-in features for transaction routing and tracking of other levels of users. Provisions to set up authority levels with authority groups in terms of the authority limits, which will be controlled through parameters, are available.
The user authorization level, with regard to the transaction approval can also be configured through this module, e.g. while entering a transaction such as Policy Issuance, if premium is greater than Rs. 10,000/-, then this should be authorized by two different levels of users, i.e., one is official and other is manager, that can easily be defined through this layer. The flow of the routing works in this way.

A user can create any transaction in the system according to his/her access level. This transaction is then forwarded to the next level of user/group for verification /authorization according to the system setup parameters. Once a transaction is forwarded to a user/group, it is placed in the 'Inbox' of all the members of the user group, with attributes such as Received Date/Time, Transaction, Sent By, Date/Time and Status. The user can either perform an action on the received items or forward it to another user/group in the organization. In case of forwarding to another user/group, the selection can be made manually. In case of auto – forwarding, the system picks the next-level user/group from the setup parameters and forwards the selected transaction. After the forwarding operation is completed, the item is removed from the 'Inbox' of this user and moved to the 'Inbox' of the other user/group.
On the other hand, the user can perform any of the authorized functions/activities such as Review, Forward, Approve, Reject, etc. on the transaction received in the 'Inbox'. The integrated architecture ensures optimal security and performance.

An illustration regarding policy issuance to customer is available on the next page. This is an example; however the clients can setup their own authority level and routing by defining the parameter in this module.

2.1.4 Transaction Audit Trail Layer

Audit Trail or Activities Log is used to track the activities performed by different users on the system as operations. During each activity, the system maintains a record in the log (Audit Trail) with the user identification, activity, date/time, network identification (like IP address) and other details as setup in the system. The system takes care of all the events and their logging, online monitoring and later analysis. The system provides different types of Audit Trail Logs based on the selection criteria, such as Business Activity Audit Trail, Module Attributes Audit Trail, User Login Log, Activity Audit Log and Column Audit Log.

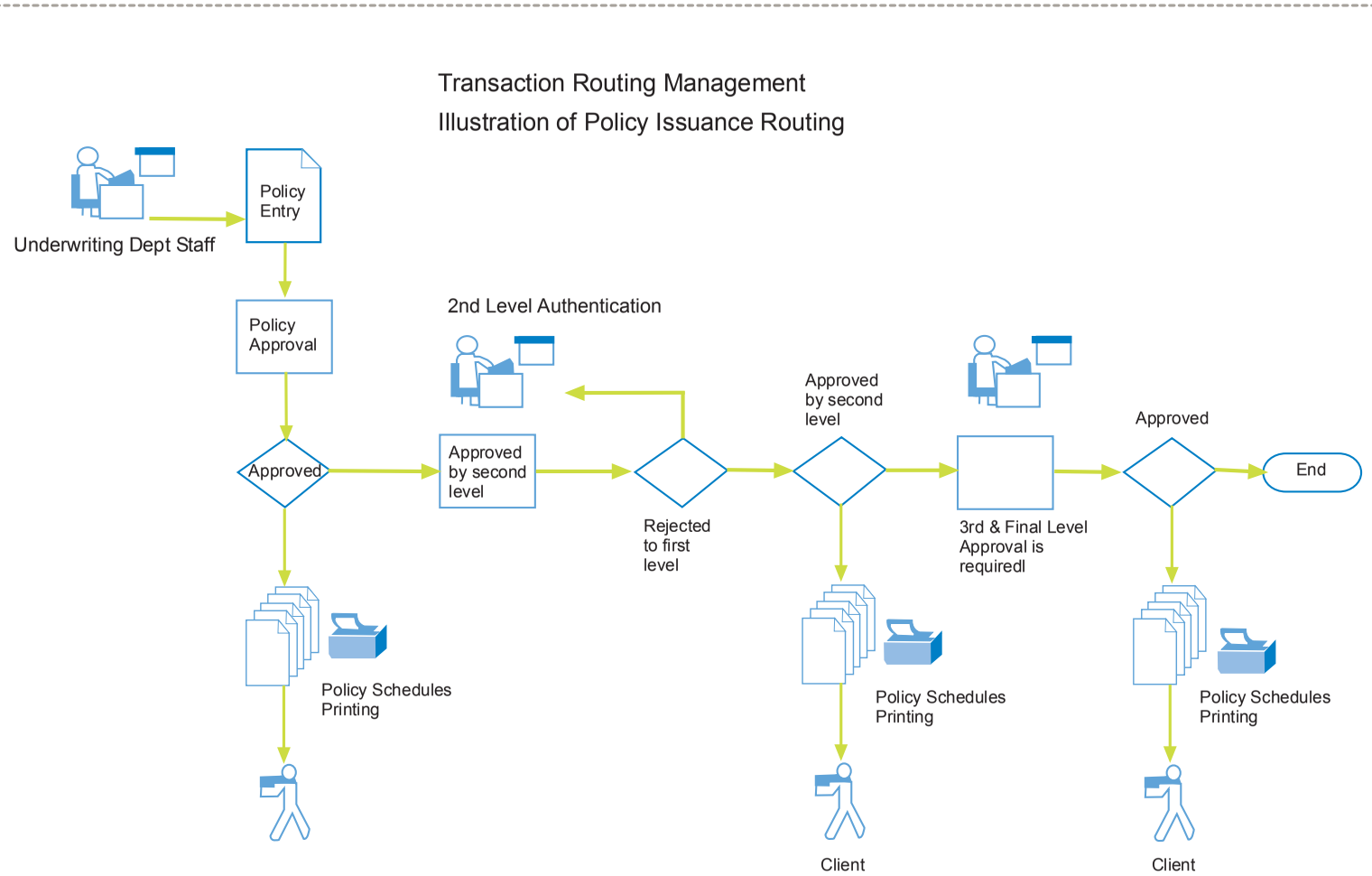

Transaction Routing Management
Illustration of Policy Issuance Routing
Underwriting Dept Staff
Policy Entry
Policy Approval
Approved
2nd Level Authentication
Approved by second level
Rejected to first level
Approved by second level
3rd & Final Level Approval is requiredl
Approved
End
Policy Schedules Printing
Policy Schedules Printing
Policy Schedules Printing
Client
Client

Figure 2.2

2.2 General Insurance Application Shell

The General Insurance System includes the following main functional areas/modules:

- Product Configuration
- Quotation
- Underwriting
    - New Business
    - Endorsements
    - Renewals
- Reinsurance
- Claims and Settlements

2.2.1 Product Configuration

This module assists the user in configuring the product by defining associated Class of Business (CoB), perils/risks, discount(s), charges, clauses and warranties. Under each class of business associated with a product, allowable perils/risks, charge and discounts are defined. In addition to that, the allowable clauses and warranties are also maintained under each class of business/ product. The benefits of the product configuration are manifold. The efficient product configuration module minimizes the impact on the system when a new product is launched as almost all products would be capable of being defined using the product configuration facility thereby not requiring the modification of the system code and consequential heavy testing. In addition to that, the setup of the existing products can also be modified whenever required with the effect on the system being instantaneous.

The class of business where relatively less complex calculations are involved is dealt with by an interface which provides the facility to define and re-define only the rates pertaining to perils, charges, discounts etc. However, the class of business where complex calculations are involved is dealt with by a separate interface, which provides the facility to define and re-define rates as per condition or combination along with the formulae. This interface is very powerful and user-friendly, and offers users the ability to define complex calculations with ease, in terms of processes containing various formulae and picking the rates by interpreting the combinations and the conditions associated with those processes.

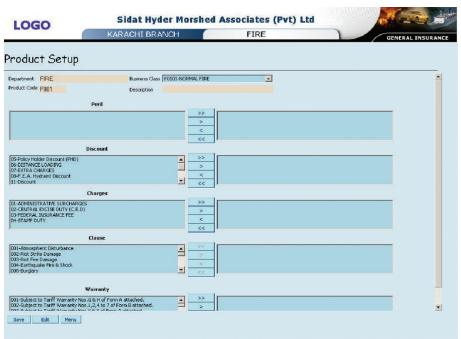


Figure 2.3

2.2.2 Quotation

The quotation is basically an optional proposal prepared on demand by prospective customer(s), after having ascertained the specific requirement.
It contains basic information to work out the premium. In a quotation, the insurance type (i.e. Direct, Co-insurance-outward,

Co-insurance-inward, Re-insurance-ceded and Re-insurance-accepted etc.) is also specified. In case of Co-insurance and Re-insurance types of policies, mandatory information related to ceding company/ leader is required by the system.

2.2.3 Underwriting

The underwriting department offers different types of products for corporate and individual clients. The designed structure of those products varies in terms of the benefits, payments as well as the premium and policy charge structure. The system supports all types of general insurance products prevailing in the market by setting up product details in the product configuration module. Business-nature wise, the system caters to the classes listed in Table 2.1. The system has the capability to manage information pertaining to the following types of documents:

Cover Note (CN)

The system has the capability to issue Cover Note (CN), a temporary document for short-term coverage as a pre-policy document. The CN can be prepared either directly or through a quotation, that can be converted into a CN. Through the system, a CN is either converted into a policy provided that the premium has been received or assumed cancelled by the system after the expiry period if the premium amount is not received by the system.

Open Cover (OC)

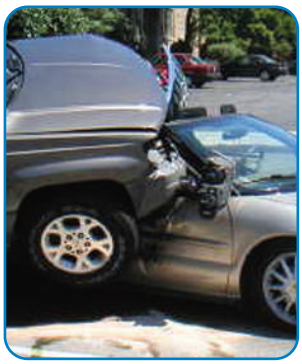
Specific to the Marine class of business, Open Cover (OC) can be prepared from the system either directly or through an already entered quotation that can be converted into an Open Cover (OC). In order to cover a consignment against an OC, a Certificate of Marine Insurance (CMI) can be prepared from the system. OC can be issued against multiple consignments; therefore the system has the capability to issue multiple CMIs against an OC.

Open Policy (OP)

An Open Policy (OP) is a document prepared to insure the risk of inland transit of goods for a specific period of time. An OP can be prepared from the system either directly or through an already entered quotation that can be converted into an Open Policy (OP). The system also has the provision to issue multiple policies or CMI against an OP, based upon the shipment advice/declaration received from the customer.

DOCUMENTS OF INSURANCE

* Quotation
* Cover note
* Open Cover
* Open Policy
* Certificate of Marine Insurance
* Certificate of Motor Insurance
* Policy



Motor	Fire	Marine	Miscellaneous
Comprehensive Third Party Act Only	Normal (Standard) Declaration Consequential loss	Cargo Hull	Personal Accident Bond Performance Bond Surety Bond Advance Payment Bond Engineering Contractors All Risk Erection All Risk Boiler & Pressure Vessel Loss of Profit due to MBD Machinery Break down Contractor Plan & Equipment Electronic Equipment Insurance Deterioration of Stock in Cold Storage Control of Oil wells/ Equipment Burglary Fidelity Guarantee Agreement Baggage Insurance Public Liability Product Liability Professional Liability Third Party Liability Cash in Transit Cash in Safe Goods in Transit Cash on Counter Workmen Compensation Travel Insurance Mobile Phone Computer All Risk Aviation Oil Well

Table 2.1

Certificate of Marine Insurance (CMI)

The CMI can be issued from the system against an Open Cover/Open Policy for each shipment advice. The system books premium against this document and later on, the loss/damages can be prepared by the system against a policy number through the Claim module.

Underwriting is a common module to deal with the processing of the above-mentioned documents and is divided into the following functional areas:

- New Business
- Endorsements/Amendments
- Renewals

2.2.3.1 New Business

This is a common module for the processing of all type of documents as discussed above. The logical sequence of entering a document into the system is quotation, CN or OP or OC & then the Policy. This sequence can also be overridden by directly entering the Policy document, OP or OC. In case of entering the policy document where the quotation/OP/OC/CN has already been issued to the client, the base document reference (i.e. Quotation/Cover Note number etc.) is specified and the system automatically picks all the details of the base document to associate with the policy document and allows any further changes to the document.

Similarly, in the case of CMI, OP or OC can be used as the base document for the issuance of certificate from the system.

The base document data in the system is entered in two steps. In the first step, the client data is entered if it is a new client and then the rest of the document data is captured. The determination of a new or an existing client is facilitated by client search.

Once the client information has been entered, the second step involves entering the mandatory information of the document (Quotation, Policy etc.) like Class of Business, Commencement Date, Expiry date, Currency, Client Address, Bank Details, Product and item details into the system.

Figure 2.4

The other detail of the items varies as per each class of business (i.e. Motor, Fire, Marine and Miscellaneous etc.). This block of information comes as a run-time parameterized screen, which is based entirely on the class of business selected at the document level.

The additional columns alongwith their attributes are defined under each class of business as parameters.

Upon completion of the data entry for the document, the same is validated by the system. During validation, the system ensures that all mandatory information has been entered and generates terminal and warning messages where the information has been found missing. Once validated, the system automatically carries out all the computations related to basic premium, gross premium, discount, charges, levies and commission etc. based on the setup as defined in the product configuration module.

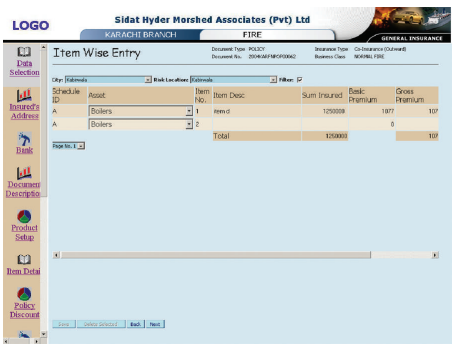


Figure 2.5

The system has the provision to capture multiple items against each product. Similar provision is available to capture multiple charges, discounts, levies, risk/perils etc. against each item. The system also has the provision to capture multiple discounts, charges, levies etc. at document level.

Documents Approval

This is a common approval option for all types of documents discussed above. After approval, the final document is then produced from the system for the client.

- In the case of Quotation, the document is available for conversion into a policy, CN, OP or OC as the case may be.
- In the case of OC and OP, the system allows the user to create CMI or Policy on receiving the shipment advice.
- In the case of Policy and CMI, the system generates accounting entries depending on the type of insurance for the accounting module (The event-based set of accounting entries to be generated are defined in the system as parameters).

Document Printing from the system

The Quotations, Cover Note, Open Cover, Open Policy, Certificates of Insurance and the Policy Schedules, along with Item schedule are printed through SHMA report writer, which has direct interface with Word and Excel. The SHMA report writer fetches the data and sends it to the Word template. The rest of the printing of the document is taken care by word.

2.2.3.2 Endorsements/Amendments

This module deals with the processing of approved documents where the client requests the company to alter any of the modifiable details of the document.

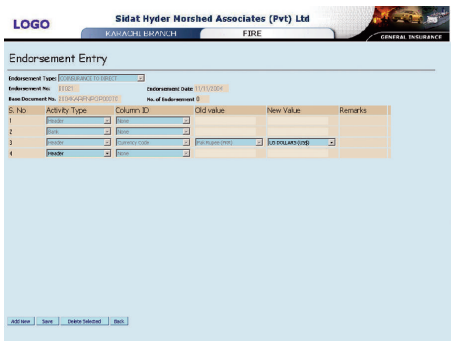


Figure 2.6

The alteration to the document is treated as Endorsement/Amendment, depending on the type of document where alteration is required. The alteration to the documents like Policies, Open Policies and Open Covers are treated as endorsements whereas it is treated as Amendment for documents like Cover Note, etc. Practically the endorsements/amendments to the document may fall into one of the two categories, the one being non-financial part where there are no monetary implications like address change etc. and the other one being the financial part having some monetary implications like Sum Assured Change, Period of Insurance Change etc.

The system has the capability to cater to both types of endorsement/amendment i.e., financial and non-financial. Following is the list of valid endorsements / amendments to the document that can be handled by the system:

Non-Financial	Financial
Address Change	Change of Peril
Bank Change	Change in Discounts
Document Description Change	Agency Change
Clauses Change	Direct to Co-insurer
Warranties	Co-insurer Change
Change	Period Change
	Document Cancellation
	Sum Assured for Particular Period
	Change in Items
	Party code change
	Document Issue Date Change
	Currency Code Change

Table 2.2

Endorsement/Amendment Approval

In case of financial endorsement/ amendment, the system displays the amount of increase or decrease in premium & commission alongwith an increase or decrease in sum assured for visual verification. Upon approval of the endorsement/amendment document, the system approves the document and generates accounting entries for the increase/decrease in premium and commission on online basis depending upon the type of insurance. The user can produce all the relevant schedules and documents for the client after approving an endorsement/amendment.

2.2.3.3 Renewal

This module basically deals with renewal of the policies by generating premium renewal notices based on producing a report, showing the list of policies that are getting expired and later generating the premium reminders.

Premium Renewal Notices Generation

The system generates premium renewal notices by picking all policies where the premium due date is falling in the next calendar month (prior to certain time period, normally 10 days, defined as parameters, prior to the premium due date) and there isn't enough money in the credit balance of the policy to repay the full premium.

* Premium Reminder Generation
* Policy Lapses
* Policy Renewal Notice Generation
* Policy Renewal Reminder Generation
* Policy Renewal

Premium Reminder Generation

The 1st Premium Renewal Reminder is generated from the system after a specified period (defined as a parameter) from the premium due date of the policy if the client does not respond. Similarly, a 2nd Premium renewal reminder is generated after certain specified period (defined as a parameter) from the issuance of 1st premium renewal reminder.

Policy Lapses

After certain specified period (defined in the parameters) from the issuance of the 2nd premium reminder, the system converts the status of the policy as Lapsed – Non Payment, in which case the policy will not be entitled for a cover. However, a lapsed policy can be reinstated upon receipt of required premium.

Policy Renewal Notices Generation

The system generates policy renewal notices along with list for the next insurance period of all policies that are going to expire during the next calendar month (for selected month). The Renewal notices are not generated where the period of insurance of policy has been changed through endorsement for extension.

Policy Renewal Reminders Generation

1st Policy Renewal Reminder is generated from the system after certain specified period (defined as parameter) from the expiry of the policy if the client does not respond. Similarly, a 2nd Policy renewal reminder is generated after certain specified period (defined as parameter) from the issuance of 1st policy renewal reminder. The system then treats the Policy as Closed (i.e., not renewed) after certain specified period (defined as parameter) from issuance of the 2nd policy renewal reminder.

Policy Renewal

Upon confirmation from the client for the renewal of the policy, the details of the previous policy data is automatically transferred to the renewed policy. However, any amendment(s) to the policy data is allowed by the system. After checking and verification of the document, the same is approved for renewal, which creates the relevant vouchers for premium and commissions accordingly.

2.2.4 Reinsurance

This module is common to all underwriting modules, and handles all the major reinsurance functions.

Defining Treaties

Treaty rules and rates have to be set up as part of the global parameters set up into the system that can be modified/updated whenever required.

- The treaty parameter setup and treaty group setup are defined for each class of business like Fire, Marine, Motor and Miscellaneous.

- Different treaties arranged for a particular class of business are defined along with company retention and number of lines of each treaty.

- The treaty pool companies are defined under each treaty along with the company share percentage, commission share percentage etc. By the help of these parameters, quarterly treaty account are prepared and produced by the system.

- The treaty groups are defined for each type of treaty under each class of business.

Reinsurance Arrangement (Distribution)

For a particular reinsurance quarter, the reinsurance arrangement for a policy or certificate is defined, subject to its issuance or renewal in the same quarter. The relevant reinsurance group is also specified.

- Using that selected group, the system distributes the sum insured and premium by retrieving the company's retention from the Treaty Pool Setup and applying the defined formula associated with the selected group.

- As per the defined formula, the system subtracts the company's retention from the sum insured. If there is a setup for a portion of the sum insured to be allocated to the government organization PRCL (Pakistan Re-insurance Corp. Ltd.), the system allocates that portion to PRCL.

- The system then checks if the remaining sum insured can be covered by the treaty pool limit. The system automatically generates the re-insurance cession to the treaty in the order provided for in the treaty setup. The user can edit the sum insured by the company and the treaty pool.

If there is still some surplus leftover, it is stored in a temporary account until a facultative arrangement can be made to cover this surplus, which is done through a request note. The user can view the facultative details, which includes the risk location, request note number, name of the re-insurer, share percentage (%), sum insured, premium etc.

- In case of Endorsement, the system provides three different ratio criteria for Reinsurance Arrangement, which are as follows:

  - Policy ratio
  - Endorsement ratio
  - Average ratio.

- It is mandatory to enter the reinsurance arrangement for each item of a policy/certificate before approval/authorization.

Reinsurance Arrangement authorization/ approval

Upon approval, the system allocates a Cession No. to each policy and alteration number to each endorsement in sequence.

Re-insurance
* Treaties Definition
* Re-insurance Agreement
* Facultative Agreement
  * Request Note
  * Amendment on Request Note
  * Closing Particulars
  * Alteration on Closing Particulars
  * Re-insurance Accepted Policy
  * Endorsement on Accepted Policy

Facultative Arrangement

Where the company wishes to cede or accept surplus risk through facultative arrangement, the system provides the following functionalities:

- Request Notes
- Amendment on Request Note
- Closing Particulars
- Alteration on Closing Particulars
- Re-Insurance Accepted Policy
- Endorsement on Accepted Policy

Request Notes

Outgoing Request Note is prepared for local and foreign facultative arrangement, whereas for local reinsurance acceptance, an Incoming Request Note is prepared.

For an outgoing request note, the user provides the policy number to be included, upon which the system retrieves all the policy details from underwriting module. In an incoming request note, user enters complete detail of policy(s) along with item details. The system provides option to include several policies within a request note.

Amendment on Request Note

The system allows user to generate amendment on Request Note in case of any endorsement passed on to the policy.

Closing Particulars

Using the data of outgoing request note, the users can generate the Reinsurance Closing Particulars.

- No additional information is required to generate the Closing Particular. The system provides the option to include several request notes in each Closing Particular.
- The system also provides option to include several policies of each request note in each Closing Particulars. In case of any amendment on request note, the alteration can be generated on Closing Particular.

Alteration on Closing Particulars

The system allows user to generate alteration on Closing Particulars in case of any amendment on request note (outgoing)

Accepted Policy

Upon receipt of Closing Particular, the users can generate the Reinsurance-Accepted Policy using the Incoming Request Note mentioned in the received Closing Particulars.

No additional information is required to generate the Reinsurance-Accepted Policy. The system provides the option to include several request notes in each policy.
In addition to that, several policies of each request note can also be included in each accepted policy.

Endorsement on Accepted Policy

The system allows user to generate endorsement on Reinsurance-Accepted policy in case of any amendment on request note (incoming).

In case of any alteration on Closing Particulars, the endorsement can be generated on Reinsurance Accepted Policy.

2.2.5 Claims & Settlements

Claims are lodged against policies or Certificates of Insurance. The claim module is integrated with the Underwriting, Reinsurance modules and the Accounting System. The claims pertaining to each class of insurance business are catered through this module. Three steps are involved in the processing of a claim, which are as follows:

- Claim Intimation
- Claim Revision
- Claim Settlement

Claim Intimation

A claim's intimation is basically used to register a new claim against a policy or a certificate of insurance. The user has the option to either prepare a fresh one or revise existent claim intimation for all the classes of business. The system retrieves the basic information from the policy/certificate document and the user then enters the data relating to loss/ damages in the following manner in various blocks:

- Main Information: The cause of loss (i.e. fire, earthquake, flood etc.), the amount of loss claimed and the date of loss are captured into the system. The user can attach multiple policies against a claim (depending on the reported cause of loss) as well as information regarding documents received to process a claim.

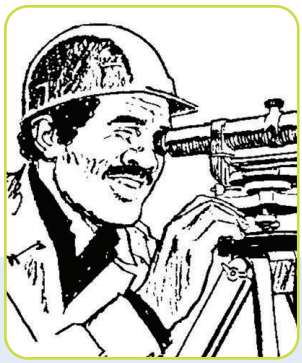
- Surveyor Appointment: The system also allows appointment of surveyor(s). Basic information for the surveyor includes appointment date, fee, other charges, report number and date of report prepared by the surveyor, if any.

- Advocate Appointment: The system also allows appointment of advocate(s) in case of a claim in litigation.

- Salvage Breakup
- Loss Share Distribution
- Co-insurer Share Distribution
- Re-insurer Share Distribution

Claim Revision

In case of revised intimation, the user provides the intimation number to be revised. The system marks the old intimation as 'Cancelled' and generates a new intimation document. In this case, the system retrieves all the information from old intimation and allows the user to change the desired information.



Claim Settlement

The system allows the user to manage the basic information like claim number, name of the insured, settlement date, loss claimed,loss assessed and loss adjusted etc. Other information regarding the settlement is entered in the following manner into system:

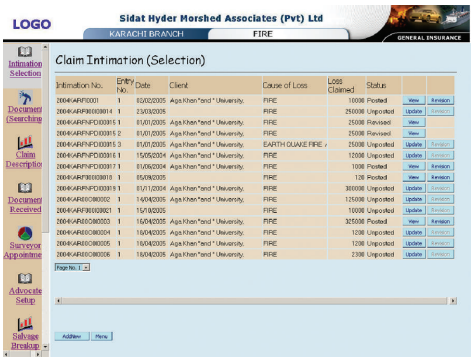


Figure 2.7

- Payments Breakup: The payment type (loss, surveyor, advocate, salvage, recoveries, others etc.), payee's type (workshop, insured, third party, others etc) and payee's name are entered into the system. Other information entered is the amount of payment and remarks regarding that payment, if needed. The system displays a summary of the payments breakup and the user also has the option to view a policy-wise breakdown of the payment if more than one policy is involved in the settlement.

- Loss Share Distribution: The purpose of this view is to display the policy wise breakdown (reinsurance arrangement) of loss that includes the company retention, PRCL share, treaty and facultative (if any).

- Co-insurer Share Distribution: The system displays the share of loss if the policy is of type co-insurance. The information displayed includes the policy number, the company's reference (loss) number, loss claimed, survey fee and advocate fee etc.

- Re-insurer Share Distribution: If there is a facultative agreement, the system displays the company-wise loss, survey fee and advocate fee for all the companies that are in the agreement.

- Loss Breakup: The system also has a provision to define the breakup of a loss (only in Motor Class of Business). The information recorded is the description of the loss, rate, and insured loss and third party loss. For example, in case of a motor accident, there might be damage incurred to both the client and the other party. This breakup defines the extent of damage to both parties.

- Summarized Payment Information: The system also displays a summary of payments and balances regarding the current claim. These payments and balances are categorized as follows:

  - Loss
  - Surveyor
  - Advocate
  - Salvage
  - Recoveries
  - Others

- Payment Advices: Upon approval, the payment advice is produced from the system for the business department,

along with creation of the payable vouchers for the Accounting system.

• Automated Payment Process: The payment process is taken over by the Accounting System, which is integrated with the Claims & Settlement module. The payment vouchers along with the cheque are produced from the system by knocking off the payables.

2.3 Supporting Application Shell

The Supporting Application Shell includes the following main functional areas/modules:

2.3.1 MIS Reporting Module

Operational systems are the systems that help running day-to-day operations of an enterprise. These are the backbone systems of any enterprise. For a general insurance company, the General Insurance System is the backbone or critical system for the enterprise. On the other hand, there are other functions that go on within the enterprise that have to do with planning, forecasting and managing the organization. These functions are also critical to the survival of the organization, especially in our current fast-paced world. Functions like 'Marketing Planning', 'Target Analysis Planning' and 'Financial Analysis' also require information systems to support them. But these functions are different from operational ones, and the types of systems and information required for these functions are also different.

We have developed an MIS Reporting Module (a small Data Mart) integrated with our General Insurance and Financial Accounting operational system in order to product Management Information Reports, which helps our clients to do analysis and planning.

On each transaction level, for example, at the time of issuance of policy, claims settlement, endorsement, etc., the system has built-in parameterized process which triggers as a transaction has been approved by a user and updates the MIS Data Mart. This Data Mart can be considered as the central repository for all the data elements that could be used for the production of different reports, statements and analysis.

Sidat Hyder – Report Writer is the integral part of this MIS Reporting Module that can be used by the users to develop their desired reports in an easy and flexible manner.

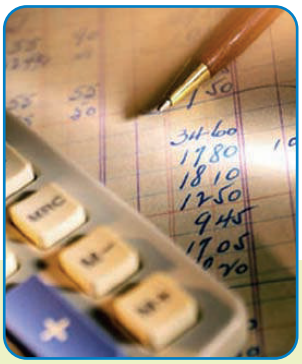
Sidat Hyder - Report Writer also provides a quick and easy interfacing with the Microsoft Office (Excel and Word) for the production of MIS reports and analysis. Users can also use other reporting tools like Crystal Report Writer etc. for this purpose.

2.3.2 Accounting Module

Whenever a user approves a policy, certificate, endorsement or claim, the system generates advices(s) automatically according to the type of insurance i.e., direct, co-insurance or re-insurance etc. At the same time, the system also transfers these advice(s) to the accounts receivable and/or accounts payable

modules automatically in the form of payable and receivable vouchers, to record the premium, commission, service charges etc. The Accounting Module contains the following features:

- Flexible and multi-level chart of account
- Maintains accounting transactions at multiple locations level.
- Maintains accounting transactions in multiple currencies, with base and denominated currency amount being stored separately for each transaction.
- Maintains sub-ledgers like Policy Ledger, Commission Ledger, Employee Ledger, etc.
- Maintains open item records of receivable and payable and ability to offset payment/ receipt against open items.
- Agency payment
- Cheque printing
- Cost and Profit centre-wise accounting
- Integrates to the 'General Reporting Module' through Microsoft Excel interface in order to generate all Financial Statements and Reports.



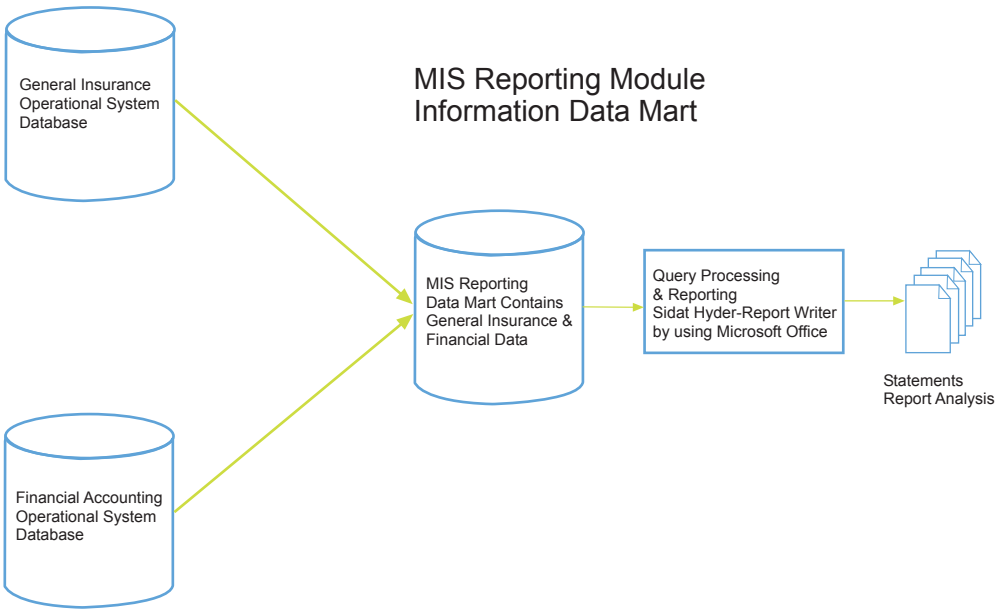


Figure 2.8

2.3.3 Document Imaging

This module deals with the concept of the Document Imaging (DI), which has the following features:

- The ability to handle documents from both fast media that includes magnetic disks and slow media that includes scanners.

- The provision to have highlighting capabilities to enable users to highlight critical areas of interest in bulky documents. However, the task for images to be viewed in high resolution and in the appropriate colors entirely depends on the quality of the scanners used.

- The provision to possess the equivalence of rubber-stamps for example 'Approved', 'Urgent' etc, also available in the system.

The Document Imaging (DI) Module has the following functionalities:

- Setting up the type of documents

- Imaging the document through Document Imager

- Linking the document through Document Linker

- Viewing the document through Document Inquirer

3. Application Suite

At present we have three (3) different application suites, developed to cater to different type of client(s) according to their needs and requirements. Detailed information about each application suite is given below:

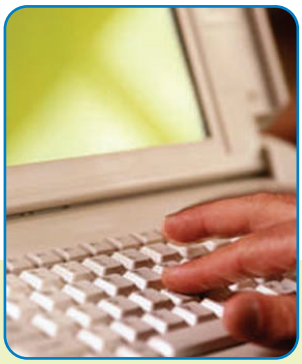
Modules/Layers	E	S	L
Global Application Shell			
Parameter Management Layer	✓	✓	✓
Security Management Layer	✓	✓	✓
Transaction Routing Layer	✓	✗	✗
Transaction Audit Layer	✓	✓	✓
General Insurance Application Shell			
Product Configuration Layer			
Parameter	✓	✓	✓
Process Builder	✓	✓	✗
Quotation Module	✓	✓	✗
Underwriting Module	✓	✓	✓
New Business Module	✓	✓	✓
Alteration Module	✓	✓	✓
Renewal Module	✓	✓	✓
Re-insurance Module	✓	✓	✓
Claim Module	✓	✓	✓
Supporting Application Shell			
MIS Reporting Module	✓	✗	✗
Accounting Module	✓	✓	✗
Document Imaging	✓	✓	✗

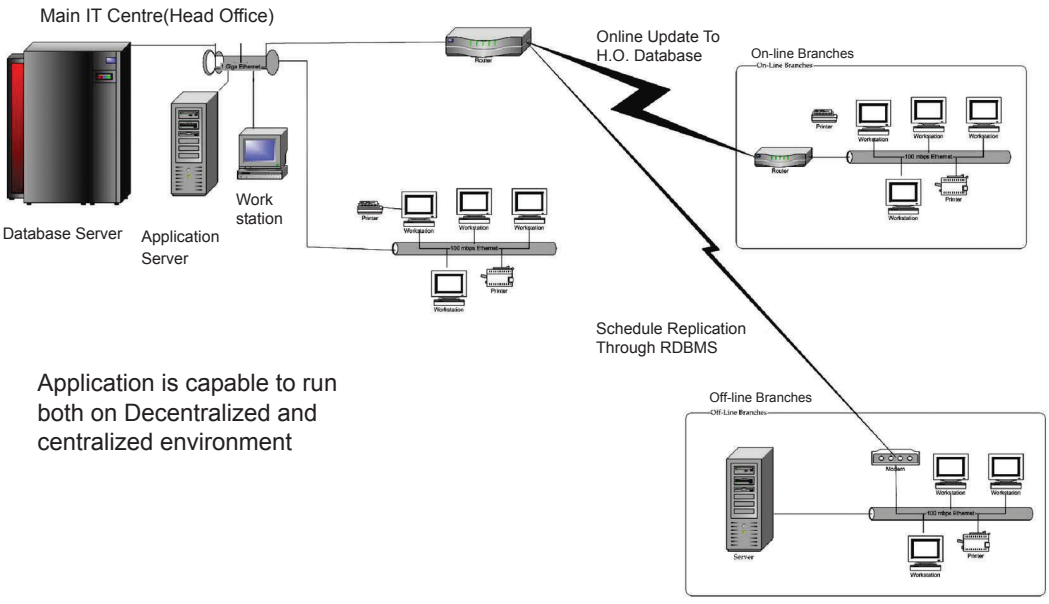
Table 3.1

4. Application Environment

4.1 Overall Deployment Model

The system can be deployed to function in both centralized as well as decentralized environments. In a centralized environment, the system is installed/hosted at a central server and the branches/field offices can be connected to the main server in online mode, performing the transactions in the central environment. In a decentralized environment, the branches/ field offices execute the transactions at their local servers, which can be connected to the central servers for periodic data consolidation through a dialup connection. These arrangements are depicted in the diagram below.





Application is capable to run both on Decentralized and centralized environment

Figure 4.1

4.2 Operating Requirement – Software

Component	Configuration
Back End Database Server	Supports Oracle 10g, DB2, Microsoft SQL Server and Sybase
Application Server	The GIS Application architecture supports both methods of deployment i.e. Application Server-based deployment as well as simple Web Server-based deployment. It is recommended that the Application Server (such as Web Logic) deployment be opted for better performance and reliability of the system. However, the system can run properly with Web Server (like Tomcat). Some parameters will be considered to ascertain the configuration of the server. However, where the user access to the main server is low and volume of work is also low, then an application server can be installed.

Operating System	The application has been developed using Java, making this an open system and providing support in the following operating environment(s):
	• Server Operating System
	  • Microsoft Windows NT/2000/2003
	  • Linux
	  • Unix
	• Client Operating System
	  • Microsoft Windows
	  • Linux

Client Front End	• Microsoft Internet Explorer • Netscape

Table 4.1

4.3 Operating Requirement – Hardware

Hardware	Configuration
Main Server	Configuration of the servers will depend upon the following parameters: • Application deployment choice i.e., centralized or decentralized. • Number of transactions, i.e., data volumes like number of policies, endorsements, claims, etc., in a year. If volumes are higher then the configuration should be on higher side. • Number of users accessing the database server concurrently.
Application Server	There are two approaches: either application server is installed at the same server where database server is installed OR install it on a separate server. Same parameters will be considered to ascertain the configuration of the server. However, where the user access to the main server is low and volume of work is also low then application server can be installed in the database server instead of configuring in a separate server.
Client Workstation	Minimum configuration for the client workstation is presented in Table 4.3.

Table 4.2

Workstation Configuration	
Component	Specification
Processor	Intel Pentium-4 Processor 3.6 GHz with HT Technology
Chipset	Intel's latest chipset (Made within last 3 moths)
Cache Memory	1 MB
FSB (Front Side Bus)	1056-MHz
Memory	512 MB
Storage Controller	IDE
Storage	80 GB 7200 RPM SATA
Network Controller	10/100/1000 Mbps
Expansion Slots	3 (Minimum)
I/O Inter faces	1 x Parallel 1 x Serial 1 x Graphics 1 x Network RJ-45 Minimum 6 USB Ports (4 back and 2 front)
Graphics	Intel Integrated Extreme Graphics 2 or Latest
Sound	Optional
Keyboard, Mouse	PS2 or USB with Scroll
Monitor	15"

Table 4.3

SIDAT HYDER MORSHED ASSOCIATES (Pvt.) Ltd.
Management Consultants

http://www.sidathyder.com.pk
http://www.sidathyder.ae

Karachi
Beaumont Plaza,
Beaumont Road
Karachi-75530, Pakistan
Tel: (92 21) 5693521-30
Fax: (92 21) 5685625
Email: shmakhi@sidathyder.com.pk

Lahore
3rd Floor , 18 Commercial Zone,
Liberty Market
Gulberg III, Lahore, Pakistan
Tel: (92 42) 5789725-8
Fax: (92 42) 5763025
Email: shmalhr@sidathyder.com.pk

Islamabad
House No. 11, Street No. 1
Hill Side Road, Sector E-7
Islamabad 44000, Pakistan
Tel: (92 51) 2654881-83
Fax: (92 51) 2654884
Email: shmaisb@sidathyder.com.pk

Dubai
P.O.Box - 506545,
Dubai, UAE
Tel: (9714) 2688581-82
Fax: (9714) 2688583
Email: shmadbx@sidathyder.ae