

“LLOYDS BROKER ACCOUNTING MODULE”

SPECIFICATION

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Authors

Approval/Signature – Date

Kate Koltunova

System Analysts (ITCompany)

Project Manager (ITCompany)

Relationship Manager
(ITCompany)

Project Manager (LLOYDS
BROKER)

Accountant (LLOYDS BROKER)

Director (LLOYDS BROKER)

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INTRODUCTION

This document is a working product created as the result of the first stage of the Accounting module development project according to the contract terms (signed off on the 24/11/1999) of the agreement between LLOYDS BROKER Insurance Broking Limited and ITCompany Limited.

ITCompany Limited developed this document as a description of LLOYDS BROKER Information System (further in the document Information System or IS) as whole and the Accounting Module. This document is useful for various purposes:

- Achieve common vision and understanding of functional and technical requirements to all Information System and Accounting Module;
- Describe LLOYDS BROKER business processes and the relationship between the processes and the Information System functions. This complete description allows us to decrease the time required to understand the specific character of an International Marine Insurance Broking Business within an Insurance broking company. Any other software developer will be able to understand LLOYDS BROKER business using this document;
- Explain ITCompany solutions that will be used to build the new multi-currency Accounting module;
- Highlight ITCompany proposals about improvements of the interface part (screen forms) of the Accounting module.

LLOYDS BROKER started the development of the bespoke client-server application in 1997 by hiring a company called FMI.

LLOYDS BROKER has already been using another version of the IBA Information System for the past nine years, which is a multi-user host-terminal system with CUI interface. Functionality of the EIBIS AS/400 information system was replicated in this new PC/Windows software, albeit but some new functions was added along with major changes.

As a result a new Visual Basic application was developed, consisting of four modules. During the testing stage, LLOYDS BROKER accepted three modules, but one module – the Accounts revealed calculation errors. After several attempts to fix calculation bugs, LLOYDS BROKER came to the conclusion that the Accounting module had to be rewritten with a new database design.

ITCompany has gained considerable experience in multi-currency accounting software development, but has no previous experience in software development for the International Marine Insurance Broking business, therefore it was strongly advised to describe the requirements by compiling this specification.

This document consists of two parts:

- Functional specification;
- Technical Solutions.

Functional specification starts with descriptions of LLOYDS BROKER business processes. It also includes a brief description of all Information System modules and inter-modular interface.

Functional specification contains detailed description of the Accounting module: list of functions, users and their competence, special terms and reports.

Rules and principles of accounting as well as accounts structure and accounting registers are described in the functional specification. Lists of typical transactions, postings and description of the relationship between transactions, postings and business processes are essential parts of accounting rules section.

Technical Specification includes description of the database as it was and the new design with explanations. Detailed layout of algorithms, related to multi-currency specific character: rates of exchange differences and Rounding Difference is presented.

The Technical Solutions section contains a class-diagram of the new Accounting module, program structure description, and the list of stored procedures on SQL Server with comments about their purpose and incoming/outgoing parameters. This section also will become the background for a Program Description Document after completion of the Accounting module development.

Some technical issues are also highlighted in Technical Solutions section: choice of ActiveX components and method to connect to SQL Server Database, advantages of using selected methods and components.

In the User Interface Design part of Technical solutions, we include examples of new screen forms, toolbars with an explanation of their functionality.

Results of analysis of the three other modules and ITCompany proposals about interface improvement and especially changes of the database structure are in the Technical Solutions section. An important part of this analysis is the prediction about technical parameters of functioning for all modules on a 'real' amount of data after long period of time and proposals about necessary interface changes in the three other modules.

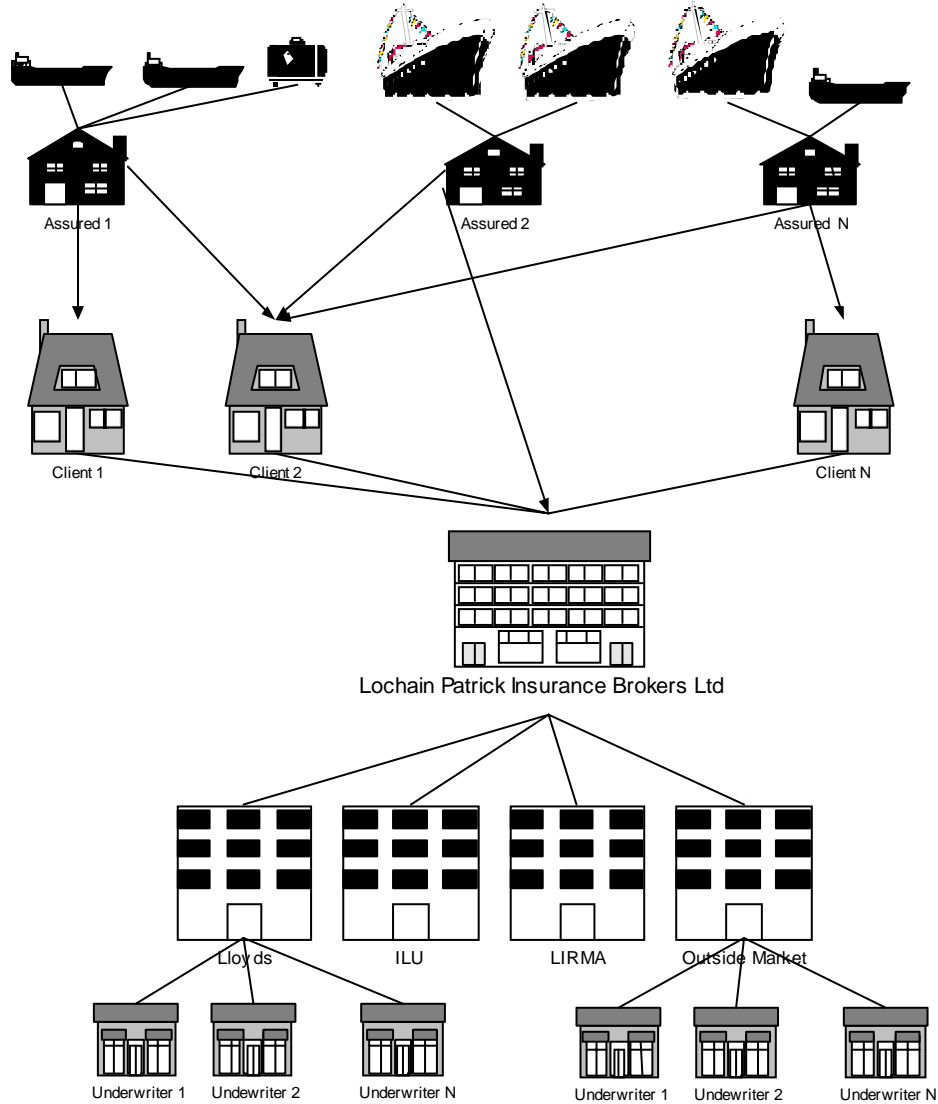
These technical solutions are grouped into three parts:

- Related to only Accounting Module;
- Related to Accounting Module, but requiring changes in three other modules;
- Not related to Accounting Module directly, but necessary or desirable to ensure the whole IS efficiency.

1. LLOYDS BROKER BUSINESS PROCESSES

LLOYDS BROKER is a marine insurance broking company. LLOYDS BROKER’s market place is with its supply-chain and business partners depicted in the Figure 1.

Figure 1. “Insurance Broker Market Place”



LLOYDS BROKER works with insurance companies and insurance markets (underwriter’s bureau). An insurance company can deal with an insurance broker as a client or (and) as an underwriter. A client is an insurance company or assured who asks the insurance broker to underwrite a policy. The insurance broker helps to decrease risks for the clients. One company can be a client and an underwriter at the same time. But from the insurance broker point of view they are two different companies. Information about this company as a client and as an underwriter is stored separately.

The main business processes are:

- Underwriting the client policies. The clients are insurance companies. But it is possible that the assured is a client. They underwrite insurance policies in the insurance market or outside companies market. Policy processing is closely related with two sub processes: **cover** making and quote processing.

- Processing addenda. Addenda describe changes in an original policy.
- Processing claims. If a loss happens with a particular vessel, the claim specifies terms of payment from underwriters to the client.

Set of extra activities takes place:

- Cash sell / Purchase;
- Cash payment;
- Cash receipt.

1.1. Policy Processing

Master Policy is a document, which contains terms of the agreement between the clients, the insurance broker and the underwriters. Policy has its clients' side and underwriters' side also called Client Policy and Underwriter Policy. The Client Policy describes terms of the agreement between the client and the insurance broker, and Underwriter's Policy - between the underwriter and the insurance broker.

1.1.1. Quote processing

Policy processing starts with receipt of a **quote** from a client(s). To make a quote user should specify:

- Year;
- Insurance type;
- Interest or business type;
- List of assured;
- List of clients;
- List of vessels.

Table 1. Insurance Types

MD	Marine Direct
MI	Marine TLO Reinsurance
MR	Marine Reinsurance
MT	Marine Thomas
PC	Profit Commission

Full list of business types is provided in 5.4. Business Types Appendix. Only one Master Policy could be made from the quote.

1.1.2. Making of covers

After making a quote the insurance broker starts to negotiate terms of underwriting with the particular underwriters. The cover is a document concerted set of underwriters. To make a cover user should specify terms of the cover:

- Cover year;
- Interest;
- Inception Date;
- Expiry Date;
- Cover Limit
- Cancellation Clause flag;
- Profit Commission Collectable flag
- List of underwriters: Insurance market, account number, signed line.

Cover could be used many times to make an Underwriters' Policy. The broker can use a **cover** to select the particular underwriters if terms of the Policy agree with the terms of the cover. Value of the each vessel in the policy should be less than Cover Limit. Time period of the Master Policy schedule should start after the Inception Date and finish before the Expire Date of the Cover. Cover specifies a Signed Line and Written Line for the underwriters under Cover. Each Cover is characterised by unique Cover number. For each underwriter under cover exist the unique reference number. For details about Cover Processing and Quote Processing please, refer to Insurance Broking System: System Outline, Giles Thurston, July 1998, 9 pages.

1.1.3. Clients' and underwriters policies

When an agreement between the client, the underwriters, and the insurance broker is achieved, the client and underwriters policies are created.

Clients' and underwriters' policies describe terms of payments. Payment schedules are divided at currencies groups. Clients' and underwriters' sides should have the same groups of currencies. Insurance broker prepares individual policies for each client. Underwriters' side may consist of one or several groups. During creation of underwriters' policy groups receives their names consist of one capital letter in alphabetical order.

Groups of underwriters could have different terms of underwriting: percent of order, discount and individual payment schedule. Within a particular group underwriters payments are determined by signed line. When the broker creates the underwriters side of the policy he enters the present, that each underwriter wants to have into the group – the written line. When group of underwriters is created broker should calculate signing line for each underwriter. Signing line is determined in proportion to written line. Total sum of signing lines within a given group of underwrites should be equal 100%.

1.2. Addenda Processing

If some changes occur in terms of a policy, the broker lays out an addendum, which contains the description of changes from the client's side. The description of changes for underwriters is given in the set of endorsements.

The addendum is a container for endorsements. Each endorsement describes some changes in the master policy. The Endorsement has influence on the Accounting module only if premiums are involved.

1.3. Claim Processing

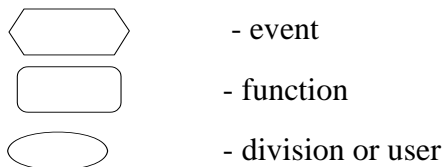
A set of claims is related to a particular loss. If a vessel's damage occurs, the client makes a claim, and the underwriters have to pay to the client. A few claims can be related to one loss. No changes in the claim can be made. If the claim has to be changed, a new claim is made.

1.4. Cash Operations

Most of the cash operations related to policies, addenda or claims. The insurance broker receives money from an underwriter and pays to clients and vice versa. Sometimes the broker sells or purchases cash. The Accounting module processes all cash operations. Cash movement is reflected in the Cash Book. Insurance broker has bank accounts for most currencies, and for some currencies also exist with deposit accounts.

1.5. Business Process Diagrams

The most important business processes in LLOYDS BROKER are presented by EPC diagrams (event-driven process chain). Three main symbols are used:



Each EPC diagram starts from the event. An event generates one or more functions. Functions are associated with departments or group of specialist. Displaying the users group or department allows the mapping of a functional structure to the organization structure.

Figure 2 “Policy processing diagram”

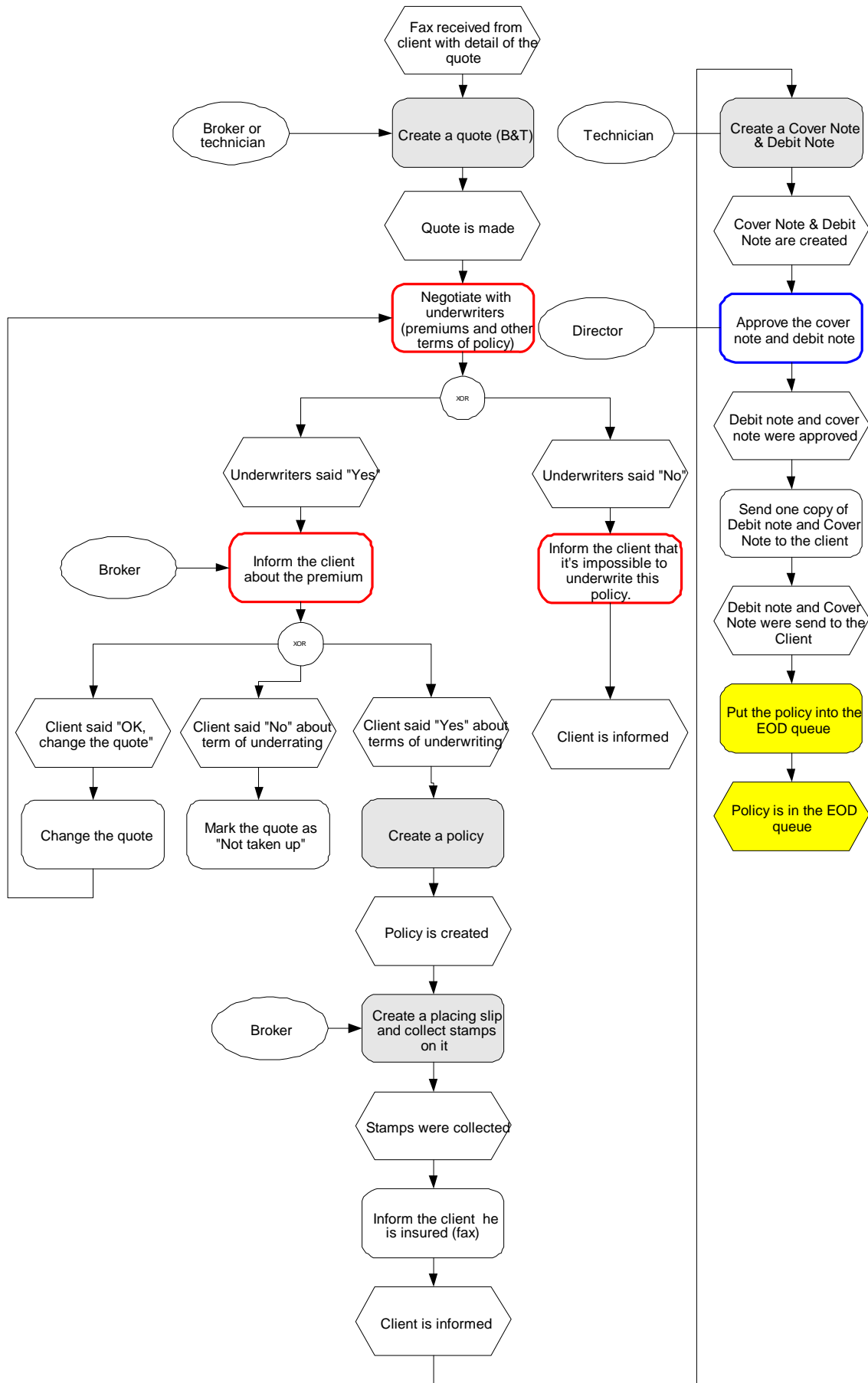


Figure 3 “Claim Processing Diagram”

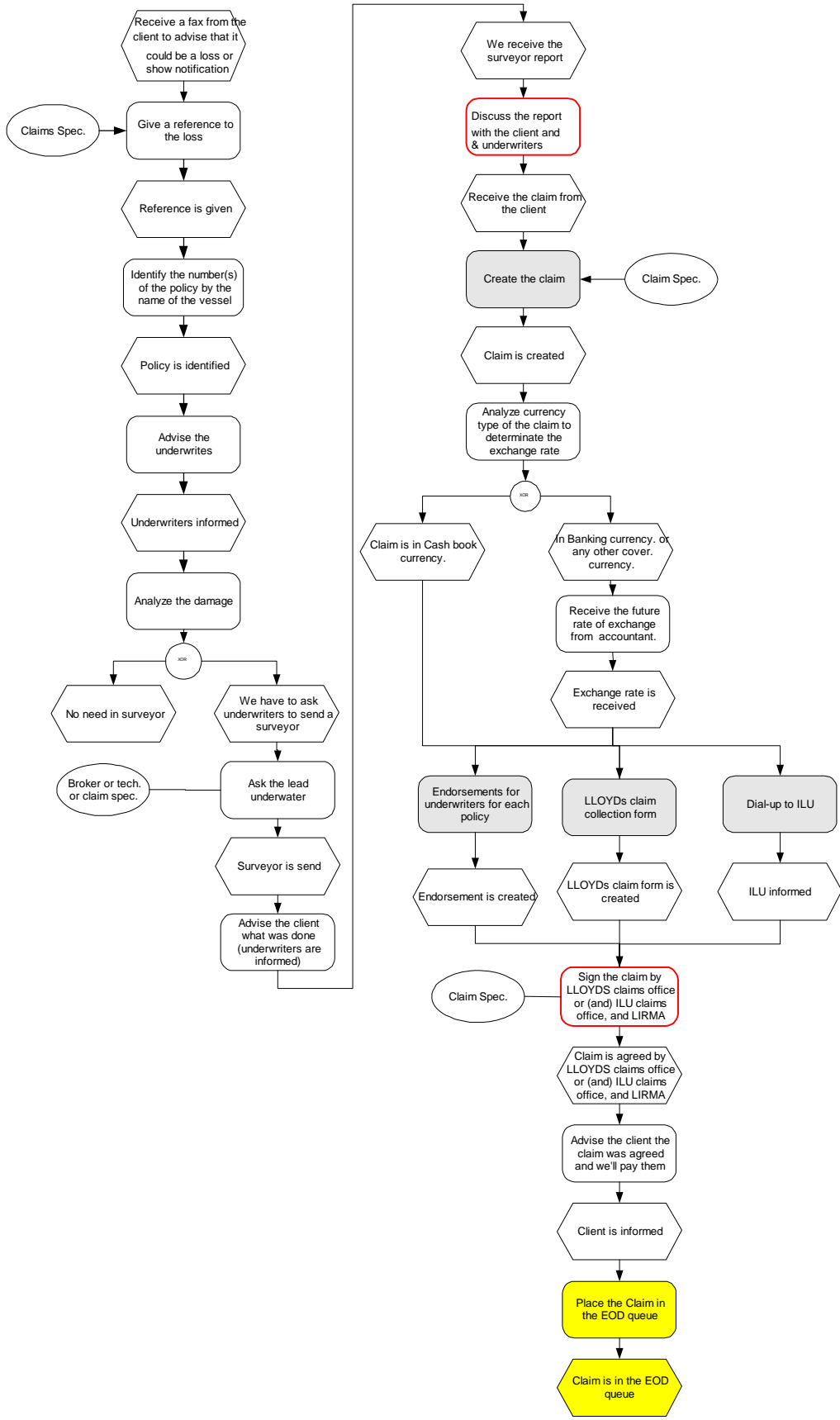
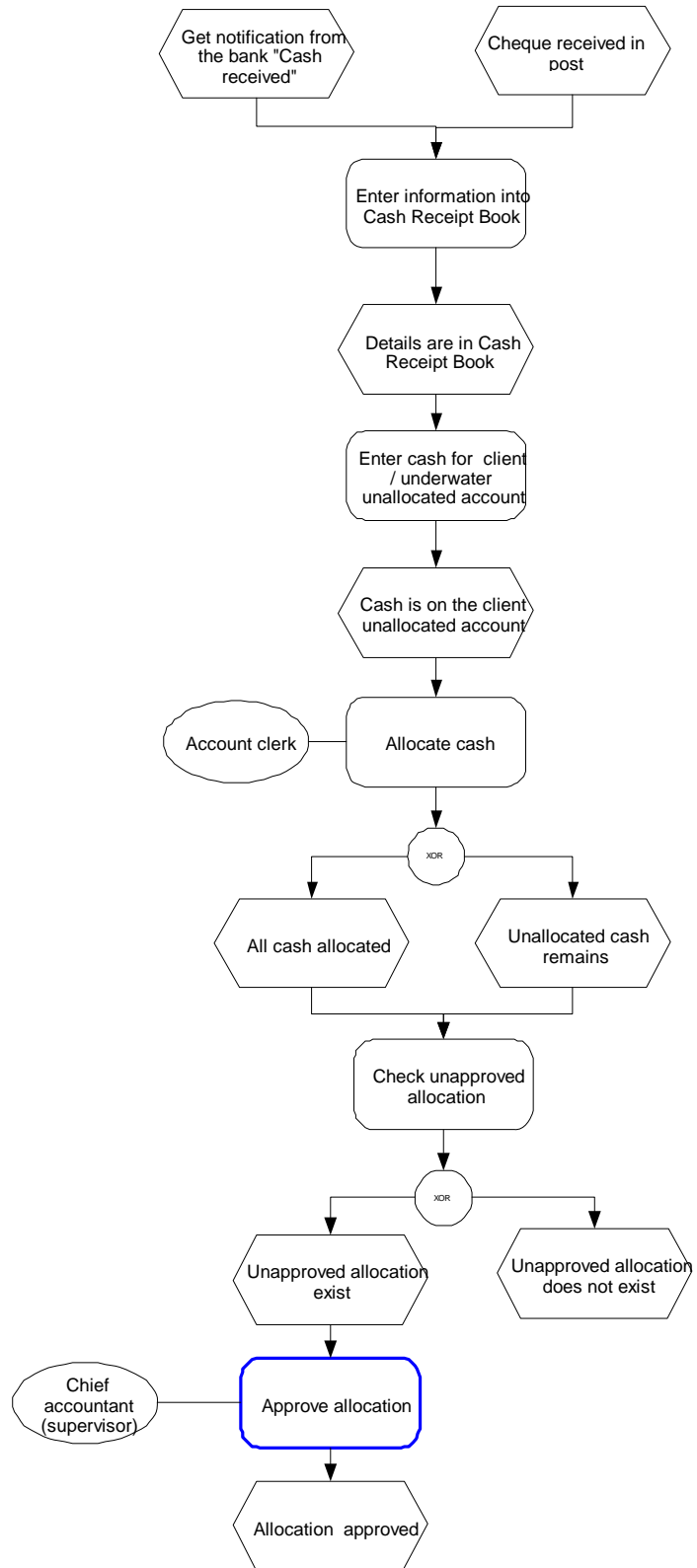


Figure 4. "Addendum processing diagram"



Figure 5. “Cash receive and allocation”



2. LLOYDS BROKER INFORMATION SYSTEM

2.1. Modules

LLOYDS BROKER Information system consists of four functional modules:

- Housekeeping
- Policy Explorer (Broking and Technical)
- Claims
- Accounts

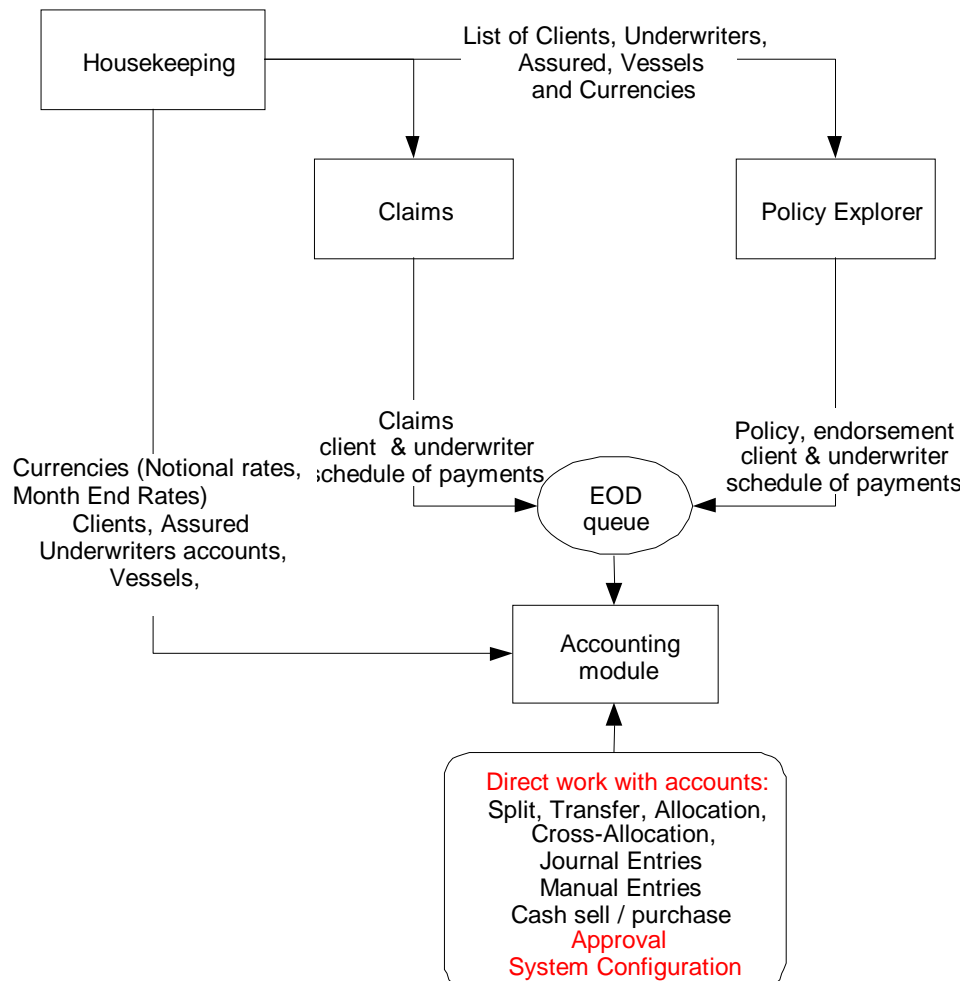
Housekeeping is a service module to maintain information about clients, underwriters, assured, vessels, and countries. The user can add, delete or edit information.

Relationships between the Accounts module and other modules are presented in the Figure 6.

Detailed information about interchange between the Accounting module and other modules can be found in the paragraph 2.2. Interface between Accounting Module and other modules.

Figure 6. Information system modules

LPBroking Modules interfaces



2.2. Interface between Accounting Module and other modules

This section is closely related to paragraph 3.3.3.1 End of Day Processing.

Accounting module is a part of the Integrated Information System; consequently there is an information exchange between Accounting Module and other modules. Accounting module receives information from three other modules: Policy Explorer (Broking & Technical), Claims and Housekeeping, but these three other modules do not receive any information from Accounting Module.

Information interchange between the Accounting Module and other modules are performed though:

- Common database tables. That means, that all use a set of common tables, most of them are lists: clients, underwriters, and currencies.
- End of Day Queue – a database table especially designed to move information from Broking and Technical and Claims Modules to Accounting Module. During End of Day processing information from End of Day queue comes to the IBA ledger.

According to documentation, all transactions in EOD queue should balance as a priority. The Accounting Module will check this condition and generate the error message if the transaction in the EOD queue does not balance. Accounting Module will not balance the transaction automatically when it comes from the EOD Queue. If the user receives this message there are two different ways to correct the error:

- Start the Broking and Technical or Claim module, depending which module generated the incorrect transaction and change information about premiums;
- Start SQL Server Enterprise manager and edit information in the EOD queue manually.

Information about currencies types and latest exchange rates is stored in the “Country” table. Only one exchange rate for each currency is stored in the database. This exchange rate is the direct exchange rate of this currency to the Base Currency.

Tables that used as lists are maintained in the Housekeeping module. List of Clients and Underwriters is used to update IBA accounts. For each client and Underwriter in Accounting system there exists a separate account. If a new client or underwriter is added in the Housekeeping module, a new account for this partner will be created automatically in the Accounting Module during EOD processing.

(Note. Underwriters, that belong to insurance markets also have separate accounts in the Accounting Module, but they are not used until defaulting of the underwriter if it's belongs to ILU or LIRMA markets, and never used if the underwriter is a member of Lloyds). Accounting Module imposes some constrains at information editing in the Housekeeping module: it's forbidden to delete information about a client, an underwriter or a currency, if this information was used in Accounting module. That is the restriction required to maintain database integrity.

2.3. Users

The Information System users are: technicians or support specialists, claims specialists, brokers and accountants. Practically all employees of LLOYDS BROKER are the IS users.

Different users have different access rights to system functions. In Accounting Module the user can have one of three possible statuses: supervisor, technician or user. More details about functions available for users and security mechanism are provided in Accounting Module sections 3.3. Functional requirements and 3.5. Users and system functions: the security mechanism.

Figure 7. Organization structure

The brokers are the users of the “Broking and Technical module” or Policy Explorer, the claim specialists work with “Claim” module, accountants work with the Accounts Module.

3. THE ACCOUNTING MODULE

3.1. Introduction

Accounting module is the core of LLOYDS BROKER Information System. It maintains all financial information about insurance broking business. Static information is reflected by the state of a specific account at a given point of time, and debit and credit movements show the dynamics of the business.

Account can be characterized by the state at the selected moment of time and movements the account within given period of time. Functionality, related to maintaining movements on accounts and counting account's balance, is common for all accounting systems. The IBA accounting module has some additional functions, specific for an insurance broking accounting system.

First of all, it is a separate account of individual postings, related to individual insurance documents: policies, addendums and claims. Accounting module is used to maintain information about the state of insurance broking partners: clients and underwriters

Secondly, it's functionality, related to direct editing of Ledger postings. IBA module allows to split or transfer particular posting, details are provided in 3.3.2.2 Split and 3.3.2.1 Transfer paragraphs.

Accounting Module is a multi-currency system. Detailed description of the multi-currency character is provided in 3.2.12.3.1 IBA multi-currency.

Information about movement and stock of currency is also reflected in IBA System. Accounting Module maintains a limited list of currencies. Accounting Module works with only Banking Currencies.

3.2. Accounting Policy

Accounting module of LLOYDS BROKER Information System is designed to support main business activity, related to processing of policies, endorsements, claims and cash operations. Account is a method of grouping and presentation of the company's assets and liabilities' changes. Assets are valuable resources, owned by a business, which were accrued at a measurable money cost. Liabilities are sources of assets.

Accounting policy includes:

- The list of typical postings, related to a business operation;
- Balancing rules;
- Rules of write-offs, exchange rates differences write-offs and Rounding Difference write-offs.

Accounting rules are closely related to the list of accounts, because the typical sets of postings refer to the particular accounts.

We can classify all accounts by three groups:

- Accounts with Debit Balance (Cash);

- Accounts with Debit or Credit Balance (Underwriters, Clients, Write-offs);
- Accounts with Credit Balance (Brokerage, Commission).

Debit Balance accounts presents assets, Credit Balance accounts – liabilities and a Debit or Credit balance account can be assets or liabilities depending on which Debit or Credit balance it has.

The amount of assets must be equal to the amount of liabilities at any time. Therefore total debit balance for all accounts must be equal to total credit balance.

Table 2. Insurance Broking Balance

<u>Assets</u>	<u>Liabilities</u>
Cash	Brokerage
	Commission
Debtors (Clients, Underwriters)	Creditors (Clients, Underwriters)
Loss	Profit
Write-offs	Write-offs
Exchange-rate differences	Exchange-rate differences
Rounding Difference write-offs with Debit Balance	Rounding Difference write-offs with Credit Balance

3.2.1. Accounts Classification criteria

Account can be classified by different criteria:

- Possibility to change the state of the account by a user directly:
 - User accounts. User accounts are all accounts, which are usually used by technicians or supervisor to implement IBA operations: Cash Book Accounts, Partners Accounts;
 - Secondary Accounts. Usually posting on secondary accounts is generated automatically by the system, for example Rounding Difference correction system posting, but user can make journal or manual entry to change the state of the account of this type.
 - System accounts or Control Totals. The user is not allowed to change the state of these accounts or totals. All Control Totals are System Accounts.
- Account balance at the end of the year:
 - Non zero-balance accounts. Accounts of this type can have a balance in the beginning of the year. Balances for these accounts form the IBA balance;
 - Zero balance accounts. Zero Balance accounts are all Nominal profit and loss accounts, with the exception of Profit and Loss account itself: Brokerage, Commission, Nominal Exchange Rates Difference, Nominal Write-off / Small Difference Account. Zero balance accounts cannot have a balance in the beginning

of the year, and they are usually used only to accumulate financial results during the year. In the End of the Year financial results will be written-off to Profit and Loss account.

- Type of balance:
 - Debit balance accounts;
 - Credit balance accounts;
 - Debit or Credit balance accounts.
- Accounts structure:
 - Primary accounts;
 - Aggregate accounts.
- Currency type
 - Cash book accounts;
 - Converted currencies;
 - Bankable currencies accounts.
- Multi-Currency
 - One-currency accounts – one account can be only in one currency, for example all Cash Book accounts.
 - Cash-book currency accounts. All Control Totals are cash book accounts.
 - Multi-currency accounts – accounts postings and account balance can be in different currencies: in Cash Book and Banking currencies. All partners' accounts are multi-currency accounts.
- Relationship with Housekeeping information
 - Automatically generated from after editing of the Housekeeping information: underwriters' and clients' accounts, bank accounts.
 - User defined accounts: deposit accounts, system accounts.

Note: Control Totals and System accounts could be also considered as user defined accounts. But these accounts are used in the system in determined way, so a number or restriction exist for editing these accounts. For example, impossible to delete a Control Totals if this account is used to reflect the state of one or more IBA accounts, or delete a system account if this account is used in automatic postings: exchange difference write off or rounding difference write off. Even Brokerage and Commission Accounts are user defined accounts. Actually, user may prefer to account brokerage and commission on one accounts or two separate accounts. List of user defined accounts can be edited by the user with taking consideration about existing restrictions.

- IBA/Nominal

All accounts in the LPIB system belong to IBA or Nominal sides. This division is related to reporting system (reporting system is the set or reports and views of this reports). There are two main criteria to consider an account as IBA account: if it possible to have movements on the account in Non-Cash Book currencies or if an account balance will be reflected in the Nominal Trial Balance in the Nominal Control Totals. Accounts that have movements and consequently balance only in Cash Book Currencies are Nominal accounts.

Nominal Accounts reflected in Nominal Trial Balance directly. There are two different types of Nominal Accounts: first type of Nominal Accounts could be only in Cash Book currencies. They are Primary accounts. Second type is Control totals. Nominal Control Totals reflects the state of the IBA accounts using their Base Currency equivalents.

- IBA Accounts are all Partners' Accounts, Cash Book (or Bank) Accounts for Banking currencies, Write off, Rounding Difference and Exchange difference accounts.
- Nominal Accounts are Control Totals, Cash Book (Bank) and Deposit accounts for Cash Book currencies, Brokerage, Commission, Nominal Write off /Small difference, Nominal Exchange Difference, Profit and Loss account.

3.2.2. Primary Accounts classification

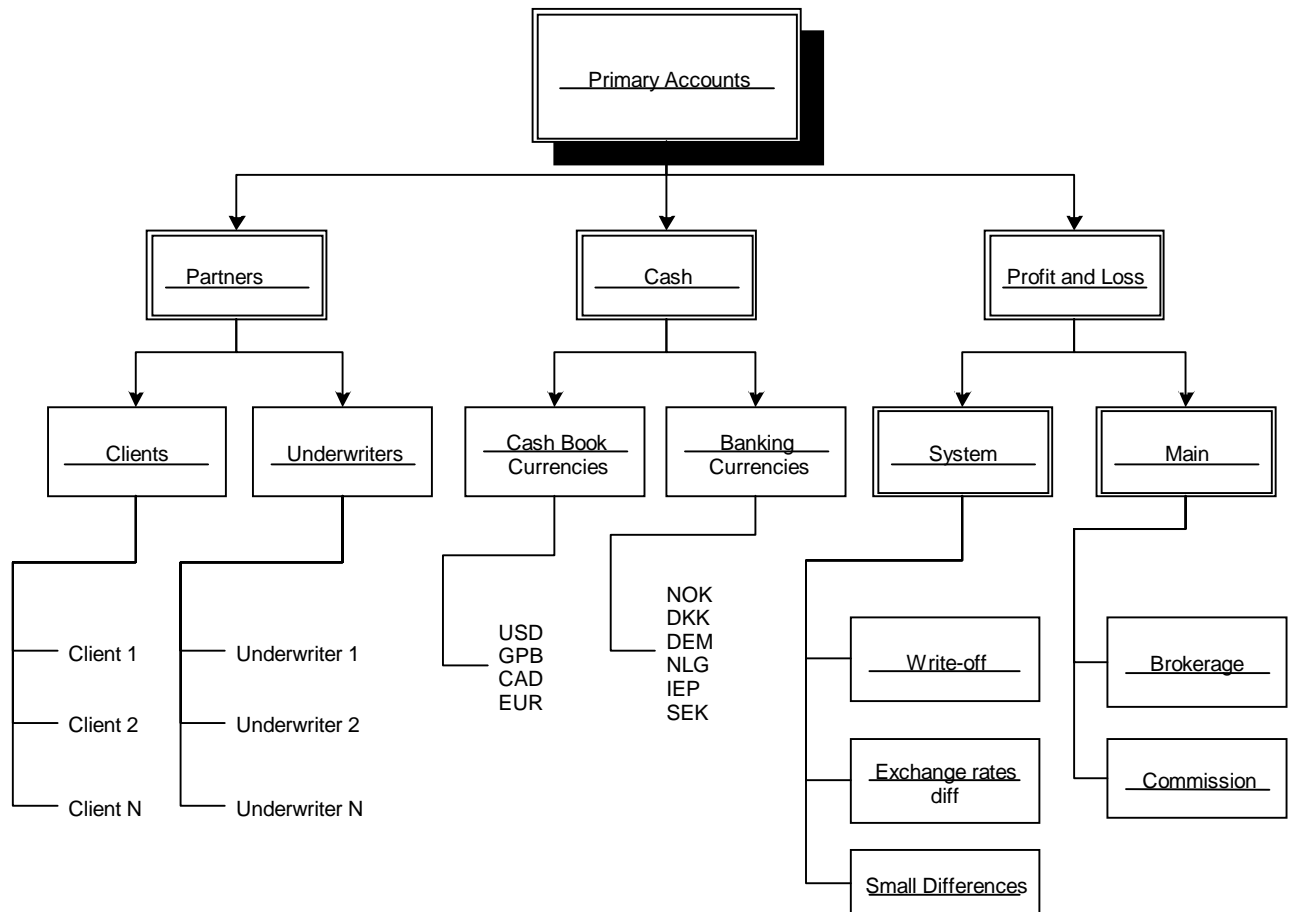
There are three main types of primary accounts in the Accounting module:

1. Partners;
 - 1.1. Clients
 - 1.2. Underwriters
 - 1.2.1. Underwriters markets (Lloyds, ILU, LIRMA)
 - 1.2.2. Lloyds, ILU and LIRMA underwriters accounts
 - 1.2.3. Outside Market underwriters accounts
2. Cash;
 - 2.1. Cash Book Currencies
 - 2.2. Bankable Currencies
3. Operating
 - 3.1. Main
 - 3.1.1. Brokerage
 - 3.1.2. Commission
 - 3.1.3. Profit and Loss
 - 3.2. System
 - 3.2.1. Write-offs
 - 3.2.2. Exchange rate difference

3.2.3. Rounding Difference

Note. System accounts was sub-divided by underwriters, clients, and cash sub-accounts for each account. ITCompany proposed to use single system accounts but the reflect movements and balance for these accounts in three different columns in the IBA Trial Balance using type of posting for these accounts (as for clients and underwriters).

Figure 8. Structure of Primary Accounts.



Two types of information can be associated with an account:

- Information, reflecting static state of account on a particular date;
- Information, reflecting movements in the account.

Information about the state of the account at a certain time moment should be available to the user. Different strategies of receiving this information can be used: it's possible to count account balance every day and store it the database or to use bigger periods. In previous realization of Accounting Module current balance of the account was counted from the beginning of the year. No information about account state was stored in the database. ITCompany solution supposes monthly update of accounts' balance information.

3.2.3. Cash Book Accounts (Bank Accounts)

All currencies in the Insurance Broking System are divided at three groups: Non-Banking Currencies, Banking Currencies, and Cash Book currencies.

Insurance Broking Accounting Module is a multi-currency system, which allows working with unlimited number of currencies. However business requirements determine a set of currencies that are really used in Accounting Module. LLOYDS BROKER has separate bank accounts for most frequently used currencies, and only this limited set of currencies should be used in Accounting Module. If an insurance broker has a bank account for the currency this currency belongs to Banking Currencies group.

Accounts that are used in IBA system to reflect movements of currency and stock of currency are called Bank Accounts of Cash Book Account.

Existing reporting system and accounting practice relay on dividing all currencies in Accounting system into two major groups: Cash Book currencies and Non-Cash Book currencies. Cash Book and Non-Cash Book currencies are all Banking currencies, because bank accounts exist for all of them. In this document the term “Banking Currency” is used to define Non-Cash Book Currencies.

Cash Book currencies never converted into other currencies to be reflected in the reports. Banking currencies are converted into the Base Currency.

Table 3. Types of currencies

Currencies used in the Insurance Broking Information System		
Used in Accounting Module		Non-Banking Currencies
Banking currencies		
	Cash Book Currencies	
	Base Currency	

3.2.4. Nominal Control Totals

To see the whole picture of the account’s state, Control Totals should be used. Control Totals aggregate information about individual accounts of one type.

There are three Control Totals:

- Client Control Total;
- Underwriter Control Total;
- Unallocated Cash Control Total

Because of the multi-currency nature of accounting, each of the mentioned Control Accounts must be in all of the Cash Book currencies. All IBA accounts, which have non-zero balance in Banking Currencies, should be reflected at Control Totals in the Base Currency. These accounts have a Base Currency equivalent in the Balance and in the Ledger database tables. This equivalent should be used when Control Totals in the Base Currency are calculated.

Control Totals cannot be changed independently. They reflect the state and changes of primary accounts for a given type.

Underwriter and Client Control Totals reflect the state of underwriters' and clients' accounts without unallocated cash. Unallocated cash received from partners or paid to partners is reflected on the Unallocated cash Control Total.

Primary partners' accounts have two sub-accounts: one sub-account reflects partner balance from existing IBA documents and one sub-account accumulates unallocated cash, paid or received for this partner. These two sub-accounts are reflected in different way on Control Totals. Client's debts and liabilities are reflected on Client Control Total, Underwriters debts and liabilities are reflected on Underwriters Control Total, but unallocated cash on clients' and underwriters accounts is reflected on the Unallocated Cash Control Total. Consequently, process of allocation changes the state of Control Totals.

Balance of all banking currencies is reflected on the Unallocated Cash Control Total in Base Currency.

3.2.5. Partners accounts

Partners accounts can have debit or credit balance. It is also possible to have detailed balance on the debit and credit side simultaneously. Clients and Underwriters accounts are the majority of all accounts. Information about premiums from policy or addendum, claims and cash, received or paid is reflected at partner's account. But it is possible to make sub-accounts for different types of client's accounts:

- a) Partner has to pay;
- b) Insurance broker has to pay to the partner;
- c) Unallocated cash, paid to the partner;
- d) Unallocated cash, received from the partner.

3.2.5.1. Client Account

<u>Debit</u>	<u>Credit</u>
Initial Debit Balance (Client has to pay to insurance broker)	Initial Credit Balance (Insurance broker has to pay to the client)
Premiums	Return Premiums
Additional Premiums	
Claim Refund	Claim
Unallocated Cash, paid to the client	Unallocated Cash, received from the client
Final Balance	Final Balance

3.2.5.2. Underwriter Account

<u>Debit</u>	<u>Credit</u>
Initial Debit Balance (Underwriter has to pay to insurance broker)	Initial Credit Balance (Insurance broker has to pay to the underwriter)
Return Premiums	Premiums
	Additional Premiums
Claim	Claim Refund
Unallocated Cash, paid to the Underwriter	Unallocated Cash, received from the Underwriter
Final Balance	Final Balance

Unallocated cash is reflected at the partner's accounts (client and underwriter). But it should not be mixed with other credits and debits partner's accounts There has to be a sub-account for unallocated cash.

Note. At Control Totals' state of the Client's and Underwriter's accounts should be reflected without Unallocated Cash. Unallocated Cash should be reflected at the Unallocated Cash Control Total. Primary accounting of Unallocated Cash will be on the partner's side.

3.2.6. Cash Account

Cash account balance shows the amount of money in a specific currency at a certain moment of time. Cash is stored at Cash Bank Account and Deposit Bank Account. Movements at the Bank Account should be reflected in the Cash Book.

<u>Debit</u>	<u>Credit</u>
Initial Balance (Amount of cash on the account)	
Cash Purchase	Cash Sell
Cash received	Cash Paid
Final Balance	

3.2.7. Operating accounts

Operating accounts represent financial performance of insurance broking activity. At the beginning of the year all operating accounts, except Profit and Loss accounts have zero opening balance. During the year financial results accumulate at different operating accounts. At the End of the year a final balance from these accounts is to be written off to Profit and Loss.

3.2.7.1. Main

Main Operating Account is designed to accumulate financial results from insurance broking business. If operating account has debit balance – it reflects assets, if credit balance – liabilities. If we have profit from a certain transaction, for example, we expect to receive 1000 NOK from the client at 12.8 NOK/GBP exchange rate, but actual rate was 12.5, so GBP equivalent will be more, than expected ($1000/12.5 - 1000/12.8 = 80.00 - 78.13 = 1.87$). So we have to write-off the profit, received in GBP to Exchange Rates Differences account (credit posting).

3.2.7.1.1 Brokerage

Brokerage is the income, which insurance broker receives from a client's underwriting policy.

<u>Debit</u>	<u>Credit</u>
	Initial Balance (Cumulative brokerage)
Return Brokerage (from addendum)	Brokerage (from policy)
	Final Balance

3.2.7.1.2 Commission

Commission is the income that insurance broker receives from the underwriter, when the underwriter pays for the claim.

<u>Debit</u>	<u>Credit</u>
	Initial Balance (Cumulative commission)
Return Commission (From claim refund)	Commission (from claim)
	Final Balance

3.2.7.2. System

Ledger posting within the system account is usually calculated automatically by the system to balance the transaction. But it is possible to change the state of the system account by manual entry.

3.2.7.2.1 Write-offs

Write-off account is used to accumulate financial results from cash and transaction write-offs. For example, if a client has to pay 999 GBP to us, but we receive 1000 GBP, we can write-off 1 GBP to Write-off Client Account. But, since we shall have profit, it will be reflected as credit entry at write-off account. Write-off occurs during allocation, when a certain amount of money on the unallocated cash sub-account from a client's account is matched against the client's debt (or credit).

<u>Debit</u>	<u>Credit</u>
Initial Debit balance	Initial Credit balance
Loss	Profit
Final Debit balance	Final Credit balance

3.2.7.2.2 Exchange Rate differences

<u>Debit</u>	<u>Credit</u>
Initial Debit balance	Initial Credit balance
Loss	Profit
Final Debit balance	Final Credit balance

3.2.7.2.3 Rounding Difference

Rounding Difference report has the same view as exchange difference account. If transaction does not balance to zero due to Rounding Difference, existing difference will be moved to rounding error account.

3.2.8. Transactions

Set of individual entries, related to one business operation, is called "transaction". In accordance with "double entry" principle, every transaction should have at least two entries: debit and credit

posting. It is possible to have more than two postings in one transaction. However total amount of debit should be equal to the total amount of credit for transaction.

In Broking Insurance Accounting there are different types of transactions:

- IBA transactions, described in full details with 3.2.12.2 IBA Transactions. IBA transaction comes from other modules: Broker and Technical and Claims. IBA transactions increase partners' debts or credits and broker's potential income
 - Policy;
 - Addendum;
 - Claim.
- Cash transactions
 - Cash received
 - Cash Paid
 - Currency sell / purchase
- Allocation
 - Cash Allocation
 - Cross Allocation
- Journal / Manual Entries – Journal or Manual entries make it possible to change accounts' state. An example of Manual Entry is putting cash to deposit account. Every type of transaction can be made as Journal Entry. Journal Entry allows to make changes in existing IBA transaction and consists of two entries; manual entry allows to make a new IBA transaction, and consists of any number of postings.

Inside the Information System a major difference is that all transactions (with the exception of Journal/Manual transactions), are produced automatically after the confirmation of a certain operation.

Table 4. List of transactions

Transaction type	Transaction name	Debit	Credit
IBA	Policy / Original Premiums	Premium from Clients	Premium to Underwriters
			Brokerage
	Addendum / Additional premiums	Additional Premium from Clients	Additional Premium to Underwriters
			Brokerage
	Addendum / Returned Premiums	Returned Premium form Underwriters	Return premium to Clients
		Return Brokerage	
Claim	Claim collection from	Claim to Clients	

Transaction type	Transaction name	Debit	Credit
		Underwriters	Collecting Commission
	Claim / refund	Claim returned by client	Claim, returned to underwriter
		Returned Commission	
Cash	Cash Received	Cash account	Partner unallocated cash account (Client or Underwriter)
	Cash Paid	Partner unallocated cash account (Client or Underwriter)	Cash account
	Cash Purchase / Sell	Cash Account (Purchased Currency)	Cash Account (Sold Currency)
Allocation	Allocation of Received Cash against partner's debt (Note, for all allocation transactions write-off entries should be made in the same way)	Partner unallocated cash account (Client or Underwriter)	Partner account (premium form client, claim form underwriter)
	Allocation of Cash Paid against partner's credit	Write-off (cash loss)	Write-off (cash profit)
		Exchange differences (loss)	Exchange difference (profit)
		Partner account (claim to client, premium to underwriter)	Partner unallocated cash account (Client or Underwriter)
	Cross Allocation for Transactions	Partner account (claim to client, premium to underwriter)	Partner account (premium form client, claim form underwriter)
	Cross Allocation for Cash	Partner unallocated cash account – cash received (Client or Underwriter)	Partner unallocated cash account – cash paid (Client or Underwriter)
Processing	End of Year Profit and Loss write off	Exchange Rates difference, Rounding Difference, Write-off accounts, Brokerage, Commission	Profit and Loss

3.2.9. Transaction Generation

Following paragraph describe ITCompany' flexible approach to defining the list of accounts and their roles. This approach is based on the separate list of account and account's roles. In insurance

broking accounting exists a defined list of account's roles. List of account in the Accounting system is unlimited. Each user can create as many accounts as they require.

There are three sources of transactions:

- End of Day queue;
- IBA operations
- Journal Entries / Manual Entries.

Each transaction affects number of different account types. To define the rules how different transactions affect accounts the one to one relationship between a role and an account should be identified. Actually, only making a Journal entry or Manual Entry users specifies all accounts numbers for the transaction. In all other cases one or more accounts' number will be determined by the system automatically from existing accounts roles being assigned. For example, if during Cash Allocation the user writes off an amount from client account, the IBA module will place this amount of money automatically on the account that is assigned to play the role of the Client write off account. If an insurance broker decided to use one account to reflect clients' and underwriters' write off, one account will be assigned to play this dual role.

This approach requires clear understanding of existing restrictions in the roles assigning. For example, some roles require only IBA accounts, another only Nominal

For each role inside the Accounting System should be assigned one account but an account could have no assigned roles. In the Table 4. List of transactions and Table 5. List of Postings accounts' roles are reflected, not accounts.

To generate transactions from the IBA, operations accounts for these roles should be assigned:

- Brokerage
- Commission
- Cash Book accounts for each Banking Currency
- Profit and Loss account
- Bank accounts
 - Cash Book Currencies
 - Non-Cash Book Currencies
- Write off
 - Client Write off
 - Client Unallocated Cash Write off
 - Underwriter Write off
 - Underwriter Unallocated Cash write off.
 - Cash Write off
- Exchange difference Write off

- Client Exchange Difference Write off
- Client Unallocated Cash Client Exchange Difference Write off
- Underwriter Exchange Difference Write off
- Underwriter Unallocated Cash Exchange Difference Write off
- Rounding difference write off

There are three different types of transactions:

- Manual transactions – user defines accounts numbers and amounts for all postings within a transaction (journal entries, manual entries);
- Semi-automatic transactions consist of two types of postings: user defined postings – accounts’ and amounts are determined by the user during operation; and automatic or system postings there accounts and amounts are determined automatically from accounts’ roles assigning (all transactions from Broking and Technical and Claim modules, Allocation);
- An automatic transaction consists of only automatic postings (closing of all profit and loss accounts during End of Year processing, separating of defaulting underwriter).

Accounts’ roles assigning and rules of semi-automatic and automatic transactions generation is an important part of Insurance Broking Accounting Policy.

Semi-automatic transactions are:

- Cash paid
- Cash received
- Allocation
- Cross-Allocation
- Cash Sell
- Cash Purchase

Transactions from policies, addendums and claims are also semi-automatic transactions, which derive from other modules.

Split and Transfer could be considered as semi-automatic transactions.

Automatic transaction:

- Profit / Loss write off at the end of year;

And there are two other automatic operation could be considered as automatic transactions:

- Fixing the exchange rate for the transaction and balancing the transaction;
- Processing the defaulting underwriter.

3.2.9.1. Semi-automatic transaction generation rules

This paragraph should be read after 3.3. Functional requirements.

3.2.9.1.1 Cash Paid / Cash Received

Cash Paid and Cash Received transactions are generated from approved cash batch entries. Accounting Module generates a separate transaction for each cash item. It generates a credit entry for partner's account and debit entry for Cash Book account if cash received and debit entry for partner account and credit entry for Cash Book account if cash paid. Accounting Module determinates Bank account (Cash Book account) for the particular cash using roles assigning information. These transactions should be generated immediately after approval of cash receive / pay entry. If received or paid non Cash-Book currency user have to specify the exchange rate for each cash item. This exchange rate will be used to determinate the Base currency equivalent. Each ledger posting in Non-Cash Book currency should have Base currency equivalent.

User Entry	Generated Transaction	
Cash Received		
Value date	Debit	Credit
Partner's account (client or underwriter); Amount of cash received; Currency; Exchange rate for Non-Cash Book Currencies	Cash Book Account	Client or Underwriter account
Cash Paid		
Partner's account (client or underwriter); Amount of cash received; Currency; Exchange rate for Non-Cash Book Currencies	Debit	Credit
	Client or Underwriter account	Cash Book Account

Transactions N 2, 4, 8, 13,15 in Test Example demonstrates how cash receive and cash payment are reflected in the Ledger.

3.2.9.1.2 Cash Sell / Purchase

Cash Sell / Purchase is a supervisor function so approval is not required. Separate transaction should be generated for each cash item. User specifies amount of cash sold of purchased, currency sold and purchased and the exchange rate for each cash item. User can sell or purchase any Non-Cash Book. Exchange rate is required to find base currency equivalent. Currency could be sold or purchased for Base Currency only.

User Entry	Generated Transaction	
Currency Sell		
Date	Debit	Credit
Amount to sell (in Non-Cash Book currency) Currency to sell (any Non-Cash Book currency) Exchange rate	Cash Book Account for Base Currency	Cash Book Account for Non-Cash Book currency

Sell of currency is reflected in Test Example Transaction N 10.

Purchase of currency is similar to selling of currency.

3.2.9.1.3 Allocation / Cross-Allocation

Transaction, generated from allocation is not a pure accounting transaction, because the same account is on the debit and credit side. But transactions approach should be used to find the exchange difference. Allocation requires supervisor approval, so this operation will generate a transaction only after approval. Allocation affects partner account (client or underwriter), Write off account, Exchange Difference account. Accounting Module will use Write off and Exchange Difference accounts from roles assigning. As a result of allocation at least two ledger postings will be generated: for partner account and partner account, sub-account Unallocated Cash. For specified write off amount will be generated a write off ledger posting to the specified Write Off account (for example, if we write off client debt, account assigning to play a role of Client Write off account will be used).

Exchange difference could exist only for allocation in Non-Cash Book currency. Exchange rate for main posting and exchange rates for other postings affected by allocation will be used to find the exchange difference. For example at Transaction N 9 cash received at exchange rate 12.5 NOK/GBP was allocated against transaction posting with True Rate 12 NOK/GBP. Allocated amount was 25 000NOK. Exchange difference was found $25\ 000 / 12.5 - 25\ 000 / 12 = 2000 - 2083.33 = 83.33$ GBP.

Write off example is presented at Transaction N 5. Cash Paid to the underwriter (2083.00 CBP) is allocated against underwriter's premium (2083.33). Small amount of underwriter's credit 0.33 GBP was written off.

Transaction N5 of Test Example demonstrates

User Entry	Generated Transaction	
Allocation		
Date	Debit	Credit
Cash Item: amount to allocate	Client or Underwriter account (Unallocated Cash)	Client or Underwriter account
Transaction items: amount to allocate, amount to write off.	Exchange rates difference	
	Write – off	

Examples of allocation are provided in Transactions N5, 9, 14, 18, 20 in Test Example.

Cross Allocation generates a transaction in the same way.

3.2.9.2. Automatic transaction generation rules

3.2.9.2.1 End of Year Profit and Loss Write off.

Single transactions consist of a number of double entries, which should be generated.

Accounting Module calculates balances for all Profit and Loss Nominal Accounts: Brokerage, Commission, Write-off/Small Difference, and Exchange Rate Difference. End of Year does not touch IBA accounts. Journal Entry should close IBA Write-off, Exchange Rates difference and Rounding Difference on the proper Nominal Account. If there is non-zero balance on the Nominal Account with Profit and Loss type, double entry will be generated: debit (credit) entry for Profit and Loss type account (depending it was a debit or credit balance credit or debit entry will be made),

and entry at Profit and Loss account. As a result of this operation all Profit and Loss type accounts should have a zero balance in every Cash Book Currency.

Lets demonstrate the logic of the automatic transactions on the Test Example. At the year end of 1999, the system will check account balances for all Profit and Loss accounts:

In the Test Example there are following ledger postings for these accounts:

Account	Name	Transaction Number	Currency	Base currency Equivalent	
				Debit	Credit
5012	Brokerage	1	GBP		416.67
		6	GBP		666.67
5013	Commission	11	GBP		491.80
1028	Client Exchange Rates Difference	9	GBP	83.33	
1028	Underwriter Exchange rate Difference	12	GBP		27.33
1003	Underwriter Write-off	5	GBP		0.33
1037	Rounding Difference	1			0.01

Transaction N 21 demonstrates how End of Year Profit and Loss account . For each Profit and Loss type account for each currency is created a separate ledger posting. For each Cash Book currency should be created a separate ledger posting on Profit and Loss account. During financial year Insurance Broker got a profit 1519.48 GBP that was reflected as credit ledger posting on the Profit and Loss account.

3.2.9.2.2 Balancing transaction after fixing the Exchange Rate.

Transaction balancing happens when transaction receives True Rate or Month End Rate. Transactions from Claim module already comes with the True rate and transactions from Broking and Technical Module receives True Rate during cash allocation during EOM processing.

Transaction N1 in Test Example reveal rules of transaction balancing. When cash received

3.2.10. Postings List

Following table represents all postings, that can be in the Accounting Module. First row show the main transaction, that keeps the ledger posting, next column defines Posting name. Two letters ledger Balance Type field should be used by the system to count movements and totals for Primary Accounts and Control Totals. Posting Type will be used in reports and screen forms to present posting type in usual way. Unique PostingId will be used to relate particular ledger posting to Balance Type and Posting Type.

Table 5. List of Postings

Group of posting	PostingTypeID	Name of Posting	Posting Type	Balance Type	Debit	Credit	Account
IBA	1	Client Premium	PM	CL	+		Client's Account
	2	Client Additional Premium	AP	CL	+		
	3	Client Return Premium	RP	CL		+	
	4	Client Claim	CM	CL		+	
	5	Client Claim Refund	RF	CL	+		
	6	Underwriter Premium	PM	UW		+	Underwriter's Account
	7	Underwriter Additional Premium	AP	UW		+	
	8	Underwriter Return Premium	RP	UW	+		
	9	Underwriter Claim	CM	UW	+		
	10	Underwriter Claim Refund	RF	UW		+	
	11	Brokerage	BK	BK		+	Brokerage
	12	Returned Brokerage	BK	BK	+		
	13	Commission	CS	CM		+	Commission
	14	Returned Commission	CS	CM	+		
Cash	15	Cash Received from Partner	CR	CU		+	Client's Account or Underwriter's Account (Unallocated Cash)
	16	Cash Received in Bankable Currency	CR	CU	+		Cash Book Account
	17	Cash Received in Cash Book Currency	CR	CH	+		Cash Book Account
	18	Cash Paid to Partner	CP	CU	+		Client's Account or Underwriter's Account (Unallocated Cash)
	19	Cash Paid in Bankable Currency	CP	CU		+	Cash Book Account
	20	Cash Paid in Cash Book Currency	CP	CH		+	Cash Book Account
	21	Currency Sell	SY	CU		+	Cash Book Account
	22	Currency Purchase	SY	CU	+		Cash Book Account
	23	Cash Book Currency moved from Bank Account	SY	CH		+	Cash Book Account
	24	Cash Book Currency moved to Bank Account	SY	CH	+		Cash Book Account

Group of posting	PostingTypeID	Name of Posting	Posting Type	Balance Type	Debit	Credit	Account
System	25	Currency Moved from Deposit Account	JL	JE		+	Deposit Account
	26	Currency Moved to Deposit Account	JL	JE	+		Deposit Account
	27	Rounding Error Write off	SY	SY	+	+	Rounding Error Account
Allocation	28	Exchange Difference Write off	SY	SY	+	+	Exchange Difference Account
	30	Write off of small amount	SY	SY	+	+	Write off Account
	31	Client IBA posting allocation	SY	AL	+	+	Client's Account
	32	Underwriter IBA posting allocation	SY	AW	+	+	Underwriter's Account
	33	Cash Posting Allocation	SY	AC	+	+	Client's Account or Underwriter's Account (Unallocated Cash)
Processing	34	Cross Allocation of the Underwriter's debts and credits	SY	AW	+	+	Underwriter's Account
	35	Cross Allocation of the Client's debts and credits	SY	CL	+	+	Client's Account
	36	Closing of Rounding Difference Account	SY	SY	+	+	Rounding Error Account
	37	Closing of Write-off Account	SY	SY	+	+	Write-off Account
		Closing of Exchange Difference account	SY	SY	+	+	Exchange Difference Account

3.2.11. IBA and Nominal Accounts

Each Account within the Insurance Broking Accounting system belongs to IBA or Nominal Side. Nominal Accounts are all Control Totals and all accounts of "Cash" type (bank accounts, deposit accounts) for Cash Book currencies. Nominal Accounts can be only in Cash Book currencies. IBA accounts are in Cash Book and Banking Currencies. Cash Book Account for Banking Currencies are IBA accounts.

Table 6. IBA Accounts

IBA Account name	Nominal Control Total
Write off Account	Client Control Total
Rounding Difference Account	Underwriter Control Total
Exchange Difference Account	Unallocated Cash Control Total (depending from posting type)
Partners' Accounts	
Clients' Accounts	Client Control Total
...	Unallocated Cash Control Total
Underwriters' Accounts	Underwriter Control Total
...	Unallocated Cash Control Total
Banking Accounts (for Non-Cash Book Currencies)	
Banking Currencies Accounts	Unallocated Cash Control Total
...	

Table 7. Nominal Accounts

Nominal Accounts Names
Brokerage
Commission
Client Control Total
Underwriter Control Total
Unallocated Cash Control Total
Banking Accounts for Cash Book Currencies
...
Deposit Accounts for Cash Book Currencies
...
Nominal Write off / Small Difference Account
Nominal Exchange Rates Difference Account
Nominal Profit And Loss

Each IBA Account should be reflected on the one or more Control Total, within the Nominal Trial Balance in Base Currency.

For Cash Book currencies and Banking Currencies in existing Accounting module a different approach in reflecting payment and cash allocation on Control Totals is realized. Cash Book currency received from the client is reflected on the Cash Book Account for this currency (Debt) and on Unallocated Cash Account (Credit) (Operation N 1). If banking currency is received, no changes on the Cash Book Account in the Nominal Trial Balance occur, because it is not a Cash Book Currency. Actually, in IBA account balance this operation will be reflected as increase of a Client's Unallocated Cash current balance (Credit) and increase of this currency Cash Book account

- unallocated cash (debt). All this information is reflected on the Nominal Unallocated Cash Control Total, but we shall see no difference, since debit and credit entries shall be equal.

When received cash is allocated, if it is a Cash Book Currency, it is reflected as a decrease of a client's debt on the Client's Control Total (credit) and decrease of Unallocated cash (debt). Banking allocation process is reflected at the Unallocated Cash Control Total (debit) and Client's Control Total (credit). Just because we do not make any postings when cash is received from the client if it was banking currency, after allocation, state of unallocated cash account is to change. After selling the currency (Operation N3), state of accounts will be the same, as it will be, if we receive Cash Book Currency.

Table 8. How Cash Book And Banking Currencies movements are reflecting on the Control Totals

N	Operation description	Cash Book Currency		Banking Currency	
		Debt	Credit	Debt	Credit
1.	Cash received from the client	Cash Book	Unallocated Cash Control Total	-	-
2.	Cash Allocation	Unallocated Cash Control Total	Client Control Total	Unallocated Cash Control Total	Client Control Total
3.	Sale of currency	Cash Book	-	-	Unallocated Cash Control Total
4.	Purchase of currency		Cash Book	Unallocated Cash Control Total	

Therefore, according to existing accounting rules, banking currency, received from the client, but unallocated against transaction, will not be reflected until allocation in Nominal Trial Balance in GBP. In order to receive this information it is necessary to look at IBA balance (Cash Book accounts for banking currencies).

3.2.12. Accounting registers

Main accounting registers in LLOYDS BROKER are:

- Insurance Broking Ledger (IBA Ledger);
- Cash Book;
- Nominal Ledger;
- Trial Balance
- IBA Balance

Accounting registers are different types of reports, which display business process information in the standard view. The same information is represented at IBA Ledger and Nominal Ledger, but with different level of aggregation.

3.2.12.1. IBA Ledger

Primary information related to main Insurance Broking activity is stored in IBA ledger. Every record in IBA ledger keeps information about individual payments, which a client or an underwriter has to make, or LLOYDS BROKER's obligations. Similar to all accounting registers, IBA ledger is just a query to General Ledger, where all the information, which changes the state of accounts, is stored.

Records (transaction posting) in IBA Ledger are related to document: policy, endorsement or claim, partners: client or underwriter.

Records arrive within the IBA ledger from Broking & Technical and Claim modules during EOD process.

3.2.12.2. IBA Transactions

A transaction consists of a set of ledger postings. A set of postings, related to processing of individual document forms the IBA transaction. Every document is placed manually into the EOD queue by a technician in Broking and Technical or Claim modules.

There exist the following types of IBA transactions:

- Premium (PM) – a transaction created from original policy;
- Additional Premium (AP) / Returned Premium (RP) – a transaction created from Addendum;
- Claim (CM) – a transaction from claim.

3.2.12.3. Ledger Postings

Every transaction type consists of certain ledger postings.

There exist the following types of ledger postings:

- Payment to Client – (Claims, or Return Premiums from Endorsement);
- Payment to Underwriter – (Policy or Claim type Refund);
- Payment from Client (Policy);
- Payment from Underwriter – (Claim or Endorsement type Returned Premium);
- Brokerage;
- Commission;

Note. Brokerage and Commission postings are not IBA ledger postings, because Brokerage and Commission accounts are not IBA accounts, they are Nominal accounts. But because of existing requirements, every transaction is to be balanced to zero, brokerage and commission postings are to be in the transaction. Actually, Brokerage and Commission postings are shown in IBA Ledger just in order to give a complete picture for a particular document: policy, claim or addendum, but they are not IBA postings.

Moreover, IBA ledger keeps information about Exchange Rates, and about status of individual transaction posting. Transaction posting (or item) status can be: Paid, Unpaid, and Partially Paid.

Table 9. IBA Ledger

Transaction Number	Sequence number	Policy Number	Details	Account Number	Currency	Posting Information			Payment Details		Exchange Rates				Allocation Details		
						Source of posting	Document	Type of posting	Amount Due	Due Date	Notional Rate	Month End Rate	True Rate	Actual Rate	Amount Allocated	Statement Date	Status

Each group of ledger postings, which comes to the Ledger from Broking and Technical module or Claim module, receives a transaction number. Each posting in transaction has a sequence number.

Policy number gives us a reference to particular document: policy, addendum or claim. Addenda and claims are related to policy, so an extension after policy number gives a reference to particular claim or addendum.

Details contain additional information about a certain ledger posting.

Posting information include a source of posting, document reference and type of posting. There are three sources of IBA ledger postings:

- EOD queue — from Broking & Technical or Claims modules;
- Journal / Manual Entries - Accounting Module entries;
- System Postings – postings, which are created automatically, for example, in order to eliminate Rounding Difference.

Document reference display type of document:

- Policy;
- Addendum
- Claim.

Types of IBA ledger postings:

- Premiums / additional premium that clients have to pay;
- Premiums that brokers have to pay to underwriters;
- Claim / Returned premiums, that clients have to receive from insurance broker;
- Claim / Returned Premiums, that underwriters have to pay to brokers
- Brokerage
- Commission

If a certain entry increases a broker's assets: clients and underwrites debts – it is a debit entry. If an entry increases liabilities: client's and underwriters credits, brokerage, commission – it is a credit entry.

Note. Brokerage and Commission should be presented in IBA ledger only to balance the transaction.

3.2.12.3.1 IBA multi-currency

In addition, in order to describe IBA fields, we have to offer some more information, associated with multi-currency:

- Converted code;
- Converted rate;
- Converted amount.

These fields are used for entries, which were converted to Base Currency from Banking currencies when transaction comes to the EOD queue. When transaction is made, it has a balance in each relevant currency.

There are two cases, when an entry has one currency in IBA documents and different currencies in IBA ledger postings, which represent this document:

- If premiums are in non-banking currencies, they are converted to Base Currency and stored in IBA ledger as pure Base Currency.
- If underwriter's premiums are in banking currencies, but the underwriter receives only cash-book currencies, postings are converted to Base Currency, but information about converted currency, rate and amount is stored for this IBA entry. This entry should be re-evaluated. It will be re-evaluated at the Month end Exchange Rate, if no cash allocations happen to this transaction at a true rate, which will be equal to the actual rate for the first-turn allocated cash. Converted amount and converted code fields are used for re-evaluation.

When information about policy or claim payments comes to IBA ledger, all cash amounts can only be in Cash Book currencies or bankable currencies. For ledger postings, where main currency is not a cash book currency, we have Base Currency equivalent.

In order to deal with two currencies: Base Currency – GBP and bankable currencies in IBA ledger four different types of exchange rates are used:

- Notional Rate;
- Month End Rate;
- True Rate;
- Actual Rate.

When the transaction comes from EOD queue to IBA ledger it has Notional Rate or True Rate. Transactions from Broking & Technical module have Notional Rate, and Transactions for Claims – True Rate.

Notional rate is the current rate in Housekeeping countries table when the transaction comes to the EOD queue. True Rate has different meaning and role. For a Claim it is the rate, chosen by Chief Accountant considering time of payment for a certain claim.

When the transaction comes to EOD queue (IBA ledger) it should be balanced to zero in every currency, and in Base Currency for bankable currencies.

All ledger postings in IBA ledger represent debits or credits. Cash, paid by a client to insurance broker or cash, paid by a broker to an underwriter, should be allocated against particular ledger posting.

If a transaction has notional rate, it will receive True Rate or Month End Rate. If no cash was allocated to a particular transaction entry before the end of month, the transaction shall receive End of Month Rate. End of Month Rate is the current exchange rate in Housekeeping table at the moment, when End of Month Procedure is run.

If cash is allocated against a transaction before it receives Month End Rate, it receives True Rate. In this case True Rate will be equal to the Actual Rate for allocated cash. Actual Rate is the exchange rate, which exists at the moment, when a broker receives cash from a partner, or pays to a partner. Chief accountant determines it every week.

Some special terms are used to describe this: if no cash is allocated against a transaction – transaction is “untouched”, if cash is allocated against a transaction – transaction is “matched”. If the amount of cash allocated against a transaction item, equal item or ledger posting amount due, ledger posting status will be “Paid” and it shall have zero balance.

Month End Rate or True Rate is used to represent bankable currencies accounts in Nominal Ledger in Base Currency.

After the End of Month procedure all transactions will have Month End or True Rate. These rates are used to find Base Currency equivalent. When the next cash allocations occur for the transaction, exchange rate differences are to be found. If a transaction has True Rate, the difference between Actual Rate and True Rate for the ledger posting should be defined. If a transaction has the Month End Rate, the difference between Month End Rate and Actual Rate is to be defined.

Exchange difference account is used to accumulate these differences. Exchange difference account has sub-accounts: client, underwriter, and cash.

Exchange difference write-offs occur when cash is allocated against ledger posting with a given Month End Rate or True Rate.

In the tables given below we give an example of exchange difference write-off (ref to example) @.

3.2.12.4. Cash Book

Cash Book keeps the information about cash movement. All postings, related to cash receipt or payment is to be presented in the Cash Book. For each Cash Book currency there exists a separate Cash Book.

Table 10. Cash Book

Date	Description		Movement	
	Notes	Partner	Paid	Received

Cash Book reflects movement of the Cash Book currency during the month. First line of the Cash Book reflects amount of cash at the beginning of the month and last line reflects the balance at the end of month.

Date column reflects a particular date, when the amount of cash has changed. For example, if a particular row presents cash, received from the client of underwriter, in the date field there has to be “value date”, given by the bank.

Descriptions fields describe the reason of this cash movement, for example, cash, received from the client, or cash purchased. Partner part of description is for a bank’s, client’s or underwriter’s names and accounts.

The amount is the quantity of money received or paid.

Currency receipt is reflected in Debit part of movement and currency payment – at credit side. In the Balance there is a current balance of currency on the account after change.

3.2.12.5. Nominal Ledger

Nominal Ledger gives information about movement in Nominal Accounts. Nominal accounts are all Cash Book Accounts for Cash Book currencies, Brokerage, Commission, Nominal Write off / Small Difference, Nominal Exchange Difference and Profit and Loss Account. Nominal Accounts are only in Cash Book currencies.

Control Totals contain consolidated movements at IBA accounts. Consequently, this information should be retrieved from IBA ledger. Static state of Nominal Accounts at the beginning and at the end of month and movements during the month are presented in Nominal Trial Balance. It has to be a separate Nominal Balance for each Cash Book currency.

Table 11. Nominal Balance

Report Month _____ March 1999 _____ Currency ____ GBP ____

Account	Previous Balance	Debit	Credit	Movement	Balance
Client Control Total;					
Underwriter Control Total;					
Brokerage					
Commission					
Unallocated Cash Control Total.					
Cash Book Account					
Deposit Account					
Nominal Profit and Loss					
Nominal Exchange Difference					
Nominal Write – off / Small Difference					
Total	0				0

3.3. Functional requirements

This section includes the full list of functions, implemented by Accounting module of LPBI information system. All functions can be classified at:

- User functions (most of them are represented at use case diagram). User functions are those functions, which are used by a particular employee.
- Technical functions are necessary to maintain information system.

3.3.1.1. Use Case diagram

Figure 9. Use Case Diagram



Main user functions are presented at the Use Case diagram. Arrows between actors and Use Cases show, who uses the particular function and arrows between functions shows how one Use Case uses another Use Case.

3.3.2. IBA Operations

IBA operation is a direct action with IBA records and Cash Book records. Technician usually executes IBA operations. Allocation, Journal Entries and Manual Entries require approval of the supervisor if they are done by accountant.

3.3.2.1. Transfer

Transfer is the editing transactions in IBA ledger. Transfer means the change of account number for particular ledger posting. Transfer is allowed for accounts of the same type: client, underwriter.

Transfer changes the state of the primary account in the past, because it's related to editing of movement on the account. Transfer does not change the state of the Nominal Control Totals because it affects only accounts of the same type. Therefore, account balances have to be recalculated after transfer.

Transfer is usually required if some changes happen in terms of the policy, addendum or claim, but whole transaction is already in the IBA ledger. Transfer is allowed for processed item.

3.3.2.2. Split

Split is also editing the Ledger items, but it does not change the state or balance of the account. Split is the division of one Ledger item into several items.

- Ledger posting should be “untouched” – no cash should be allocated against transaction, exception are all Cash Book currency postings;
- Total balance for resulting items should be equal to initial item.

Split is usually used to avoid partial allocation for banking currency ledger postings. Split could be made for processed ledger postings. Split is allowed for Ledger postings: Premiums, Additional Premiums, Claims, etc. as well as for cash postings: cash paid or received from the client or underwriter.

Split could be done for all IBA Ledger postings: transactions and cash. Transaction posting could be split only into the same type posting as initial item, if it was a credit posting, only credit postings could be done after split, and if it was a debit posting – only debit postings will be produced after split. Cash posting could be split into debit and credit items during split process.

3.3.2.3. Cash Receive

Cash Receive is the technician operation. Insurance broker receives a fax from the bank with list of cash received. For each currency it's specified: partner's account, amount, value date. If received cash is Non-Cash Book currency technician should enter the exchange rate. This rate is the current exchange rate. Chief accountant usually updates exchange rates every week. These exchange rates are not stored in the IS, but entered each time for particular cash item. So, partners' accounts, amount of cash and value date comes from the bank and exchange rate from the chief accountant.

Cash Received is not associated with particular partner's debt. Partner's debt will be decreased during allocation process.

3.3.2.4. Cash Payment

To pay some cash to the partner, the technician should collect signings on the Payment Request Form. Payment request form could be for one Ledger Posting or for list of Postings. When the bank informs the insurance broker that cash was paid to the partner, the technician reflects this fact in the Accounting Module.

In the old version of the Accounting Module cash payment also required consequent allocation of cash paid against transaction postings. EIBIS system allows to allocate cash paid immediately. Main difference between Cash Receive and Cash Payment is that insurance broker does not know the reason for particular cash received item, but practically all cash payments are related with

particular insurance broker debts. Sometimes cash could be paid without any reason, but it's more an exemption than a rule.

Two different cash payment processes exist:

- Payment with immediate allocation;
- Payment with following allocation.

The new Accounting Module should support these two different possibilities. In the first case the user will select a list of credit Ledger Postings for particular partner and cash, specifies, how much money insurance broker wants to pay for each Ledger Postings, specifies exchange rate if Non-Cash Book Currency. All this postings will be allocated at the specified amount, new cash paid item will be placed in the cash book and balances for all postings will be updated. Two operations will be generated for supervisor approval if the approval required: cash paid and allocation. Going further, it will be reasonable to keep postings list, generated to make Payment Request form and use this list to enter Cash Payment information.

Payment with following allocation will be

3.3.2.5. Allocation

Ledger postings related to particular partner has additional information comparing with other ledger postings. There are two types of partner's postings: IBA postings (premiums, claims) and cash postings (cash paid and cash received).

3.3.2.5.1 Allocation Cash Against Transaction

Cash, received from the partner or paid to the partner is represented on the unallocated cash partner's sub-account. Each item of unallocated cash should be matched against transaction in IBA ledger. For example, if the insurance broker received 1000 GBP from Lloyds Bureau this cash should be allocated against Lloyds Bureau debt. If after the allocation cash item has non-zero balance, system will split this item, so it will be two cash items after allocation, one with zero balance, and one unmatched item with balance equal to the difference of the balance for initial cash item and it's allocated part, but will retain details of the original Cash Amount and Date.

3.3.2.5.2 Allocation Cash Against Cash

It's possible to allocate two cash postings against each other, for example if the insurance broker paid some cash to the client and the client also paid cash to the insurance broker two cash items could be allocated against each other.

3.3.2.5.3 Cross Allocation

If partner has credit and debit unmatched postings, it's possible to cross allocate them. Cross allocation does not change account balance, but change the status of posting from "Unpaid" to "Paid". Cross allocation is allowed only for transaction posting of the same policy. During Cross Allocation user can specify the exchange rate that will be used during the Cross Allocation. Cross Allocation Should always balance to zero. It means, that if premiums (PM) and return premium (RP) have different amount we should split bigger item before Cross Allocation. Cross Allocation is allowed only for postings that belong to one Policy. Cross Allocation should always balance to zero and no write-offs allowed.

3.3.2.5.4 Write-off during Allocation

During Allocation Process small amount of money could be written off. Write off limit is specified in the Country table for each currency. For each Ledger Posting item user could specify to amounts: amount to allocate and amount to write off. Write off amount has to be within write off limit for each Ledger Posting.

3.3.2.5.5 Partially allocated items

Each Ledger posting could be fully or partially allocated. Partial allocation is forbidden for Ledger Postings in the Non Banking Currencies. Unallocated balance could not be greater, than write off limit for ledger posting in Non-Banking Currencies.

3.3.3. Processing

Processing is a general term, used to define actions, which have to be executed by system users periodically. There are three processing actions: End of Day, End of Month, End of Month and End of Year. Name of processing action reflects its nature. Processes, that going on when processing action is executed, mostly depends form organization of data inside the system. Following description of the processing actions is based on proposals by the new ITCompany database structure and algorithms. Detailed description of the database structure is provided in the Technical Solutions Section.

In brief, comparing with previous realization of Accounting module following changes should be made:

- Monthly state of all primary accounts should be stored in the database;
- State and movements of all Control Totals will be counted dynamically when required.

Only account character as a primary account or aggregate (control) account determinate its behaviour, but not it's belonging to IBA or Nominal side.

3.3.3.1. End of Day Processing

End of Day functions:

- Accounts list update from Housekeeping;
- Processing Defaulting Underwriter;
- Converting postings from EOD queue
 - Check defaulting underwriter
 - Group Lloyds, ILU and LIRMA underwrites postings at Insurance Bureau Accounts
 - Convert Non-Banking Currency transactions into the Base Currency;
 - Convert postings in Non-Cash Book currencies into the Base Currency for Bureau Accounts and other underwriters that accept only Cash Book currencies.

Data interchange between Accounting Module and other modules occur when End of Day procedure is running.

At the end of day special procedure Accounting module user should start End of Day process. At the beginning of EOD process accounts list is updated from Housekeeping Tables, to reflect changes in Clients and Underwriters lists. During this process information in EOD queue comes to Accounting Module.

End of Day queue (EOD) is the holding buffer of all Transactions, that comes from Broking and Technical and Claims modules. Figure 6. Information system modules shows main information flows between information system modules. In the center of information flows is the EOD.

For Accounting Module information about an Underwriter is essential: account number, name, type of received currency, defaulting sign, insurance market. Type of currency and insurance market define the rules of receiving information from the EOD. If underwriters receives only cash book currencies all payments in banking currencies will be converted to the Base Currency and marked as converted values. Rate of exchange used to convert this amount of money is from Country Table. This exchange rate called “Notional” rate. Amount of banking currency will be stored for this postings and used to update Base Currency value during End of Month process.

Information in EOD queue differs from initial information in Broking and Technical and Claims module. In Accounting Module works with limited set of currencies. For all currencies in exist bank accounts Accounting Module. But in Broking And Technical and Claims modules can be used any currency from Housekeeping list. Consequently, payments in currencies, that are not banking currencies, should be converted to the Base Currency then they come to the EOD queue. Current exchange rate from Housekeeping is used to find Base Currency equivalent for this postings. When these postings arrive at the Accounting Module, no information about initial currency will be stored and system will deal with this posting as a pure Base Currency postings, information about conversion details should be in the Notes for transaction postings. All postings, belongs to non-banking currency will be converted.

The Following examples demonstrate rules of converting for not Banking currencies and for Non-Cash Book Currencies

There is only one currency for the Policy: TWD - Taiwan Dollars. This currency is not a banking currency. So all instalments have to be converted to the Base Currency using current exchange rate. Current exchange rate for is 54 TWD/GBP.

Table 12. Example of converted transaction in Non-Banking Currency

Original Policy details:	Information in the Accounting Module
Client original premium 10000 TWD	Client original premium 185.19 GBP
Underwriter original premium 8000 TWD	Underwriter original premium 148.15 GBP
Brokerage 2000 TWD.	Brokerage 37.04 GBP

Given example shows, that no converted details saved for this postings. Whole transaction was converted to the Base Currency.

Initial Policy was arranged in NOK, but Underwriter A receives only Cash Book Currencies and Underwriter B receives Cash Book and Banking Currencies. When transaction comes to the Accounting Module, premium fro Underwriter B will be converted to the Base Currency, but

conversion details will be stored for this posting. These details will be used when exchange rate will be fixed for the transaction. Exchange rate in the moment when transaction was posted from the EOD into the Ledger was 12 NOK/GBP.

Table 13. Example of converted underwriters' postings in Non-Cash Book Currency

Original Policy details:	Information in the Accounting Module	
	Posting	Conversion Details
Client original premium 6000 NOK	Client original premium 5000 NOK	
Underwriter A original premium 2400 NOK	Underwriter A original premium 200 GBP	2400 NOK exchange rate 12 NOK/GBP
Underwriter B original premium 2400 NOK	Underwriter B original premium 2400 NOK	
Brokerage 1200 NOK.	Brokerage 100 GBP	1200 NOK exchange rate 12 NOK/GBP

First Transaction in paragraph 5.3. Test Example also illustrates this situation.

Insurance market for underwriter is used to determinate the account number. If an underwriter belongs to insurance market, Bureau Account will be used to reflect underwriter payments. Individual underwriter's account used only if an underwriter is not a part of a market.

Defaulting sign is used in different way depending from underwriter's insurance market. If an underwriter belongs to ILU or LIRMA bureaus and became defaulting, all Bureau Premiums and Claim postings should be split automatically. Defaulting Underwriter's signed line is used to define split proportion.

If EOD Queue has transactions with defaulting underwriter system will not convert this posting into the Ledger. System message about this transaction should be generated and placed into EOD procedure log-database.

End of Day queue keeps financial terms of new policies, addendums and claims. Minimal unit of information exchange between modules is the transaction. Transaction here is the schedule of the partners (clients and underwriters) payments, related to one document.

In the end EOD procedure generates EOD report. All EOD reports are stored in the system and can be viewed at any moment. Report about EOD process include list or updated (added accounts), added transactions, defaulting clients and underwriters. Also in the report contain name of user, who run EOD process.

(All information about EOD process should be stored in the database tables, to make it possible to make query about EOD history. So Total Object solution will be different, because in previous version information was stored in log-files.) That allows making different to history data, for

example, to know the date, when particular transaction was placed in the IBA ledger, or username, who started this EOD process.

Another significant difference related to changes in database structure. Because General Ledger will be used, no need in Cash Book and Nominal Ledger update exist. All changes in state of primary accounts will produce changes of aggregate accounts and account with Base Currency equivalent.

3.3.3.2. End of Month Processing

End of Month functions:

- Fix Exchange Rates (Month End rates);
- Balance Transactions;
- Update Balance Table for Primary Accounts.

During End of Month process balance for primary accounts should be found from previous balance and debit and credit movements during current month. Set of functions, implemented during End of Month processing will be changed compared with the previous realization of Accounting Module. Main change affecting End of Month of functionality related to set of stored and counted information. New realization suppose, than balances for primary accounts will be stored in the system and balances for Control Totals will be counted automatically when required. Actually, no information about Control Total will be stored in the system.

In previous realization End of Month Processing was related to counting movements on Control Totals. Due to the new approach no information about aggregate accounts balances and movements will be stored in the database than decrease EOM processing functionality.

Transaction should affect accounts' balances as an indivisible unit, all transaction's postings should affect balance table during the EOM procedure.

When the EOD processing is ran, the system scans transaction tables, finds all transactions, that does not affect Balance table before, find all postings for this transactions, calculate debit and credit movements using this posting list for all accounts, updates Balance table for these accounts and marks these transactions as processed and fill processed month field.

3.3.3.3. End of Year Processing

During the EOY process all balances from Nominal Accounts of Profit and Loss type: Brokerage, Commission, Write-off, Exchange Rates Differences, Rounding Difference should be counted and transferred to the Profit and Loss Account. Therefore, at the beginning of the year all Nominal accounts of profit and loss type, except Main Profit and Loss Account, will have zero balance. Detailed description of this transaction type could be found in 3.2.9.2.1 End of Year Profit and Loss Write off. (page 33).

3.3.4. Approval

Approval functionality is related to different rights of users in Accounting Module. Allocation, Journal and Manual Entries require approval of the supervisor. If a supervisor will make an allocation or Manual/Journal Entry it will be approved automatically.

3.3.5. Negate / Restore Transaction

Negating a transaction means, that this transaction will be marked as deleted and will not affect accounts balances.

There are some restrictions for transactions negation:

- Transaction should be unmatched (no one posting in the transaction should participate in allocation or cross-allocation)
- Transaction should not go through EOM processing.

All negated transactions could be restored any time by the supervisor.

3.3.6. Settings

3.3.6.1. Display Options

Display options settings allow to set a filter of displaying accounting information. For IBA ledger use can specify:

- Will be shown all Items, or only live items. (Live items are all unmatched items and items with processed date within current month);
- Set the time diapason of displaying items. It have to be an opportunity to select two standard diapasons: current month and last three months, or select a user-defined diapason indicating start and finish dates.

3.3.6.2. Dates settings

Accounting Module works in real time regime. One of the most important settings in the system is the current date. Current date is used as a default value for all technician and supervisor operations in the Accounting Module. Current date defined by the system from previous current date during EOD procedure. Each EOD processing increment system date at one day. Postings coming from the EOD queue receive processed date from the current date.

New Accounting Module will store information about account balances. This information is updated every month. Current system month is next month after last closed month. During EOM operation postings receive processed month from the current month. Only postings with processed date within processed month will influence accounts' balances. To change current month back user has to "open the month". To change it forward user has to "close the month". So free setting of accounting month will be forbidden.

Date setting option allows changing current date and current month, closing and opening periods.

3.3.6.3. Account manager

Account Manager and Account Roles Assigning allows to change the accounting policy without rewriting the code. These two functions guarantee system flexibility.

Existing LLOYDS BROKER reporting system impose possibly restricted configurations: should exist five base types of accounts: Client, Underwriter, Cash Brokerage and Commission.

Account Manager allow the user to change accounts list. It's forbidden to change the accounts that originates from the Housekeeping: Clients, Underwriters, Bank Accounts for Currencies.

All other accounts can be changed, added or deleted.

For each new Account user have to specify:

- Account number and the name (number have to be unique);
- Multi-currency: one currency, Cash Book Currencies or Banking Currencies
- Choose a currency for one currency account.
- Is it an IBA or Nominal Account, accounts in Banking currencies could not be Nominal accounts;
- For a Nominal account specify is it a Primary or Control Total
- Is it a Profit and Loss type account;
- For an IBA account it's required to specify account type: Client, Underwriter Cash or Profit and Loss, account type determinates which Control Total will be used to reflect this account in Nominal Balance. Cash accounts can be only in one currency and Client, Underwriter, Brokerage and Commission types should be in Cash Book and Non-Cash Book currencies;
- For an IBA account specify Nominal Control Total type.

3.3.6.4. Account Roles Assigning Manager

In 3.2.9 Transaction Generation described all accounts roles required to generate semi-automatic and automatic transactions and existing restrictions.

Account Roles Assigning manager allows to select an account that will play each role in the system.

3.3.6.5. Currency Manager

Currency manager should be used to change the list of Cash Book and Banking Currencies. It's the only one place in Accounting Module where all currencies from Country table are shown even Non-Banking Currencies.

Currency Manager works with list of currencies, defined in the Housekeeping Module. It only allows to change Currency type, but does not allow to add or delete a currency or change the exchange rate.

If any information in the accounting module exist for a particular currency, it can't be deleted from Banking Currency list.

Note. Currency Manager will not allow to change the Base Currency. Even change of the Base currency is possible it will not happen this year. Change of the Base Currency requires understanding of the algorithms how information in the Accounting Module should be updated. Moreover, it's necessary to provide the , mechanism that will guarantee that all exchange rates in the Housekeeping Module was updated and reflect the exchange rate into the New Base Currency.

ITCompany propose not to include change of Base Currency function in the first version of the Accounting Module, because now there is no necessity to do it, but could accomplish this function

when it will be really required. But all development should be done with understanding that change of the Base Currency could happen one day.

3.3.6.6. User Manager

These are the following functions in User Manager:

- Adding, deleting system user;
- Changing user “functional rights”
- Change user password.

It's forbidden to delete the user if one or more sessions are related to the user. Each user has individual rights in the system. Please, for detailed descriptions of the system functions allowed for the user of the particular type refer to section 3.5. Users and system functions: the security mechanism.

3.4. Reports

All reports are divided at Monthly reports, Current Reports and Daily reports. Monthly reports could be generated for each previous month. Current reports reflects the present state of insurance broking business. Daily reports reflect all user activity during the day.

Title for each report reflects:

- date when report was printed (generated);
- reports date (dates)

3.4.1. Balances

There are two balances reports: Nominal Trial Balance and IBA Account Balance. Currencies, for each currency exist These are monthly reports are used by the Chief Accountant to control the correctness and accuracy of all accounting operations during the month. Totals for particular columns in the IBA Account Balance should be equal to balances on the Control Totals, presented in the Nominal Trial Balance in each of Cash Book currencies.

Paragraph 5.3. Test Example demonstrates Nominal Trial Balance and IBA Account Balance. Current Balance Column in the Nominal Trial Balance for Client Control Total, Underwriter Control Total and Unallocated Cash Control Total is equal to totals for columns: Client Current Balance, Underwriter Current Balance and Unallocated Cash Current Balance for each Cash Book Currency in the IBA account Balance.

IBA and Nominal balances in Base Currency reflects all postings in Base Currency and all postings in Non-Cash Book Currencies in their Base Currency equivalent.

To generate IBA or Nominal Balance user should specify a reporting month and choose a currency.

Nominal Trial Balance and IBA Account Balance use the same information: account's balances from Balance database table and accounts movements from the Ledger.

3.4.2. Nominal Trial Balance (for every cash book currencies).

Nominal Trial Balance reflects the balance of all Nominal Accounts: Control Totals and Primary accounts if they have non-zero balance at the beginning and at the end of the reporting month. Nominal Trial Balance could be only in Cash Book currencies.

Nominal Trial balance columns are:

- Account number;
- Account Name;
- Previous balance;
- Debit
- Credit
- Movement
- Final Balance.

3.4.3. IBA Account Balance

Nominal Trial Balance shows the balances for all IBA accounts that will reflected on the Clients Control Total, Underwriter Control Total or Unallocated Cash Control Total. That are all clients and underwriters accounts, and Cash Book accounts for Non-Cash Book currencies. IBA Account Balance could be in Cash Book and Non-Cash Book currencies. But only IBA Balance in Cash Book currencies is required to be compared with Nominal Trial Balance.

IBA Account Balance columns are:

- Account number;
- Account Name;
- Client Aged in 3+ Month Balance;
- Client Current Balance;
- Underwriter Aged in 3+ Month Balance;
- Underwriter Current Balance
- Unallocated Current Cash Balance.

Only one IBA Balance exists but each currency is presented with a group with totals for balance columns.

3.4.4. Funding Reports

Funding is a situation when the insurance broker paid more to the creditor than he received from the debtor for particular document. Usually insurance broker pays to the creditor after receiving money from the debtor, but occasionally more money could be paid to the creditor than was received from debtor. Insurance broker should strictly control all funding events. Depending who is the debtor and

who is the creditor in particular business operation user generates Client or Underwriter Funding Reports.

Funding Reports check if funding occurs at instalment level if differed payment occurs for a particular document. Funding reports in previous versions of Accounting Module did not check funding on the instalment level, but this requirement was highlighted in Giles Thurston report in Amendments section (page56).

Funding report is a current report, it reflects actual information. To generate a funding report the user has to specify type of report: Client or Underwriter Funding.

In previous version a user also specified currency, but Funding report does not have many records, so it's reasonable to generate one report for all currencies with grouping for currency. Clients funding will be in all currencies and underwriters funding in Cash Book Currencies.

3.4.4.1. Underwriter Funding Report

Underwriter Funding could happen if the underwriter is a creditor, so underwriter funding could be related with Original Policy, Addendum for Additional Premiums and Claim Refunds.

Table 14. Funding Report

Date: 10 December 2000, time 12.00

Currency					
	Policy Number	Funding Amount	Rate	Base Currency Funding Amount	Details
Details	
Totals for Currency group		Total		Total	
Totals for Base currency (all Banking Currencies and Base Currency					
Cash Book Currency					
	Policy Number	Funding Amount	Details		
Details		
Totals for Cash Book Currency group		Total			

3.4.4.2. Client Funding Report

Client Funding may occur if client is a creditor, so client funding could be related with Claim and Addendum with Returned Premium. Client Funding Report has the same view as Underwriter Funding report.

3.4.5. Aged Debtors and Creditors

Aged Debtors and Creditor report can be generated for Clients' and Underwriters accounts. It's a current report.

To create Aged Creditors and Debtors Report User should specify:

- Debtors or Creditors or both;
- Clients or Underwriters or both;
- All ages or by aged range;
- Summary or Detailed.

Table 15. Aged Debtors and Creditors Report

Currency	....								
	Debtors / Creditors									
		Clients / Underwriters								
			Account	Name	Total	Not Due	Current Month	2-6 Month	7-12 Month	Over 12 Month
		Details	....	....	....	....	....	....	...	...
		Totals for Clients / Underwriters			Total	Total	Total	Total	Total	Total
	Totals for Debtors / Creditors				Total	Total	Total	Total	Total	Total
Totals for Currency					Total	Total	Total	Total	Total	Total

3.4.6. Aged Debtor and Creditor Analysis

Aged Debtor and Creditor Analysis Report is similar with Aged Debtor and Creditor Report. But second grouping level is the creditor or debtor account number, there is no grouping on currency. Third grouping level is the age in month. For this groups there is no detail, only totals.

As for Aged Debtor and Creditor Report user can specify:

- Debtors or Creditors or both;
- Clients or Underwriters or both;
- All ages or by age range;

There are totals in Base currency for each debtor and creditor.

Table 16. Aged Debtor and Creditor Analysis Report

Debtors							
	Account	Name					
	...	...	Currency	...	Original Amount	Rate of Exchange	Base Currency Equivalent
				Now / Future	...	...	...
				1-6 Month	...	...	...
				7-12 Month	...	...	...
				Year and more	...	...	...
	Total for Account						Total
Creditors							
	Account	Name					
	...	...	Currency	...	Original Amount	Rate of Exchange	Base Currency Equivalent
				Now / Future	...	...	...
				1-6 Month	...	...	...
				7-12 Month	...	...	...
				Year and more	...	...	...
	Total for Account						Total

3.4.7. IBA Ledger Listing

IBA Ledger Listing Report displays all unmatched (partially matched) Postings in the IBA Ledger. The User can select all postings or set a filter by Credit Controller or by account and currency. Every Client or Underwriter account have a Credit Controller assigned to it.

IBA Ledger listing Report displays all Banking Currencies without Base Currency Equivalent.

Table 17. IBA Ledger Listing Report

Account	Name							
...	...	Currency	...					
			Policy	Posting Type	Amount Due	Amount Outstanding	Date	Notes
		Details	...	...	...	...	...	...
		Totals for currency			Total	Total		

3.4.8. Partially Unallocated Reports

There are two Partially Unallocated Reports: Partially Allocated Cash and Partially Allocated Postings

They have the same view as the IBA Ledger Listing Report but display only partially allocated items.

It will be reasonable to generate these reports as a sub-report of IBA Ledger Listing Report.

3.4.9. IBA Unallocated Cash Report

Unallocated Cash Report is a current report, it displays all Cash Received, Cash Paid. User specifies to display all unallocated cash or just for a specific month for selected Cash Book currencies. Report in Base currency reflects unallocated cash in all Banking currencies. Rows Currency, Rate and amount Outstanding in Base currency are required only for report in Base currency.

Unallocated Cash report for Base Currency has two grouping levels: account and currency, and one grouping level for other Cash Book currencies: currency grouping does not required for Non-Base currency Unallocated Cash Reports.

Table 18. IBA Unallocated Cash Report

Report Month November 1999 Currency GBP

Account number and name						
....	Currency	...				
		Value Date of original amount	Original Amount	Amount Outstanding	Rate	Base Currency Amount Outstanding
	Details	...	...	...	...	...
	Totals for Currency		Total	Total		Total
Totals for Account						Total

3.4.10. Client Controller Report

User can create Credit Controller Report for all Credit Controllers or for particular one. This reports displays IBA Ledger postings grouped by Credit Controller, Currency and month with summations detail so the supervisor can see how much each Credit Controller should receive in each month.

Client Controller Account reflects current state of accounts and displays all banking currencies. No Base currency equivalent is required for Non-Cash Book Currencies.

Table 19. Credit Controller Report

Credit Controller	...							
	Currency	...						
		Month						
			Policy	Account	Due date	Amount Due	Amount Outstanding	Notes
		Details	...	...	...	...	...	...
		Totals for Month				Total	Total	
	Totals for Currency					Total	Total	

3.4.10.1. Cash Book

Cash Book Report displays all cash movements during a month. To create a Cash Book Report user has to specify a currency and a month. In the New Accounting Module Cash Book Report will take default values of currency from the Cash Book Screen Form and default value of month from Display settings.

Cash Book will have the same view as the screen form, Ref. Table 10. Cash Book. Cash Book exists only for Cash Book currencies.

3.4.11. Brokerage Report

There are two different Brokerage Reports. To generate Brokerage Report, User has to specify reporting month and a Cash Book Currency. Brokerage Report in Base Currency should reflect Brokerage in Banking currencies and Brokerage in the Base currency. Brokerage reports require additional information from Broking and Technical module. Client and Assured details are required for these reports: client and assured country. Brokerage postings have to be associated with particular client and assured.

3.4.11.1. Brokerage report be Client

Brokerage report by Client present the same information that the Brokerage report by country. The only one difference is that in client report there is no grouping by assureds' countries.

3.4.11.2. Brokerage Report by Country

Brokerage report by country groups all brokerage if an assured is from EEC or not, so it has two main groups: inside EEC and outside EEC. This information is required to calculate how much VAT LLOYDS BROKER owes.

Rate and Base Currency equivalent columns are not required if report in not a Base Currency.

Table 20. Brokerage Report by Country

Report Month November 1999 Currency GBP

EEC									
	Client	...							
		Currency	...						
			Policy	Instalment	Assured	Due date	Amount	Rate	Base Currency Equivalent
		Details	...	...	...	...	...	...	...
		Totals for currency group					Total		Total
	Totals for Client Group								Total
Totals for EEC group									

3.4.12. Statement

Statement reports presents list of postings for one account in one currency. To create a Statement user selects a list of Postings. System displays all Unpaid or Partially Paid postings for selected account and Currency.

3.4.12.1. Statement of Account

Statement of account displays account details: name and address of the client or the underwriter.

Details of Statement reports reflect information about selected Postings:

- Accounting Date (Processed Date),
- Policy Number;
- Client or Underwriter reference number;
- Transaction Type;
- Details;
- Due date, Amount Due.

User selects different order for the statement: ascending or descending by accounting date or ascending by policy number.

Figure 10. Account Statement

		LOCHAIN PATRICK INSURANCE BROKERS LTD					
		Bury House, 31 Bury St, London, EC3A 5JP					
		Telephone: 0171 – 283 3131 Fax: 0171 – 283 3093					
Name:	ILU Bureau Account					Contact:	Kat
Address:	ILU, Folkestone, Kent					Statement Date:	20 Jan 2000
ACCOUNT NUMBER:	79035	CURRENCY:		UK Sterling			
ACCOUNTING DATE	POLICY DEBIT/CREDIT NUMBER	DEBIT/ CREDIT	YOUR REF NUMBER	TRANS INST TYPE NO.	DETAIL : ASSURED : VESSEL : INTEREST : INCEPTION DATE	DUE DAT	
01 Apr 99	MD 99 0014			PM	Installment 1 of Premium NLG1 for MD 99 0014/A. Muhibbah Marine Engineering : "Green Cape" : Hull and Machinery etc : 18 Feb 99.	18 Apr 99	215,913.74 Cr
31 Mar 99	MD 99 0008			PM	Installment 2 of Premium IEP1 for MD 99 0008/A. Seatrade Shipping Co : "Crystal Sea" : Hull and Machinery etc : 01 Jan 99.	01 May 99	16,087.48 Cr
31 Mar 99	MD 99 0003			PM	Installment 2 of Premium DEM1 for MD 99 0003/A. Muhibbah Marine Engineering : "Golfstrum" : Loss of Hire : 20 Jan 99.	20 May 99	3,591.38 Cr
						TOTAL DUE TO YOU:	235,592.60

3.4.12.2. Bulk pay request

Bulk pay request consist of two sub-reports: Payment Request and Account Statement. In the Payment request form there is no details about particular Ledger Posting, all details are in the Account Statement supplement. Posting Details in the supplement are:

- Policy Number;
- Reference;
- Amount due;
- Notes.

3.4.12.3. IBA Payment Request

Payment requests usually are issued for creditors. It's designed to collect signatures required to pay money for the creditor. To generate the IBA Payment request user have to select credit record in the IBA ledger. User has to supply the exchange rate for underwriters for converted underwriters

postings, (postings were converted from original currency as it's added to the EOD queue. Information from this ledger posting will be placed in the request form.

IBA Payment Request

Date: 20 Jan 00

Have these funds been previously purchased if YES please quote purchase number.

Please arrange tele-remittance/cheque of:		Currency Code:	NOK
		Currency Amount:	10,000.00 Cr
Client:	Sedgwick Bergvall A/S		
Client Account Code:	10000		
In Favour of (if different from above): _____			
In Respect of: SYS POSTING: CASH ALLOC IN SESSION 202 - Installment 1 of Premium NOK1 for MD 99 0037/01. BWK Schiffsinvest GmbH & Co KG : "Vikstraum" : Hull and Machinery etc : 18 Apr 99.			
Policy Number:	MD 99 0037	DN/CN Reference:	0001
Signing Numbers and Dates:		Lloyds	_____
		ILU	_____
		LIRMA	_____
All Funds being tele-remitted received:		Yes/No	
If No:	Amount of Funding:	_____	
	Date we receive monies:	_____	
	Cost of Funding:	_____	
	Funding Authorisation:	_____	
Payment requested by:	Kat		
Payment Authorisation:	Claims/Technical Dept.:	_____	
	Claims/Technical Dept.:	_____	
	Accounts Dept.: Credit Controller:	_____	
	Accounts Dept.: Accountant:	_____	
Payment Actioned by Cashier:	Yes	No	

3.4.13. Brokerage by Client

For this report user should specify reporting period. It possible to generate this report for one client, group of clients or all clients.

Brokerage by Client Report has three grouping levels: client, policy and currency.

Table 21. Brokerage By Client

From 10/12/1999 to 20/01/2000

Accounts: 10040, 10115, 10135

Account	Account Name								
...	...								
	Policy	Type	Year	Number					
		...	...	...	Currency				
					...	Brokerage	Details	Period	Interest
					Details	....	...	...	...
					Totals for Currency	Total			

3.4.14. Client and / or Underwriter outstanding Premium

Client and / or Underwriter outstanding Premium report could be generated for Clients, Underwriters or both categories, for one account number, group of accounts or all accounts. User should specify reporting period beginning and end dates.

There are five for clients and six for underwrites grouping levels for this report:

Clients and Underwriters,

Account,

Policy,

Currency;

Section (for Underwrites);

Instalments.

Table 22. Client and / or Underwriter outstanding Premium

From 10/12/1999 to 20/01/2000

Accounts: 10040, 10115, 10135

Clients												
Account	Account Name											
...	...											
	Policy	Type	Year	Number								
		...	...	...	Currency							
						Section						
							Instalment	Due Date	Amount Due	Amount Outstanding	Details	
						Details ...	...	...	...	...	...	...
						Totals for Currency			Total	Total		
Underwriter	(the same as for client)											

3.4.15. Daily Cash / Transaction Allocation

This report shows all allocation for selected day, grouped by Policy and posting type role: CL – Client, UW – Underwriter and BK – Brokerage.

Table 23. Daily Cash / Transaction Allocation

Transaction Ref (Policy Number)	Type	Details	Role	Currency	Amount due	Amount Paid today	Amount Paid so far
			CL				
			UW				

3.4.16. Session Report

Session Report is the daily report. To generate Session Report user have to specify reporting date. All operations during will be presented in this report. User can also select a number of reporting operations:

- Cash Allocation
- Cross Allocation
- Cash Paid
- Cash Received
- Sale of Currency
- Purchase of Currency
- Transfers – Transaction or Cash
- Splits – Transaction or Cash
- Journals
- Manual Entries
- Negate and Restores

Report title contains report date and accounting month. Session Report has a separate section for each operation. Each section is sub-divided at session sections. Within session each business operation is presented separately.

Table 24. Session Report

Report Date 20/01/2000

Cash Allocation							
	Session Number:	....				
	User:	...					
		Account Number	...	Account Name	...	Currency	...
Date	...	Original Amount:	...	Opening Balance	...		
Allocation Details							
Policy Number	Transaction	Posting Type	Account Date	Description	Ledger Amount	Allocated this section	Write off
...
Total Allocation					Total	Total	Total
Closing Balance	...						
Cross Allocation							
	Session Number:	....				
	User:	...					
		Account Number	...	Account Name	...	Currency	...
Policy Number	Transaction	Posting Type	Account Date	Description	Ledger Amount	Allocated this section	
...	
Cash Paid							
	Session Number:	....				
	User:	...					
		Account Number	...	Account Name	...	Currency	...
Details Date	...						
	Amount	Rate of Exchange	Base Currency Equivalent	Details	Approved by		
		

Cash Received	(as Cash Paid)						
Sale of Currency							
	Session Number:	....				
	User:	...					
	Currency (sell) (Banking currency)	Currency (purchase) (Cash Book Currency)	Amount	Rate	Amount (Cash Book)	Rate to Base Currency	Amount (Base Currency)

Purchase of Currency	As Sell of Currency)						
Transfer of Cash							
	Session Number:	....				
	User:	...					
From Account	...	Account Name	...				
To Account	....	Account Name	...				
		Cash Posting Details:	Currency	Account Date	Description	Amount	
		
Transfer of Transaction							
	Session Number:	....				
	User:	...					
From Account	...	Account Name	...				
To Account	....	Account Name	...				
	Transaction Posting Details:	Currency	Policy Number	Transaction	Account Date	Description	Amount
	

Splits of Cash							
	Session Number:	....				
	User:	...					
Account Number	...	Account Name	....	Currency...			
Split Item							
Account Date	Description	Amount					
...					
New Items							
Account Date	Description	Amount					
..	..						
Total for New Items		Total					
Splits of Transaction							
	Session Number:	....				
	User:	...					
Account Number	...	Account Name	....	Currency...			
Split Item							
Policy Number	Transaction	Type	Account Date	Description	Amount		
...		
New Items							
Policy Number	Transaction	Type	Account Date	Description	Amount		
...		

Total for New Items					Total		
Journals							
	Session Number:	....				
	User:	...					
Currency	...	Description	....			
Amount	....	Date	...				
Debit	Account Number	...	Account Name	....		
Credit	Account Number	...	Account Name	....		
Manual Entries							
	Session Number:	....				
	User:	...					
Currency	...	Policy Number	....	Description	....	
Manual Entry Details	Account Number	Account Name	Amount	Debit/Credit	Notes	Due Date	
	

3.4.17. Underwriters Net Premium

To generate Net Premium to Report the user should specify reporting period between two dates. It's possible to generate this report for one underwriter, group of underwriters or all underwriters.

Exchange rate used to find Base Currency equivalent is the current exchange rate from Housekeeping Module. This report presents underwrites premiums grouped by currency. All banking currencies should be in this report if underwriter's net premium is not zero in this currency for selected period. Even Cash Book currencies have Base Currency equivalent.

Net Premium is an actual amount due or paid to underwriters, this report does not include claims and claim refunds.

Table 25. Net Premium to Underwriters

From 10/12/1999 to 20/01/2000

Accounts: 7935, 9927, 89043

Currency	Net Premium	Rate of Exchange	Base Currency Equivalent
...
Total			...

3.4.18. Clients Net Premium

Clients Net Premium Report is similar with Underwriters Net Premium Report. The only one difference is that it's for clients.

3.5. Users and system functions: the security mechanism

Accounting Module is a fully auditable system. Each operation in the system is assigned with a particular user, so it's always possible to know who made this particular split, allocation or negated the transaction.

When user starts the Accounting Module the system checks the 'net login' and User List and identifies user's rights: a list of available functions and functions that require approval. That is the main security mechanism in the system. Each system function could be allowed for the individual user, forbidden or require approval. Function rights should be assigned for each system user individually. Typical rights settings could be used for these purposes. Typical settings for three main user groups are presented in the Table 26. Functions and user groups. Actually, for Accountants two possibilities exist: if an accountant is a Credit Controller for the particular account or not. In the first case accountant will have more functional rights, but in the second case accountant will have rights similar with common user. Anyway, each user of the Accounting Module could have individual functional rights settings.

Following table provide possible settings for users with different functional rights.

“-“ - not allowed

“*” – approval required

“+” – allowed and does not require approval

Table 26. Functions and user groups

System Function	Common User	Accountant	Supervisor
Accounting registers query	+	+	+
Reporting	+	+	+
Cash Payment / Receive	-	+	+
Allocation	-	*	+
Cross Allocation	-	-	
Split	-	+	+
Transfer	-	* (+)	+
Cash Sell / Purchase	-	-	+
Journal Entry	-	*	+
Manual Entry	-	*	+
Approve	-	-	+
Negate / Restore transaction	-	-	+
Processing: EOM, EOD, EOY	-	-	+
Query Processing Log	+	+	+
User Manager: add, delete the user or change user's functional rights	-	-	+
Query current Accounting Module Users	+	+	+
Query user activity: by user name, dates, session number	-	+	+
Currency Manager: change currency type	-	-	+
Account Manger: add, delete or edit information about account	-	-	+
Accounting Policy Manager: assigning accounts roles	-	-	+
Setup Display Options	-	+	+

4. TECHNICAL SOLUTIONS

4.1. Accounting Module Development Strategy

ITCompany specialist analysed code, screen forms, database structure and stored procedures. Rounding Difference as well as errors of other types were caused by code complexity. Business logic is distributed between stored procedures, VB code and Crystal Reports. Moreover, due to not optimal database structure algorithms were very complex. Combined with lack of programming documentation and comments within the software code it makes support and maintenance of existing Accounting Module very complicated. Probably it was the main reason of previous failures in bug fixing in the software.

We received from LLOYDS BROKER, programming code and database which fully corresponds with the LP Accounts system report by Giles Thurston. Therefore most proposals from this report concerned IS improvements (Appendix A of the report) are actual and will be implemented by ITCompany. As Giles Thurston wrote, most of these amendments would require a major overhaul of the system. Actually, changes within the database structure related to combining Cash and Ledger Details will require changes to most of the stored procedures. Some proposals will be implemented in a more advanced way, for example not only Cash and Ledger tables will be combined, but also Nominal Ledger and Ledger will be combined in one table.

Also during the past year, new Visual Basic components have become available: Hierarchical FlexGrid, TrueBDGrid 6.0. and a new mechanism of access to the database (ADO). That allows building more comfortable user interface. User interface of existing Accounting Module has many imperfections:

- Working in the system results in opening of unlimited number of windows;
- Similar screen forms are used for different purposes;
- Sometimes screen form reflect unnecessary information;
- Making an inquiry or implementing an IBA operation or other action require a navigation throughout many screen forms;
- System allows the user to do operations that may destroy accounting balance or produce wrong settings.
- In allocation form, detailed results of user work are not reflected and can't be partially undone.

Moreover, some functions could not be executed if more than one Users are working with Accounting Module simultaneously, for example, processing or reporting. For generating most of reports these used SQL Server Tables holding query results. SQL Sever 7.0 allows to use temporary tables for holding temporary information.

Therefore, understanding that simple bug fixing in existing software was not a possible solution, ITCompany proposes to rewrite Accounting Module from scratch.

Database tables that are used in other modules will not be changed, but pure accounting tables will be designed from scratch also. The following paragraph describes the interface and database solutions. Existing Accounting Module will be used as a prototype to understand the business logic.

Rewriting the Accounting Module the following purposes should be achieved:

- Simplify database structure;
- Simplify software code;
- Improve user interface;
- Eliminate Rounding Difference and other errors related to calculations.

4.2. System Quality

In software engineering software quality has become a topic of major concern. As software is becoming critically important for an organization to be competitive in its business, the requirement that the software is highly supportive for the organization in achieving its goals means that the software should have high utility and user quality. It has also been recognized that software maintenance is becoming the main activity in software work. With the growing collection of software in organizations this cost is becoming substantial. The amount of maintenance required and the effort needed to perform a certain maintenance task is critically dependent on the technical quality of software resulting from the software development process.

Understanding this issues ITCompany will maintain software quality in two directions:

- Functional Quality – capability to meet current business requirements;
- Technical Quality – capability to adopt business and technical changes.

Actually, functional and technical quality are closely interrelated. The following list is presenting ITCompany solutions to quarantine technical quality:

- Unified development standard should be used;
- Business logic should be only at SQL Server in Stored Procedures;
- Screen Forms should be built from User Defined Controls;

4.3. User Interface Design

4.3.1. Concept

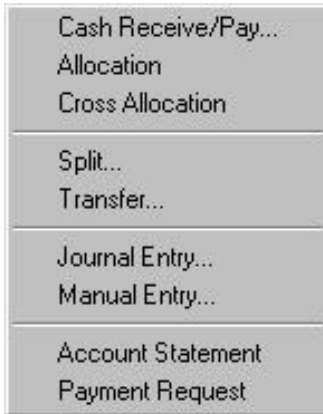
Accounting Model User Interface will be completely changed. Multi-page control panel with large functional buttons on the left side of the screen will be removed. Access to the system functions will be organized from the main hierarchical menu and standard toolbars. Enquiry and Technician operations functionality will be combined. For presentation of list of items, for example, ledger postings will be used MSHFlexGrid or TrueDBGrid 6.0, that allows to sort and group items after selection. List of available operation will depend from active screen form and user status.

4.3.2. Menu

Main hierarchical Menu gives an access to the whole system functions. Main menu items are:



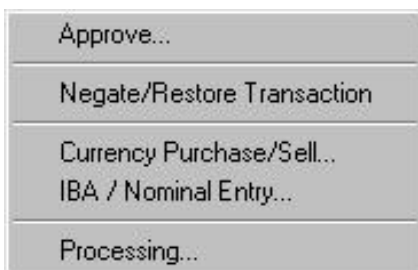
Technician



Account



Supervisor



Tools



4.3.3. Screen forms

The system will be built around a set of Screen Forms reflecting Accounting registers: Nominal Ledger, IBA ledger and Cash Book. Enabled operations in Main Menu and Toolbars depends from the current user position in particular form. For example, if a user selects a particular unmatched IBA ledger posting, all IBA operation for selected posting will be enabled Split, Transfer, Allocation and Cross Allocation.

- Accounting registers:
 - Nominal Ledger;
 - IBA ledger;
 - Cash Book;
 - IBA Journal
- IBA Operations
 - Journal Entry
 - Manual Entry
 - Split Form

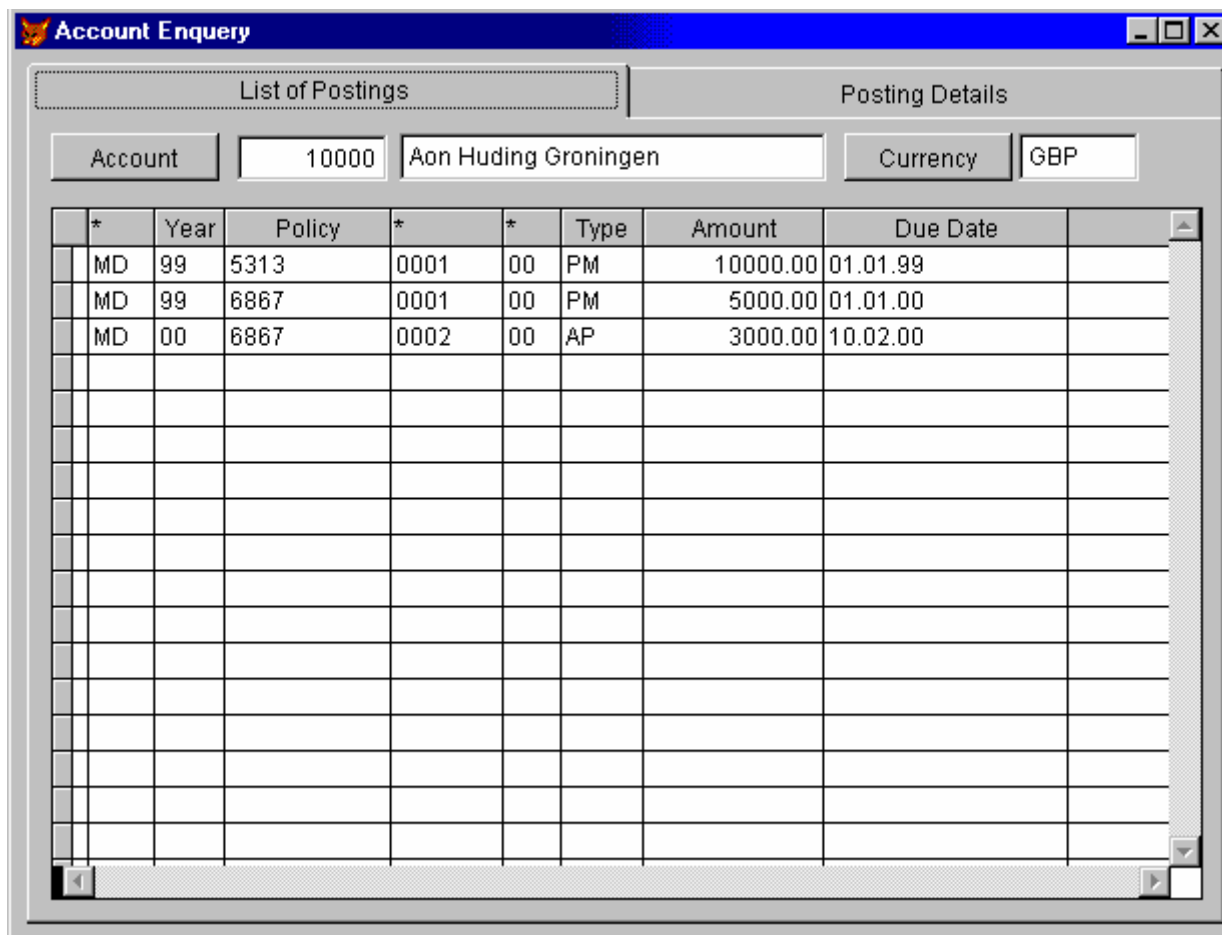
- Transfer Form
- Allocation Form
- Cash receive / Paid
- List of Reports (Reports settings for each report if required)
- Supervisor operations
 - Approval
 - Restore / Negate Transaction
 - Cash Sell / Purchase
 - Start EOM, EOD and EOY process
- Options
 - View options
 - User Manager
 - Currency Manager
 - Accounts Manager
 - Account roles assigning
- Information
 - IBA posting details
 - IBA transaction details
 - EOD, EOM and EOY processing info
 - User Activity

4.3.3.1. IBA Ledger form

IBA ledger view allows to make query to IBA information by Account Number, Currency, Policy Number, Document Number, Instalment Number, and Signings number.

Due to different types queries IBA ledger is organized as a set of views: Account View, Transaction View, and Journal View.

Account view allows to see all IBA ledger postings, for selected client's or underwriter's account. Posting types for these views are: premiums, cash received, cash paid. All postings in this part of the system could be Paid, Unpaid or Partially Paid.



Transaction view has three different sub-views: currencies, instalments and postings. This view allows to drill down to policy, addendum or claim details. Policy view is designed to view all information for selected policy. User enters policy number and receives list of IBA documents for this policy: Original Policy, Addendums, and Claims. When user selects one document in the list, in the Summary view will presents all posting for selected instalment.

All functionality, related with a transaction or a particular posting in the transaction is available from IBA ledger. For example, if Unpaid Posting is selected, Split, and Transfer functions are enabled. Cross allocation functionality will be enabled only if this transaction has a True or Month End Rate.

User can filter list of transactions by Policy type, Policy Year, Policy Number, Document Number, Instalment Number and Document Type. Some fields are obligatory: Policy Type, Year and Number, all others are additional.

It's possible to see negated transactions in the Transaction View Form selecting "Show Negated".

Transaction View

Transactions Summary Ledger Posting Details

MD 8017 Show Negated

*	*	Policy	*	N	*	Curr	Date	Client Due	Client Out	UWV Due	UWV Out	Negated
MD	99	8017	0000	00	PM	GBP	01/01/99	23000.00	20000.00	18000.00	10000.00	<input type="checkbox"/>
MD	99	8017	0001	00	RP	GBP	01/01/00	1200.00	1000.00	800.00	800.00	<input type="checkbox"/>
MD	99	8017	0002	01	AP	GBP	02/15/00	1000.00	700.00	9000.00	900.00	<input checked="" type="checkbox"/>
MD	99	8017	0002	02	AP	GBP	06/15/00	1000.00	1000.00	9000.00	9000.00	<input checked="" type="checkbox"/>
MD	99	8017	0000	00	PM	NOK	01/01/99	10000.00	10000.00	8000.00	8000.00	<input type="checkbox"/>

Summary page of Transaction View presents list of postings for selected row on the Transaction Page.

Transaction View

Transactions Summary Ledger Posting Details

Policy MD 99 - 89026 - 0000 - 00 Currency NLG

Amount Due Amount Outstanding

Client: 1000.00 20000.00

Underwriter: 18000.00 10000.00

Account	Type	Name	Due Date	Due	Due (GBP)	Outstanding	Paid	Paid Date	Session
10000	C	Client 1	01/01/99	1000.00		800.00	200.00	01/03/99	123
79035	U	ILU	02/01/99	800.00		600.00	200.00	01/04/99	156
20000	C	Client 2	01/01/99	3000.00		2500.00	500.00	01/04/99	157
89043	U	LIRMA	02/01/99	2000.00	300.00	2000.00	0.00	/ /	0
30065	U	BMM	02/01/99	1000.00	0.00	1000.00	0.00	/ /	

On the Ledger Posting Page are reflected all details for the Ledger posting, selected on the Summary Page.

4.3.3.2. Cash Book Form

Cash Book form allows to see movement of selected cash within a given period. It reflects initial balance for selected cash, debit and credit movements, totals for debit and credit movements with notes and final balance. All functionality, related with cash (cash sell, purchase, cash receive and cash paid) is available from the Cash Book. It's possible to enter dates or choose from calendar control. Arrow buttons allow navigating between dates.

Date	Note	Received	Paid
01.02.00	Cash Received from AC 10000	1000.00	
01.04.00	Purchase currency NDK 2400 at Ex. Ra	200.00	
01.04.00	Cash Paid to the client AC 20000		3200.00

Currency: NOK << 2000 >> Start Balance: 2000.01

Account: 1021 NOK Cash Book

Cash Book Final Balance: 1000.01

4.3.3.3. Session Review Form

The screenshot shows a software window titled "Session Review" with a blue title bar. The window contains a form with the following elements:

- User: MikeN
- Date: // //
- Action Type: Split

Session	Date	User	Notes
1	01/01/00	MikeN	Split of Installment 1 for AC 10000
2	02/01/00	DevidM	Cash Allocation for AC 20000
3	04/01/00	DavidM	Transfer from AC 10000 to 20000

A dropdown menu is open for "Action Type", showing the following options:

- Split
- Transfer
- Allocation
- Cross Allocation
- Cash Paid
- Cash Received

4.3.3.5. Manual Entry / Journal Entry

The screenshot shows the 'Manual Entry' window with the following details:

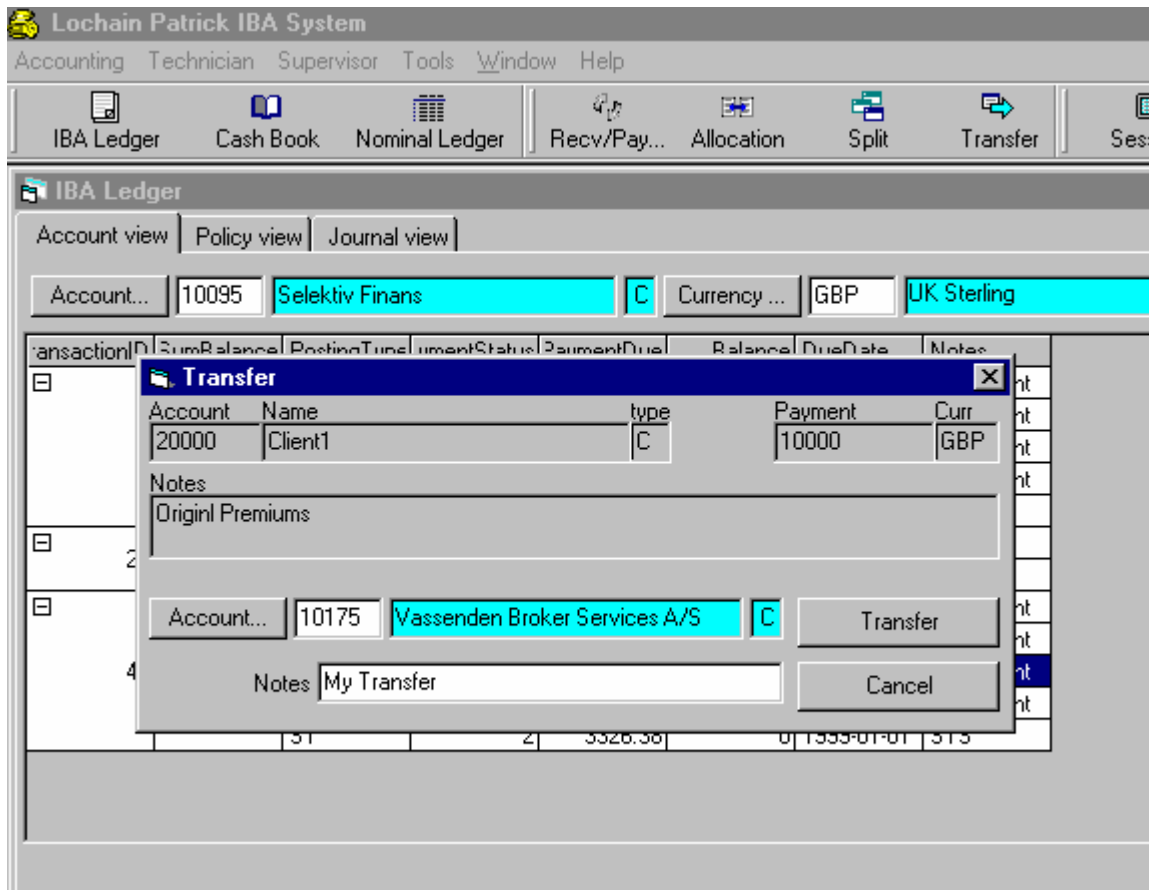
- Currency:** NOK
- Date of Manual Entry:** 01.01.2000
- Policy Number:** MD 99 8017 0001 00 ME
- Exchange Rate:** 12
- Journal/Manual:** Manual (selected)
- Balance:** 0 0
- Account:** 10000 Aon Huding Groningen
- Amount:** 10000.90
- Debit/Credit:** Debit (selected)
- Base Currency Value:** 0
- Description:** (empty text box)

Account	Name	Amount	Amount (GBP)	Description
10000	Client 1	350.00	29.17	Installment 1 st
79035	ILU	-200.00	-16.67	Installment 1 st
98037	LIRMA	-150.00	-12.50	Installment 1 st

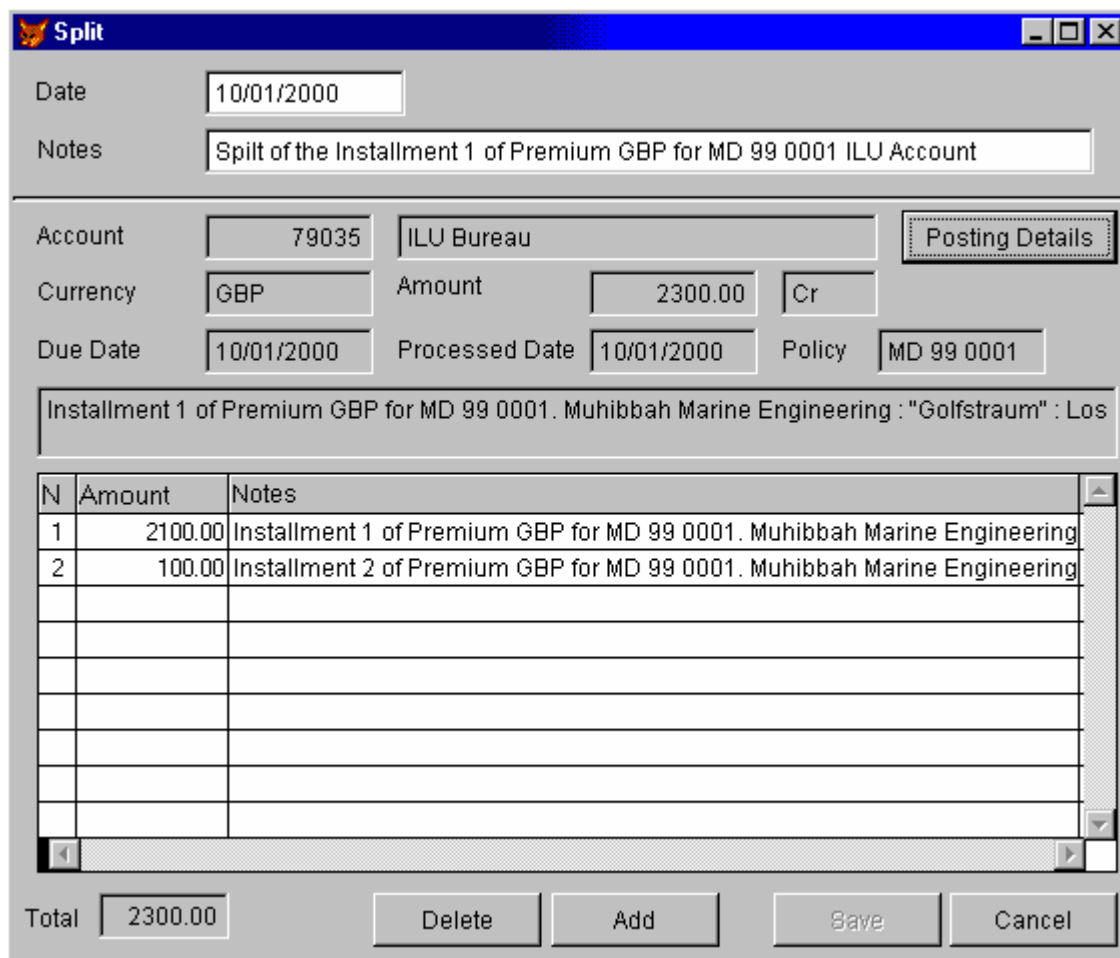
4.3.3.6. Transfer Form

Transfer is possible only for unpaid postings. This function can be run from the Technician menu or by a special button on the toolbar when an IBA transaction posting is selected in the IBA ledger.

Transfer form shows information about initial transaction posting and allows selecting an account number for transfer. Account number for transfer can be typed by the user or selected from the accounts list. Displayed account list will reflect only accounts of the same type, as an account for transferred posting.



4.3.3.7. Split



4.3.3.8. Cash Receipts / Paid Form

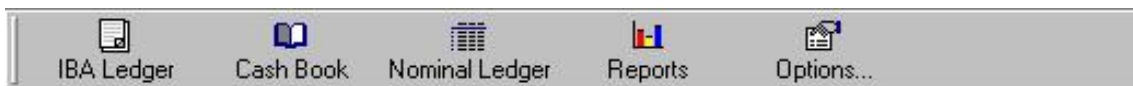
Different colours will be used to distinguish Cash Receipts from Cash Payments. User should specify a currency, select a partner's account, and enter Value Date and Description. For Non-Cash Book Currencies user should specify the exchange rate.

The screenshot shows a software window titled "Cash Receipts / Paid". The window has a blue title bar and a red header bar with the text "Cash Receipt" in white. Below the header, there are several input fields: "Currency" (NOK), "Account" (10000), "Client 1" (text field), "Value Date" (01.01.00), "Amount" (1000.00), and "Description" (empty text field). At the bottom, there are "Exchange Rate" (12) and "Base Currency Value" (100) fields. On the right side, there are radio buttons for "Receipt" (selected) and "Paid". At the bottom center, there are "OK" and "Cancel" buttons.

4.3.4. Toolbars

There are two main toolbars. User can select set of toolbars on the screen. It's possible to minimize toolbars' buttons.

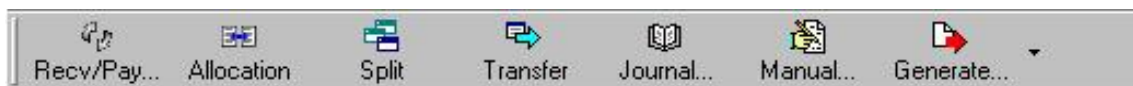
Accounts toolbar



Supervisor toolbar



Technician Toolbar



Accounting Module Screen Form with minimized toolbars.



4.4. Database structure

This database structure requires significant structural improvements and a radical re-design. This section details our proposed changes and rationale.

4.4.1. General information

In database designing common principles should be used:

- there is principle difference between accounting registers and database tables. This difference has its origins in different use of accounting registers in manual accounting and database tables in computer-aided accounting.
- similar information should be stored in one database table. For example, accounting entries should be stored in the ledger table, even if this is a IBA posting, cash received or paid, allocation or manual entry. A unified database structure allows using one algorithm to count accounts' balances.

Accounting registers are used to present information, to store information and to make calculations. Database tables are used only to store information. They are not intended to present information in a user-required form. Consequently, accounting registers should be prototypes for reports or queries, but not for database tables.

4.4.1.1. Tables description

Depending on the information held in the Database Table, all tables could be grouped:

- General tables – store main information about insurance broking business;
- Global tables – reference books;
- System tables – store information about current state of the system and users;
- Temporary tables – tables that will be generated on fly and will not be used in the future.

4.4.1.1.1 General tables

- Ledger - list of postings. There is one-to-many relationship between transaction table and ledger table on transaction number field.
- LedgerPostingTypesAccoc – table must be used in conjunction with LedgerPostingTypes. In case we add our specific posting types in the system, this table will act as a bridge between old posting types and new posting types. In this case the reports user will see old tables, however, the system be using our new types.
- Balance - contain balance at particular account at definite time. Balance table is updated from ledger table. It's possible to update this table dynamically when changes in Ledger table occur, or during the End of Day procedure.
- JournalHeader - contains a list of all actions made by the user or administrator, its functionality will allow approvals, undo or to view general statistic on a specific user. In this

table the system will accumulate old tables, such as Allocation_Header, Split_Header, and CrossAllocations.

- JournalDetails – this table should be related with JournalHeader table and will store information from the following old database tables: Allocation_Details, Allocation_WriteOffs and Split_Details.

4.4.1.1.2 Global tables

- LedgerPostingTypes – type of Ledger postings
- Table Accounts - list of accounts with attributes, characterizes type of account and reference at aggregate account;
- AccountType – list of types of accounts
- Country – list of all countries, currencies and exchange rates
- Underwriters – list of underwriters
- Clients – list of clients

4.4.1.1.3 System tables

- LogActions – store information about processing. Using the database instead of separate log files provide the ability to navigate and find information about processing results. Information can be find by date of creation, by user or just by any keyword.
- Sessions – hold detail information on all sessions that occurs in the system. This table has a link to the JournalHeader table, Users table and LogActions table in order to know who has made postings.
- Users – holds list of all users that can work in this system.
- EODQueue – temporary holding buffer for new Transaction Postings created in both the B&T area of the system and Claims area. EODQueue is a bridge between Account module B&T and Claims modules. There are no plans to change this area.
- Transactions - list of transaction in the ledger, contains transaction headers. A transaction is any set of postings, balancing to zero. Which a transaction should have at least one debit and one credit posting in the ledger.

4.4.1.1.4 Temporary tables

The previous version of SQL 6.5 all temporary tables for ‘Split or Allocation’ were held within the Visual Basic application. In the new version of SQL 7.0, these tables will only be stored on the server side.

4.4.2. Database structure design

All Business Logic will reside on the SQL Server, with no database enquiries from either the Visual Basic application or the Crystal reports engine. This methodology simplifies the system design and will decrease the network traffic for greater performance.

4.4.2.1. Database Tables Structure

Table Accounts	
AccountID	Auto increment field that helps to uniquely identify the account number
AccountNumber	Account Number (user specified)
AccountTypeID	Link to table AccountTypes
ISOCODE	Link to table Country
RefAccountID	Reference to AccountID of the Control Total
AccountName	Account Name
AccountMask	Type Char (10) field to classify this account (for example, as IBA or Nominal account)

ISOCODE is important only for Accounts that can be only on one currency: Bank Accounts and Deposit Accounts.

RefAccountID allows to specify the Control Total for an IBA account.

AccountMask defines the role of the account. Each char in the character field could be 0 or 1, so the string looks like '1000111011'. This approach permits an increase to the number of accounts' characteristics without changing the database structure. Each characteristic defines the behavior of the account. AccountMask use such types of characteristics: Write Off, Small Difference, Nominal, Profit & Loss and so on.

Role	Sequence position in AccountMask field
Write Off	1
Small Difference	2
Nominal / IBA	3
Profit & Loss type	4
Cash Book Account	5
Multi-currency	6
System	7
Working	8

Table AccountType	
AccountTypeID	Auto increment field
Name	Name of the account type
Code	Code of the account type can be (B, C, M, S, U) or any other user defined types
AccountMask	To what part of the system this type can be used: (IBA, Nominal, Profit and Loss, Bankable, Write off, Small dif.)
Description	Description of account type

New Accounting Module will address one field in the Country Table CurrencyType instead of three different types BankingCurrency, CashBookCurrency and BaseCurrency. It will be implemented with a calculated field.

Table Country	
CountryCode	Specify country code, link to other table where CountryCode exist
Country	Name of the country
Currency	Name of currency for the country
ExchangeRate	Exchange rate
Date	Date of exchange rate
EEC	Flag if country in EEC
TaxLiable	Flag if currency is tax liable
ISOCODE	Specify ISO code for country
WriteOffAmount	Write off limit for this currency
CurrencyType	Specify currency type, it can be: BankingCurrency, CashBookCurrency or BaseCurrency.

Fields CountryCode andr ISOCODE keeps the same value, so one of them should be deleted, but we can't do that because this table is used in other modules.

Table Transactions	
TransactionID	Unique number for transaction
PolicyID	Link to Policy number
InsuranceType	Type of insurance, link to InsuranceType table
Year	Current year
Number	Number of transaction (zero if transaction is system, journal i.e.)
Details	Description for current transaction (from which site of system this transaction was created)
Archived	Archived flag (used for negate/restore transaction)
PartNominal	IBA to Nominal flag

On the first stage this table stays unaltered, as this table deals with the module 'Broker & Technical', however, in the future it could be modified to achieve a more flexible and complete database structure.

Table Ledger	
LedgerID	Value is taken from EODQueue table and has link to Balance and ConvDetail tables.
TransactionID	Link to Transaction table.
PostingTypeID	Link to PostingType table.
AccountID	Link to Accounts table.

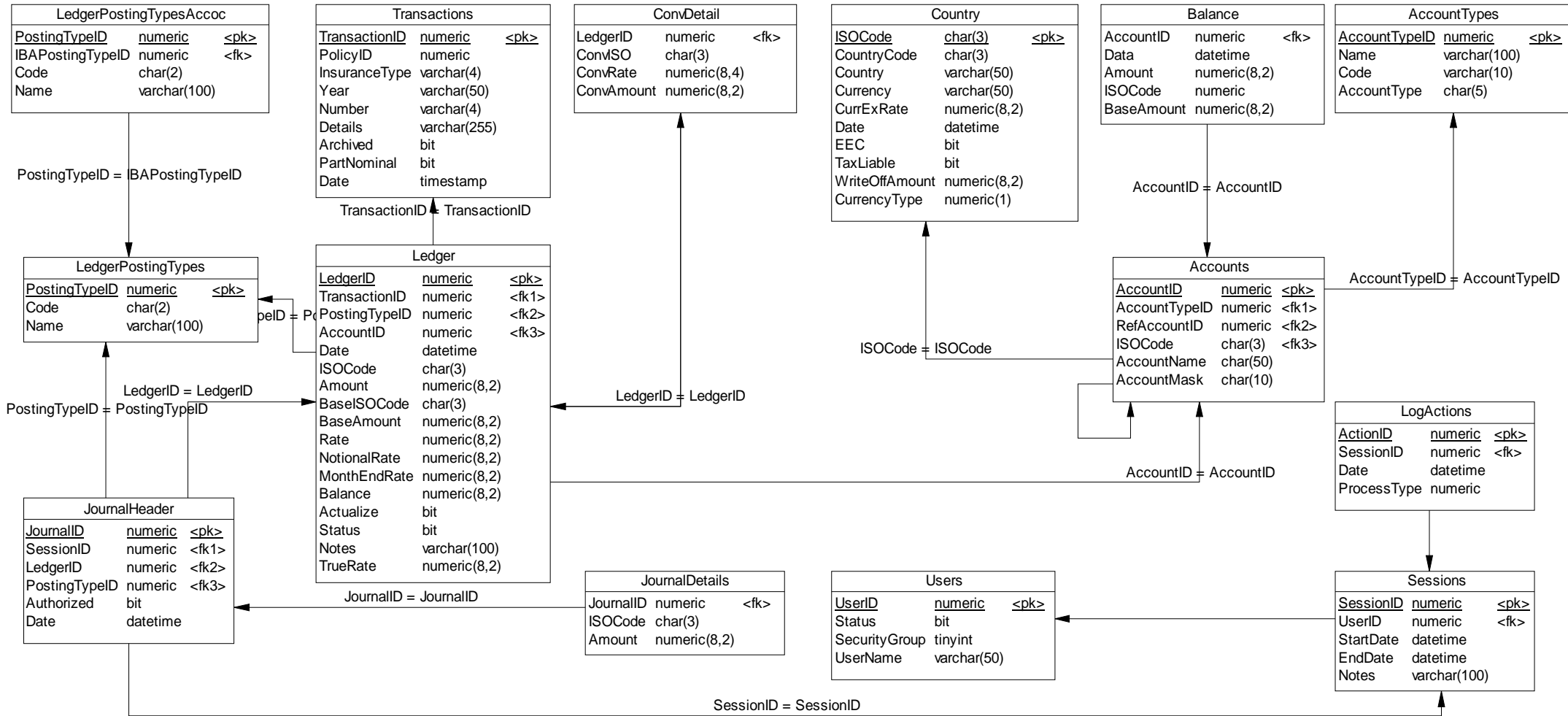
Amount	Currency amount
ISOCODE	Currency (link to table Country)
BaseAmount	Base Currency Amount
NotionalRate	Notional rate (from Country table)
MonthEndRate	Month End Rate
TrueRate	True Rate
Notes	Notes
Balance	Current Balance for Ledger Posting
Status	The status of posting, can be 0 or 1, this means that record can be active or marked as deleted or disabled.
Table LedgerPostingTypes	
PostingTypeID	Auto increment field that helps to uniquely identify the type of post.
Code	Character code for posting type
Name	Name of posting type
Table LedgerPostingTypesIBA	
PostingTypeIdIBA	Auto increment field
Name	Name of posting type
PostingTypeId	Link to LedgerPostingTypes table
Code	Character code for new posting type
Table ConvDetail	
LedgerID	Link to Transaction table.
ConvISO	Previous currency
ConvRate	Exchange rate
ConvAmount	Initial value
Table Balance	
AccountID	Link to Account table.
Balance	An updateable value for individual account
Amount	Currency Amount
BaseAmount	Held information about the value of amount in base currency.
Data	Date of last updating of the Balance.
Table JournalHeader	
JournalID	Auto increment field with unique number
SessionID	Link to Session table.

LedgerID	Link to Ledger table.
PostingTypeID	Link to LedgerPostingTypes table
Authorized	Audit based field, so that administrator can approve or negate the operations
Table JournalDetails	
JournalID	Link to JournalHeader.
ISOCODE	Currency (link to table Country)
Amount	Amount of currency
Table LogActions	
ActionID	Auto increment field
Date	Creation Date
UserID	Link to Users table
ProcessType	Type of process, can be EOD, EOM and EOY process.
Note	Additional information.
Table Sessions	
SessionID	Auto increment field
UserID	Link to table Users
StartDate	The start date and time
EndDate	The end date and time
Notes	Some additional information about session

User table will be changed. Database security requires password encrypting if it's stored in the database. Field LoggedIn should be deleted, as we can simply receive information about connected users from Sessions table. Other fields stays unaltered.

Table Users	
UserID	Auto increment field
UserName	User name
Password	Password
SecurityGroup	Security Group

4.4.2.2. Database structure diagram



4.4.3. Database rewrite summary

The objectives for the re-write are as follows:

1. Reduce number of database tables.
2. Rewrite stored procedures in the database to avoid complex joins .
3. Combine Ledger Tables
4. Add Indexes, Primary Keys and Primary Keys to existing database to speed up queries and maintain database integrity.
5. Rewrite all reports. Reports should be generated only from Accounting Module. Reporting Engine should receive data set from Visual Basic Application and has no access to the database.

4.5. Rounding error elimination algorithms

“Rounding Error” is the mistakes in numerical computation, related to rounding-up of final or intermediate results. In this Accounting Module as well as in all information systems, Rounding Difference occur due to limited decimal places after point for currency type data. For most currencies (GBP, USD, DEM, etc.) only two decimal places are allowed.

“Rounding Error” occurs only as a result of multiplication or division operations, but never as a result of addition or subtraction. This is because only after multiplication and division result could have more decimal places, than the initial numbers and rounding-up will be required. For example, if exchange rate is 12 NOK/GBP the Base Currency equivalent for 97.5 NOK will be 8.125 GBP, but it will be round up to 8.13 GBP. This example shows that due to the requirement to have only two decimal places in currency data the results of calculations were changed. Rounding Error occur every time when result of calculation has more decimal places, than allowed for currency type. Consequently, rounding error prevention is required only for operations where multiplication or divide takes place. However, Rounding Difference occur and appear in different parts of the system. An error may occur when the Base Currency equivalent for the banking posting after split, but it will appear in the Nominal Balance and IBA balance after the End of Month procedure.

Rounding Difference occurrences have a random nature, sometimes multiple Rounding Difference mutually compensate.

For example, if we round-up 0.125 up to 0.13, the sum of $0.125+0.125$ is 0.25, but $0.13+0.13$ is 0.26.

But if we round-up 0.126 to 0.13 and 0.124 to 0.12 rounding error will not appear, because $0.12+0.13$ will be 0.25 and $0.126+0.124$ is also 0.25. Rounding up takes place in both cases but rounding error appears only in the first case.

4.5.1. Rounding Error Localization

In LPIB Accounting Module multiplication is used:

- To find Base Currency equivalent for a transaction that comes from Broking and Technical if there is no bank account for the currency of initial transaction;
- To find Base Currency equivalent for the ledger posting if it's in Non-Cash Book currency;
- To count underwriter's premiums using signed line to form initial transaction from policy or addendum;
- To find underwrites premiums and claims if an underwriter belonging to ILU or LIRMA insurance markets becomes a defaulter.

Note. Actually, underwriter's premiums come with other postings, related to addendum from the EOD queue. So, rounding error prevention should be done in other module, when EOD queue generated.

We can talk about two different types of Rounding Difference that influence the accounting system data.

- Firstly, Rounding Difference may produce divergence in accounting reports, for example:
 - If due to rounding error transaction does not balance to zero in Base Currency Nominal Balance in Base Currency will not balance, assets will not be equal liabilities;
 - If after split of the ledger posting Base Currency equivalent for resulting postings will be different from the Base Currency equivalent for initial posting it will be a difference between IBA Balance information, calculated from the postings after split and Nominal Balance, calculated from initial posting. It's expected that split should not change the state of account, so state of the Control Totals does not updated after split.
- Second, Rounding Difference can distort accounting data. This distortion is concealed and not displayed from standard accounting reports. Typical Example of this type of rounding error consequence is the non-zero balance of the account in Base Currency and zero balance for the same account amount

Rounding Difference in Accounting Module are related to multi-currency, so the solution of Rounding Difference lays in multi-currency algorithms and multi-currency database structure.

4.5.2. Rounding Error Prevention

Rounding Difference are visible but usually small, the expected amount of error is one pence for two transactions. The main problem, related to rounding error is that exact equality is lost. But if there is no exact equality for example, between data from IBA Balance and Control Accounts from Nominal Balance, it's impossible to be sure that it was no mistakes in accounting operations during the month.

Only primary information should be stored in the database. Summary information should be calculated dynamically, when it's required. For example, only information about changes and balance at individual client account should be stored, and initial and final balance as well as debit and credit movements at client control account should be calculated dynamically.

Limited precision of stored money information causes Rounding Difference. For example, transaction can balance to zero in bankable currency, but not balance in Base Currency. Zero balance means then total credits equals total debts. There are two different ways to solve this problem:

- Use Rounding Difference Accounts to write-off Rounding Difference;
- Use other Accounts (for example, exchange rates difference or write-off accounts) to write-off Rounding Difference;
- “Hiding” of Rounding Error in other postings within each transaction.

Each of these methods's has advantages and disadvantages. Rounding Error Account displays the influence of rounding error at accounting data; it's the most complicated solution especially in multi-currency systems. Using of other types of account's to write-off rounding error causes a mix of different type of data, for example exchange rates difference and Rounding Difference. Using of Rounding Difference Accounts and other accounts to write-off emulate refunding error require the additional ledger posting for this operation. “Hiding” of rounding error decrease the amount of ledger postings, but in this for some postings will be no equity between amount of money in banking currency, its equivalent in Base Currency and stored base equivalent. In “hiding” case Base Currency it's necessary to store Base Currency equivalent.

The following example demonstrates three different approaches to overcome rounding error of the first type. There is an IBA transaction for original Policy in NOK that balance to zero in banking currency, but does not balance in Base Currency because of Rounding Difference. Exchange rate is 12 NOK/GBP.

Posting Name		Account	NOK amount		GBP Equivalent					
					Rounding Error Account		Exchange Difference Account		Hiding	
					Debt	Credit	Debt	Credit	Debt	Credit
Client Premium 1 st instalment		10000	40		3.33		3.33		3.33	
Client Premium 1 st instalment		10000	40		3.33		3.33		3.34	
Underwriter Premium		10006		75		6.25		6.25		6.25
Brokerage		5012		5		0.42		0.42		0.42
Rounding Error System Posting	Rounding Error Account	1037			0.01					
	Exchange rates difference or write-off accounts	1034 or 1002					0.01			
ITCompanyTAL			80	80	6.67	6.67	6.67	6.67	6.67	6.67

The best solution Module to balance the transaction and the solution that will be used in Accounting it's to use Rounding Difference Account, because it's keeps the equity between amount in banking

currency and equivalent in Base Currency counted using the exchange rate and stored in the system and reflect the real nature of rounding error.

Only one serious disadvantage of using Rounding Difference Account is the strict requirement to update balances to keep horizontal balance in case of split or defaulting underwriter in the past (in the previous month). Spilt operation does not change the state of the account in the past in the original currency but can change the state in Base Currency due to rounding error. So if a posting was split by use of a Rounding Difference Account to balance the operation in the Base Currency and balances of this account and Rounding Difference Account were not updated it will be a difference between account state before splitting, account state after splitting in the database and account state, after splitting counted from movements during the month when split had happen and previous balance. Generally, using Rounding Difference Account requires strict accounting approach to all operation: it mean that all balances have to be updated sequentially since the period when an operation affects the state of the account(s). Using of “hiding” allows to avoid the requirement to recalculate accounts balances.

ITCompany have tried all the described methods of solving the Rounding Error in previous application development projects. But final choice of one or more methods in every case should be decided with customer agreement.

A Rounding Error occurs even if we allocate a single cash payment from the client against two original premium ledger postings. Actually, two different possibilities exist:

- Exchange rate for cash item will be equal the exchange rate for all postings to allocate;
- One or more ledger postings will have the exchange rate different from cash item.

If all items have the same rate as cash item there is no exchange rates difference, so we can't make a posting at Exchange Difference Account if we use Rounding Difference Account.

Following example reveal this situation.

Table 27. Example of Rounding Difference

Posting Name	Account	Amount				Exchange Rate
		NOK		GBP		
		Debt	Credit	Debt	Credit	
A) No exchange rates difference						
Cash Allocation for 1 st instalment	10000		40		3.33	12
Cash Allocation for 2 nd instalment	10000		40		3.33	12
Cash Allocation for cash from client	10000/UC	80		6.67		12
Rounding Error write-off	1037				0.01	
ITCompanyTAL		80	80	6.67	6.67	
B) Exchange rates difference						
Cash Allocation for 1st instalment	10000		40		3.33	12
Cash Allocation for 2st instalment	10000		40		3.33	12
Cash Allocation for cash from client	10000/UC	80		7.27		11
Exchange rates difference	1034				0.61	
ITCompanyTAL		80	80	7.27	7.27	

Even if in case b) rounding error also took place, it will not be a separate posting on the Rounding Error Account.

Basic rules should be realized:

- For particular transaction has to be zero balance in transaction currency;
- If transaction currency is not a cash book currency for transaction have to be balance in Base Currency. If there is no balance in Base Currency for particular transaction, additional entry has to be made to balance the transaction in Base Currency. For example, when a transaction comes though End of Month process, it should have zero balance in Base Currency, counted using Month End or True Rate.
- If IBA ledger posting was paid in bankable currency, it has to be paid in Base Currency, the same about Cash Book item. For example, if given amount of money in bankable currency was completely allocated against set if IBA ledger postings, total amount of allocated currency have to be equal

In user interface (screen form) tier multi-currency is presented with proper presentation of money information. If Rounding Difference Accounts is used, information should reflect postings on this accounts for particular transaction. For example, if given amount of money was completely allocated against number of IBA postings, Base Currency equivalent for that money, counted as a sum of individual allocations should be equal Base Currency equivalent if initial money. If there is a difference due to Rounding Difference, amount of money in Base Currency, presented on the screen, should be counted using Rounding Difference Accounts.

5. APPENDIX

5.1. Abbreviations

EOD – end of day

EOM – end of month

EOY - end of year

IBA – insurance broking accounting

IS - information system

LPIS – LLOYDS BROKER Information System

5.2. Glossary

Account	Account is a method of grouping and presentation of changes that occur with assets and liabilities of the company.
Actual Rate	Actual rate is the rate, associated with particular amount of money, paid, received, sold or purchased. Usually, chief accountant define the exchange rates for current week, and this rate is used as actual rate during this week. But any other rate can be used as actual rate.
Addendum	Addendum is the supplement to the policy. It contains terms of changes in policy: additional or returned premiums. Addendum is the container for endorsements.
Approval	Approval is an action when supervisor look though unapproved operations and change their status to “approved”. Operation has status approved if it was made by supervisor. Allocation, Journal and Manual Entries require approval of supervisor.
Assets	Assets are valuable resources, owned by a business. For Insurance broker assets are: cash, clients and underwriters debts.
Assured	Assured is the owner of vessels. Usually exist an agreement between the client – insurance company and the assured. But an owner of vessel can be also the client of insurance broking company directly.
Balance	There are some meanings of “balance”: <ul style="list-style-type: none"> • State of account at given date; • Accounting report reflecting state of all accounts. Balance report has two parts: assets and liabilities, their totals have to be equal. In Accounting Modules there are two Balance reports: Nominal Trial Balance and IBA account Balance. But only first report present the real balance from accounting point of view.
Bankable (Banking) Currency	In insurance broking accounting system there are three different type of currencies: Base Currency, Cash-Book Currencies and banking currencies. There is no cash book for each banking currencies. All banking currency accounts have an equivalent in Base Currency. This equivalent is used to preset this accounts in Nominal Balance.
Base Currency	Base Currency is the currency that is used to find the equivalent for all postings, that are not in cash book currencies and present them in Nominal Balance. At present time GBP is the Base Currency.
Brokerage	Difference between amount of money that insurance broker receive from clients and pays to underwriters according terms of policy or addendum. Brokerage forms the profit of the insurance broker.
Cash Allocation	Allocation is an operation, when particular cash paid to the partner is matched against partner liabilities, or particular cash, received from partner is matched

	against partner's debts.
Cash Book	Cash Book is the accounting register, there reflected all movements for particular currency.
Cash Book Account	Information about movement of given type of currency is reflected on the special account for this currency. This type of accounts is called "Cash Book Accounts" or "Bank Accounts". Cash Book Accounts for Cash Book currencies are in Nominal side, and for Banking currency – in IBA.
Claim	Claim is the document to arrange underwriter's payments to the client, related to vessel loss. When the client wishes to make a claim on his insurance, he turns the broker to advise the insurers involved and to collect the claims monies. The broker credit client account. There are two types of claims: claim and claim refund. If the client receives too much from the underwriters he have to return money back that will produce claim refund.
Client	Client is the insurance company that uses insurance broking service to underwrite insurance policy. Usually clients are insurance companies, but sometimes it can be an assured.
Commission	Difference between money, received form the underwriter for particular claim and money, paid to the client.
Control Totals	Control Totals represent the summarized information about state and movements for particular type of accounts. In insurance broking system there are following Control Totals: <ul style="list-style-type: none"> • Client Control Total; • Underwriter Control Total; • Unallocated Cash Control Total.
Cover	Cover is a document that describes terms of underwriting for some underwriters. It does specify a sign line for underwrites, maximum price of vessel and other terms. Cover is used to make an underwriter policy.
Credit	Account has debt and credit sides. Usually, accounts that reflect company liabilities have credit balance. According to double entry principle, each transaction consist at least of two postings, one should touch debit side of the account and another – credit side. Increase of company liabilities reflected and decrease of company assets reflected as postings of credit type. See debt
Cross Allocation	Cross allocation is an operation, when particular partner's debt is matched against partner's liabilities.
Debt	Each account has two sides: debt and credit. Accounts that present company assets have debit balance. Increase of company's assets and decrease of liabilities is reflected on the debt side of the accounts.
Endorsement	Endorsement is the underwrites' side for Addendum. In contains terms of

	changes in policy, related to particular set of underwrites.
Exchange rate difference	All ledger postings, that are not in Cash Book Currencies, have two amounts: in account currency and in Base Currency. When cash is allocated against transaction
Funding	Funding is the situation, when insurance broker pay for underwriter (or client) before receiving money from the client (or underwriter). It means, than broker invest his money in IBA operation.
IBA Ledger	View of Ledger, where presented all entries, related to main insurance activity: policy, addendum and claim.
Insurance Market	Association of underwriters, what use the same rule in underwriting policy. There are tree Insurance Markets in London: Lloyds, LIRMA, ILU. In accounting module exist an individual account for each insurance market.
Instalment	Instalment is a group of payments. Each policy consist of one or more instalments. In the instalment should be included clients' premiums, underwrites' premiums and brokerage.
Ledger	Ledger keeps all accounting entries for primary accounts.
Liabilities	Source of assets. For insurance broker assets are: profit, received in the past, brokerage, commission, current client's and underwriter's liabilities.
Loss	Case of vessel damage. Each claim should be related to particular loss. Loss is a container for claims, because one loss can produce number or claims and claim refunds when details off loss will clarify.
Match	Most insurance broker assets are clients debts related to policy and underwriters debt, related to claim. Liabilities
Month End Rate	Exchange rate, that contained in Housekeeping module in the moment, of execution End of Month procedure. This exchange rate will be used to re-evaluate all IBA transactions, that have no true rate.
Nominal Ledger	View of Ledger, where presented movements on nominal accounts.
Notional Rate	Notional exchange rate is the current exchange rate, contained in Housekeeping module. This exchange rate is used to find Base Currency equivalent for non-cash book currency transactions when they come to the EOD queue. Notional rate is also used to prevent errors when exchange rate
Policy	Policy is the document used to specify terms of underwriting of clients policy. Policy is based on the quote and has client sand underwriters sides.
Posting	Posting is the minimum separate part of transaction. Transaction consist at least of two postings.
Quote	When client want to underwrite a policy, a quote should be made to specify initial terms of underwriting.
Rounding error	An error that occur due to rounding values, that have more, than two decimal

	places. Most common rounding error is related to rounding-up
Session	Unit of user work. Every time when user starts work with Accounting Module system open a new session. Session is characterized by unique Session ID, start and end time and the user name. Each operation in the Accounting Module is assigned with particular session. Session is used for user work audit.
Split	Split is the IBA operation, when one ledger posting is replacing with two or more ledger postings. Ledger posting have to be “untouched” if it’s in Non Cash Book Currency.
Supervisor	Supervisor is the user of the IS with the highest priority. Supervisor approve operations, made by technician.
System Posting	A posting, that is generated automatically by the system, for example, exchange difference write-off during allocation.
Transaction	Set of individual entries, related to one business operation, called “transaction”. According to “double entry” principle, each transaction should have at least two entries: debit and credit posting. It’s possible to have more than two postings in one transaction. But total amount of debit should be equal total amount of credit for transaction.
Transfer	An IBA operation, when one account number in ledger posting is changed to another. Transfer is allowed only for account of the same type, for example, for clients accounts or underwriters accounts. Usually transfer is related to changes in policy terms. Item should be “unmatched” if it’s Non-Cash book Currency.
True Rate	True rate is the exchange rate, that reflects insurance broker expectations about exchange rate in the future. When claim is not in cash book currency, insurance broker have to specify the exchange rate for
Unallocated cash	When Insurance broker receive cash from partner or pay cash to partner, it’s reflected on unallocated cash account, until this amount of money will be allocated against particular premium or claim posting.
Underwriter	Underwrite is the company that underwrite client’s policy. Underwriter can be a member of Insurance Market or individual company.
Vessel	Vessel is the main object of
Write-off	When there is a difference between cash amount, received from the client and client debt, it’s possible to write-off small amount of cash.

5.3. Test Example

Main purpose of the example is to represent how business operations will be reflected on accounts, how the state of primary accounts will be reflected on the Control Totals. This example also demonstrates the rules of multi-currency algorithms.

Example includes a reduced list of accounts and currency types: two cash book currencies, two banking currencies, two clients, three insurance markets and one underwriter from free market. The initial state of all accounts (IBA and Nominal) at the end of October is zero.

Test Example includes:

- List of Accounts, used in the example;
- Housekeeping information about clients, underwriters and currencies (exchange rates for selected period);
- Script – detailed description of business operations that happened during Test Example Period;
- List of transactions – table with headers for transactions, that reflect business operations;
- Ledger – list of postings, related with transactions;
- IBA and Nominal Trial Blatancies at the beginning of the first and second month.

Test example starts with zero state of all accounts at 1st of November. During November Insurance broker had create two Premiums, received money from the client, allocate this cash against client's premium for the first policy, paid to the underwriter and allocate money against underwriter's premium. Next month insurance broker receives money from the client, sell some cash (NOK), sell this currency, create a Claim and create a transaction for this Claim. Underwriters premiums was cross-allocated against underwriter's claim.

During End of Day processing Profit and Loss type accounts was nil.

5.3.1. Housekeeping info

Clients					
Account Number	Name			Country	
10000	Sedgwick Bergvall A/S			Norway	
20020	Georg Duncker			Germany	
Underwriters					
Account Number	Name			Country	Market
79035	ILU Bureau			UK	ILU
73040	Guardian Insurance Limited			UK	ILU
99027	Lloyd's Bureau			UK	Lloyd's
89043	LIRMA Bureau			UK	LIRMA
10006	Unitas Gjensidig Assuranseforeningen			Norway	OSC
Currency					
Country	Currency	Exchange Rates at the end of months			
		October	November	December	
UK	GBP	–	–	–	
US	USD	–	–	–	
Germany	DEM	3	3	3	
Norway	NOK	12.5	12.2	12	

5.3.2. Script of the example

November 1999

- 1st policy was created.

Date: 05/11/99

Currency: NOK, GBP

Participant A/Cs:	10000	Sedgwick Bergvall A/S (Norway)	- Client
	79035	ILU Bureau	- UW
	10006	Unitas Gjensidig Assur. (Norway)	- UW
	5012	Brokerage	- Br.

Business operations: Transaction details creating.

A policy is created with the next instalments in NOK:

Account	Debit	Credit	Settl. in GBP	ROE	Due date
10000	25000				15/11/99
10000	25000				07/12/99
79035		25000	2000	12.5	20/11/99
10006		20000			12/12/99
5012		5000			
Total:	50000	50000			

The premium to A/C 79035 is settled in GBP for ILU Bureau deals with Cash Book Currencies only. The current system rate of NOK is equal 12.5 that is assigned to all other postings as notional rate.

2. Client pays the first instalment on the 1st policy.

Date: 15/11/99
 Currency: NOK
 Participant A/Cs: 10000 Sedgwick Bergvall A/S (Norway) - Client
 1021 NOK Cash Book Account - Cash
 79035 ILU Bureau - UW
 1037 Rounding Difference A/C - IBA

Business operations: Cash receive, Allocation,
 True Rate fixing, Balancing transaction to zero.

The technician defined the exchange rate of received currency as 12. The transaction's True Rate is set to that value and is used to recalculate the ILU underwriter's premium settled in GBP. Final value of the premium becomes this:

$$25000 \text{ (NOK)} / 12 = 2083.33 \text{ (GBP)}$$

All other transaction postings are also recalculated with new rate of exchange (True Rate) to check that the transaction is balanced to zero. The new balance of the transaction in GBP is not zero. So the system adds to the transaction an extra correcting posting into the IBA Rounding Difference Account 1037 with only value in GBP.

3. Instalment is paid to the first Underwriter on the 1st policy.

Date: 20/11/99
 Currency: GBP
 Participant A/Cs: 79035 ILU Bureau - UW
 5024 GBP Cash Book Account - Cash
 1003 UW Write Offs A/C - IBA

Business operations: Cash payment, Allocation, Write Off.

The technician pays to the Underwriter 2083.00 GBP and then allocates them against its premium in 2083.33 GBP. After the technician's confirmation the system writes off the credit lack of 0.33 GBP to the account 1003. At the end of the month this sum will be added to the balance of the nominal account 5032 – Write Offs / Small Diffs A/C.

All the operations are in Cash Book currency, so neither Exchange Rate Differences nor Rounding Difference don't occur.

4. 2nd policy created.

Date: 25/11/99
 Currency: DEM, GBP, USD
 Participant A/Cs: 20020 Georg Duncker - Client
 89043 LIRMA Bureau - UW
 99027 Lloyd's Bureau - UW
 5012 Brokerage - Brok.

Business operations: Transaction details.

A policy is created with the next instalments in DEM:

Account	Debit	Credit	Settl. in GBP	ROE	Due date
20020	20000				15/12/99
89043		18000	6000	3	18/12/99
5012		2000			
Total:	20000	20000			

and two instalments in USD:

Account	Debit	Credit	Settl. in GBP	ROE	Due date
20020	5000				15/12/99
99027		5000			18/12/99
Total:	5000	5000			

The DEM premium to LIRMA Bureau is settled in GBP with notional exchange rate 3.

5. End of month processed.

Date: 02/12/99
 Currency: NOK, DEM, GBP, USD
 Participant A/Cs: All client, underwriter, bankable currency, cash book and Control Totals including:
 1037 Rounding Difference A/C - IBA
 1001 Write Offs A/C - IBA
 1028 Exchange Rate Diff's A/C - IBA

Business operations: Month End Rate fixing, Balancing transactions to zero, Updating month end balances, Reports creating.

The 1st policy transaction has already had the True Rate, so no other updates of this transaction are not required.

The 2nd policy transaction does not have a True Rate and the system updates it with the current system rate that is set as Month End Rate of the transaction. The other processes are the same as for a True Rate fixing. All the postings are recalculated with new exchange rate been equal to the Month End Rate and the whole transaction is checked for balancing to zero. If no - then a new correcting posting for the 1037 account is added.

(In the example the Month End Rate for DEM is equal 3. The recalculations do not make any change in the ledger. Also the checking of the transaction balancing does not require any correcting postings).

New month end balances for all IBA accounts are calculated and added to the table Balances. These values will be used for calculating the current nominal balances in the processed month and previous balances in the next month.

December 1999

6. Client pays the second instalment on the 1st policy.

Date: 08/12/99

Currency: NOK

Participant A/Cs:	10000	Sedgwick Bergvall A/S (Norway)	- Client
	1021	NOK Cash Book Account	- Cash
	1008	Client Exch.Rate Diff. A/C	- IBA

Business operations: Cash receive,
Allocation, Exchange Rate Difference calculating.

The technician defined the exchange rate as 12.5 that differ from the True Rate (12) of the transaction. During the allocation the difference between GBP equivalents of the allocated amounts is posted to the Client Exchange Rate Difference Account.

7. Supervisor sells NOK currency.

Date: 08/12/99

Currency: NOK, GBP

Participant A/Cs:	1021	NOK Cash Book Account	- Cash
	5024	GBP Cash Book Account	- Cash

Business operations: Currency sale.

The operation will affect on balances of the GBP Cash Book Account and Unallocated Cash Control Account, so these two nominal accounts will save a zero total balance in the Nominal Trial Report.

8. Claim on the 1st policy created.

Date: 10/12/99

Currency: NOK, GBP

Participant A/Cs:	10000	Sedgwick Bergvall A/S (Norway)	- Client
	79035	ILU Bureau	- UW
	10006	Unitas Gjensidig Assur. (Norway)	- UW
	5013	Claim Commission A/C	- Commis.

Business operations: Transaction details creating.

A policy is created with the next instalments in NOK:

Account	Debit	Credit	Settl. in GBP	ROE	Due date
10000		120000			10/01/00
79035	61000		5000	12.2	24/12/99
10006	65000				24/12/99
5013		6000			
Total:	126000	126000			

The technician defined the future True Rate been equal 12.2.

The due of the A/C 79035 is settled in GBP with the set True Rate value.

9. Dues to and of the second Underwriter on the 1st policy cross allocated.

Date: 12/12/99

Currency: NOK, GBP

Participant A/Cs: 10006 Unitas Gjensidig Assur. (Norway) - UW
 1037 Rounding Difference A/C - IBA
 1008 UW Exch.Rate Diff. A/C - IBA

Business operations: Split, Balancing split to zero,
 Cross allocation, Exchange Rate Difference calculating.

The posting with bigger amount (65,000 against 20,000 NOK) have to be splitted before the cross allocation will be possible. Split can cause a violation of the original claim's transaction balance in GBP equivalent, so the balancing of the split and resulting postings has to be done.

The debit posting with the amount 65,000 NOK is split into the two postings with 20,000 and 45,000 NOK values. For the sum of GBP equivalents of the resulting posting amounts is not equal to GBP equivalent of the original posting amount, a new balancing posting into the Rounding Difference Account is added to the ledger.

The cross allocated postings have the different True Rates: 12 and 12.2 respectively. The calculated difference between GBP equivalents of the two NOK amounts is posted to the UW Exchange Rate Differences Account 1008 and will be included into the month end balance of the Write Offs / Small Diffs Account.

10. Client pays on the 2nd policy.

Date: 15/12/99

Currency: DEM, USD

Participant A/Cs: 20020 Georg Duncker - Client
 1017 DEM Cash Book Account - Cash
 5026 USD Cash Book Account - Cash

Business operations: Cash receive, Allocation.

Month End Rate for DEM of the transaction is already set, so there is no need to determine the True Rate.

An Exchange Rate Difference could occur here but it's avoided due to the same exchange rates for DEM.

11. Premiums are paid to Underwriters on the 2nd policy.

Date:	18/12/99		
Currency:	GBP, USD		
Participant A/Cs:	89043	LIRMA Bureau	- UW
	99027	Lloyd's Bureau	- UW
	5024	GBP Cash Book Account	- Cash
	5026	USD Cash Book Account	- Cash

Business operations: Cash payment, Allocation.

All operations on the 2nd policy transaction are completed but the unallocated cash on the DEM Cash Book Account will stay until the supervisor sells this cash and therefore moves it into the GBP Cash Book Account.

12. The outside Underwriter is marked as defaulting.

Date:	27/12/99		
Currency:	-		
Participant A/Cs:	10006	Unitas Gjensidig Assur. (Norway)	- UW

Business operations: Processing the Defaulting underwriter.

The underwriter is marked as defaulting in the Housekeeping part of the system. For the underwriter is outside, no changes if the General Ledger are made.

13. An ILU market Underwriter is marked as defaulting.

Date:	27/12/99		
Currency:	NOK, GBP		
Participant A/Cs:	73040	Guardian Insurance Limited	- UW
	79035	ILU Bureau	- UW

Business operations: Processing the Defaulting underwriter,
Balancing transaction to zero.

Suppose the defaulting underwriter was involved in the 1st policy and its underwritten percentage is 20%. The only unpaid posting related to ILU Bureau is the claim posting. The amount belonging to the defaulter is extracted from the original posting and is moved to a new individual posting related to the defaulting underwriter.

After these processes the balancing of the resulting transaction is checked again. But no Rounding Difference are found although they are possible to occur.

14. End of month processed.

Date:	15/01/2000		
Currency:	NOK, DEM, GBP, USD		
Participant A/Cs:	All client, underwriter, bankable currency, cash book and Control Totals.		

Business operations: Updating month end balances for all accounts,
Reports creating.

Month End Rate fixing is not used for any December transactions (including the claim), because all the transactions have already had their True Rate or Month End Rate values.

End of Year 1999

5.3.3. Nominal Trial Balance

Report Month November 1999 Currency GBP

Account	Previous Balance		Movement		Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit
5010 Client Control Total		0.00	8750.01		8750.01	
5011 Underwriter Control Total		0.00		7666.99		7666.67
5012 Brokerage		0.00		1083.34		1083.34
5013 Commission		0.00		0.00		0.00
5015 Unalloc.Cash Control Account		0.00	2083.33		2083.33	
5024 GBP Cash Book Account		0.00		2083.00		2083.00
5031 Deposit Account		0.00		0.00		0.00
5033 Exchange Rate Diffs A/C		0.00		0.00		0.00
Total Balance		0.00				0.00

Report Month November 1999 Currency USD

Account	Previous Balance		Movement		Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit
5010 Client Control Account		0.00	5000.00		5000.00	
5011 Underwriter Control Account		0.00		5000.00		5000.00
5012 Brokerage		0.00		0.00		0.00
5013 Commission		0.00		0.00		0.00
5015 Unalloc Cash Control Account		0.00		0.00		0.00
5026 USD Cash Book Account		0.00		0.00		0.00
5031 Deposit Account		0.00		0.00		0.00
Total Balance		0.00				0.00

Report Month December 1999 Currency GBP

Account	Previous Balance		Movement		Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit
5010 Client Control Account	8750.01		83.33	18586.07		9752.73
5011 Underwriter Control Account		7666.99	16355.19	27.33	8660.86	
5012 Brokerage		1083.34		0.00		1083.34
5013 Commission		0.00		491.80		491.80
5015 Unalloc Cash Control Account	2083.33		4666.67		6750.00	
5024 GBP Cash Book Account		2083.00		2000.00		4083.00
5031 Deposit Account		0.00		0.00		0.00
Total Balance		0.00				0.00

Report Month December 1999 Currency USD

Account	Previous Balance		Movement		Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit
5010 Client Control Account	5000.00			5000.00		0.00
5011 Underwriter Control Account		5000.00	5000.00			0.00
5012 Brokerage		0.00		0.00		0.00
5013 Commission		0.00		0.00		0.00
5015 Unalloc Cash Control Account		0.00		0.00		0.00
5026 USD Cash Book Account		0.00		0.00		0.00
5031 Deposit Account		0.00		0.00		0.00
Total Balance		0.00				0.00

5.3.4. IBA Accounts Balances

Report Month November 1999 Currency GBP

Account	Client Aged Balance		Underwriter Aged Balance		Client Current Balance		Underwriter Current Balance		Unallocated Cash Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
1037 Rounding Difference					0.01					
1003 Write-off	0	0						0.33		
1017 DEM Cash Book Account										0.00
1021 NOK Cash Book Account									2083.33	
10000 Sedgwick Bergvall A/S		0.00			2083.33					0.00
20020 Georg Duncker		0.00			6666.67					0.00
10006 Unitas Gjensidig Assur.				0.00				1666.67		0.00
79035 ILU Bureau				0.00				0.00		0.00
89043 LIRMA				0.00				6000.00		0.00
Balance		0.00		0.00	8750.01			7666.99	2083.33	

Report Month November 1999 Currency USD

Account	Client Aged Balance		Underwriter Aged Balance		Client Current Balance		Underwriter Current Balance		Unallocated Cash Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
20020 Georg Duncker		0.00			5000.00					0.00
99027 Lloyd's Bureau				0.00				5000.00		0.00
Balance		0.00		0.00	5000.00			5000.00		0.00

Report Month December 1999 Currency GBP

Account	Client Aged Balance		Underwriter Aged Balance		Client Current Balance		Underwriter Current Balance		Unallocated Cash Current Balance	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
1008 Exchange Difference					83.33			27.33		
1037 Rounding Difference	0.01									
1003 Write-off				0.33						
1017 DEM Cash Book Account									6666.67	
1021 NOK Cash Book Account									83.33	
10000 Sedgwick Bergvall A/S	2083.33					9836.07				0.00
20020 Georg Duncker	6666.67					0.00				0.00
10006 Uitas Gjensidig Assur.				1666.67			3688.52			0.00
73040 Guardian Insurance Limited				0.00			1000.00			0.00
79035 ILU Bureau				0.00			4000.00			0.00
89043 LIRMA				6000.00				0.00		0.00
Balance	8750.01			7666.99		9752.73		8660.86		6750.00

Report Month December 1999 Currency USD

Account		Client Aged Balance		Underwriter Aged Balance		Client Current Balance		Underwriter Current Balance		Unallocated Cash Current Balance	
		Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
20020	Georg Duncker	5000.00					0.00		0.00		0.00
99027	Lloyd's Bureau				5000.00						0.00
	Balance	5000.00			5000.00		0.00		0.00		0.00

Business Operations List

N	Date	Transaction type	Notes
1	05/11/99	Policy Details	Premiums in NOK for Policy MD 99 0025
2	15/11/99	Cash Payment	Cash Receipt NOK for A/C 10000
3	15/11/99	Allocation	Allocation of NOK cash for A/C 10000
4	20/11/99	Cash Payment	Cash Payment in GBP for A/C 79035
5	20/11/99	Allocation	Allocation of GBP cash for A/C 79035
6	25/11/99	Policy Details	Premiums in DEM of the policy MD 99 0026
7	25/11/99	Policy Details	Premiums in USD of the policy MD 99 0026
8	08/12/99	Cash Payment	Cash Receipt in NOK for A/C 10000
9	08/12/99	Allocation	Allocation of NOK cash for A/C 10000
10	08/12/99	Cash Sale/Purch.	Sale of NOK cash GBP Cash Book
11	10/12/99	Claim Details	Premiums in NOK for Claim 08 of Policy MD 99 0025
12	12/12/99	Cross Allocation	Cross Allocation for A/C 10006
13	15/12/99	Cash Payment	Cash Receipt in DEM for A/C 20020
14	15/12/99	Allocation	Allocation of DEM cash for A/C 20020
15	15/12/99	Cash Payment	Cash Receipt in USD for A/C 20020
16	15/12/99	Allocation	Allocation of USD cash for A/C 20020
17	18/12/99	Cash Payment	Cash Payment in GBP for A/C 89043
18	18/12/99	Allocation	Allocation of GBP cash for A/C 89043
19	18/12/99	Cash Payment	Cash Payment in USD for A/C 99027
20	18/12/99	Allocation	Allocation of USD cash for A/C 99027
22	31/12/99	Journal Entry	IBA to Nominal Exchange Difference Write Off
22	31/12/99	Journal Entry	IBA to Nominal Write off / Small Difference
23	31/12/99	End Of Year	End of year Profit and Loss Write off.

5.3.5. General Ledger

Transaction ID	Posting ID	Posting Type	Balance Type	Notes	Account	Currency	Balance	Notional Rate	Month End Rate	True Rate	Actual Rate	GBP Equivalent	Processed Date	Processed Month	Due Date	Conv. Curr.	Converted Amount	Conv. Rate
1	1	PM	CL	Client Premium	10000	NOK	25000.00	0.00	12.5	12		2083.33	05/11/99	01/11/99	11/15/99			
1	2	PM	CL	Client Premium	10000	NOK	25000.00	0.00	12.5	12		2083.33	05/11/99	01/11/99	12/07/99			
1	3	PM	UW	Underwriter Premium	79035	GBP	-2083.33	0.00				-2083.33	05/11/99	01/11/99	11/20/99	NOK	-25000.00	12
1	4	PM	UW	Underwriter Premium	10006	NOK	-20000.00	0.00	12.5	12		-1666.67	05/11/99	01/11/99	12/12/99			
1	5	BK	BK	Brokerage	5012	GBP	416.67		12.5	12			05/11/99	01/11/99		NOK	-5000.00	12
1	6	SY	CL	SYS Balancing the trans.	1037	GBP	0.01					0.01	15/11/99	01/11/99				
2	1	CR	CU	Unallocated Cash Payment	10000	NOK	-25000.00	0.00			12	-2083.33	15/11/99	01/11/99				
2	2	CR	CU	Unallocated Cash received	1021	NOK	25000.00				12	2083.33	15/11/99	01/11/99				
3	1	SY	AC	Allocation of Cash	10000	NOK	25000.00				12	2083.33	15/11/99	01/11/99				
3	2	SY	AL	Allocation of Client Premium	10000	NOK	-25000.00			12		-2083.33	15/11/99	01/11/99				
4	1	CP	CU	Unallocated Cash Payment	79035	GBP	2083.00	0.00				2083.00	20/11/99	01/11/99				
4	2	CP	CH	Cash Book Currency paid	5024	GBP	-2083.00					-2083.00	20/11/99	01/11/99				
5	1	SY	AC	Allocation of Cash	79035	GBP	-2083.00					-2083.00	20/11/99	01/11/99				
5	2	SY	AW	Allocation of UW Premium	79035	GBP	2083.33					2083.33	20/11/99	01/11/99				
5	3	SY	UW	SYS Allocation Write Off	1003	GBP	-0.33					-0.33	20/11/99	01/11/99				
6	1	PM	CL	Client Premium	20020	DEM	20000.00	0.00	3	3		6666.67	25/11/99	01/11/99	12/15/99			
6	2	PM	UW	Underwriter Premium	89043	GBP	-6000.00	0.00				-6000.00	25/11/99	01/11/99	12/18/99	DEM	-	3

Transaction ID	Posting ID	Posting Type	Balance Type	Notes	Account	Currency		Balance	Notional Rate	Month End Rate	True Rate	Actual Rate	GBP Equivalent	Processed Date	Processed Month	Due Date	Conv. Curr.	Converted Amount	Conv. Rate
6	3	BK	BK	Brokerage	5012	GBP	-666.67		3	3				25/11/99	01/11/99		DEM	18000.00	
7	1	PM	CL	Client Premium	20020	USD	5000.00	0.00						25/11/99	01/11/99	12/15/99			
7	2	PM	UW	Underwriter Premium	99027	USD	-5000.00	0.00						25/11/99	01/11/99	12/18/99			
8	1	CR	CU	Unallocated Cash Payment	10000	NOK	-25000.00	0.00				12.5	-2000.00	08/12/99	01/12/99				
8	2	CR	CU	Unallocated Cash received	1021	NOK	25000.00					12.5	2000.00	08/12/99	01/12/99				
9	1	SY	AC	Allocation of Cash	10000	NOK	25000.00					12.5	2000.00	08/12/99	01/12/99				
9	2	SY	AL	Allocation of Client Premium	10000	NOK	-25000.00				12		-2083.33	08/12/99	01/12/99				
9	3	SY	CL	SYS Exchange rate diff.	1028	GBP	83.33						83.33	08/12/99	01/12/99				
10	1	SY	CU	Unallocated Cash sold	1021	NOK	-50000.00					12.5	-4000.00	08/12/99	01/12/99				
10	2	SY	CH	Cash Book Cur. received	5024	GBP	4000.00						4000.00	08/12/99	01/12/99				
11	1	PM	CL	Client Premium	10000	NOK	-120000.00	-120000.00			12.2		-9836.07	10/12/99	01/12/99	01/10/00			
11	2	PM	UW	Underwriter Premium	79035	GBP	4000.00	4000.00					4000.00	10/12/99	01/12/99	12/24/99	NOK	48800.00	12.2
11	3	PM	SL	Spitted: Underwriter Premium	10006	NOK	65000.00	0.00			12.2		5327.87	10/12/99	01/12/99	12/24/99			
11	4	CS	CM	Commission	5013	GBP	491.80				12.2		-	10/12/99	01/12/99		NOK	-6000.00	12.2
11	5	PM	UW	Underwriter Premium	10006	NOK	20000.00	0.00			12.2		1639.34	12/12/99	01/12/99	12/24/99			
11	6	PM	UW	Underwriter Premium	10006	NOK	45000.00	45000.00			12.2		3688.52	12/12/99	01/12/99	12/24/99			
11	8	PM	UW	Underwriter Premium	73040	GBP	1000.00	1000.00					1000.00	27/12/99	01/12/99	12/24/99	NOK	12200.00	12.2
12	1	SY	AW	Cross Allocation of UW Premium	10006	NOK	20000.00				12		1666.67	12/12/99	01/12/99				

Transaction ID	Posting ID	Posting Type	Balance Type	Notes	Account	Currency	Balance	Notional Rate	Month End Rate	True Rate	Actual Rate	GBP Equivalent	Processed Date	Processed Month	Due Date	Conv. Curr.	Converted Amount	Conv. Rate
12	2	SY	AW	Cross Allocation of UW Premium	10006	NOK	-20000.00			12.2		-1639.34	12/12/99	01/12/99				
12	3	SY	UW	SYS Exchange rate diff.	1008	GBP	-27.33					-27.33	12/12/99	01/12/99				
13	1	CR	CU	Unallocated Cash Payment	20020	DEM	-20000.00	0.00			3	-6666.67	15/12/99	01/12/99				
13	2	CR	CU	Unallocated Cash received	1017	DEM	20000.00				3	6666.67	15/12/99	01/12/99				
14	1	SY	AC	Allocation of Cash	20020	DEM	20000.00				3	6666.67	15/12/99	01/12/99				
14	2	SY	AL	Allocation of Client Premium	20020	DEM	-20000.00		3			-6666.67	15/12/99	01/12/99				
15	1	CR	CU	Unallocated Cash Payment	20020	USD	-5000.00	0.00					15/12/99	01/12/99				
15	2	CR	CU	Cash Book Cur. received	5026	USD	5000.00						15/12/99	01/12/99				
16	1	SY	AC	Allocation of Cash	20020	USD	5000.00						15/12/99	01/12/99				
16	2	PM	AL	Allocation of Client Premium	20020	USD	-5000.00						15/12/99	01/12/99				
17	1	CP	CU	Unallocated Cash Payment	89043	GBP	6000.00	0.00				6000.00	18/12/99	01/12/99				
17	2	CP	CH	Cash Book Currency paid	5024	GBP	-6000.00					-6000.00	18/12/99	01/12/99				
18	1	SY	AC	Allocation of Cash	89043	GBP	-6000.00					-6000.00	18/12/99	01/12/99				
18	2	SY	AW	Allocation of UW Premium	89043	GBP	6000.00					6000.00	18/12/99	01/12/99				
19	1	CP	CU	Unallocated Cash Payment	99027	USD	5000.00	0.00					18/12/99	01/12/99				
19	2	CP	CH	Cash Book Currency paid	5026	USD	-5000.00						18/12/99	01/12/99				
20	1	SY	AC	Allocation of Cash	99027	USD	-5000.00						18/12/99	01/12/99				
20	2	SY	AW	Allocation of UW Premium	99027	USD	5000.00						18/12/99	01/12/99				

Transaction ID	Posting ID	Posting Type	Balance Type	Notes	Account	Currency	Balance	Notional Rate	Month End Rate	True Rate	Actual Rate	GBP Equivalent	Processed Date	Processed Month	Due Date	Conv. Curr.	Converted Amount	Conv. Rate
21	1	JE	JE	IBA to Nominal Exchange Diff write off	1008	GBP	-56.00						31/21/99	01/12/99				
21	2	JE	JE	IBA Nominal Exchange Diff write off	5033	GBP	56.00						31/21/99	01/12/99				
22	1	JE	JE	IBA to Nominal Small Diffs, Write off	1003	GBP	0.33						31/21/99	01/12/99				
22	2	JE	JE	IBA to Nominal Small Diffs, Write off	1037	GBP	-0.01						31/21/99	01/12/99				
22	3	JE	JE	IBA to Nominal Small Diffs, Write off	5032	GBP	-0.32						31/21/99	01/12/99				
23	1	SY	SY	Write -Off/Small diffs. Nill	5032	GBP	0.32						31/21/99	01/12/99				
23	2	SY	SY	Nominal Exchange Difference Nill	5033	GBP	-56						31/21/99	01/12/99				
23	3	SY	BK	Brokerage write-off	5012	GBP	1083.34						31/21/99	01/12/99				
23	4	SY	BK	Commission write-off in	5013	GBP	491.80						31/21/99	01/12/99				
23	5	SY	PL	Profit and Loss End of Year GBP posting	5036	GBP	-1519.46						31/21/99	01/12/99				

5.4. Business Types

Code	Description
AAD	Annual Aggregate Deductible
AEI	Additional Expenses Insurance
APC	Anticipated Profit Commission
AVD	Average Disbursements etc
BKS	Bunkers Insurance
BRK	Builders Risk
BYI	Buyers Interest
CCH	Commission on Charter Hire
CGO	Cargo
CHI	Charterers Interest
CHL	Charterers Liability
COB	Cash on Board
CON	Confiscation, Expropriation, Nationalisation and Deprivation
CRL	Carriers Liability
CRM	Crew P.A. Marine
CRW	Crew P.A. War
CSS	Concessionaires Liability
CTN	Construction Risks
CVN	Conversion Risks
CWR	Cargo War Risks
DBT	Disbursements
DED	Deductible Insurance
DEV	Deviation
DLD	Delay Delivery
E&O	Errors and Omissions
EED	Energy Exploration and Development
EPL	Employers Liability
EXL	Excess Liabilities
FRT	Freight Interest etc

Code	Description
GAT	A) Interest 1 B) Interest 2 C) Interest 3 D) Interest 4
H&F	A) Hull Interest etc B) Freight Interest etc"
H&M	Hull and Machinery etc
HFI	Hull Interest, Disbursements, I/V, Freight Interest, etc.
HIF	A) Hull & Machinery, etc. B) Disbursements, etc. C) Freight Interest, etc.
HIN	Hull Interest etc
HMP	Hull and Machinery, etc. - Port Risks
HWR	Hull and Machinery etc War Risks
IOI	Innocent Owners Insurance
LGL	Legal Liability
LOE	Loss of Earnings
LOH	Loss of Hire
LOP	Loss of Profits
LOR	Loss of Revenue
MAI	Mortgages Interest Additional Perils and Mortgagees Interest, etc.
MAP	Mortgages Additional Perils (Pollution)
MII	Mortgages Interest
MLB	Marine Liabilities
NCB	No Claims Bonus
NDY	Non-Delivery
OAI	Owners Additional Interest
ODF	(A) Outfit and/or Disbursements etc (B) Freight etc"
ORI	As Original Reinsurance
P&I	Protection and Indemnity
PBT	Passage Money Blocking and Trapping
PCM	Profit Commission

Code	Description
PDV	Passenger Deviation
PHD	Physical Damage
PMO	Passage Money
POL	Pollution Liability
POR	Port Risks
PRE	Premiums Reinstatement
PSL	Passenger Liability
PUR	Purchasers Interest
PWR	P & I etc War Risks
SAG	Salvage and/or Collision Guarantee
SCM	Sales Commission
SGE	Salvage Guarantee
SHL	Ship Owners Liability
SML	Ship Managers Liability
SRC	Strikes, Riots, Civil Commotion & Malicious Damage
SRL	Shiprepairers Legal Liability
STL	Stevedores Legal Liability
STR	Strikes Insurance
TLO	Total Loss Only
VYF	Voyage Freight etc
WAR	War Risks
WRO	Hull & Machinery & P&I
YHT	Yacht

5.5. Documents Reference List

1. LLOYDS BROKER Insurance Brokers Limited Specification for Accounts System, September 1999. pages 26 with appendix
2. LLOYDS BROKER Accounts System Technical Description, Giles Thurston, November 1999, pages 69.
3. Insurance Broking System: System Outline, Giles Thurston, July 1998, 9 pages.
4. Lloyds Training Course Book, abstracts, pages 5/1 – 5/7, 7/7 – 7/9 and 10/1 – 10/7.
5. Project Initiation Document, ITCompany Limited, November 1999, 15 pages.
6. Agreement for the Hire of consultancy service, ITCompany Limited, Future Office Solutions, 1st November 1999.