

Implementation User Guide

Oracle FLEXCUBE Investor Servicing

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1. Introduction

1.1 Objective

Implementations are critical for software organizations as it represents the fruit of the effort put in to the development of the software. The success of this exercise is critical to the success of the product and the organization.

The objective of this document is to offer an insight into the processes involved in the implementation of Oracle FLEXCUBE Investor Servicing at a client site. The target audience for this document are all personnel going out on implementations, especially first time implementers.

1.2 Scope

The scope of this document is to lay down the following:

- All tasks required to be carried out in a manner of preparation for the implementation.
- Tasks involved during the implementation cycle.
- Post-implementation activities.

1.3 Organization of document

The document is broadly split into the following chapters:

- Chapter 2. - Pre-implementation Tasks with the following sections:
 - 2.1. Structure of the Implementation team
 - 2.2. Planning for the Implementation life cycle
 - 2.2.1. The Implementation Plan
 - 2.2.2. Planning for the Installation stage
 - 2.2.3. Product Walk Through Plan
 - 2.2.4. User Training Plan
 - 2.2.5. Planning for Data Set up / Conversion
 - 2.2.6. Information Check List

- Chapter 3. - Implementation Tasks with the following sections
 - 3.1. Installation
 - 3.2. Set up Activities
 - 3.2.1. Updation of license information
 - 3.2.2. Set up of Country / Client Specific Changes
 - 3.2.3 Conversion utility for language set up (where ever applicable)
 - 3.3. Product Walk Through (PWT)
 - 3.4. User Training
 - 3.5. Data Setup/Conversion
 - 3.5.1. Data Preparation
 - 3.5.2. Preparation of program for automated data take on
 - 3.5.3. Data Take on
 - 3.6. User Acceptance Test (UAT)
 - 3.7. Parallel Run
 - 3.8. Live Cut over & Post Live on site Support
- Chapter 4. - Support containing the following sections:
 - 4.1. During implementation
 - 4.2. Transition from Implementation group support team to the Offsite Support team
 - 4.3. Post implementation support
- Chapter 5. Guidelines for Interfaces with other systems and tools
- Chapter 6. Back up & Restoration
- Chapter 7. Statutory Reporting containing the following sections:
 - 7.1. Implementation Status Report
 - 7.2. Mandays Report
 - 7.3. Expense Statement
 - 7.4. Weekly Time Sheet
- ANNEXURE G - User Acceptance Test Sign-off
- ANNEXURE H - Sample of Weekly Status Report
- ANNEXURE I - Sample of Mandays Report
- ANNEXURE J - Sample of Expense Statement
- ANNEXURE K - Sample of Weekly Time Sheets
- ANNEXURE L - Run chart of daily activities
- ANNEXURE M - Data Formats for take on

1.4 **Acronyms & Abbreviations Used**

- Team - The implementation team from Oracle Financial Services Software Limited.
- Oracle FLEXCUBE – IS / FCIS / FC-IS Oracle FLEXCUBE Investor Servicing.

2. Pre-implementation Tasks

There are a whole set of tasks which have to be completed before the implementation team leaves for the client site. Completion of these preparatory tasks is critical and goes a long way in aiding a smooth implementation at the client site. This section addresses the above tasks and how to go about completing them

2.1 Structure of the Implementation team

The first step, on receiving information of a proposed implementation, is to constitute the team for the implementation. The size and structure of the team could vary across implementations based on the size of the client and other factors. The team size in the case of a normal implementation would be two with a mix of one functional and one technical person.

The responsibilities for each of the members of the implementation team are broadly laid down in the table below. However, this is just a guide and not a rule. The tasks and responsibilities between the members can be split based on an understanding between the team members taking into account the functional & technical skills of both the members.

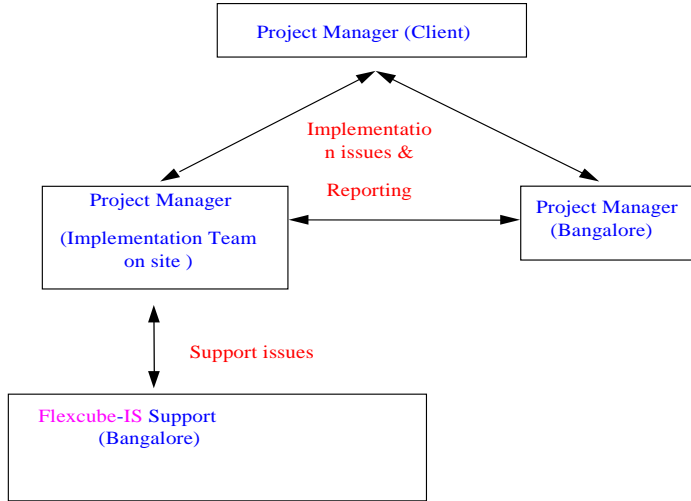
| | |
|-------------------|--|
| Functional member | User Training (Functional) Requirements study Data Set up / Conversion |
| Technical member | Installation Data Center Training Resolving of errors Data Conversion |

There would typically exist four communication points during an implementation.

- Project Manager identified from one of the two persons in the implementation team on the client site.
- A Project Manager identified from the client's side who would be the single point of communication from the client's side
- A Project Manager for the implementation stationed at Bangalore
- A designated member of the Oracle FLEXCUBE Investor Servicing Support team

Presented below is a representation of the reporting structure during an implementation.

Reporting Structure for Implementation



The nature of interaction between each communication point is laid down in the following table:

| Between | And | Nature of communication | Frequency |
|---|---|---|-----------------------------------|
| Project Manager (Client) | Project Manager (Implementation team on site) | Implementation issues Status Reporting | Periodic (e.g., daily / weekly) |
| Project Manager (Client) | Project Manager (Bangalore) | Implementation issues | As and when required |
| Project Manager (Implementation team on site) | Project Manager (Bangalore) | Status Reporting Implementation issues New requirements | Periodic (e.g., daily / weekly) |
| Project Manager (Implementation team on site) | Oracle FLEXCUBE Investor Servicing Support | Errors encountered on site Upgrades from Support | Periodic (e.g., daily / weekly) |

2.2 Planning for the Implementation life cycle

The various stages involved in the implementation life cycle are listed below:

- Installation
- Product Walk Through Plan
- User Training
- Data Setup/Conversion
- User Acceptance Test
- Parallel Run
- Live Cut over
- Post Live Support

Preparation of plans, communication & agreement on the same with the client is a very important exercise. The benefits from this exercise are

- Smooth implementation due to clear communication & agreement of plans on both sides.
- Adherence to time frames.

2.2.1 The Implementation Plan

This is a master plan for the whole implementation and contains the following:

- The major activities involved (which would relate to the stages in the implementation life cycle)
- Start & end dates for the activities
- Number of business days for each activity
- Responsibility for each activity (Client / Oracle Financial Services Software Limited)
- The size of the implementation team
- Proposed travel plans of implementation team

As the implementation plan includes a schedule for various activities planned, there is a set of information required to arrive at schedules. These include:

- Total number of end users
- Total number of funds running / to be setup
- Volume of existing data to be taken on
- Daily transaction volume

Based on the above information, the proposed Implementation Plan has to be drawn and communicated to the client. Communications might have to be exchanged back and forth to arrive at a plan that is mutually agreeable for both sides. Once the plan is finalized, this will be the basis for the other plans to be drawn up.

2.2.2 Planning for the Installation stage

This aims at planning out various activities associated with the installation of Oracle FLEXCUBE Investor Servicing (both server & client components). The tasks planned under this activity include:

- Number of databases to be created (Live, user training, UAT, etc.)
- Size of databases to be created
- Structure of directories to be created
- Number of client work stations on which the front end modules are to be installed

Information required from the client for the above exercise includes:

- Number of servers & client workstations
- Configuration of server & client workstations
- Details of operating systems installed on server / workstations
- Details of installation of the RDBMS (/ Oracle)

The availability of certain minimum hardware and software configuration before the installation is to be ensured by the client. This has to be communicated to the client during the pre-implementation stage through the Installation plan. Details of the minimum hardware and software configuration are listed under section 3.1.

The deliverables to the client includes

- Installation Diskettes/CD for front end modules (FMG, AGY)
- Database objects (Installation scripts)
- User Manuals
- Training material
- Installation & Operations Manual
- Support Procedures
- Implementation hand over document (which is prepared at the end of the implementation)

All of the above deliverables (except the Implementation hand over document) are to be taken from the base line being maintained and duly certified by SQA. Annexure P contains a sample of the Software Release Form used for the above clearance. The media used for carrying the software would be CDs. It is advisable to carry two sets of the software with one set serving as a backup. Before starting the installation, the software should be copied onto an area on the server and the media preserved.

For details of creation of databases and installation of front-end modules refer the Installation Manual.

2.2.3 Product Walk Through Plan

The Product Walk Through (PWT) is an exercise where the end users from the client side would conduct an in-depth evaluation of Oracle FLEXCUBE Investor Servicing vis-à-vis their business processes. The aim of the PWT:

- To enable the end users to understand the capabilities of the system
- To identify and document specifications for potential gaps

A PWT would normally be conducted prior to the implementation of the product. However, there could be situations where the PWT might be conducted as the first stage of the implementation process.

A plan for the PWT would incorporate the features to be covered under the PWT broken down by logical days. The features covered would be in a logical flow to simulate the flow of operations in Oracle FLEXCUBE Investor Servicing. The time planned for the PWT would have to take into account the range & depth of the evaluation planned. Presented below are two different situations:

- A client might want to view the working of all features in the system and so the exercise might go through with a few transactions being performed
- In a different situation, a client might want to run past data (e.g., 1 months data) in the system and compare the results with the actual one.

The time required for the PWT in both cases could be different. As a result, it is very important to get the following information from the client beforehand to arrive at the time to be scheduled for the implementation:

- The depth to which the evaluation is planned in terms of the number of funds, transactions, etc.
- The range of features to be evaluated
- The number of users who are planning to participate in the exercise

2.2.4 User Training Plan

This plan addresses all the activities involved in the training of end users. It would contain:

- The planned mechanism for the training. For example, the training could be split into sessions such as 'Classroom' and 'Hands-on' sessions. During the Classroom session, the features could be explained by the trainer after which the users actually practice on the machine during the 'Hands-on' session.
- The timing of the training sessions. This has to be fixed to enable the users to plan time out of their normal activities.
- A day wise breakup of features to be covered as a part of the training
- A list of requirements for the training such as training rooms, whiteboard, etc.

2.2.5 Planning for Data Set up / Conversion

This stage of the implementation looks at two major sets of tasks:

- Set up of static data (Entities, Loads, Funds, etc.)
- Take on of past transaction data in case of existing funds. This will not be applicable in case of start up funds.

Both the above can be carried out either manually or through automation primarily depending on the volume of the data to be taken on. To arrive at the time schedule for the above tasks, the following information is required from the client:

- Static Data Setup

- Number of funds
- No. of loads
- Number of brokers
- Number of Unit Holders
- Transaction Data
 - No. of transactions to be taken on along with the number of logical days.

The steps involved under this stage is as follows:

- Data Preparation
- Preparation of program for automated data take on (not required in the case of a manual take on)
- Data take on

A part of the data preparation is carried out during the pre-implementation phase while the other steps are carried out at the client site. In the case of a setup / take on, the system expects a set of data in a specific format. The information on the data expected and the format should be communicated to the client during the pre-implementation phase. This would help by

- Giving the client time to prepare the data required in the specified format
- Cutting down time required during the data setup & conversion phase of the implementation
- Identification of issues to be resolved. E.g. sets of information which are not available in FC-IS but are required from the clients point of view for the working has to be resolved.

The document containing information on data requirements should have the following structure:

- Name of field
- Format (data type, size)
- Explanation of the field

2.2.6 Information Check List

The earlier section highlighted the need for information to draw up the various plans. There are various other sets of information, which would help in the preparation for the implementation. This section looks at what information needs to be gathered and the potential sources for them.

| Information | Source | Remarks |
|---|---|---|
| Key Personnel at client organization | IMG | <p>Information on the key personnel in the client site is absolutely critical. Information required includes:</p> <ul style="list-style-type: none"> • Name • Designation • Role in the client organization • Influence in decision making processes • Level of involvement expected in the implementation process • Any other details that could help in handling this person. |
| Details of the client organization | IMG | <ul style="list-style-type: none"> • Address • Lines of business • Business statistics (size, turnover, profits, etc.) |
| Back ground information on the order | IMG | <p>Though not critical, this information would help the implementors get an idea of the background of the order. This includes:</p> <ul style="list-style-type: none"> • When the order was signed • Was a PWT done before the order was signed • Were there any intermediaries involved |
| Order Details | Project Manager, Oracle FLEXCUBE Investor Servicing / IMG | <ul style="list-style-type: none"> • Version of Oracle FLEXCUBE Investor Servicing to be installed • Start date of the implementation • License details • Structure of the implementation team |
| Software to be carried by the implementation team | Product Release Library | <ul style="list-style-type: none"> • Installation diskettes. • Scripts for creation of back end objects • Kleandb • Bkuputil • Access Disk Set up Wizard • Stracks • Report font conversion utility |

| | | |
|--|--|--|
| | | <ul style="list-style-type: none"> Language conversion utility for messages |
| Details of requirements from an earlier Product Walk through (PWT) | PWT Gap Report available with concerned Project Manager in Oracle FLEXCUBE Investor Servicing | <ul style="list-style-type: none"> Applicable only in case a PWT was done prior to the implementation. Details of gaps identified during the PWT |
| Information for project plan | Client | <ul style="list-style-type: none"> total number of end users total number of funds running / to be setup volume of existing data to be taken on daily transaction volume |
| Information for Installation plan | Client | <ul style="list-style-type: none"> number of servers & client workstations configuration of server & client workstations details of operating systems installed on server / workstations details of installation of the RDBMS (SQL Server / Oracle) |
| Information for PWT plan | Client | <ul style="list-style-type: none"> the depth to which the evaluation is planned in terms of the number of funds, transactions, etc. the range of features to be evaluated the number of users who are planning to participate in the exercise |
| Information for Data Setup / Conversion plan | Client | <p>Static Data Setup</p> <ul style="list-style-type: none"> Number of funds No. of loads Number of brokers No of Uhs <p>Transaction Data</p> <ul style="list-style-type: none"> No. of transactions to be taken on along with the number of logical days. |
| Travel Details | Project Manager, Oracle FLEXCUBE Investor Servicing, | <ul style="list-style-type: none"> Dates, times & modes of travel Foreign Exchange Visa |

| | | |
|----------------------------------|--|--|
| | Admin dept. | |
| Statutory Reporting Requirements | Project Manager, Oracle FLEXCUBE Investor Servicing | <ul style="list-style-type: none"> • Weekly Status Report • Weekly Time Sheets • Expense Statements (Monthly) • Mandays Report (Monthly) |
| Sign Off formats | Project Manager, Oracle FLEXCUBE Investor Servicing | <p>Sign offs required are normally linked to the milestones for payment. For example, if the payment terms are 50 % upfront, 25% on completion of UAT and the remaining 25% on completion of implementation, then the signoffs required are for UAT and Implementation. Generally sign off formats required to be carried are:</p> <ul style="list-style-type: none"> • Installation • PWT • Data Conversion • User Training • UAT • Parallel Run • Live Cut over • Implementation |
| List of deliverables to | Project Manager, | <ul style="list-style-type: none"> • CD/Floppy sets of the product |
| client | Oracle FLEXCUBE Investor Servicing | <ul style="list-style-type: none"> • User Manuals • Training material • Installation & Operations Manual • Support Procedures • Implementation hand over document <p>All the above are to be taken from the baseline with a certification from SQA (Refer Annexure P for sample of Software Release Form) For implementation hand over document do v require SQA certification??</p> |

3. Implementation Tasks

This section deals with the activities performed on site by the implementation team. The activities are classified by the stages of the implementation cycle.

3.1 Installation

This is the first activity during the implementation process. The tasks under this activity include:

- Creation of the various databases (Live, User Training, UAT)
- Setup the Web Server

The availability of certain minimum hardware and software configuration before the installation is to be ensured by the client. This has to be communicated to the client during the pre- implementation stage through the Installation plan. However, there could be situations where the client would provide the required hardware and request that the implementation team do the installation right from the operating system onwards. The team should be ready for such an eventuality.

The minimum expected hardware & software configurations are as follows:

Controls

- The administration password for the front end modules should not be shared with the client
- The members of the implementation team should not have the administration passwords to the server and should always access the same through the System Administrator from the client side.
- When carrying out activities on the Server, it is preferable to inform the System Administrator from the client end about the same.

3.2 Set up Activities

Before the commencement of usage of the system, a series of set up activities have to be performed. These include:

- Updation of license information
- Set up of country / client specific changes
- Conversion utility for language set up where applicable

3.3 Set up of Country / Client Specific Changes

There exist certain features in the system which are classified as country or client specific. Thus a feature specific to a country will be used by a client in another country. During any implementation the team should set up these features as either applicable or not. The information is stored in a table called 'CLIENTCTRYTBL' and it contains the following fields:

- 'FUNCTIONCODE' which is a code list of functions which are in the nature of country/client specific

- 'CTRYCLIENTCODE' which is a list of either the country or client where this feature is applicable. The entry here is compared by the system with the Country code/Client code available in the Defaults Table
- 'FUNCTIONAPPLICABLE' which is an indicator on whether the feature is applicable (-1) or not applicable (0).

Given below is an illustration of the 'CLIENTCTRYTBL'

| FUNCTION CODE | FUNCTION APPLICABLE | DESCRIPTION |
|-----------------|---------------------|--|
| ABSASPECIFIC | FALSE | ABSA client specific code execution |
| ACBDO | FALSE | ACB extract for SI settlement (DO) |
| ACCHIERINTER | TRUE | Populating the extract for Hierarchy intermediary |
| ACCPOLINTER | TRUE | Populating the extract for Policy intermediary |
| ACCTXNINTER | TRUE | Populating the extract for TXN intermediary |
| ACCUHINTER | TRUE | Populating the extract for UH intermediary |
| ADDBPCTOTXNBP | TRUE | Add Base Price Constant to Transaction Base Price. If it is set to 0, Base Price Constant gets added to (Price Basis Value-TBP). If it is set to - 1, Base Price Constant gets added to TBP during Fund Price save |
| ADMINTAX | TRUE | Admin Tax Facility |
| AFSBACKOFFICE | FALSE | This parameter is set for AFSBACKOFFICE specific features |
| AFSSPECIFIC | TRUE | AJF specific features |
| AFSTRADING | FALSE | This flag will enable AFS trading box functionality. |
| AGCGT | TRUE | This parameter is set for AGCGT specific features |
| AGPAYMENT | FALSE | AG Payment for raise broker comm |
| AGSPECIFIC | TRUE | This parameter is set for AGSPECIFIC specific features |
| AGTRAILCOMM | TRUE | This parameter is set for AGTRAILCOMM specific features |
| AJFSPECIFIC | FALSE | This parameter is set for AJFSPECIFIC specific features |
| ALLOCDTFORSWTFX | FALSE | This parameter is set for ALLOCDTFORSWTFX specific feature |
| ALLOWFUNDAMEND | FALSE | If set to TRUE fund created in AMC can be amended in distributor |
| ANNUITYPAYLAG | FALSE | For Handling Annuity Payment Lag |
| AOSCGT | TRUE | a) AOS method of Capital gains computation b) AOS method of Trailing Commission Payment for Fund Group |
| AOSLLEP | FALSE | Certain LEP validations are enabled based on this parameter |
| AOSTRAILCOMM | FALSE | This parameter is set for AOSTRAILCOMM specific features |
| ATYTAXAGEFISCAL | FALSE | For Handling Annuity Payment Lag |
| AUTOGENASR | TRUE | For enabling auto generation of ASR message |
| AUTOGENAUTHREP | TRUE | This parameter is set for AUTOGENAUTHREP specific feature |

| | | |
|-----------------|-------|---|
| AUTOGENCIF | TRUE | Automatic generation of CIF ID from unit-holder save, specific to JFAM |
| AUTOGENOSR | TRUE | For enabling generation of dummy OSR message |
| AUTOGENTXNREF | TRUE | If set to -1, reference number is system generated, if not entered by user. If the reference number is entered by user, the same is stored |
| AUTOGENUHREF | TRUE | AJF specific feature |
| AUTOREDATCIF | TRUE | This parameter is set for AUTOREDATCIF specific features |
| AUTOUPDIDSSI | TRUE | Auto Update IDS and SI Bank Details when Unitholder Bank Details are amended |
| BANKCHARGES | TRUE | For Enabling bank charges field in settlement screen |
| BANKINTEGRITY | TRUE | JFAM Specific |
| BKCLSOPTIONAL | TRUE | Book Closing Optional |
| BLKMATDATE | TRUE | Allows user to capture maturity date for block transaction. System will auto generate un-block transaction on the maturity date |
| BLOCKFUNDS | TRUE | This parameter is set for BLOCKFUNDS specific features |
| BRKCOMMBYPRTXN | FALSE | PR Broker commission sharing |
| BULKDEKA | TRUE | If set to -1, dot is changed to comma during upload of Transaction-Limit order price. Transaction values are defaulted based on this parameter. For e.g. for ZOP funds, transaction currency is defaulted to Entity base currency |
| BYPASSCIF | TRUE | If set to -1, CIF is created as a part of unit holder account opening, based on CIF id entered. Else, CIF needs to be created before unit holder account opening |
| CALCDLOADDEP | TRUE | ASF Specific |
| CANCSPECIFCSI | TRUE | This parameter will enable the system to cancel the specific standing instruction |
| CAPITALPAYALLOC | TRUE | Capital payout process will fail if allocation of CP transaction fails |
| CHECKFOLIONO | FALSE | This parameter is set for CHECKFOLIONO specific features |
| CHECKMINORAGE | TRUE | If set to -1, Unitholders Whose Age is greater than Funds Minor Age (as defined in Fund Investment Account Setup) are only allowed to invest |
| CHKBRKPARENT | FALSE | Check Parent in Broker fund mapping |
| CIFFORJOINTACC | TRUE | If set to -1, the Joint AC Holder specified should be a valid CIF in the system |
| CIFFORLINKENT | FALSE | Flag to switch on or switch of for CIF as Linked Entity |
| CIFFROMEXTSYS | FALSE | If set to -1, CIF is created as a part of unit holder account opening, based on unit holder reference number entered. Else, CIF needs to be created before unit holder account opening |
| CIFIDNTFCCHK | FALSE | If set to -1, Unitholders belonging to the same CIF must have the same Identification details |
| CIFUUSERACCESS | FALSE | This Parameter will enable User Level SMS Cross Branching |

| | | |
|-----------------|-------|---|
| CMAADJREQUIRED | TRUE | CMA Adjustment Required |
| COMPUTESINPD | TRUE | Auto compute SI Next Processing Date during Amend |
| CONFCHRGDETAILS | TRUE | For Populating Charge details in messages-swift |
| CONFCOMMDETAILS | TRUE | For Populating Commission details in messages-swift |
| CPFINST | FALSE | If set to -1, UH account type cannot be amended if it was created as CPF account type |
| CREATESWITCHIN | FALSE | This parameter will generate Switch In Txn on Save Of Switch Out Txn |
| DEALFIRST | TRUE | Enabling this ,system will check for the deal first even if campaign is attached, else existing flow |
| DEDUPCHKFORCIF | FALSE | If set to -1, each CIF can have only one unit holder per Account type |
| DEDUPCHKFORNRIC | FALSE | If set to -1, only One CPF Account Type can be maintained for a NRIC Number |
| DEFAULTCIF | TRUE | If this Parameter is Set to True System Allows the User either to enter a Valid CIF Number or Auto Generates a CIF Number(In UH-New A/C and Info Change Screens) |
| DEFAULTPAYMENT | TRUE | When this parameter is set system Defaults the payment details based on the payment mode. Also Bank Charges and Payment Charges will not be displayed under payment details. Also payment details will be defaulted as of transaction details |
| DEFSUBTYPUNPROC | FALSE | This parameter will default the transaction subtype and check for Unprocessed transactions |
| DEKAFUNDISIN | TRUE | If set to -1, certain fund elements needs to be mandatorily be captured. For e.g. FundIdentificationNumber, Custodian etc. are mandatory for a fund |
| DEKAGL | TRUE | If set to -1, AM Interface data stores are populated with Deka specific loads |
| DEKAINTERFACE | TRUE | If set to -1, Ready file gets generated during Interface definition export/import |
| DEKAREPORT | TRUE | If set to -1, Deka specific reports gets generated, instead of Core FCIS reports |
| DEKASPECIFIC | FALSE | This is used for Deka specific validations |
| DEKATRADE | TRUE | If set to -1, availability of creation/liquidation price as of the price date is not checked |
| DELIVERYAC | TRUE | If set to -1, certificate delivery preferences are captured for a unit holder |
| DIRECTDEBIT | TRUE | If set to -1, SubPaymentMode Direct Debit can be given for IPO and Subscription Transactions |
| ENFORCETPBANK | FALSE | Verify TP Bank Account |
| EXTRACTDTTM | TRUE | Consider Dealing Date as Swift Confirmation Trade Date |
| FATCAAPPLICABLE | TRUE | Flag to switch on or switch of FATCA compliance functionality |

| | | |
|-----------------|-------|--|
| FCCINTERFACE | FALSE | FCC FCIS Interface Specific |
| HDFCSPECIFIC | FALSE | This parameter will make Min/Max Validations For the Switch In Fund |
| FNDMRGREXCLCGT | TRUE | In Fund Merger the Gain should be carried over from Transferee Fund to Transferor Fund. |
| FORBACKDATA | FALSE | This code should always be switched off in LOB schema |
| FORM6061ATTXN | FALSE | For Enabling form6061 validation at transaction level if investment amount crosses min tax amount |
| FORMULA | TRUE | Client country for usage of Fund formula |
| FORWARD_FX_RATE | FALSE | If this parameter is set then system would support spot and forward FX rate else only spot rate will be supported. |
| FPONALLOCLAG | TRUE | Deferred price entry based on allocation lag -- check present during price upload & price entry |
| FUNDAMEND | TRUE | Amendment of fund such that new rule effective date is today's date |
| GLPROFITORLOSS | TRUE | This Parameter will enable system to calculate P/L due to reversals and pass a GL entry |
| GTAENABLED | FALSE | This parameter is set in Global Transfer Agency Setup |
| HBGTRAILCOMM | TRUE | HBG method of trailer commission, using quarterly averages (for 5 quarters) |
| HDFCINTERFACES | FALSE | This parameter is set for HDFCINTERFACES specific feature |
| HEDGEFUND | FALSE | Hedge Funds Feature Enabled |
| HIERARCHYTRAILC | FALSE | Replaced AFSSPECIFIC parameter with this. If set to TRUE trail commission functionality will be similar to AFS trail comm |
| HSBCSPECIFIC | FALSE | When this parameter is set System calculates the Settlement Due date as Dealing Date + Payment Lag for the Fund and Transaction Type |
| IMAFUND | FALSE | PBCom specific. Not applicable |
| INITTXNEXSI | TRUE | INITTXNEXSI is a check that is used during transaction save. This indicates that if SI is the only transaction for UH + Fund combination, the transaction should still be considered as initial subscription. i.e., holdings due to SI are not to be considered for initial subscription check |
| INTERFACEMAPREQ | FALSE | This client country determines whether Interface mapping is required or not |
| INTIME | FALSE | Intime specific broker commission cheque amount calculation |
| INT_FCUBS | TRUE | Integration Enabled |
| INVRISKCHECK | TRUE | For Investor Risk check on SI generation. |
| JOINTCIFDETAILS | TRUE | This Parameter is Used for Capturing Free Format Address Details For Joint Holders |
| KYCAML | TRUE | If set to TRUE, Know Your Customer and Anti Money Laundering functionality will be enabled |

| | | |
|------------------|-------|--|
| LIMITAPPLICABLE | FALSE | Shinsei Maruyu enabling (Non-tax limit applicable) |
| LNAMEMAND | TRUE | Last Name is Mandatory |
| LOAD1000FIRST | FALSE | JFAM method of computation for load 0 |
| LOCKVALUEDATE | TRUE | This parameter is set for LOCKVALUEDATE specific features |
| MANDNRIADD | TRUE | This parameter is set for MANDNRIADD specific features |
| MATDATE | FALSE | To enable Transaction Maturity functionality |
| MBSPECIFIC | FALSE | MASHREQ specific. If MPSPECIFIC is true, blocked units are checked from BLOCKMAPPINGTBL |
| MINORCONV | FALSE | MASHREQ specific. If TRUE, EOD process of updating minor status would temporarily stop the account (Stop account as 1) |
| MINREDSWCHBAL | TRUE | This parameter will indicate the minimum balance for Redemption and switch transactions |
| MONOCCY | FALSE | If MONCCY is true, processing does not check for exchange rates etc |
| MULTIPLEAMCDIST | TRUE | This Parameter is Set For Multiple Country Installation |
| NEGATIVEEPU | TRUE | DEKA specific -- if TRUE, EPU value can be -ve |
| NETUNALLOTTEDAMT | TRUE | Unallotted minimum holding will be considered for minimum holding check |
| NEWGL | TRUE | FCIS GL -- New GL added this release |
| NOTRADINGAGE | TRUE | Trading box ageing not required |
| OASISSPECIFIC | TRUE | For Oasis Specific Requirements |
| OMIA120RULE | FALSE | For Online Enabling 120 Rule Validation |
| OUTFLOWCHECK | TRUE | Transaction Validation specific to CBQ |
| OVERRIDEMSG_SUB | TRUE | Provide an Overridable message during subscription save, if regular withdrawals are present |
| PASTAS | FALSE | This flag if enabled indicates that this FMG module is integrated with PAS module |
| PAYHELDBRK | TRUE | Process broker payments for hold back brokers |
| PLCOMPUTE | TRUE | Calculating the average cost in allocation |
| POLICYUTGENIN | TRUE | Will Generate the UT transaction as Incomplete for Policy Transaction if the Client Country Switched on |
| PREEODTXN | TRUE | Used during bulk upload to indicate if transactions can be uploaded when the system is offline |
| PRICEADDIN | FALSE | Price add in as method of computation to be used or not |
| PROPAGATION | FALSE | Used for Back Data Propagation |
| PSALLOWSAMEAMC | TRUE | For Enabling Same AMC for PS Txn |
| PTBCCUSTTITLE | TRUE | In PTBC title will be derived from defaultstbl |
| RECOVERFEE | FALSE | RECOVERFEE OMIA |
| RECT | TRUE | Transaction receipts |
| REDCONFCCYCHECK | FALSE | Enabling or disabling RedemptionConfirmation Ccy Check functionality. |

| | | |
|-----------------|-------|--|
| REINVFORSTOPAC | TRUE | Reinvestments will be allowed for accounts marked with unit-holder status codes, specific to JFAM |
| REINVFORUHRST | TRUE | Reinvestment generation for restricted UH - Fund entity restriction |
| REINVINTMEDIARY | TRUE | If this flag is enabled, Reinvestment will happen based on the txn level intermediary else UH level intermediary |
| RETIREMENTCHK | TRUE | Retirement Funds check |
| REVFUTURETXN | TRUE | This flag decides future dated transaction can be reversed or not. |
| ROIALLOC | FALSE | Computation of base price considering ROI (during allocations) |
| ROICOMP | FALSE | Fund family input enables ROI calculation checkbox based on this client country |
| RPONOIMPACT | FALSE | No Impact for the RPO Code Selected at UH (OMSTA) |
| HSBCGTASPFC | TRUE | This Parameter will enable HSBC's Specific SMS Cross Branching |
| SHINSEISPECIFIC | FALSE | Transaction validations specific to Shinsei |
| SHOWPANINFO | FALSE | Indicate 'Tax Id' as 'PAN/GIR Number' |
| SICREDISPECIFIC | TRUE | In order to divert the flow of Amount Block Maintenance |
| SIRULEATFREQ | FALSE | This parameter will make SI Rule Based on Frequency |
| SKIPGLFORREV | TRUE | This Parameter will skip GL for Txn's getting reversed on the same day |
| STRUCTADDRESS | TRUE | This parameter is set for STRUCTADDRESS specific feature |
| SUBMATDATE | TRUE | Automatic Redemption with respect to Subscriptions Maturity Date |
| SWIFTAPPLICABLE | TRUE | If true then First name in unit-holder will allow more than 35 characters to be captured |
| SWIFTTXNAGENT | FALSE | Swift Transaction Agent - If turned ON module level agent will be used and If Turned OFF Unitholder level Agent will be used |
| SWITCHBYIDSCHG | FALSE | This parameter is used For Modify IDS option |
| SWITCHINVAL | TRUE | This parameter will make Min/Max Validations For the Switch In Fund |
| SWITCHTOFUND | TRUE | This parameter is used For Switch to fund option |
| SWITCHTOIPOFUND | TRUE | This parameter is used For Switch to IPO fund option |
| SYSGENPOLNUM | TRUE | Generate policy number |
| TEMPALLOCPOLSAV | TRUE | Check Annuity Income percentage for net investible amount |
| TPAFQ | TRUE | This function allows third party cheque in the system. |
| TPAFX | TRUE | This function allows third party money transfers in the system. |
| TXNAUTHREKEYREQ | TRUE | This flag will decide whether rekey is required during authorisation |

| | | |
|-----------------|-------|--|
| TXNBROKERS | FALSE | If this function is applicable brokers can be entered as intermediaries in the transactions, |
| TXNCOUNTERAPP | TRUE | To keep track of Fund Txn Counter |
| UHCOUNTERSAPP | TRUE | Performance tuning requirement |
| UHFORLINKENTITY | TRUE | Flag to switch on or switch of for Unitholder as Linked Entity |
| UHFUNDRESTRICT | FALSE | Fund should belong to unitholder AMC |
| UHTXNBRKSAME | FALSE | This flag will decide whether UH intermediary should be transaction intermediary. |
| UPLDFILEMODULE | TRUE | This parameter is set in order to reinitialize the global to module id present in the file |
| USERTFORLOAD | FALSE | Rounding rules pickup related |
| USSTATECODES | FALSE | This parameter will display the list of US State codes for address input. |
| VALIDFUNDPRICE | TRUE | This parameter decides whether all or valid Fund Price has to be listed in LOV. |
| VAT | TRUE | VAT specific |
| VATONPRTBRK | FALSE | VAT on parent broker code |
| VERIFYBANKACC | TRUE | Verify UH Bank Details |
| WACCOMPLETETXN | FALSE | For Enabling Compute WAC On Settlement |
| WOLFDBCHECK | TRUE | Wolf DB Validation is required or not |
| TRHAUTHREKEYREQ | FALSE | Tranche Authorization Rekey Feature |

A feature under the second column would be applicable when the entry in the third column matches with either the Country code or client code in the Defaults table and the values in the fourth column is set to '1'. If the matching is on the Country code in the Defaults table, the feature will be applicable to all clients in that country.

For example: for the function 'LOADIN' (S.No 8), if the CTRYCLIENTCODE 'SA' has a match in the Country code column in Defaults table it will be applicable to all clients in the country 'SA' as the FUNCTIONAPPLICABLE value is 1. Alternatively, if the FUNCTIONAPPLICABLE value is 0, then the feature will not be applicable.

There could be another situation where a feature is applicable to all clients in a country except one client. Let the country code be 'SA' and the client code be 'AOS' in the Defaults table. If the feature 'LOADIN' (S.No 8) is applicable to all clients in SA except AOS, then the entry in the above table for the feature 'LOADIN' (S.No 8) will have values 'AOS' in the third column and '0' in the fourth column respectively.

The implementation team will have to modify the values of the table according to the requirements of the implementation. This will have to be done through the back end.

3.4 **MAKER/CHECKER date time stamp**

FN_MNTSTAMP is used for logging MAKER_DT_STAMP and CHECKER_DT_STAMP fields for all maintenance, online and other batch functions. System will log the date as 'Application Date' appended with 'DB server time' as default value, configured using the parameter 'DATETIMESTAMP'

There also exists certain feature in the system as Parameter and its value can be set as True or False. If the parameter DATETIMESTAMP value is FALSE(when param is 0), then the database time will be stamped. If the parameter DATETIMESTAMP value is TRUE(when param is 1), then the branch time will be stamped. Following options are available,

- 0 - DBSERVERTIME – Factory Shipped – **(Application date + DB server time)**
- 1 - BRANCHTIME **(Application date + Logged Module time)**

3.5 **Product Walk Through (PWT)**

This is an exercise where the end users evaluate the features of the system with reference to their business processes. As mentioned earlier, this exercise is normally conducted before implementation so that the client would be able to identify whether and how the product fits into their requirement. However, there could be situations where the PWT is coupled with an implementation and would normally be the first step in the implementation cycle.

The evaluation would normally focus on

- broad processes existing in the system
- features offered under processes and the functions performed
- work flows in the system
- Performance issues

The users involved in the PWT would include key personnel from various functions of the organization. They would include:

- Users from the Agency branches who are the organization's front office interacting with clients
- Users from the head office who perform the Fund Management function
- IT personnel
- Top management

The plan is broken up into a set of logical days with a set of features being covered in a logical day. The features covered flows in a logical manner so as to cover all operations in a normal business cycle. A separate database is created for the PWT exercise as a part of the installation milestone. On completion of the PWT, the PWT database can be utilized for the User Training exercise.

A day in the PWT would normally go as follows:

- Before starting the PWT, the Oracle Financial Services Software Limited consultant should discuss, with the client Project Manager, and work out the structure of the exercise for a day. The activities for a day would include

- Demonstration of features
- Discussions which could be along with the demonstration or a separate session
- Preparation of minutes of discussions
- Review of minutes of discussions and incorporation of changes where required.

Based on the availability of the users, the time for each of the above activities can be worked out and the same communicated to all participants. The above can form part of the PWT plan which would be communicated to the client during the pre-implementation phase. This would help the client plan for the for the time of users during this exercise

- The Oracle Financial Services Software Limited consultant handling the PWT would explain the working of the features as per the plan. Data, from business situations of the client, would be fed into the system and the results evaluated by the users.
- Discussions on the various features evaluated would occur either as the PWT goes on or a designated time could be fixed for discussions.
- Time should be kept aside towards the end of the day to document the discussions that occurred during the day in the form of minutes of meetings. The responsibility for preparation of the minutes lies with the Oracle Financial Services Software Limited consultants. These minutes should be exchanged with the Project Manager from the client side for review. Any difference should be discussed and the minutes duly modified. The final agreed document should be signed off and copies exchanged. Preparation of the minutes of meetings every day is extremely important and these minutes will form part of the PWT Report.

The deliverables at the end of the Product Walk Through exercise include

- a PWT Report
- a PWT Sign off from the client

The PWT Report is a document resulting from the evaluation exercise during the PWT. It should contain:

- the gaps identified during the PWT. A gap is any feature required by the client which is either not available in the system or available but inadequate. The gaps should be explained in as much detail as possible as this forms the requirements specifications for building the gap into the product. Illustrations, worked examples, supporting documents which help understand the requirement should be incorporated into the document. A well detailed gap document helps in the follow up exercises after the PWT which include:
 - analysis of impact of the gaps on design of system
 - estimation of effort involved to build the gaps into the system
 - building design specifications for the gaps
 - information on the operational work flow existing in the business operations of the client.
 - the organization structure of the client organization
 - any other information which would help in understanding the business processes of the client

The organization of the PWT Report should follow certain guidelines on:

- the structure of the document in terms of the chapters to be incorporated
- numbering conventions for chapters and sections under chapters
- format for the sign off (sample available in the Annexure H)

- Annexures containing minutes of meetings, supporting documents, etc.

A look at any existing PWT Reports would give an idea on the organization of the same.

Controls

- In a situation where the PWT exercise is not part of an implementation, the team should ensure that all software installed and databases created are deleted before leaving the client site. Under no circumstances should any component of the software be left at the client site after the Oracle Financial Services Software Limited team has left. Where the PWT is part of the implementation, the PWT database can be utilized for a subsequent exercise such as user training exercise, UAT, etc.

3.6 User Training

This stage involves the training of end users on the use of the system. A thorough job done at this stage yields the following benefits:

- the users will be comfortable with the system when the operations go live
- once the users are comfortable with the system, they would accept the system which is a very critical aspect in the success of the implementation
- a significant part of the support calls normally turn out to be due to non familiarity with the system. Such calls can be eliminated

The methodology of the training on each day would be along the following lines:

The first day of the User Training will comprise of

- A presentation giving a broad over view of the system.
- A demonstration of the product.

Day 2 onwards will comprise of detailed training sessions. These user training sessions will be split into two sessions with the following scheduled in each.

Session 1 For a set of topics for the day, the following will be done:

- a ppt presentation
- detailed demonstration

Session 2

For the topics discussed during the Session 1, the users will have a hands on session. The users should be encouraged to use the system with data from their normal business operations with Oracle Financial Services Software Limited consultants providing guidance to ensure that all the features of the system are understood by the user. By using data from their daily operations, the users will be able to relate the system with their business environment in a much better way.

In a normal situation, the Session 1 can be handled by one Oracle Financial Services Software Limited consultant with the other handling the Data Conversion activity (the User Training & Data Conversion activities could be planned as parallel activities). One or both consultants can be involved in the Session 2 depending on the number of users involved.

Attendance to the user training sessions should be closely monitored and cases where users have missed the sessions should be highlighted to the Project Manager at client site. It is advisable to prepare a daily report on the attendees and the features covered on a daily basis and forward the same to the Project Manager. There would be situations where users could miss sessions as they have their normal work to complete apart from attending the training sessions. The implementation team should work out alternate times for such users in consultation with the Project Manager and the users themselves.

3.7 Data Setup/Conversion

Though this document is at a broad level, the Data Conversion Strategy document can supplement this. This can simply be a link doc to the details. Two major sets of tasks are carried out during this milestone:

- set up of static data (Entities, Loads, Funds, etc.)
- Take on of past transaction data in case of existing funds. This will not be applicable in case of funds which are starting fresh.

The above can be achieved either

- by manually entering the information into the system or
- through an automation process

A decision on which method to use depends primarily on the volume of data to be taken into the system. The activities involved under this stage are as follows:

- Data Preparation
- Preparation of program for automated data take on (not required in the case of a manual take on)
- Data take on

3.7.1 Data Preparation

The data that is to be imported has to be prepared so as to satisfy the following conditions:

- the external data element being imported should have a corresponding equivalent in the system
- the format (datatype, size) of the data element being imported should match that available in the system
- in case of an automated take on, all data to be imported should be prepared in the required formats satisfying the above two conditions

As mentioned under the pre-implementation tasks, a part of the data preparation can be carried out during the pre-implementation phase by communicating the data requirements (data elements, data type & size) to the client in advance. This allows the clients to

- understand & seek clarifications on the data requirements
- prepare the data to be imported in the format required

- identify sets of information that cannot be imported into the system for resolution with the implementation team.

Formats containing the data required for conversion is provided in Annexure O. Advising the client to prepare the data in spreadsheets would be useful as importing data from spreadsheets to an RDBMS could be done easily. During the implementation, the team will

- review the information prepared by the client to check for compatibility of data to be imported
- resolve any instances where the data is not in the required format
- resolve situations where certain sets of information cannot be imported as they are not available in the system. The solutions for such situations would vary from case to case. The team should try to identify work arounds for the above situations with the objective of minimizing loss of information as far as possible.

There could be situations, thrown up from the data preparation exercise, where certain sets of information cannot be brought into the system as these are not available in FC-IS. If the client insists on the capture of these sets of information, this will amount to a customization request. The stages in the processing of the request are as follows:

- The requirements have to be studied and exhaustively documented in the form of a Requirements document. The same will have to be communicated to the off site support team.
- The requirements will be evaluated in terms of the change impact and effort required for the customization
- the cost implications are communicated to the client.
- On receiving the go-ahead from the client, the customization is carried out and tested
- the modified programs & database structures are sent to the implementation team on site for continuation of the implementation

3.7.2 Preparation of program for automated data take on

The next step on completion of the data preparation is the preparation of an interface program for the import of the data into the system. The steps involved includes:

- preparation of the conversion program
- testing of the conversion program
- sign off on the conversion program

The conversion could be either from

- an earlier version of FC-IS or
- an external system

In the case of a conversion from an earlier version of FC-IS, check out the availability of standard conversion programs with the Support team. If available the same can be used for the conversion, else a program will have to be prepared. In the case of import from an external system, a program will have to be prepared by the team.

The next step after preparation of the conversion program is to test the same. The steps involved are as follows:

- a database with structures identical to the live one is created for the conversion program testing exercise

- the conversion program is run and the data imported
- the data imported is verified using reports available in the system (Refer Table No. for list of reports)
- atleast two full cycles (BOD to EOD) are run on the test database to throw up inconsistencies if any
- any errors arising are resolved and the corresponding changes effected in the data forms
- a sign off on the conversion program is done with the client on completion of the testing exercise.
- A backup of the conversion utility is carried out

On completion of the above exercise, the next step is to take on the data in the live database.

3.7.3 Data Take on

This step involves the actual taking on of the data into the system using the live database created and is a two step process:

- take on of information
- verification of the information taken on

In the case of a manual take on, this step would involve the manual entry of the information into the system. This information could include static and transaction information. The data entry will be done by the end users with the Oracle Financial Services Software Limited consultants assisting them in the same. The data conversion documents prepared during the data preparation exercise will be used here.

The verification of the data entered can be carried out through the process of Data Callback. In this process the data imported is verified by manually checking the reports available in the system. Given in the below table is a list of reports which could be used for the verification of the data entered.

| Screen / Report / Inquiry | Module | Information verifiable | Type of information |
|----------------------------------|---------------|--|----------------------------|
| User Profile Report | FMG | Users | |
| User Profile Details Report | FMG | Access rights of users | |
| Entity Details Report | FMG | Details of entities set up in the system | |
| Bank Maintenance | FMG | Details of banks set up in system | |
| Broker Maintenance | FMG | Details of brokers set up in system | |
| Holiday Maintenance | FMG | Details of holidays set up | |

| | | | |
|----------------------------------|-----|--|-------------------------|
| Domicile Maintenance | FMG | Details of countries set up | |
| Identification Maintenance | FMG | Details of identification types | |
| Corporation Maintenance | FMG | Details of corporation types | Static Information |
| Occupation Maintenance | FMG | Details of occupations | |
| Investor Category Set-up | FMG | Details of investor categories set up | |
| Fund Family Maintenance | FMG | Details of Fund Family Set-up | |
| Fund Type Maintenance | FMG | Details of Fund Type Set-up | |
| Fund Rule Report | FMG | Details of Fund Rules | |
| View Load Details Inquiry | AGY | Load details set up | |
| View Unit Holder Details Inquiry | AGY | Unit holder information | |
| View Agents | AGY | Agent Details | |
| View Agency Branch | AGY | Agency Branch Details | |
| Standing Instruction Report | FMG | Details of Standing Instructions set up | |
| Fund Activity Report | AGY | Details for transactions for a fund | |
| View Unit Holder Balance | FMG | Details of Unit Holder Balances | |
| Allocation Error Reports | AGY | Details of all the transactions failed during allocation | |
| Transaction Summary Reports | FMG | Details of Transaction allocations | Transaction Information |
| Fee / Incentive Report | FMG | Details of loads applied | |
| UH Acknowledgement Report | AGY | Details of the Unitholders in the system | |
| Fund Dividend Maintenance | FMG | Details of dividend set up information | |
| View Dividend Payment Details | FMG | Details of dividend payout | |

| | | | |
|------------------------------|-----|---|--|
| Reinvestment Report | FMG | Details of reinvestments done | |
| Annuity Failure Report | FMG | | |
| Product Bank Suspense Report | FMG | | |
| Annuity Forecast Report | FMG | | |
| Capital Gains Tax Report | FMG | Details regarding the Capital Gains Taxes | |

In the case of an automated take on operation, the conversion program is run during this stage which will bring the data into the system. A manual check of the data imported through reports can be carried out notwithstanding the fact that the reliability of the conversion program was tested during the earlier step. The reports listed in the above table can be used for checking. This verification exercise is to be done jointly by the client & the implementation team.

On successful completion of the checking exercise, a sign off of the data conversion milestone is done. The live database, data conversion test database and the conversion utility are backed up immediately.

Controls

- The Data Take on should start only after the data to be taken on has been checked and signed off. While the client should verify the validity of the data, the implementation team should check the compatibility of the data with the system
- On completion of the testing of the data conversion program, a sign off should be obtained
- A sign off should be obtained on completion of import and verification of the data in the live databases. The live database and the conversion utility should be backed up

3.7.4 User Acceptance Test (UAT)

The UAT is an exercise conducted by the client wherein a test is conducted on the system to verify that

- All features in the system work and produce results as documented in the functional specifications of the system
- The system is compatible with the hardware provided
- The response time & performance of the system is within acceptable levels
- Technical operations such as backup & restorations smoothly

This exercise is totally the responsibility of the client and the implementation team can assist the users in the following:

- Preparation of a test plan for the UAT
- Execution of the UAT

It is important for the client to be informed during the pre-implementation phase about the UAT and the requirement for them to prepare a test plan and execute the same. The client would prepare a UAT test plan and this would normally cover all the features used by the client. This would allow the client to set aside time and resources for this exercise in line with the implementation plan. A test plan which is exhaustive in coverage and depth is desirable. The test plan would be executed by the users and the results checked out. The logical conclusion of this milestone is the UAT sign off from the client. In the event of errors cropping up during the UAT, these have to be resolved either by the team on site or by the support team at Bangalore. For handling of errors that arise during the UAT, refer to the section 'On site support issues'.

The UAT is a very important milestone in the implementation process due to the following:

- The successful completion of this milestone clears the way for the start of a parallel run or live cut over as the case may be.
- An installment of payment from the client is normally associated with the sign off of the UAT and so a successful completion of this exercise leads to cash inflows for the company

Controls

A UAT database should be created for this exercise and the same used for the UAT. On completion of the UAT, this database and the front end modules will have to be backed up for future use in case of audit requirements.

3.7.5 Parallel Run

The parallel run is an exercise which is applicable in all cases other than start up organizations. This milestone begins on completion of the User Acceptance Test. During a parallel run, the client will start using the system for it's every day operations while retaining it's existing system. Both the existing system and FC-IS will run parallel with each other during this phase.

The parallel run is a method used for the smooth transition of the organization from an existing system to a new system. The existing system could be either manual or automated. During the parallel run, both systems are run so that in the event of one system failing, the other is available to fall back on. The period for the parallel run is influenced by the time perceived by the client to develop sufficient confidence in the new system so as to cut off the existing system. This could vary based on

- The size & complexity of operations and
- The level to which the end users are comfortable with the usage of the new system.

The duration could vary from between 15 days to 1,2 or 3 months as the case may be. The duration of this phase is normally decided by the client.

During the parallel run, the transaction information from the system should be compared with the existing system on a daily basis before moving to the business day. It is important to reconcile all differences before moving to the next day. The information to be verified includes:

- Transaction details
- Allocation details
- Fees / Incentives applied
- Fund & Unit Holder unit balances
- Dividend & Reinvestment Processing information (when applicable)
- Unit holder accounts created / modified / closed

- Standing Instructions set up / generated

The parallel run is a phase during which the end users are stretched as they would have to carry out the same work in two systems. As a result of this, it is imperative that the system should perform smoothly and problems, if any, should be handled by the team keeping in mind the sensitivity of the situation. A smooth parallel run increases the comfort level of the end users and helps in the acceptance of the system by the users.

In a normal situation, only one Oracle Financial Services Software Limited consultant will be available on site during the parallel run with the other leaving on completion of the UAT. However, this is not a rule and could vary from one implementation to another.


3.7.6 Live Cut over & Post Live on site Support

Once the client is confident of the performance of the system and the comfort level of the end users, a decision can be taken to cut off the existing system and switch over totally to the live system. This is the final milestone in the implementation cycle during which the client organization will be fully dependent on the new system for its day to day operations. A run chart listing daily activities that the users need to perform is available in Annexure N.

The responsibility of the implementation team during this phase would be:

- To provide post-live support for the end users. The duration for the post live support normally varies between one to two weeks after which the team leaves the site and heads back home.
- To train the end users on the mechanism of off site support after the implementation team leaves the site (refer the section titled 'Post implementation support')

The logical end to this milestone is the signing off of the implementation by the client which indicates the successful completion of the implementation cycle. The sign off is also important in that a part of the payment by the client will be due on this sign off.

 During the course of the implementation, changes in the software would have been carried out either due to

- Bug fixes on various sites being incorporated
- Small enhancements being incorporated.

The installation diskettes carried by the implementation team initially would be out of sync with the latest version due to these changes. As a result, a fresh set of diskettes must be made by the implementation team and handed over to the client before leaving the site.

4. Support

Support activities can be split up based on the phase of the implementation cycle into activities during the implementation and post implementation. It is important that the implementation team, before departure, provides the client full details of the support team at Bangalore. This includes:

- Name, Designation and roles of Support Team members
- Contact telephone numbers (official & residential)
- Contact physical & e-mail addresses

4.1 During implementation

Support activities during the implementation would arise in the event of errors coming up in various stages of the implementation cycle. The mechanism for handling of these errors are as follows:

- The error is reported to the team on site. A Software Problem Report (SPR) is raised.
- Depending on the load on the team on site, the problem could be passed on to the Support team off site for resolution. The error reported is analyzed
- Two different areas have to be set up - a Development and a Testing area. Any corrections should be carried out only in the Development area. Similarly, all changes done are tested in the Testing area only. Control must be maintained on these two environments so that no invalid changes are carried out. Access to these environments should be available only to the implementation team.
- A solution for the error is identified and the modification is carried out in the corresponding program unit. The modification done should be adequately tested before releasing the same to the live environment. The modifications carried out should also be maintained in a tempsoft area. The tempsoft area will contain the objects which have undergone change and a document explaining the changes made. Maintenance of the tempsoft is extremely critical as this will be used by the off site support team for retro fixes into the base line version.
- The SPR should be updated and a copy of the same sent to the off site support team.
- The implementation team should send the periodic (fortnightly unless specified explicitly) SCF status reports to the support group.

4.2 Transition from Implementation group support team to the Offsite Support team

On completion of the Post Live Support phase of the implementation, the team leaves the site and subsequent support is provided either through off site support from Bangalore or through a local support where available.

The hand over from the Implementation group support team to the Offsite Support team is a critical exercise to ensure smooth support during the post implementation phase. This hand over is done through a handover document which would contain the following sets of information:

| Information | Remarks |
|-----------------------------|--|
| Environment Details at Site | <p>This should contain information on the</p> <ul style="list-style-type: none"> • hardware configuration of server(s) and client workstations • Windows NT /Unix configuration - services /protocols etc • SQL Server/Oracle configuration - RDBMS configuration • Details of all other relevant software on the server(s) and client workstations • Workstation Protocol/services configuration • ODBC Details • Network components • Machine identification details |
| Details of databases | <p>This includes</p> <ul style="list-style-type: none"> • database components • sizes of database files • location |
| Details of Contact Persons | <p>Details of contact personnel at client site such as</p> <ul style="list-style-type: none"> • Name & Designations • Roles • Addresses • Contact telephone numbers • Fax and e-mail addresses |
| Tempsoft Details | <p>This should include details of problems reported on site. It should contain the following information:</p> <ul style="list-style-type: none"> • Description of the problem • Object affected • Module • Status (Open / Closed) • Severity • Description of change done to solve problem |
| Site Application Details | <p>This section should contain details of any special or unique application feature existing in the site. These could</p> |

| | |
|------------------------|---|
| | include <ul style="list-style-type: none"> • features not being used currently • work arounds • volume details of operations |
| Site specific programs | This covers details of programs which are site specific. |

4.3 **Post implementation support**

This is the period after the implementation team leaves the client site. The activities performed here come under the category of post implementation tasks which are in the nature of support activities. The mechanism for handling of support calls during this phase is presented below:

- In the event of support required, the client should contact the Oracle FLEXCUBE Support Team by Telephone , Fax or Citimail (Where Available) and send a Software Problem Report (SPR) giving information about the problem. The SPR will help the Support Team to track all Support Requests effectively and to solve the problem faster.
- The Support Team will provide the solution by telephone/ fax and in case any change in the software is required, it will send the client the changed objects by Courier from the Support Center with detailed instructions to incorporate the same.
- A Monthly Status Report will be sent by the Support Team to the client giving the details of the problems reported , problems solved , pending problems, etc.,

In the case of emergencies where the client cannot run and complete the critical Daily Operations, a *Remote Login Support* will be provided. In the above scenario the client will have to contact the Oracle FLEXCUBE Support Team and send a SPR giving information about the problem and grant permission to do a remote login . The Oracle FLEXCUBE Support Team will then login to the Backup Server from the Support Centre and analyze the problem . The following activities will have to be done before the login.

- Start the Remote Access Service on the Server .
- Verify that the modem is connected properly and that it is being recognized by the Server.

The information to be given to the support team for the above exercise includes:

- Telephone No . (With Extension No. if not a direct line) to be dialled.
- Windows NT UserId and Password to connect to the server.
- Domain Name and Computer Name of the server.
- Server Name of Oracle Server
- UserID and Password to login to Oracle Server.

5. Guide lines for Interfaces with other Systems and Tools

The client could be using others systems for various purposes and there might be requirements for such external systems to either import data from / export data to FC-IS. This exercise closely follows the steps outlined under the Data Set up / Conversion (Section 3.5). The data being imported should satisfy the following conditions:

- The external data element being imported should have a corresponding equivalent in the importing system
- The format (datatype, size) of the data element being imported should match that available in the importing system

The steps involved in the interface operation is broadly explained as follows:

- A detailed study has to be conducted by the team on the interface requirements. A document has to be prepared explaining the requirements & the mapping relationship between the exporting & importing systems. This has to be signed off by the client.
- An interface program will have to be developed to
 - extract data from the exporting system
 - convert the data so as to make it compatible to the importing system
 - import the data
- The program developed has to be tested in a separate test environment. On successful completion of the testing exercise, the utility has to be signed off.

6. Back up & Restoration

Back up and restoration are two critical activities in an implementation. It is the responsibility of the implementation team to train the technical personnel at the client's Data Center in the area of back up and restoration. A step by step explanation of the backup and restoration procedures are available under the Installation & Operations manual.

7. Statutory Reporting

7.1 Methodology for Status Reports

A formal and regular reporting process should be established at the very beginning of the project and continued till it ends. This ensures that progress is monitored regularly and problems are highlighted appropriately; thus not giving scope to any conflicts in the future.

Status Reports are of two types. Current Status Report should be sent to the Head of Implementation every fortnight from the day you begin the project. Another type of report is the Support Status Report generated every fortnight after the bank is live on Oracle FLEXCUBE. This report should be addressed to the Single Point of Contact with the bank and copied to the Implementation Head and Head of Global Support at Bangalore.

The Current Status Report should give the following information:

- Work completed during the fortnight.
- Work scheduled for the next fortnight.
- Problems encountered during the fortnight.
- Billing details

The following is a sample Current Status Report:

Current Status Report

1. The Project: Implementation of Oracle FLEXCUBE at First Commercial Bank at Melbourne, Australia (FCB)

2. The People:

Customer Ms. Annabel Smith (IT Head)

Mr. Jim Hacker (Systems
Manager)

Oracle Financial Services Sylvia John

Ramkrishnan S

3. Reporting Period: 15/03/98 to 31/03/98

4. The Schedule

| Activity | Plan | | Actual | | Responsibility | Remarks |
|------------------|-------|-------|--------|-------------|---------------------------|-------------|
| | Start | End | Start | End | | |
| S/w Installation | 15/03 | 19/03 | 17/03 | 20/03 | Oracle Financial Services | Given below |
| User Training | 22/03 | 25/04 | 23/03 | In progress | Oracle Financial Services | Given below |
| Database Set-up | 24/03 | 30/04 | 24/03 | In progress | Oracle Financial Services | Given below |

Remarks: Software installation was delayed because hardware was not available. User training was delayed because a few key users were on leave. Database set-up has begun.

5. Action Items:

| Activity | Plan Start End | Actual Start End | Responsibility | Remarks |
|----------|----------------|------------------|----------------|---------|
| | | | | |

| | | | | |
|-------------------|-------|--|-----|--|
| Code Structures | 08/04 | | FCB | |
| General Ledger | 08/04 | | FCB | |
| List of Customers | 08/04 | | FCB | |

6. Achievements during the period:

Software installation completed.

User training for Data Entry module completed.

7. Outstanding Issues:

None

8. Plan for the Next Fortnight:

User training for Foreign Exchange and Money Markets. Database set-up for Branch Parameters, Customers, General Ledger.

9. Billing details:

Professional working days: 10 working days + 1 Saturday

Milestone achieved for billing: S/w installation

Expenses to be billed to client: Airfare and incidental expenses to Melbourne.

7.1.1 Support Status Report

The Support Status Report should be generated after the branch has cut-over to live. This report is a summary of the problems solved during the fortnight. The number of problems raised, solved and outstanding should be listed first, followed by a brief description of the problems and solutions provided. For outstanding problems, the proposed course of action should be stated.

The following is a sample Support Status Report:

Support Status Report

Reporting Period: 16/02 to 30/03

1. The Statistics

| Category | Queries | Problems |
|---|----------------|-----------------|
| Brought forward from last report. | 05 | 09 |
| Received in this period. | 02 | 00 |
| Solved/Answered. | 05 | 04 |
| Not a problem. | 00 | 00 |
| Referred back to the bank for more information. | 00 | 00 |
| Outstanding. | 02 | 05 |

2. Description of queries answered

Query on Accounting Role Mapping Explained.

3. Description of problems solved

Minor UI error on Journal Entry input form (Till No 001).

4. Outstanding Problems

Another Minor UI Error on SV form (being Fixed).

5. Information awaited from Site

Problems faced in implementing the solution for changing term deposit contracts.

8. Contingency Plan

The managers should determine the operational risks and develop a procedure to ensure that the business is not disrupted in an emergency situation.

8.1 Contingency plan - Overview

The people responsible for developing a contingency plan for the AMC are:

- The Contingency Planning Officer-for the overall AMC and Agencies plan
- The Data center manager-for technology contingency, including communications, hardware, system software and third party software.
- The Fund Manager of the AMC who is responsible for FCIS and the board of trustees or directors of the AMC. The members of the Internal Control department.

The Contingency plan should address the following issues:

- Operation Risk assessment
- Contingency planning
- Software errors outside and inside of normal working hours
- Contingency plan distribution list
- Persons who can authorize the emergency procedure
- Contact points in the event of hardware and software problems
- Potential exposure and containment measures

8.2 Operational Risk Assessment

The automated system consists of FCIS software that runs on a client server based technology with desktops connected to either Windows NT base Web Server which connects to a Windows NT server or UNIX based server hosting the Oracle Database server

There are some risks involved in the implementation of a new system and the maintenance of an existing one. Some risks are controllable while others are not. But the degree of non-controllable risks, such as natural disasters, can be minimized. This chapter deals with risks and their corresponding protective measures. The risk analysis is geared toward the security of hardware and software. Tight security and back-up systems are the most important elements. Adequate training for the personnel who will be dealing with the computer is also very important. The basic contents of the risk assessment are as follows:

- Brief Description of Location and Operations
- Major Causes of the Operational Risks

8.2.1 Brief Description of Location and Operations

A brief description of the location and the operations of the AMC should be indicated in the assessment.

8.2.2 Major Causes of the Operational Risks

The following type of critical factors which present operational risks are to be considered:

- Political or Civil Unrest
 - Political or Civil disturbances
 - Strikes and Riots
 - Insurrection etc.
- People Related Risks (Internal)
 - Illness or Injury
 - Non-adherence to established procedures
 - Shortage of training in established procedures
 - Deliberate or Negligent acts

The risk involved can be loss of customers, fraud, processing errors, delays which include information modification, loss of information, data omission, damages to hardware, etc.

- People Related Risks (External)
 - Intrusion
 - Theft of equipment, etc.
- Utility Related Risk
 - Electricity
 - Communication
 - Voltage stabilizer
 - Air Conditioning etc.

Power loss causes processing errors and delays, and a total memory loss in computers. Irregular or faulty power lines can alter the data being processed and/or cause permanent damage to the computer.

- Neighborhood Hazards
 - Proximity to chemical or explosive operations
 - Nearby building or floor that constitutes a fire hazard to the operation
 - Potential risk of leakage or burst in the water pipes on the premises
 - High crime areas

8.3 Contingency Planning

The Data Center is a supporting unit that provides the following Data Processing services for the contingency planning process.

- FCIS, a PC/LAN
- Dedicated Leased lines (64 kbps or higher) VSAT connection depending on the financial strength of AMC.
- Direct Telex
- Fax and Internet Connectivity is a must.

The Data Center is considered to be a medium risk area and its disruption implies that the AMC, Customer Service, are rendered inoperable with a resultant loss of the AMCs reputation and customers. Potential threats to the Data Center (and consequently to the other units of Operations) include:

- People related risk, e.g. illness, strike, sabotage.

- Natural disasters, e.g. fire, power failure, etc. rendering the premises and facilities unavailable.
- Equipment failure, e.g. failure of Main or Back-up Hardware, peripherals, workstations, printers, etc.
- Software Failure, e.g. abnormal termination of a program due to a database corruption or program bug.
- Support Line failure, e.g. failure of the link between the Oracle Financial Services Software Limited Support team and the AMC

The above risk factors should be analyzed and preventive measures should be described in detail. Some of the recommended preventive measures are:

- Employees should be cross-trained at different jobs so that they can act as a back-up for each other in case of absence due to illness, etc. A back up for the Fund Manger and System administrator is a must plus persons having maximum powers in a Agency and Register set up should also have a back up so that normal operations are not halted even in case of an emergency
- Regular medical check-ups should be arranged for the employees.
- Fire detection and suppression equipment, e.g. smoke detectors, fire extinguishers, Halon, etc. should be placed at all vulnerable locations.
- Main and Backup Hardware systems, printers and workstations should be serviced and maintained regularly.
- Service contract - The AMC should evaluate the need for a maintenance contract and document for Hardware and software.

A private, leased data-line should exist between Oracle Financial Services Software Limited and the AMC. A dial-up facility should also exist as a back-up to access Oracle Financial Services Software Limited

The contingency plan should be drawn to cover those functions critical to the business of the AMC. The contingency plan should contain personnel lists (organization chart, distribution list, authorizers of emergency measures, succession list and alternate account managers ,brokers list,agency details and client details), action plans, contact names and addresses and contingency planning documentation.

8.4 Software Errors Outside Normal Working Hours

In case of a problem arising outside normal working hours, e.g. during the EOD, BOD, which includes dividend payment if any, allotment procedures, price declaration, etc., the following is the recommended emergency procedure:

- The Systems Administrator or the back-up person should be summoned if not already available on the premises. No action should be taken until the Systems Administrator or the back-up person arrives.
- The Fund Manager of the AMC should be informed about the matter.
- If the problem has occurred earlier and if the method of resolution is known, it should be applied (all occurrences of problems and their resolution should be entered in the Data Center software logbook). The Systems Administrator should ensure that the program overlay and the statement number are exactly the same as in the logbook.

- The Fund Manager of the AMC and the Internal Control Head or a member of the trustees board may be asked to come to the AMC main office to allow the Systems Administrator to enter in the SUPERVISOR mode and correct the problem.
- If the Fund Manager of the AMC is not available, the Systems Administrator should contact the respective back-ups to gain access to the supervisor mode. Secret passwords to the supervisor mode are supposed to be available with the Systems Administrator who in turn would rectify the problem logging into the system.
- If the error happens for the first time and the AMC has a technical person for FCISmaintenance, the Systems Administrator should consult the person, identify the bug and fix it as per procedure. If this is not possible, Oracle Financial Services Software Limited should be contacted for instructions. Normally the bug should be fixed by the on site by any person authorised by Oracle Financial Services Software Limited or should be fixed in the service center.
- If the error happens for the first time and the AMC has a maintenance and support agreement with Oracle Financial Services Software Limited the Systems Administrator should report/handle the problem as per the support procedure in the support Manual. The AMC should take action as per the instructions of Oracle Financial Services Software Limited.
- In all cases, details of the events (error description, communications with Oracle Financial Services Software Limited, etc. should be carefully noted in the Logbook of the Data Center and reviewed by the Internal Control Unit.

8.5 Contingency Plan Distribution List

The recommended contingency plan distribution list is as follows.

- The Senior Management of the Agencies.
- The Manager of the Data Center and the Systems Administrator of the AMC
- The Audit Division of the AMC.
- The Fund Manager of the AMC.
- The Control Head of the AMC and the trustees.

The contingency plan distribution list should be finalized by the senior management or the main trustees of the AMC.

8.6 Persons That Can Authorize Emergency Measures

A list should be prepared, giving the following information about the officers who can authorize emergency measures.

- Name and function of the officer i.e the person should be a senior officer of the AMC or a member of the trustee board.
- Telephone extension number in the office
- Direct telephone number (if available) in the office
- Residential telephone number

8.7 Contact Points in Case of Hardware and Software Problems

The following information for contact points in the event of Hardware and Software Problems should be listed:

- Name address of the Organization to be contacted
- Contact person, office telephone number and residential telephone numbers
- GCN/FAX/Telex numbers of the Branch or Organization
- Port Numbers of the Oracle Financial Services Software Limited Support division
- Dialing codes for the country

8.8 Potential for Exposure and Containment Measures

The Contingency Plan should clearly describe the safety, preventive and containment measures. It should include guidelines and the procedure to be followed in case of an emergency related to FCIS.

8.8.1 Hardware Failure

Hardware failure can be caused by the following situations:

- Failure of the Main machine
- Failure of the Back-up machine
- Failure of the Main and Back-up machines
- Failure of the Disk Drive
- Failure of a Terminal
- Failure of the Remote Branch terminal
- Failure of the Remote Branch communication or Modem
- Failure of the Printer

Containment Measures

Main machine failure

When failure of the main machine has an immediate effect on the processing, the following steps should be taken:

- The Manager of the Data Center should inform the user departments about the situation and the time required to switch on the back-up system.
- The matter should be reported to the Fund Manager and the trustees of the AMC.
- The Manager of the Data Center should establish the cause of the problem before switching on the Back-up system.
- The Manager of the Data Center should connect all the workstations and peripherals to the back-up system and inform all the departments.
- Contact the local dealers for immediate repair.

- Record all information about the problem in the Trouble Report Log,. The details to be included are nature of the problem, time of occurrence and name of the person reporting the problem. The time of contacting the Customer Engineer and the arrival of the Customer Engineer should also be recorded.
- If the repairs are expected to extend to beyond a point where the AMC's business is hampered a back up (PRE EOD) should be operational and the Agencies notified about the problem with the possible time which will be taken to for repairs of the system with reference to online and offline branches.

Back-up machine failure

If the back-up machine is inoperative, the situation does not affect the normal operations, but it requires immediate repair to avoid a complete breakdown. The following steps should be carried out:

- The Senior Fund Manager and the trustees of the fund should be apprised of the situation. Since the failure of the back-up machine does not disrupt the normal operations, it is not necessary to inform the user departments.
- Contact the local dealers for immediate repair.
- Enter all relevant information about the problem in the Trouble Report Log,. The details should include the nature of the problem, the time of occurrence and the name of the person who reported the problem. The time of contacting the Customer Engineer and the arrival of the Customer Engineer should also be recorded.

Failure of Main and Back-up Machines

The failure of both the Main and the Back-up machines is considered an unlikely event. The stationery required for manual operations, should be stored off-site. In such a situation the following steps should be taken:

- The Manager of the Data Center should inform all the user departments of the situation.
- Report to the Senior Fund Manager of the AMC.
- Contact the local dealers for immediate repair.
- Record all relevant information in the Trouble Report Log. The details should include the nature of the problem, the time of occurrence and the name of the person who reported it. The time of contacting the Customer Engineer and the arrival of the Customer Engineer should also be recorded.
- After consultation with the Customer Engineer, determine the time required to get at least one machine running.

Disk Drive Failure

Main Machine Disk Drive Failure

This does not constitute a critical issue. If the disk fails the processing should be switched on to the backup machine as per the recommended procedure described above in Main machine failure. The main machine equipment should be repaired/replaced immediately.

Backup Machine Disk Drive failure

Although there is no impact on the operation when the disk drive fails on the backup machine, urgent repairs/replacements must be ensured in order to bring the probability of general system failure back to the desired level.

Both Main and Backup machines Disk Drive failure

Failure of both Main and Backup machines Disk Drives constitutes a critical situation and is considered an unlikely event. Should the situation arise the branch should follow the recommended procedure described above in situation where both main and backup machine failure occurs simultaneously.



If the disk drive on the main machine is physically scratched or damaged by any means, the latest backup tape should be loaded on the backup machine and re-input or re-processing has to be done.

Terminal Failure

Any malfunctioning terminal can be replaced by the Data Center staff or Hardware Engineer with an available terminal. The failure of one or more is not critical to Branch operations. The recommended steps to be followed in case of terminal failure are given below:

- Any malfunction of a terminal should be notified to the Data Center Manager who should perform first level of trouble shooting.
- The terminal should be repaired or replaced by the local vendors as soon as possible.

Remote Branch Terminal failure

Any malfunctioning remote branch terminal should be repaired or replaced by the Hardware Engineer with the available terminal at the branch. The failure of one or more terminals is not critical to remote Branch operations if some remote terminals are in working order. The recommended steps to be followed in case of failure of all the remote terminals, are given below:

- Any malfunction of terminal should be notified to the Hardware Engineer.
- The terminal should be repaired or replaced by the local vendors as soon as possible.
- The transactions should be transmitted to the AMC by telex/phone or FAX in the case of both online and off line branches. The AMC should be responsible for smooth operation after receipt of transactions and the fund manager in the AMC should also inform the REG about the developments.

Remote Branch Communications/Modem

If the communications or modem between the main system and remote branch fails, it automatically cut off the hardware in use in the branch. The recommended steps to be followed in case of communications/modem failure are given below:

- Contact the local communications expert to check communication line and for modem check.
- If the line/modem is fixed, continue the normal process after the refresh is completed.
- If not fixed, the senior officer in the agency branch should decide to telephone the AMC and inform the fund manager and try to communicate the transactions through fax or telephone till such time the system is up.s.
- For modem failures, backup modem may be arranged from local vendors. Another VSAT network could be made as a stand by but it depends on the financial capacity of the agency. The above mentioned VSAT network should connect the AMC, the agencies and the Registrar

Printer failure

Any malfunctioning printer can be replaced by Data Center staff/Hardware Engineer with available printer. The failure of one or more printers is not critical to AMC and Agency operations. The printers can be used as back-ups for each other without any adverse effects. The recommended steps to be followed in case of printer failure are as follows:

- Any malfunction of printer should be notified to the Data Center Manager who should perform first level of trouble shooting.
- The printer should be repaired or replaced by the local vendors as soon as possible.

8.8.2 Software Failure

Software failure can be caused by the following situations.

- Database/Files Damage.
- FCIS Software Damage.
- FCIS Software Bug.

The recommended steps to be followed in the above cases are:

- The Data Center Manager should inform all the user departments of the situation and the expected time for correction.
- Report to the Senior Branch Operations Manager and the fund manager in the AMC.
- The Data Center Manager should inform the Systems Administrator..
- If the Branch has a maintenance and support agreement with Oracle Financial Services Software Limited then the Systems Administrator should report/handle the problem as per the support procedure in the support Manual. The AMC should take action as per Oracle Financial Services Software Limited's instructions.
- On the Trouble Report Log, a record should be made of the time the problem occurred, problem description with file names/program names etc., for further investigation and action taken.

8.8.3 Utilities Failure

Utilities failures can be caused by the following situations: power supply failure and variation in Power supply/Temperature/Humidity.

8.8.3.1 Power supply Failure

- The recommended steps to be followed in case of a power supply failure are as follows :
- If advanced warning of power failure is announced Data Center Manager should make alternative arrangements.
- The Data Center Manager should contact technicians.
- Power off all the machines.
- Report to Fund Manager the agencies and the REG

When the power is restored a refresh is needed for the system to start again. If power is off to such an extent that the AMC operations are hampered alternate arrangements like Gensets should be arranged so atleast the online branches are accessed.

Variation of Power supply/Temperature/Humidity

The recommended steps to be followed in case of a variation in power supply/Temperature/Humidity are as follows:

- The Data Center Manager should contact technicians.
- Power off all the machines.
- Report to FundManager.

If variation in power/temperature/humidity is off to such an extent that the AMC operations are hampered alternate arrangements like Gensets, stabilisers should be arranged so atleast the online branches are accessed.

9. Post Implementation Review

Business entities who have implemented the FCIS system and have gone "live" are recommended to conduct a post implementation review along with Oracle Financial Services Software Limited Software Quality Assurance (SQA) team, to ensure that all the components in implementing the new system have been followed. The review process aims to provide AMC and Oracle Financial Services Software Limited a framework to improve future FCIS implementation.

9.1 Post Implementation Review - Overview

The post implementation review section describes the guidelines and criteria to be used in a post implementation review, which will be conducted by a team of AMC personnel along with the SQA team from Oracle Financial Services Software Limited. The thrust of this review is to ensure that the implementation process, as defined in the Implementation Manual has been followed, audit/control issues have been adhered, and how the next implementation can be improved. Relevant feedback from this review will be incorporated into the implementation manual and would be used for future implementations.

The review will focus on the methodology used in implementing FCIS mapping actual facts against planned activities and potential risks.

- Security and Control.
- Database Integrity.
- Training.
- Conversion
- Live Operations.

The review process should be conducted by the following personnel from the AMC and the SQA team from Oracle Financial Services Software Limited:

- Fund Manager.
- System Administrator.
- Senior Officer from the Agency branch.
- Senior Officer from the Registrar
- Data center supervisor or Data Center Manager
- SQA team from Oracle Financial Services Software Limited

9.2 Post Implementation Review Guidelines

Deviations

For any deviations identified, have the deviations been:

- Approved by the business unit head.
- Concurred with the Audit division

System Environment

Main and Backup systems

- Are both systems in sync?
- Do both systems have proper access controls on all directories?
- Is any system found with Software without licenses?
- Is Anti PC Virus kit installed on both systems?
- Is the branch satisfied with system performance?
- Is there a need for H/W Enhancement to improve system performance?

Project Management

During the implementation, have the following activities taken place:

- Regular Status reporting.
- Minutes of management review meeting documented.
- Approval and acceptance by business unit head for deliverables.

Controls

Have the following been completed and implemented:

- Contingency Plan. Staff at the AMC are aware of contingency procedures, reports to be used in system is not available for than a day due to Hardware or Software problems.
- Data Centre Flow charts for daily Pre EOD,EOD and BODand surprise basis verification of controls.
- Input and authorization of database changes and items verified by System Administrator regularly.
- Procedures on client servicing have been finalized and are being followed.
- Various FCIS Reports are checked regularly and are fully understood by the users.
- Control checks on daily Price and dividend payment are done regularly.
- Software release control procedures have been finalized.
- Internal Control Unit's knowledge on controls on implementing new releases and controls needed is good.
- Support procedures have been finalized.
- Support trial run conducted?
- Support trial run signed-off?
- Is Oracle Financial Services Software Limited able to provide support to branch in case of emergency via remote access?
- Is branch able to contact Oracle Financial Services Software Limited via telephone, FAX or modem, to provide support in case of emergency?
- Authorizer for in each area for each product has been identified?
- Control check on Password file is done regularly.
- File retention periods have been finalized and documented.
- People are well trained on PC viruses and prevention, containment procedures are in place.
- All coding sheets for Database are filed
- Is Internal Control Unit department aware of maintaining separation of duties on system and FCIS.

Assigning passwords on the system

- System ID's
- Review of protocol list
- Review of reasons and procedure to go on supervisor mode.
- Getting the checksums of software release and independent review of program on system.

Database Setup

During the branch static database setup, have the following procedures been followed:

- Are database coding sheets filed?
- Is Maintenance control report printed and checked by the users?
- Any corrections in the database done by writing a program (Mickey) is approved by the unit division head.
- Database setup is done in the proper controlled Environment.
- Database setup sign-off is obtained.

FCIS Software

During the implementation if the software has been modified either due to a bug or changed requirements, have the following procedures been followed?

- Are System Problem Report (SPR) or System Requirement Form (SRF) filed?
- Is software modification is done in separate development area?
- Have the proper software modification procedures been followed?
- Has the modification sign-off been obtained from users?
- Is there any software modification or Enhancement required due to changed requirement yet to be completed by Oracle Financial Services Software Limited?
- Any follow-up action suggested?

System Trial Run

- Has the AMC and Agencies branch users done the system trial run before actual financial conversion.
- System Trial run plan prepared.
- System Trial run results are documented.
- System Trial run sign-off obtained.

Workflows

Is the AMC back office familiar with checking reports of FCIS with relation to the reports that were generated before FCIS was installed and results verified.

Audit Issues

- Has the System Documentation been provided to the AMC and the Agencies.
- Has the Project documentation been filed?
- Has the formal FCIS System handover note been given to the branch management.

- Has the formal FCIS delivery document been given to the branch management.
- Do the support procedures are clearly defined?
- Has FCIS system and implementation sign-off been obtained from the branch?

Has Training been completed for the following?

- FMG at the AMC levels.
- AGY module at the various online and offline branches.
- REG module at Registrars.

System Administration Issues FCIS environment

- Is the System administrator familiar with the complete system hardware structure?
- Does the System administrator know how to move the equipment from one place to another?
- Is the System administrator familiar with the PVM program, the Data Base path setting, and terminal parameters setting?

System environment

- Is the administrator familiar with defining system users
- Is the administrator familiar with the concepts of directories, sub-directories and file attributes?

Support environment

- Is the administrator familiar with the use of PC-Anywhere, Netware Access Server?
- Do the support procedures are clearly defined?
- Does the administrator know whom to contact in case of trouble (phone numbers, names, chat numbers)?
- In case the administrator receives an urgent program modifications, does he know how to apply them and what rules to follow?

Releases

- Are all the release procedures well defined and understood by the administrator?
- Does the administrator know the procedure to install the new software release on the production machine.

10. Implementation Sign-Off

10.1 The Sign-Off Procedure

After the Oracle FLEXCUBE Investor Servicing system starts functioning smoothly in the branch and all outstanding issues have been addressed to the satisfaction of the branch staff, the system is ready to go live. At this stage, it is the responsibility of the Oracle Financial Services implementation team to prepare a DELIVERY DOCUMENT which addresses various topics that the Data Centre Manager, Internal Control Unit Head and the Senior Branch Operations Officer of the branch must be aware of, in order to run the system smoothly thereafter.

The Oracle FLEXCUBE Investor Servicing Delivery Document is the definitive specification of the complete Oracle FLEXCUBE Investor Servicing system at the specific installation site.

This document will be the reference document that details the initial set-up of the branch Oracle FLEXCUBE Investor Servicing and will be used by the Internal Control Head and the auditors of the branch to check the integrity of the system at any later date and check whether the system is being operated as per procedures laid down.

This document will be updated whenever any changes are made to the system. These changes include all program changes, upgradation to a new version of Oracle FLEXCUBE Investor Servicing, any changes in basic parameters, products, product level parameters and procedure.

The Internal Control department following the instructions in the Control Manual can verify the system integrity using this document and subsequent release documents.

The contents of Delivery Document cover the entire software area of Oracle FLEXCUBE Investor Servicing, Operating System and Third Party products.

This document contains the following:

A cover sheet specifying the branch at which installation has been carried out, date of installation and the names of all Oracle Financial Services implementation team members.

The specific hardware and software environments at the time of implementation sign-off giving details of the version of operating system, third-party software, Oracle FLEXCUBE Investor Servicing software. Mention should also be made of the versions to which the branch can upgrade without having to cross-check with Oracle Financial Services (formerly i-flex).

A list of all volumes set up on the hard-disk, including their size and a full list of all directories and sub-directories created on the volumes.

A description of each sub-directory contents, including a statement of whether it contains programs, data files or a combination of both, which users have access rights to it, the types of accesses they have to the directories and their contents who is responsible for maintaining its contents, and who is responsible for checking software integrity.

For each sub-directory that contains Oracle FLEXCUBE Investor Servicing programs, a complete list of all programs, together with their checksums. This report should give the checksums' values at the time of software installation, as well as at the time of going live and highlight the changes that have been carried out.

For each sub-directory that contains data files, a list of files on the sub-directory, where this is possible, or else the naming convention of the files is to be given. The contents of the test /trial database should also be included.

The listings of Configfile log in scripts, REGEDIT. The user profiles under Oracle FLEXCUBE Investor Servicing, as at the time of going live should also be included.

For workstations with hard disks, a list of software on the hard disk that is needed to run the Oracle FLEXCUBE Investor Servicing system (for instance, Anti-virus software) should be listed.

The document must clearly spell out all the static set-up, basic parameter set-up, product level set-ups done during initial database design and input.

Special operational work-flow, procedures, work-around methodology, if any suggested, should be documented.

The document must also state all the contractual obligations that have been met like customization, training, documentation supplied and any other issues like meeting specific performance criteria etc. If any issues are pending, these must be mentioned along with probable dates of completion.

Details of Oracle Financial Services maintenance support details including the contact persons, telephone, telex, GTN and Fax details should be listed. The contact details for third-party software should also be given so that the branch can contact them directly, if required.

This document must be signed-off by the concerned branch officer (Data Center Manager / Internal Control Head / Senior Branch Operations Officer) and approved by the audit team of the branch. Copies of the document must be sent to Oracle Financial Services (formerly i-flex) office in Bangalore.