CubeIQ
Project Management Methodology Handbook

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Contents

1 Introduction

The primary objective of the Project Handbook is to help people operate the project management process successfully in CIQ.

Its aims are:

- To simplify the task of ensuring all areas of a project are considered and planned at the right stage, across the spectrum of different projects.
- To enable all managers and staff to understand the rationale of projects, so that they help rather than hinder the Project Manager with his or her task.

This manual emphasizes activities (requirement analysis and project planning) and gives ways of ensuring that a project's status and forecasts are more visible to management throughout the project.

In conclusion, the Project Handbook is a ready reference and index for Project Managers and all staff involved in projects, in order to ensure success through knowledge of the process and use of sound management's methods.

1.1 Definition of a Project

A project is a unique venture that has a beginning and an end, carried out by people to meet a specific set of objectives within the parameters of schedule, cost, and quality.

1.2 Definition of Project Management

Project Management is a set of processes, systems, and techniques for effective planning and control of projects and programs.

1.3 Purpose of Project Management

This process is required so that there are no misconceptions as to what the Client requires and that it will involve input from Sales, Project Management, Development, Support, and the Client.

1.4 Project Methodology

Project Methodology is an orderly arrangement of guidelines, procedures, standards, and techniques for systems development projects. Methodology enables us to complete projects on time within budget and to deliver a high quality, cost effective product. The methodology also allows us to measure and evaluate performance against projections, so that adjustments can be made to future projects with even greater accuracy and predictability.

Methodology consists of a system development life cycle divided into the following, eight phases that can be modified according to the guidelines:

- Feasibility study;
- Requirement phase - Business User/Client Functional Requirements;
- Project definition;
- System design;
- Core & application development;
- Integration & system test;
- Implementation;

- User acceptance;
- Maintenance support.

2 CIQ Project Control Methodologies

This section describes how CIQ structures and manages a project, and explains how CIQ looks at the project setup structure.

2.1 Project Structure

The project must be professionally managed to ensure:

- Requirements are fully defined and captured in a specification;
- Prototyping is successfully concluded meeting user needs;
- The solution is designed and developed to fulfil the agreed-to specification;
- Acceptance criteria are fully defined and agreed-to;
- Delivery and installation schedules are timely and cause minimal disruption to normal business;
- Appropriate training and support are in place;
- The Client is fully aware of and involved with project progress;
- Effective change control procedure is implemented.

A pre-requisite for appropriate training is that the Client should have in place the necessary resources to enable the post implementation "go live" as well as the continued processing thereafter.

It is fundamental to the success of a project that the correct Project Structure is set up both within the Client and CIQ. The correct communication, responsibilities, documentation, and procedures need to be agreed upon by both companies at the earliest stage.

CIQ's Project Manager is in place with total responsibility within the CIQ organization for all matters associated with the project. The Project Manager's task will be to work with the Client to set up the project structure in order that a positive and understood method of working can be achieved, allowing both parts to work as a team.

2.2 Project Management Methodology

CIQ's project management methodology is based on a team working philosophy. It defines a set of disciplines and standards which integrate the process of project management, engineering, organization, and quality assurance.

CIQ project teams utilize common standards known as CIQ Project Management Methodology (PMM). PMM is designed as a generic 'life cycle' model and defines a project in phases. The model allows for a set of deliverables to be tailored for each phase. Each phase has a review process involving all members of the project team (including the Client's project personnel).

Further benefits of the phased approach are that phase exit criteria are pre-defined to ensure transition between phases occurs in a controlled manner. This allows for formal reviews of the business, user, and technical requirements during the project, in addition to those driven by changes to the Requirements specifications and associated contract.

CIQ Project Methodology is based on a single project plan produced from the Requirements Specification by the project team. If no specification is defined, one must be created. The project plan forms a contract between all parties involved in the project. It is a live document, which always reflects the Requirements Specification. The plan is directed by the Project Manager.

PMM also incorporates Change Control. All requests for changes to the Requirements Specification and for additional activities not covered by the Project Plan and resulting work statement will be addressed through and by the CIQ Project Manager. A rigorous and strict Change Control Process will be implemented and administered by the Project Manager.

2.3 Client Interfaces

The total solution delivery will be the responsibility of the CIQ Project Manager with assistance and support from the Client's Project Manager. The principal interface between CIQ and the Client will be between the CIQ Project Manager and the Client's Project Manager except when CIQ is not the prime contractor. The strategic direction of the project should come from the forums listed below. The purpose of these forums is to ensure that the appropriate communication takes place and the authority to change plans is clearly defined and to form a solid partnership. Every meeting at all levels must be documented.

2.4 Review Meetings

2.4.1 Joint Review Board

This board should consist of one Senior Manager of the Client and a Senior CIQ Manager. It should meet every two to four months, depending on the length of the project, to review progress.

2.4.2 Project Steering Committee

This committee will be chaired by the Client, but will comprise a representative from CIQ as well as from the Client.

- Responsibility: The function of the Committee is to periodically review the project and to provide a formal channel of authority and guidance to the project. It should consist of Senior Managers representing the two companies, together with their sub-contractors as necessary. Project Manager's/leaders shouldn't be part of the steering committee but should report to it.
- The make-up of this team will typically be as follows:
  - Senior Client Managers
  - Senior CIQ Manager

2.4.3 Project Team Review Meeting

This group should be chaired by the Client Project Manager, and take place on at least a bi-weekly basis. Its principal task is to review progress on a day-to-day basis. Issues which arise and are not resolved should be escalated to the Steering committee. This should be a forum for the key project team members from both the Client and CIQ, and provide the main project tool for the day to day management of the project.

Typical attendees are:

- Client Project Manager
- CIQ Project Manager
- Client core Project Team members, e.g.
  - IT representative
  - User department Representative
  - Training Representative
- CIQ Core Project Team Members

NOTE: Every meeting must be documented.

2.5 Responsibilities

2.5.1 CIQ Project Manager

The CIQ Project Manager is responsible for the management of all project implementation issues. The CIQ Project Manager will be the primary interface between the Client and CIQ and its sub-contractors. The CIQ Project Manager's responsibilities include:

- Directing and co-ordinating all required resources;
- Being the primary interface with the Client;
- Preparing and updating plans;
- Maintaining project configuration control;
- Organizing and maintaining project files/library;
- Completing thorough testing of all software development;
- Ensuring that CIQ procedures and methodologies are applied and that excellent standards of quality are maintained;
- Defining corrective measures when and where required;
- Applying and managing strict change control procedures;
- Managing any sub-contractors.

The above list is not intended to be exhaustive but should provide a clear indication of the role of the Project Manager and the scope of Project Management services which will be delivered on the projects.

A more complete definition of the Project Manager's testing responsibilities can be found in the CIQ Testing Methodology.

2.5.2 Client Project Manager

The Client Project Manager is the single point of contact for the solution within the Client's organization. Typically, the responsibilities of the Client Project Manager are as follows:

- Produce the internal project plan;
- Approve the project documents;
- Report on project status regularly;
- Ensure user procedures are in place for system use;
- Ensure training is provided to the system users in accordance with the contract;
- Ensure that the contractual items to be provided are available on schedule and to the agreed-to level of quality;
- Form the acceptance committee to accept and develop the acceptance test plan criteria for the acceptance testing;
- Ensure with CIQ that plans are in place to have a smooth transition from the current system to the new system;
- Escalate any contractual issues or problems to the Project Team or the appropriate Client and CIQ management;
- Ensure that the proposed resolution of any issues or problems is approved.

2.6 Sub-Contractors Project Activities

The sub-contractor will report to the CIQ Project Manager. The most important planning exercise to ensure successful implementation is the Analysis and Functional Requirement Specification, conducted in the first phase of the project in conjunction with the Client's project team. The information obtained from this review activity establishes the foundation for most of the remaining project activities including hardware environment, product and system parameter set-up, operational impact and transition considerations, and most importantly, training. Sub-contractor deliverables should be defined as part of contractual obligations with payments tied to milestones.

2.7 CIQ as Sub-Contractor

The CIQ Project Manager will report to the Prime Contractor's Project Manager. The most important planning exercise to ensure the successful implementation is the Analysis and Functional Requirement Specification, conducted in the first phase of the project in conjunction with the prime contractor's project team. The information obtained from this review activity establishes the foundation for most of the remaining project activities including hardware environment, product and system parameter set-up, operational impact and transition considerations, and most importantly, training. CIQ deliverables should be defined as part of contractual obligations with payments tied to milestones.

3 CIQ Project Methodology

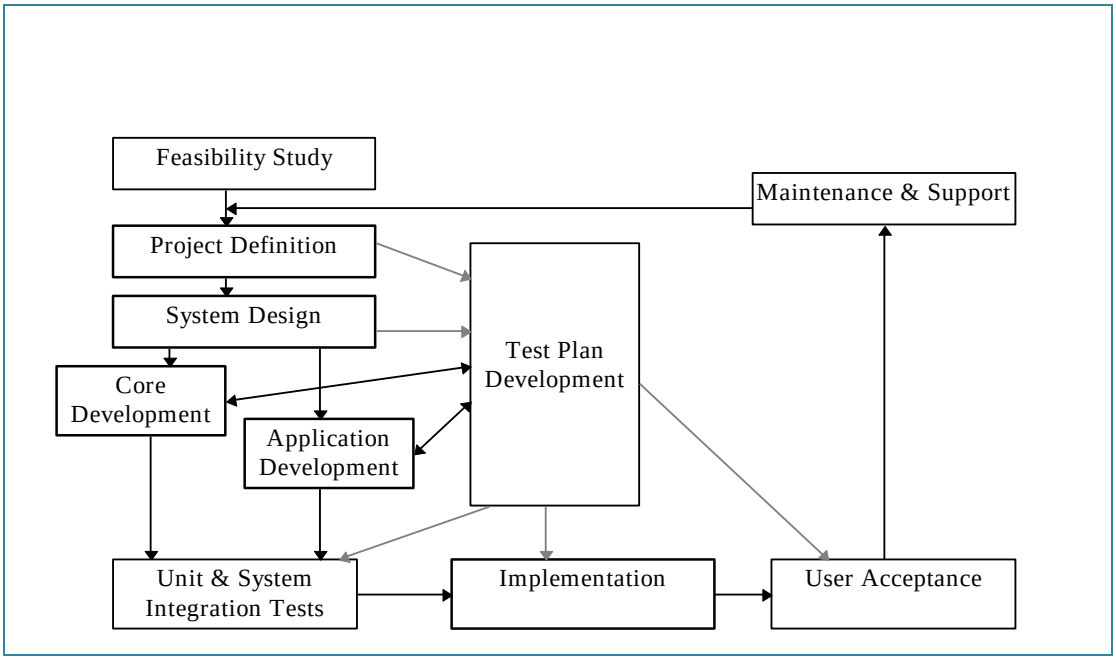
This section forms the overview on how the PMM is structured. First, an overview of the basic process introduces key terminology and explains the different stages of a project. Each stage is then expanded to show which sections of the handbook relate to it. This is followed by an introduction to producing project documentation, explaining each aspect of a project down to the optimum level of detail.

3.1 Phased Implementation

CIQ uses a phased implementation approach. The benefits of a phased approach are that phased entry and exit criteria are defined to ensure transition between phases occurs in a controlled manner. This allows for formal reviews of the business, user, and technical requirements during the project.

CIQ project teams work to common standards, known as CIQ Project Methodology (PMM). PMM is designed as a generic life cycle model and defines a project in eight phases. The model allows for a set of deliverables to be tailored for each phase. Each phase has a review process involving all members of the project team. CIQ has designed their Project Methodology (PMM) from the oldest paradigm for software engineering called the classic life-cycle model. Some modifications have been done to suit CIQ' particular environment.

3.2 The PMM model



3.3 Feasibility study

This is the process of assessing whether meeting a Client need is viable. The main outputs of this stage are:

- Decision whether to bid;
- Win strategy;
- Bid management plan;
- Return on investment.

3.4 Project definition

The objective of this stage is to define in detail what has to be produced, what standards and work practices should be used to produce it, and what methods to use to ensure that the end solution conforms to requirements. The main deliverables are:

- User Requirement Review sign off;
- Technical Requirement Specification;
- Bid document and contract;
- Capital and operational expenditure;
- Functional Requirement Specification;
- Master Test Strategy (see CIQ Testing Methodology for more details);
- Project plan.

3.5 System Design

The objective of this stage is to break down the requirement into detailed components and to identify which components belong to Infrastructure Development and which components belong to Applications Development. But the principle is always to specify the decomposition and method of integration and verification. The key outputs are:

- List of components split into infrastructure and application;
- Project plan (fine tuning);
- Integration specification;
- Requirements and interface specification for each module;
- Resource planning;
- Design Review sign offs;
- Detailed unit test plans.

3.6 Core Development

This stage can have any number of levels, depending on the size and complexity of the project, what forms of development are involved, and so on. Output from this sub-phase is the process of turning the project design into tested modules using a unit testing process, ready for full integration and system testing.

3.7 Application Development

This stage can have any number of levels, depending on the size and complexity of the project, what forms of development are involved, and so on. Output from this sub-phase is the process of turning the project design into tested modules using a unit test process, ready for full integration and system testing.

3.8 Integration & System Testing

This is the action, planned at the project design stage, of successively combining the implemented modules from the Core and Application development into sub-systems that eventually form the final system in order to test it. Depending on the complexity of the project's software, the standard System Integration and User Acceptance testing may be enhanced by Operability Testing, Production Parallels, or Pilot Testing. (See CIQ Testing Methodology for more details).

3.9 Implementation

This is the process of implementing the developed system at the Client site. The output of this stage is the system as specified in the technical requirement specification ready for the Client's User Acceptance Test.

3.10 User Acceptance

User Acceptance is the stage at which the whole solution is made to demonstrate its conformance to the original requirement by passing the acceptance specification, usually by means of a field trial or Client User Acceptance Tests.

3.11 Maintenance & Support

This is the process of correcting a system in the field and applying minor enhancements. Project Managers carry a responsibility to ensure that the system they deliver may be easily maintained, that the maintenance is economic and profitable, and that maintenance skills are transferred. At the time a Client goes live (User Acceptance), the maintenance of the project is the responsibility of the Support department.

3.12 Exploitation

Although this step is not included in the diagram, it is a step that should coexist with the maintenance step in assessing the return on investment viability of the projects (internal and external). Developments from internal projects are considered as potential sources of revenue.

4 Feasibility Study

This is the process by which opportunities are described and reviewed. The process aims at providing sufficient information about business needs, product needs, technical capability, availability of resources, cost of project start-up or bid, and design possibilities, so that you can make an informed investment decision about whether to continue to project definition (initiation).

Before starting the feasibility study, one must understand the type of project that CIQ is undertaking. The project can be divided into two categories (internal or external).

Internal projects consist of the following:

- Porting to other platforms;
- Development of new products;
- Enhancements of base products;
- Development of client-specific interfaces.

Porting to other platforms: a project were the current products are being ported over to another platform. e.g. porting product-XXX from UNIX to Microsoft NT.

Development of new products: a project were a new product is developed e.g. home banking.

Enhancements of base products: a project were the current system is enhanced with the latest industry technology/or product modification.

Development of client-specific interfaces: a project where a client interface is developed so that the switch can interface to the Client's host system.

External projects consists of the following

- New Project
- Replacement Project
- Strategic Project

New project: a client that currently does not have any EFT solutions in place.

Replacement project: clients that have some form of EFT solution today.

Strategic project: projects where CIQ has been chosen as the platform for EFT.

4.1 The Route through the Feasibility Study

This section deals with developing the first estimates of the project's content.

4.2 Goal

The objective of this stage in a project is to analyze a Client's needs or market opportunity which will lead to an informed decision on investment for detailed planning. The process involves the continual evaluation and selection of bidding opportunities from sales leads and the articulation of the invitation to tender.

4.3 Requirements

The steps to providing a clear opportunity analysis are as follows:

- Understand the Client's needs and encapsulate them in a clear and simple written statement;

- Work out the feasibility of all proposed solutions;
- Provide management with the likely scope, costs, and dimensions of the project, as well as a detailed plan for proposal activities;
- Identify a flexible initial project organization;
- Produce a high level requirements definition.

4.3.1 Inputs

- Business requirements

4.3.2 Deliverables

The following is a list of the deliverables that should come out of the feasibility study

- Bid plan;
- Outline functional requirements specification;
- Hardware sizing and configuration recommendations;
- Effort estimates;
- Required resources plan.

Process activities by deliverable:

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Bid Plan	SM	RFP		
BRS	SM, PM, DD, DI			
Outline functional requirement spec.	PM	BRS		PM, BA, SA
Hardware sizing & Configuration recommendations	PM	Current capacity	Requirement	PM
Effort Estimates	PM	Outline functional requirement spec.		PM, DD, DI
Required Resources	PM	Effort Estimation		PM, DD

5 Project Definition (Start-Up)

Having agreed that the project appears to be viable, you must gauge its size by taking into consideration the requirements and associated risks and factors relating to project organization such as staffing, planning, training and documentation. At the end of this stage, you must have carried out sufficiently detailed estimating and planning so that you can commit to the plan, or else business approval must have been gained prior to the proposal submission. A contract award should then follow for projects.

Within the project definition it is important to obtain and define a functional requirement specification. This process is required so that there are no misconceptions as to what the Client requires.

5.1 The Route through Projects Definition (Start-Up)

This chapter deals with the complete evaluation of all project activities to produce a proposal for the Client for acceptance.

5.2 Goal

The two objectives of this stage are:

- To complete the planning and Functional Requirement Specification, concentrating on the financial, resource, timescale, and deliverables within the project;
- To produce a comprehensive set of documentation, forming a complete proposal, which will lead to a winning bid.

5.3 Requirements

The steps to achieving these goals are:

- Define the solutions requirements in detail;
- Generate a win strategy for bidding;
- Generate a project plan proposal agreed-to by the Project Manager, Marketing, Development, and all outside parties upon whom a dependency has been placed;
- Ensure that the project documentation is updated to contain project plan information;
- Define the appropriate project organization, including the definition of its internal and external interface.

5.4 Tools

CIQ uses a number of tools in the project definition phase, one of which is the Technical Implementation Prerequisites Questionnaire (see appendix A). The questionnaire, together with a site visit, are the baseline tools that are used to create the Technical Requirement Specification. A typical agenda for the site visit includes the following elements (for details see appendix C):

I. Initiate phase;
II. Establish project team;
III. Conduct team orientation;

IV. Establish methodologies;
V. Identify and schedule interviews;
VI. Refine detailed project work plan;
VII. Identify organization mission, goals, and critical success factors;
VIII. Conduct senior management interview;
II. Define detailed User Requirement Specification/ Functional Requirements Specification;
X. Define goals and critical success factors;
XI. Review current operational work-flow procedures;
XII. Obtain preliminary operational work information;
XIII. Analyze information;
XIV. Operational information needs definition;
XV. Conduct operating management interviews;
XVI. Profile the current information system environment;
XVII. Review existing applications;
XVIII. Review information systems resources;
XIX. Develop high-level strategic implementation plan;
XX. Develop high-level tactical implementation plan.

During the process of the project the following documentation techniques are used:

1) **Day Book (Diary)** to keep track of what happens day by day in the project;
2) **Minutes of Meetings** every meeting between the project teams must be documented with an action plan when required. Appendix B shows a sample of a Minutes of Meetings;
3) In managing the resource, each team member will keep track of their time used on the project;
4) A list of CIQ resources that will visit Client's sites and their tasks;
5) **Project Folder** with the following table of contents:
   - Contract;
   - Resources;
   - Project Plan;
   - Master Test Strategy;
   - Minutes of Meetings & Action Plan;
   - Correspondence;
   - Implementation Plan Specifications;
   - Implementation prerequisites Questionnaire.

5.5 Inputs

- Bid Plan
- Outline functional requirements specification.
- Hardware Sizing and Configuration recommendations
- Required Resources
- Effort Estimates

5.6 Deliverables

The technical requirement specification that will have been established must at a minimum contain these deliverables:

- Technical Requirement Specification;
- Resource plan;
- Project plan;
- Maintenance plan;
- Development plan;
- Master test strategy;
- Acceptance plan;
- Change control procedures;
- Contracts;
- Payment milestones.

Process Activities by deliverable:

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Technical Requirement Specification	PM	Business Requirements		
Bid Plan				
Outline FRS		PM, BA, SA		
Resource plan	PM	TRS		PM, DD, DI
Project plan	PM	Resource Plan		
TRS and FRS		PM, DI, DD		
Maintenance Plan	PM	TRS, FRS, Project Plan		PM, SM
Development Plan	PM	TRS		PM, DD
Master Test Strategy	PM	TRS		PM, DI, QM
Test Plan	PM	Master Test Strategy		PM, QM
Acceptance plan	PM	BRS, FRS		PM, QM
Change Control Procedures	PM			PM
Contracts	PM			PM, FM
Payment milestones	PM			PM, FM

5.7 Project Managers task

The key project management activities at this phase are:

- Estimating;
- Planning;
- Controlling;
- Managing contracts;
- Implementing Change Request Method;

- Assumptions.

All of the above are from the detailed project plan. By definition, the project plan is the top level document that draws together ALL aspects of the project life cycle. It combines all the activities required so that the interaction, knock on, and trade off effects can be seen. It also acts as a directory for all the detailed supporting plans.

5.8 Estimating Activities

There are always two sets of estimating activities in a project:

- Base estimate;
- Contingency estimates.

Base estimates relate to the resources needed to carry out a planned activity, such as people, materials, facilities, and time. Estimates are always subject to a degree of uncertainty which depends on the efficiency of the estimate process. This means that the base estimate could be affected by the following factors:

- Accuracy in estimating the number of transactions;
- Accuracy in classifying transactions according to complexity;
- Accuracy in predicting resource availability;
- Range of productivity—transactions per man-week, lines of code per man-week etc;
- Relevance of previous estimates;
- Efficiency of development or test environment.

Contingency estimates are the quantities of resource (including time) that should be allocated in order to deal with risks. The key point to remember here is that contingency estimates must be as a rule of thumb very specific.

5.9 Building up a Schedule

You need to estimate every aspect of a project that can affect the final outcome. Specifically, you need to consider the following points:

- The effort involved in each activity;
- The cost of everything relating to the project;
- The probability and impact of each risk;
- Any contingency;

Each estimate must be documented and re-estimated regularly. Each assumption must be itemized and recorded with the estimate.

5.10 Detailed Project Plan

5.10.1 Process

5.10.1.1 1. Introduction

The document should begin with the reason why the project is being undertaken and an outline description of the solution and the tasks involved. The plan must show all the dependencies and all the expected deliverables, including training, service, Support, testing, and user documentation. The overall schedule must clearly show the

top level milestones for each project activity, indicating how their end-dates are integrated into the master plan. The plan must clearly identify all essential reviews.

5.10.1.2 2. Project Documentation Planning

The depth of documentation for any project will depend upon its size and complexity. Wherever possible the roadmap should be presented on a single sheet of paper, referring to detailed plans as appropriate. For small projects, it may be possible to include all plans in the same project plan document, while for medium-sized projects, the total set of plans may be condensed.

5.10.1.3 3. Guide to producing the level of project documentation

It is not easy deciding how much and to what level you need to produce project documentation. The requirements may vary according to each project, but the minimum acceptable is a project plan that encompasses all the planning described in the section called Project Documentation Plan later in this document.

The decision on what level of project documentation is required should be based upon:

- The balance of the documentation control overhead: large numbers of documents versus large numbers of change control requests on a specific document;
- The specific complexity of any one area of planning;
- Who is to write the plan(s);
- The dispersion of the project across locations;
- The phase splits,—the acquisition, software, hardware;
- Ease of use.

5.10.1.4 4. Contents of a project plan

The contents of any project plan will typically contain all or some of the following:

- Project Document Control Process:
  - Contents
  - Changes from previous issue
  - Changes forecast
  - Document Cross references
  - Terminology
  - Terms and abbreviations
- General Requirements
  - Introduction
  - Scope
- Objectives
  - Define Requirements
  - Specification
  - Quantities and timescales
  - Target Costs
  - Business Plan
- Product(s)
  - Development
  - Design reviews
  - Milestones including program milestones
  - Dependencies
  - Risk areas and unplanned aspects

    - Professional services and training
    - Assumptions
    - Supporting plans
- Resources
    - Manpower (responsibility assignment matrix)
    - Capital Equipment
    - Development services
    - Support
    - Funding
- Validation
    - Responsibilities
    - Planned Testing
    - Certification
- Project Documentation to be produced:
    - Specifications
    - Functional
    - Implementation
    - Validation and product test procedures
    - Marketing/Sales (if required)
    - Client
    - Client services
    - Professional services
- Business Case
    - Lifecycle costs (including phase costs)
    - Risk analysis
    - Opportunities
    - Profit and loss statements

In referring to any Support plans, the project plan should clearly indicate who is responsible for each supporting plan. Typical examples of some of the Support plans are :

- Development plan and module development plan;
- Resource Plan;
- Service Plans;
- Feasibility study;
- Master Test Strategy;
- Integration Plan;
- Acceptance Plan;
- User Documentation Plan;
- User Training Plan.

The plan should also must establish a baseline for risk assessments including a clear statement of risk, analyzed into items assessed in terms of probability and potential impact. There should also be details of the actions planned to reduce the risk, together with responsibilities. The risk should be added into the profit and loss statement.

Wherever possible the use of a computerized tool will aid in the update and development of the project plan. (MS Project is the standard CIQ tool).

5.11 Key Project Management Activities

5.12 Estimating

The need to estimate for every aspect of a project that can affect its final outcome is crucial when planning a project. One needs specifically to consider the following points.

- The effort involved in each activity or network of activities;
- The cost of everything related to the project;
- A contingency for each base estimate;
- The probability and impact of each risk;
- Each estimate must be produced by a recorded method;
- Each estimate must be recorded and re-estimated regularly;
- Each reviewed estimate (forecast) must be derived by the same method as the original estimate;
- Each assumption must be itemized and recorded with the estimate, for example: level of sickness, number of non productive man days per person.

5.13 Planning

Planning is the activity of defining:

- What should be done;
- Who should do it;
- When it should be done by;
- How it should be done;
- What resources should be used.

One of the key requirements to successful planning is accurate estimating, through breaking projects down into small easily understood components while ensuring that all relevant aspects of the project are identified.

5.13.1 Control

Control refers to the process of monitoring, controlling, and evolving the plans through to implementation. The methods necessary for this are baseline management, configuration management, and communication mechanisms such as progress reporting, problem logging, review meetings, and team meetings.

The goals of project control are to ensure that at all times:

- There is one definitive course for all project records;
- Each project process has sufficient records to validate its operation and to corroborate estimates of further work within it;
- Each estimate has an available history, has contingency included, and is considered realistic by the associated parties;
- The plan accurately and unambiguously describes the proposed course of action to achieve the objective. The plan is also evidence that the concerns or perceived difficulties (risks) have been properly addressed;

- No activity is started unless all the preconditions mapped out in its specification have been met.

Note: Certain of the plans/documents may not be pertinent to all projects.

5.14 Outlining Implementation Plan

5.14.1.1 1. Cover Memo for sign-off (Client, technology manager, etc.)

5.14.1.2 2. Overview

- Nature of project.
- Contents of the project plan (list of the different sections of the plan).
- Background, components, etc.

5.14.1.3 3. Objective, Scope and Impact of the Project

5.14.1.4 4. Project Schedule (General)

- Requirements Analysis
- Requirement walk through
- Requirements review & sign off
- Master test strategy
- Master test strategy review
- Logical design
- Logical design reviews
- Physical design
- Physical design reviews
- Unit test plans
- Unit test plan review
- Coding
- Code walk through (inspection)
- Unit test execution
- System integration test plan
- System integration test review
- System integration test execution
- User acceptance test plan
- User acceptance test review
- Training
- User acceptance test execution
- Cutover

(Must be a link to the overall phases of Project life cycle and the SDLC).

5.14.1.5 5. Project Team Organization and Responsibilities

- Make sure you identify back-ups for the leaders.

5.14.1.6 6. Master Test Strategy

The Master Test Strategy describes the testing approach for the project at a high level. It should be prepared in the Requirements phase and completed by the project team or the Quality Assurance department for infrastructure development. Its purpose is to:

- Describe the scope, approach, resources, and schedule, at a high level;
- Identify the major tasks and the personnel responsible for each task, the test tools to be used, and the risks associated with the plan;
- Specify the levels of testing required and the general approach used for each level;
- Obtain commitment from involved parties to perform specified responsibilities.

(See CIQ Testing Methodology for more details)

5.14.1.7 7. Acceptance Criteria

- Describes the service level requirements and performance requirements.

5.14.1.8 8. Change Control Plan

- Defines the kinds of changes to be controlled and the mechanisms for effecting the control.

5.14.1.9 9. Project Documentation Plan

- List of project documents that will be generated, plus the distribution and filing. (Any documentation needs of the Client, specific to the product being delivered, should be part of the user requirements. Development of any such documents should be included as tasks in the project plan, with input and coordination from the Documentation Team Leader)

5.14.1.10 10. Review and Reporting Plans

- Describes how the project status will be communicated and how and when mgt. reviews must be secured.

5.14.1.11 11. Installation Plan

5.15 Outline of Project Milestones

The following is a list of some of the major milestones that can be detected in a project plan. Each project is different so the milestones can differ from project to project.

- Requirements gathering, review and sign off;
- Technical Requirement Specifications (TRS);
- Functional Requirement Specifications (FRS);
- Feedback on Functional Requirement Specifications;
- Acceptance criteria received from the Client;
- Preliminary project plan;
- Final project plan;
- Status project (every week);
- Project reviews (pre-defined);
- Cut-off for implementation requirements;
- Design phase & reviews;
- Unit test planning and reviews;
- Coding;
- Unit test execution;
- System test plan preparation;

- System test plan execution;
- User Acceptance Test planning & execution;
- Parallel run;
- Training and technology transfers;
- Equipment ordering;
- Equipment delivery;
- S/W ordering;
- S/W delivery;
- Installation;
- Checkpoints.

6 Project Design + Build (Evolution)

This phase encompasses all the levels of design, integration, implementation, and component testing to verify that each system meets its requirements in a controlled environment. Financial targets and milestones help you to monitor progress and refine time and cost estimates, so that you can use the project plans to make necessary decisions and judgments.

From the beginning of this stage until you withdraw development support, all of the components (design, software, hardware, service materials, user and project documentation, and so on) must be configuration managed, and each change to any component should be approved by the relevant authority. A Unit Test Plan and System Integration Test plan should also be produced.

6.1 The Route through Project Design

This chapter describes the implementation of the plans agreed-to for bid success, up to the point where deliverables are ready to be trailed or installed in the field.

The purpose is to complete the high level design.

6.2 Goal

The objectives of this stage are development completion and initial verification according to the procedures laid down in the Master Test Strategy and Project Level Test Plans, to the point where all deliverables are available externally. The result is a full set of release certifications.

6.3 Requirements

The steps in this stage are as follows:

- Execute the project plan, maintaining baseline control;
- Monitor actual costs and progress against estimates and ensure conformance to the plan;
- Regularly update management on the investment still needed;
- Manage risks, updating the project and program plans as information becomes available, including replanning as needed;
- Complete design reviews for complex and large developments or products;
- Complete system testing and acceptance review;
- Manage Client dependencies with particular reference to site surveys, availability, access, supply of facilities, and services.

6.4 Logical Design

The objectives of this stage are to describe conceptually how the system will work, regardless of the physical implementation on a hardware platform and operating system.

6.4.1 Inputs

- TRS.
- Project plan.
- Effort Estimate.
- Test Plan.

- RBT test cases.

6.4.2 Deliverables

- Data Model
- Data Flow Diagrams
- Test Plan (Updated)
- RBT test cases (Updated)
- Project Plan (Updated)
- Application Prototyping (if applicable)

Process Activities by deliverable:

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Data Model	PM	Data Model		
TRS				
Effort Estimate		PM, BA		
Data Flow Diagram	PM	Revised Data Model		
Data Flow Diagrams				
TRS.				
Effort Estimates		PM, BA		
Prototype	PM			PM, BA, PTeam
Requirement Based Test test cases (RBT)	PM	RBT test cases		
Data Flow Diagrams				
Data Model		PM, QM		
Test plan	PM			PM, QM
Project Plan	PM	Project Plan		
All phase deliverables		PM		
Phase Sign-Off	PM	All phase deliverables		PM

6.5 Physical Design

The objectives of this stage are to translate design entities into a physical description of system components.

6.5.1 Inputs

- Data Model
- Data Flow Diagrams
- Test Plan
- RBT test cases
- Project Plan

6.5.2 Deliverables

- FRS
- Test Plan (Updated)
- RBT test cases (Updated)

- Project Plan (Updated)
- Application Prototyping (if applicable)
- Development Plan (Core or Application)

Process Activities by deliverable:

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Physical Database Definition	PM	Data Model		
Functional Requirements Specification	PM	Data Model		
Data Flow Diagrams				
Requirement Based Test test cases (RBT)	PM	RBT test cases		
Data Flow Diagrams				
Data Model		QM		
Test plan	PM	Effort Estimate		
Development plan		QM		
Project Plan	PM	All phase deliverables	Update project plan based on logical design tasks.	
Development Plan	PM			PM, DD
Phase Sign-Off	PM	All phase deliverables		

6.6 Development Core & Application

The objectives of this stage are to translate design entities into a physical description of system components.

6.6.1 Inputs

- FRS
- Coding Standards

6.6.2 Deliverables

- Software
- Program Execution Documentation
- Inspections Worksheets
- Unit Test Cases
- Unit Test Cases Deferred
- Unit Test Case Results
- Sign off
- Developers Integration Test Environment

Process Activities by deliverable

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Software Inspection Worksheets	PM	Data Model		
Program Execution Documentation and User Guides	PM	Data Model		
Data Flow Diagrams				
Unit Test Cases	PM	RBT test cases		
Data Flow Diagrams				
Data Model		Q/A Manager		
Unit Test Cases Deferred	PM	Effort Estimate		
Development plan				
Unit Test Results	PM	All phase deliverables	Update project plan based on logical design tasks.	
Phase Sign-Off	PM	All phase deliverables	Hold Sign off meeting.	
Developers Integration Test Environment	PM	Sign off		

7 System Integration Test

This phase encompasses all the levels of design, integration, implementation, and component testing to verify that each system meets its requirement in a controlled environment. Financial targets and milestones help you monitor progress and refine time and cost estimates, so that you can use the project plans to make necessary decisions and judgments. A variety of testing techniques are used in System Integration Testing.

Test cases and scripts should be prepared during the development stage and completed before integration testing begins. They should be arranged in execution sequence, with expected results clearly defined.

In integration testing, various tools are used, such as:

- Internal CIQ simulators;
- Internal CIQ ATMs and POS terminals;
- Product-XXX simulators;
- Product-XXX Reporting (Standard & Customized);
- Simulated Host Systems;
- MasterCard Automated Test System (MATS);
- VisaNet Test System (VTS).

(See CIQ Testing Methodology for more details)

7.1 Goal

The objective of this stage is to test the system and verify that the design, construction, and physical configuration meet the required performance criteria and the functionality specified by the Business Requirements.

Functionality testing should include on-line transaction validation, logging, reporting, settlement, and any other special processing.

Volume, stress, and performance testing should be assessed within the limitations of the environment.

Operability testing should be conducted as part of the functionality testing, and independently, when necessary.

User documentation should be used, and thus verified, in the performance of the tests.

If the physical environment can support it, (usually by connecting to Client's actual hosts or devices), formal certification of the external networks can occur here.

7.2 Inputs

- BRS, TRS, FRS
- System Integration Test Plan
- Deferred Unit Test cases

7.3 Deliverables

- Test Plan Execution and Completion Report
- Test Plan Sign off
- Test Scripts
- Test Database
- Test Results

- Sign off
- Quality Assurance Test Environment

Process Activities by deliverable:

Deliverables	Responsibility	Prerequisites/Inputs	Process steps	Participants
Test Plan	PM	BRS, TRS, FRS	Finalize Test Plan/Strategy	
Test Plan Sign off	PM	Test Plan	Obtain sign-offs	
Test Scripts	PM	Simulators Syntax Doc Test Plan	Develop test scripts	
Review test scripts				
Test Databases	QM	Test plan sign-off		
Sign off Previous Phase	Generate Test Database			
Test Results	PM	Test Database		
Test Scripts				
Sign off	PM	Release Information		
Quality Assurance Test Environment	PM	Sign off	Sign off Integration Test Phase	

8 Implementation

This phase encompasses all the levels implementation and component testing to verify that each system meets its requirement in a controlled environment.

8.1 Goal

The objective of this stage is to ensure that all pre-requisites for actual system implementation are complete, signed-off, and in place in order to effect and support implementation.

8.1.1 Inputs

- Business Requirements
- Technical Requirement Specification.
- Release Information
- Operational Procedure
- Users Guide
- Project Plan
- Test Completion Reports

8.1.2 Deliverables

- Project Plan (updated)
- Technical Requirement Specification (verified against actual system)
- Functional Requirement Specification (verified against actual system)
- Release Information (verified against actual system)
- Operational Procedure (verified against actual system)
- Release Information (verified against actual system)
- Implementation signify (verified against actual system)

Process Activities by deliverable:

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
Project Plan (updated)	Project Manager	Project Plan		
TRS				
Release Information Operational Procedure				
Users Guide	Project Manager	TRS, FRS		
Release Information				
Operational Procedure				
Users Guide				
Implementation	Project	Production		

Deliverables	Responsibility	Prerequisites /Inputs	Process steps	Participants
sign off	Manager	Environment		

9 User Acceptance

Acceptance is a two-phased process:

1. Internal—to QA standards (System Integration Testing);
2. External—to meet Client requirement.

For any product development to be released, it must go through acceptance. This is the process of commissioning and hand over. It involves ensuring that:

- All aspects of the products function together to meet the requirements;
- All approvals are in place.

You may need to implement a field trial plan and monitor the project up to general release or Client acceptance.

9.1 The Route through Acceptance

This chapter covers the formal and final proving of the solution before it is approved for Client acceptance.

9.2 Goal

The aim is to establish Support and service and complete the previously-agreed-to acceptance testing to achieve Client acceptance and payment

9.3 Requirements

The steps in achieving acceptance are to:

- Obtain the Client's acceptance that the solution conforms to requirements;
- Inform management regularly on the forward investment still required, especially for post-acceptance support activities;
- Establish a project organization appropriate to the acceptance and post-acceptance stages.

9.3.1 Inputs

- Completion Report from System Integration Testing
- Project Plan (updated)
- User Acceptance Test Plan (updated)
- Technical Requirement Specification (verified against actual system)
- Release Information (verified against actual system)
- Operational Procedure (verified against actual system)
- Release Information (verified against actual system)
- Implementation sign off (verified against actual system)

9.3.2 Deliverables

- Acceptance Certificate (AC)

This document must define the Client's requirements and have a section which requires the authorized Client signatures as well as the authorized CIQ signatures. The AC is normally designed to meet each phase completion or the milestones defined in the contractual obligation. This document is of critical importance in the life cycle of a project since in most cases payment is tied to acceptance.

Process activities by deliverable:

Deliverables	**Responsibility**	**Prerequisites/In-puts**	**Process steps**	**Participants**
Acceptance Certificate	Project Manager	Implementation sign off		

10 Maintenance & Support

Maintenance & Support is the process that analyses all of the system and network level verification and performance test results from the initial Client pilot system. This review ensures that all known product and process defects are corrected before the next project.

10.1 The Route through Maintenance and Support

This chapter covers the maintenance & support of the solution.

10.2 Goal

The aim is to provide maintenance, support, and service.

10.3 Deliverables

The steps in achieving maintenance are:

- 7 x 24 Support

10.4 Project Manager's Responsibility

The Project Manager is responsible for the project through the maintenance period. All problems and change requests have to go through the Project Manager. The tasks are as follows:

- See that the Support personnel is trained on the project specifics;
- Fill in change request forms and follow up on them with Client;
- Fill in incident request forms and direct them to Support and provide the Support department with the necessary resources from the project team;
- Hand over responsibility to the Support department when the maintenance period is over.

10.5 Support of "Going Live" Sites

A plan has to be developed by the Project Manager to transfer the knowledge to the Support department on a new site going live.

Within the plan the following issues should be covered:

1. Before the site goes live, the developers will be given a set of forms requesting information about the site. The form will be given by the Support department, about a month before the site is scheduled to go live so they will have ample time to fill them in and return them to Support.
2. Support will send a introduction letter to the site, describing our services, etc.
3. Before the site goes live (e.g. acceptance test period) all SPRs should be reported to the Support group and resolution tracked in the SIS database; however, it will continue to be the developers who resolve the problems.
4. Key developers for the site will be requested to provide a presentation about the site (about an hour long) to the Support group.

5. Developers will be expected to be available 100% when a site goes live. During this period, they must gradually include Support personnel in order to transfer the knowledge.

11 Project Documentation Plan

The requirements for project documentation vary according to each project, but the minimum acceptable is a project plan that encompasses all the planning and the provision of input to a project plan.

The decision on what level of documentation is required should be based upon:

The balance of the documentation's control overhead;

- What information the Client is expecting to see;
- The specific complexity of any one area of planning;
- Who is to review and sign off the plans;
- The dispersion of the project across sites;
- Ease of use.

The documentation plan identifies and defines the documents needed to:

- Plan and control the project;
- Specify the requirements;
- Define the project's methods, tools, environment, and procedures;
- Record the evolving design and development.

The plan must therefore give the author of each document the clearest possible rules and guidelines on:

- Scope;
- Purpose;
- Content;
- Format;
- Numbering;
- Distribution;
- Issuing authority and change control.

The broad contents list of the plan should be:

- Scope;
- Related documents;
- Documentation structure;
- Documentation definition;
- Document control procedure.

It is important to realize that the Project Documentation Plan does not include the process of accessing and defining the Client's documentation needs to operate and control the intended solution. The Client's documentation needs should be addressed as part of the Requirements Definition. If the standard CIQ documentation does not meet the user's needs, then the CIQ Documentation Team Leader should be involved in accessing, defining, and scheduling the additional user documentation. Those activities should be included in the Project Plan, just like all other activities required to deliver the total solution.

12 Problem Management

Problem Management is fundamentally little different from the normal project management process. The aim of any problem management exercise is to realign the project with its plans.

The essential point to focus on is that the project process remains the same. Re-estimating and re-planning are usually required, often under great pressure, but the normal project management process and techniques apply. The specific techniques you should use include the following:

- Red alert procedure;
- Corrective action process, for dealing with unexpected events or problem areas;
- Escalation and reporting;
- Re-planning;
- Auditing.

13 Quality Assurance

Within the project implementation, there are two significant and distinct aspects of quality:

- Quality of the software produced and Implemented;
- Quality of the project implementation process and delivery.

The quality of the software itself is defined and verified according to the CIQ Testing Methodology. Each project must follow that process to ensure the quality of the software. Project Managers must be familiar with and follow the defined process. (See CIQ Testing Methodology for complete details.)

In addition, the Project Manager is responsible for the overall quality of the Project implementation process and delivery to the customer. All of the controls and processes described in this handbook relate to the quality of the project itself. In addition to following this process, Project Managers may wish to create a Project Quality Plan, which gathers and documents these processes and adds unique features or controls relevant to the project.

13.1 Quality Plan

13.1.1.1 Definition

The quality plan defines the set of processes, procedures and standards to be used in the project, along with the measures and reviews required and the bodies/persons responsible for each process.

13.1.1.2 Purpose

To ensure the entire project is well defined and controlled.

13.1.1.3 Process

The quality plan is produced at the start of the product/series/development stage in the project life cycle. The quality plan defines the requirements for:

1. External and project specific standards
   - Reference to all relevant standards to be employed for documentation, installation, site layout etc.
   - Generic or project specific codes of practice such as
     - program and file name conventions
     - common data and interface conventions
     - document publication, circulation and update
     - local standards
     - ISO9000
2. Organization and proposal for project reviews
3. Schedule of Reviews
4. Project Audit Criteria and Schedule
5. Authorization matrix;
   - organization responsibilities for producing and authorizing all project items
6. Reporting
   - The format and content for producing and authorizing all project items

7. Procurement Aspects
    - Acceptable quality levels of "bought in" components / products / services.
    - Vendor assessments

A template for a quality plan would normally include

- CIQ Testing Methodology
- General Policies
    - Quality targets specific to the project
    - External standards specific to the project
    - Internal standards specific to the project
    - Reliability
    - Project Documentation change control
- Business Policies
    - Product specification documents
    - Phase reviews
    - Quality measurements specific to the project
- Vendor Policies
    - General
    - Requirements
    - Specification
    - Vendor approval

The quality plan should consider the following specifically (where applicable)

- Procurement process
- Documentation
- Standards
- Reliability
- Phase review
- Review methods
- Product validation
- Vendor appraisal
- Document change control

14 Configuration Management

Configuration management is for managing deliverables. Configuration management should:

- Have information on the status of each component in the system under development;
- Capture all change requests and analyze, rework and follow them up;
- Understand the impact of changing any component;
- Control the building and release of systems, ensure minimum turn round times, be precisely aware of where each component, build and release is and what version of smaller components they contain.

There are four areas of configuration management that need to be addressed:

- Baseline management;
- Change control management;
- Source code management;
- Release management.

14.1 Baseline Management

Baseline Management is to manage and establish baselines for deliverables, and to implement version control of all items between them.

For example, the elements of a Functional Requirements Specification have been documented and reviewed. Errors are found and corrected. Once all parts of the specification have been reviewed, corrected, and approved, the Functional Requirements Specification becomes a baseline. Further changes to the program architecture (contained in the Functional Requirements Specification) can be made only CIQer each has been evaluated and approved.

The following Software Change Items become the target for configuration management and form a set of baselines:

- Business Requirement Specification;
- Technical Requirement Specification;
- Logical Design;
- Physical Design;
- Functional Requirement Specification;
- Project Plan;
- Master Test Strategy;
- System Integration Plan;
- Test Plan;
- Executable program;
- User Documentation;
- Maintenance Documents.

14.2 Change Control Management

This is the process by which the decision to change an item is made and which ensures the complete progression of all change requests to implement corrective actions to remove bugs.

14.2.1 Objectives of Change Control

The objective of change control is to avoid discrepancies between documents and deliverables from different phases. Whenever changes to any deliverable would introduce discrepancies to previous work products, they need to be changed to reflect those changes and preserve a consistent set of documents. This requires change control. Strict change control keeps the complexity of the system manageable, increases reliability and correctness, and keeps previous documents useful.

14.2.2 Using Change Control

The CIQ change request form is to be filled in to propose any changes. Some proposed changes may be turned down as they may affect qualitative aspects rather than functional ones.

In cases of successive versions, dealing with the change should be made part of the actions for the next version, and/or the necessary adjustments to the project schedule, resources, etc.

14.2.3 CIQ Change Control Procedures

CIQ is dependent on operating an efficient change control procedure and the timely response to change requests from the Client. All requests and approvals for changes will be made via CIQ. Only by using such a formal change procedure can the project be controlled. See Appendix D for the Site Request Change Form.

14.3 Source Code Management

This process allows you to monitor and control software movement throughout the project's life cycle. (As of Version 2 of this document, it is recognized that a more complete and general Source Code Management process is needed for CIQ as a whole. Until that effort is fully implemented, it the responsibility of the Project Manager to control software movement within their project.)

14.4 Release Management

This process controls the physical release of built systems to Clients, in accordance to the agreed-to schedule, with appropriate CIQ implementation Support, such as release notes, installation procedures, backout procedures, etc. (As of Version 2 of this document, it is recognized that a more complete and general Release Management process is needed for CIQ as a whole. Until that effort is fully implemented, it the responsibility of the Project Manager to control software releases within their project.)

15 Acceptance Criteria

15.1 Acceptance

Acceptance is the stage at which the whole solution and each phase are made to demonstrate their conformance to the requirements by passing the acceptance specification, usually by means of a field trial or Client acceptance test.

Acceptance testing of the solution will be fully defined during the Requirements Phase of the project and agreed-to between both parties. The objectives of the acceptance test are to find discrepancies between the system and its requirements. As part of the contractual documentation a detailed Acceptance Test Specification will be provided.

The Client's personnel will be involved with acceptance procedures and will formally sign a document to denote acceptance of each project deliverable. Acceptance testing is performed during each phase. Areas covered in an acceptance test include:

Area	Explanation
Functionality	All features in requirements.
Quality expectations	Everything applicable from the list of quality areas e.g., performance, reliability, human factors, security, etc.
Environment	Machines, Configurations, interfaces to other systems.
Compatibility	To earlier versions.
Stress Test	Peak loads (short time).
Volume Test	Maximum input (longer time).
Documents	All required, accuracy and correctness.

16 Technology Transfer Process

Objectives of this phase are to define and outline the method which will be used to transfer knowledge from CIQ to the Client.

16.1 Resources

There will be a requirement for two types of resources to enable knowledge transfer to take place.

- System/Business Analyst;
- Programmers.

16.2 The Steps

The first step for the Client's personnel is to attend CIQ training courses. Early in the project life span, the Project Manager will discuss training needs with the Client and the CIQ Training Team Leader to determine the best course of action. Specific courses can then be chosen and scheduled.

The next phase would be that the System/Business Analyst personnel will work with the CIQ design team and help to create both the logical and physical design.

The transfer of knowledge to the programming staff will be approached in the following manner:

1. The programming staff will be allocated in the first instance to the function of unit integration testing. It has been found in the past that this is the best way for any programmer to become familiar with the way in which the application is developed and integrated into the business logic.
2. CIQer the first phase, they will then be allocated non-critical development work. There will be set objectives and reviews will be carried out. This phase would normally be executed in a group, with a specific knowledgeable technical resource allocated to supervise and set the objectives.
3. Once competence is established the group will be broken up and individuals will work with CIQ personnel on a one to one basis.
4. When total competence is assured, they will be allocated to work unsupervised.

16.3 User

It is expected that users will have a basic knowledge of UNIX. A formal user training course will be given. The course outline will follow later.

16.4 User Documentation

Normal technical documentation will be supplied with the application. Early in the project life span, the Project Manager will discuss user documentation needs with the Client and the CIQ Documentation Team Leader to determine the extent, if any, of new use documentation required for the project.

17 Appendix A - Implementation Prerequisites Questionnaire

Appendix A - Implementation Prerequisites Questionnaire as described in this section is applicable to ATMs, POSs Transaction Processing, Card Management, Internet Commerce and Internet Banking Systems.

17.1 General

This questionnaire is to help us better understand your banking environment. It is not possible to gather all the information we may need so it is extremely important that the person who is filling in this questionnaire put their name and telephone number on each page.

1. Name of your bank:	
2. Headquarters Location:	
3. Do you have a bank logo?	☐ Yes ☐ No
4. If YES please provide the following:	☐ Printed copy, if the logo is in color the printed copy must be color. ☐ Machine Readable Bitmap ☐ Camera-ready artwork
5. Do you have a bank ISO number?	☐ Yes ☐ No
6. If YES what is the number?	
7. Number of customers:	
8. Number of branches:	
9. Number of Merchant Accounts:	
10. Number of account balances over $100.00 or equivalent:	
11. Average number of banking transactions per day per account:	
12. Please use the form at the back of this questionnaire for additional branch information and attach it to the end of questionnaire.	
13. What languages are used in your country?	
14. When are you planning to go live?	
15. When do you plan to start implementation?	

In order for us to fully understand the type of system you have we have defined three types of banking systems. The type of system will define the sections that you will need to fill out. What is your system type?

☐	Automated: This is a system that has some of the following: teller machines, a host computer, ATMs, and a network connecting them. Go to Section 1.
☐	Partially Automated: This is a system that has a personal computer that is used in some way. Go to section 11.
☐	Non-automated: This is a system that uses ledgers to keep track of accounts. Go to section 12.

17.2 Section 1—Hardware

1. Is your bank automated?	☐ Yes ☐ No (If NO go to Section 11)
2. What type of hardware system do you have?	
3. What software resides on the Host system?	
4. What type of network does it run on?	
5. What operating system does it use?	
6. Is the system a package that was purchased?	☐ Yes (Answer questions 7,8, and 9) ☐ No (Go to question 10)
7. If Yes, what is the name of the package?	
8. If Yes, what is the name of vendor?	
9. If Yes, what is the name and number of the contact?	
10. If No, what was used to develop it?	
11. What changes are being made to the package?	
12. Do you have the source code?	☐ Yes ☐ No
13. Does it use a database?	☐ Yes (Answer question 14) ☐ No (Go to question 16)
14. If YES what is the name of the database and the name of the Vendor?	
15. Does it use flat files?	☐ Yes ☐ No
16. Has a Stress Test been done on your system?	☐ Yes (Answer question 17) ☐ No (Go to question 18)
17. If YES specify the outcome of the	

test:	
18. Has a Sizing been done on your system?	☐ Yes (Answer question 19) ☐ No (Go to question 20)
19. If YES specify outcome of the sizing:	
20. Do you have any dial-up lines to your computer?	☐ Yes ☐ No
21. Do you have a Functional Specification of your current system?	☐ Yes (Answer question 22 and 23) ☐ No (Go to question 24)
22. If YES who is the contact: person?	
23. If Yes, what is the contact's telephone number?	
24. Do you have a Technical Specification of your current system?	☐ Yes (Answer question 25 and 26) ☐ No (Go to next section)
25. If YES who is the contact person?	
26. If Yes, what is the contact's telephone number?	

17.3 Section 2—Switch

1. Are you currently a member of a switch (VISA, MasterCard, or another electronic system)?	☐ Yes ☐ No (Go to section 3)
2. Is the switch in-house?	☐ Yes (Go to question 7) ☐ No (Answer questions 4-6)
3. If NO, what is the name of the switch:	
4. If no, what is the software used on the switch?	
5. If no, who is the contact person for this software?	
6. What is the contact's telephone number?	
7. Do you support multi institution?	☐ Yes ☐ No
8. Do you support multi region interfaces?	☐ Yes ☐ No
9. Do you support Stand-In processing (STIP)?	☐ Yes ☐ No
10. Does your switch handle settlement and transaction fee calculation?	☐ Yes ☐ No
11. Does your switch handle fee	☐ Yes

reconciliation?	☐ No
12. Does your switch handle national & international settlement by institution or region?	☐ Yes ☐ No
13. Does your switch support transaction routing?	☐ Yes ☐ No
14. Does your switch handle traffic reconciliation?	☐ Yes ☐ No

17.4 Section 3-Cards

1. Do you issue cards?	☐ Yes ☐ No (Go to Section 4)
2. How many digits are in the card number?	☐ 11 ☐ 14 ☐ 16 ☐ 19
3. What is your card number structure?	
4. What is your account number structure?	
5. What is your branch structure number?	
6. How many cards have you issued?	
7. What is the name of your card vendor?	
8. What type of cards are issued?	☐ Magnetic stripe cards ☐ Chip cards
9. What type of debit cards do you have?	☐ Private Label Card ☐ Visa Electron ☐ Visa Plus ☐ MasterCard ☐ Cirrus ☐ Other:
10. Please provide the Track layout of your Debit cards.	

11. How do you handle settlement? Please specify: _____

_____

_____

12. What type of card encoding/embossing system are you using?	
13. Where is the encoding machine connected?	

17.5 Section 4-ATM

1. Do you have ATMs?	☐ Yes ☐ No (Go to Section 5)
2. What is the name of your ATM vendor?	
3. What is (are) the model number(s)?	
4. What is the Software/Firmware Number?	
5. How many ATMs do you have?	
6. Is your ATM connected to the Host computer?	☐ Yes (Answer questions 7-12) ☐ No (If NO go to question 13.)
7. Can you use your ATM off-line?	☐ Yes ☐ No
8. What ATM interface program are you using?	
9. Please provide your Host-ATM interface specification.	
10. What protocol is used?	
11. Are you planning to change the protocol?	☐ Yes (Answer question 12) ☐ No (Go to question 13)
12. If YES, to what protocol?	
13. Are you doing file transfers?	☐ Yes (Answer question 14) ☐ No (Go to question 15)
14. If YES provide message layout.	
15. Are you downloading positive files?	☐ Yes (Answer question 16) ☐ No (Go to question 17)
16. If YES provide message layout:	
17. Are you downloading negative files?	☐ Yes (Answer question 18) ☐ No (Go to question 19)
18. If YES provide message layout:	
19. What message format is used with the ATM?	☐ NDC ☐ PAS ☐ 911

	☐ 912 ☐ Other:
20. Are you planning to change the message format?	☐ Yes (Answer question 21) ☐ No (Go to question 22)
21. If YES, to what format?	
22. Do you charge a fee for transactions?	☐ Yes ☐ No
23. Please provide an ATM Network Diagram.	
24. Please provide your current ATM screen specification.	
25. How do you process your card when the Host is down?	
26. How do you handle settlement?	
27. How do you handle the ATM when it is not on-line? (Store and Forward)	
28. What languages are used in your ATM in addition to your local languages?	
29. How is a language selected?	☐ Screen selection (Go to question 33) ☐ Card selection (Answer question 30) ☐ Network selection (Answer question 31) ☐ Other (Answer question 32)
30. How is the language specified by the card selection?	
31. How is the language specified by the network selection?	
32. Describe how the language is specified if it is by none of the choices listed above:	

17.5.1 ATM Transactions Currently Supported

33. Cash Withdrawal (check as many as apply)	☐ Fast Cash ☐ Current ☐ Savings ☐ Foreign Currency (specify): ☐ Other (specify):
34. What denominations will you dispense?	Cassette 1: Cassette 2: Cassette 3: Cassette 4:
35. Deposit	☐ Cash deposit ☐ Check deposit ☐ To any account
36. Purse	☐ Cash deposit ☐ Check deposit ☐ To any account
37. Utility Payment	☐ Direct Debit ☐ Payment enclosure
38. One card - Multiple Account?	☐ Yes (Answer question 39) ☐ No (Go to question 40)
39. If YES, specify account with suffixes:	
40. One Account - Multiple Card relation?	☐ Yes (Answer question 41) ☐ No (Go to question 42)
41. If YES specify card connect to one account:	
42. Transfer to Account?	☐ To own account ☐ To other account ☐ Other (specify)
43. Balance Inquiry?	☐ Yes ☐ No
44. Check Book Request?	☐ Yes ☐ No
45. Statement Request?	☐ Yes ☐ No
46. Mini Statement - All accounts?	☐ Yes ☐ No
47. Traveler Checks dispensing?	☐ Yes ☐ No

48. Cash Advance VISA and MASTER CARD?	☐ Yes ☐ No
49. Credit Card balance inquiry?	☐ Yes ☐ No
50. Credit Card Mini Statement (Local only)?	☐ Yes ☐ No
51. PIN Changes?	☐ Yes ☐ No
52. Please provide your layout for Client receipt and the journal.	

17.6 Section 5-Point of Service (POS)

1. Do you have POS terminals?	☐ Yes ☐ No (Go to section 6)
2. How many POS do you have?	
3. What type of POS devices do you have?	
4. How are your POSs connected today?	
5. How do you handle POS operation (please specify)?	
6. What protocol is used for the POS?	
7. What message format is used for the POS?	
8. Do you allow Quasi Cash(Cash Back)?	☐ Yes ☐ No
9. Do you support end of day capture as well as authorization capture?	☐ Yes ☐ No
10. Do you support Electronic Data Capturing (EDC)?	☐ Yes ☐ No
11. Which credit cards do you support?	☐ Visa ☐ MasterCard ☐ American Express ☐ Diners Club ☐ Other:

12. What do you support of the following?	☐ On-us transaction routing ☐ Not-on-us transaction routing
13. Do you support PIN PAD at the POS?	☐ Yes ☐ No
14. Do you support reversals?	☐ Yes ☐ No
15. Please provide your POS Network Diagram.	

17.7 Section 6-Credit Card Authorization

1. Do you have credit card authorization?	☐ Yes ☐ No (If NO go to section 7)
2. What type of credit card authorization system do you have?	
3. Where is your credit card authorization system connected?	
4. Which of the following functions does your credit card authorization system support?	☐ Client Application Processing ☐ Client Account Setup/Monitoring ☐ Credit Card Plastics Management ☐ Merchant Maintenance ☐ Manual Sales DrCIQ processing ☐ Merchant Payment Processing ☐ Cardholder Billing ☐ Cardholder Payment Processing ☐ Base I Processing (VISA/Plus Interchange Interface) ☐ Base II Pre and Post-Edit Processing (VISA/Plus Interchange Interface) ☐ System Variables Definition/Maintenance ☐ System Control Administration

17.8 Section 7-PIN Verification Method

1. What PIN verification method are you using?	☐ DES PIN ☐ VISA/ABA ☐ DIEBOLD PIN ☐ Other:
2. Are you planning to change your PIN verification method?	☐ Yes (Answer question 3) ☐ No (Go to question 4)

3. What are you changing your PIN verification method to?	
4. Where do you verify the PIN?	☐ Locally in the ATM ☐ Remotely on the Network
5. What security device are you using?	
6. Are you using PIN Mailers?	☐ Yes (Answer question 7) ☐ No (Go to section 8)
7. If YES provide the Format of the PIN mailer.	

17.9 Section 8-Visa

1. Do you have a VISA card?	☐ Yes ☐ No (If NO go to section 9)
2. Are you processing VISA cards today?	☐ Yes (Answer question 3) ☐ No (Go to question 8)
3. If YES are you doing this in-house:	☐ Yes (Go to question 8) ☐ No (Answer questions 4-7)
4. If NO who is doing this?	
5. How do you interface?	
6. Name of contact?	
7. Contact telephone number?	
8. Are you a VISA issuer?	☐ Yes (Answer question 9) ☐ No (Go to question 10)
9. What VISA cards are you issuing?	
10. Are you a VISA acquirer?	☐ Yes (Answer question 11) ☐ No (Go to question 12)
11. What VISA cards are you acquiring?	
12. Have you applied for a VISA membership?	☐ Yes (Answer question 13) ☐ No (Go to question 14)
13. If YES, when did you apply?	
14. Do you have a VISA Certification Plan?	☐ Yes ☐ No
15. When are your certification dates for Base I & Base II plus VISA cards?	
16. Please provide track layout of your VISA cards.	

17. Please specify your current Bank Identification Number(s):			
Card Type:		BIN Number:	
Card Type:		BIN Number	
Card Type:		BIN Number	
18. Please specify allocated VISA station ID:			
19. Please specify VISA country code:			
20. Please specify VISA currency code:			
21. Check the PIN verification keys that are available	☐ CVV ☐ PVK ☐ ZCMK ☐ IWK ☐ AWK		
22. Please specify the following parameters			
23. Cut off time(end of day)			
24. Stand-In processing on us transaction:			
25. Daily transaction limit per day:			
26. Max. number of transaction per day:			
27. What are you using for interfaces?	☐ MIP (MasterCard) ☐ VAP (VISA)		
28. Where is the MIP or VAP connected?			
29. Which protocol is used to communicate to the MIP or VAP?			
30. Will you be changing the protocol (requiring changes to MIP or VAP parameters):	☐ Yes ☐ No		

17.10 Section 9-MasterCard

1. Do you have a MasterCard card?	☐ Yes ☐ No (If NO go to section 10)
2. Are you processing MasterCard cards today?	☐ Yes (Answer question 3) ☐ No (Go to question 8)
3. If YES are you doing this in-house?	☐ Yes (Go to question 8) ☐ No (Answer questions 4-7)
4. If NO who is doing this?	
5. How do you interface?	

6. Name of contact?	
7. Contact telephone number?	
8. Are you a MasterCard issuer?	☐ Yes (Answer question 9) ☐ No (Go to question 10)
9. What MasterCard cards are you issuing?	
10. Are you a MasterCard acquirer?	☐ Yes (Answer question 11) ☐ No (Go to question 12)
11. What MasterCard cards are you acquiring?	
12. Have you applied for a MasterCard membership?	☐ Yes (Answer question 13) ☐ No (Go to question 14)
13. If YES, when did you apply?	
14. Do you have a MasterCard Certification Plan?	☐ Yes ☐ No
15. Please provide track layout of your MasterCard cards..	

17. Please specify your Interbank Card Association (ICA) numbers:

Card Type:		ICA Number:	
Card Type:		ICA Number	
Card Type:		ICA Number	

18. Please specify allocated MasterCard station ID:	
19. Please specify MasterCard country code:	
20. Please specify MasterCard currency code:	
21. Check the PIN verification keys that are available	☐ CVV ☐ PVK ☐ ZCMK ☐ IWK ☐ AWK
22. Please specify the following parameters	
23. Cut off time(end of day)	
24. Stand-In processing on us transaction:	

25. Daily transaction limit per day:	
26. Max. number of transactions per day:	
27. What are you using for interfaces?	☐ MIP (MasterCard) ☐ VAP (VISA)
28. Where is the MIP or VAP connected?	
29. Which protocol is used to communicate to the MIP or VAP?	
30. Will you be changing the protocol (requiring changes to MIP or VAP parameters):	☐ Yes ☐ No

17.11 Section 10-Other Cards

17.11.1 American Express

1. Do you have American Express today?	☐ Yes ☐ No
2. Are you planning to issue American Express?	☐ Yes ☐ No
3. Are you planning to acquire American Express?	☐ Yes ☐ No

17.11.2 Diners Club

1. Do you have Diners Club today?	☐ Yes ☐ No
2. Are you planning to issue Diners Club?	☐ Yes ☐ No
3. Are you planning to acquire Diners Club?	☐ Yes ☐ No

17.11.3 Japan Credit Bureau (JCB)

1. Do you have JCB today?	☐ Yes ☐ No
2. Are you planning to issue JCB?	☐ Yes ☐ No
3. Are you planning to acquire JCB?	☐ Yes ☐ No

17.12 Section 11-Partially Automated System

1. Do you use a computer?	☐ Yes (Answer question 2) ☐ No (Go to question 5)
2. If YES what kind?	

3. What is the computer used for?	
4. What software do you have:	
5. What type of accounts do you have?	☐ Savings ☐ Checking ☐ Term Deposits ☐ Call Deposits ☐ CDs ☐ Other:
6. What type of transactions do you have?	☐ Deposit ☐ Inquiry ☐ Withdrawal ☐ Other
7. What services do you offer?	

17.13 Section 12-Non-Automated System

1. How do you track account information?	
2. What type of accounts do you have?	☐ Savings ☐ Checking ☐ Term Deposits ☐ Call Deposits ☐ CDs ☐ Other:
3. What type of transactions do you have?	☐ Deposit ☐ Inquiry ☐ Withdrawal ☐ Other:
4. What services do you offer?	

17.13.1 Branch A Information

Branch Name:	
Number of customers:	

Location:	
Is the Branch On-line?	☐ Yes ☐ No
Is there an ATM?	☐ Yes ☐ No
Installation priority:	
Branch ISO Number:	
Number of customers:	
Number of Merchant Accounts:	
Number of account balances over $100.00 or equivalent:	
Average number of banking transactions per day per account:	

17.13.2 Branch B Information

Branch Name:	
Number of customers:	
Location:	
Is the Branch On-line?	☐ Yes ☐ No
Is there an ATM?	☐ Yes ☐ No
Installation priority:	
Branch ISO Number:	
Number of customers:	
Number of Merchant Accounts:	
Number of account balances over $100.00 or equivalent:	
Average number of banking transactions per day per account:	

18 Appendix B: Sample Layout of Meeting Minutes

18.1 Location

Head Office

18.2 Date

Thursday 14 July 2004

18.3 Attendees

Name	Title	Company

As this was the first meeting, the minutes from this meeting will act as the base for further meetings that are hold been the project teams.

Item	Action Required	Responsible	Date
<item title>	<short description>	<name>	<date>
<item title>	<short description>	<name>	<date>
<item title>	<short description>	<name>	<date>
<item title>	<short description>	<name>	<date>
<item title>	<short description>	<name>	<date>

18.4 Next Meeting

The next meeting will be at the head office on Saturday, July 13, 2004 at 3:00 p.m.

19 Appendix C-Requirements Analysis Document

In the requirement phase, CIQ uses the following document for analysis purpose.

19.1 Initiate Phase

19.1.1.1 Participants

CIQ, The Client

19.1.1.2 Discussion

In this task we will finalize the Client project team organization, define roles, initiate project management and control techniques in addition to describing the methodology to the organization's personnel participating in the project.

19.1.1.3 Conclusions

19.1.1.4 Action items

19.1.1.5 Person responsible

19.1.1.6 Deadline

19.2 Establish Project Team

19.2.1.1 Participants

CIQ, The Client

19.2.1.2 Discussion

Identify individual(s) from the major functional areas involved in the project, coordinate interviews, review interim work products, and monitor project progress. The number of Client participants will be determined at project start-up.

19.2.1.3 Conclusions

19.2.1.4 Action items

19.2.1.5 Person responsible

19.2.1.6 Deadline

19.3 Conduct Team Orientation

19.3.1.1 Participants

CIQ, The Client

19.3.1.2 Discussion

We will conduct an orientation with the personnel detailing the methodology.

19.3.1.3 Conclusions

19.3.1.4 Action items

19.3.1.5 Person responsible

19.3.1.6 Deadline

19.4 Establish Methodologies

19.4.1.1 Participants

CIQ, The Client

19.4.1.2 Discussion

Throughout this project, a structured methodology and tools will be utilized to perform required project activities. This methodology and these tools can include: A project management tool, a methodology with which the ATM/POS Network will be implemented.

19.4.1.3 Conclusions

19.4.1.4 Action items

19.4.1.5 Person responsible

19.4.1.6 Deadline

19.5 Identify and Schedule Interviews

19.5.1.1 Participants

CIQ, The Client

19.5.1.2 Discussion

Interview schedules will be defined. This will include the identification of the specific individuals in the organization to be interviewed.

19.5.1.3 Conclusions

19.5.1.4 Action items

19.5.1.5 Person responsible

19.5.1.6 Deadline

19.6 Refine Detailed Project Work Plan

19.6.1.1 Participants

CIQ, The Client

19.6.1.2 Discussion

Our work program will be refined to establish project milestones such as dates for task completion, senior management review, presentation, and report delivery.

19.6.1.3 Conclusions

19.6.1.4 Action items

19.6.1.5 Person responsible

19.6.1.6 Deadline

19.7 Identify Organization Mission, Goals, and Critical Success Factors

19.7.1.1 Participants

CIQ

19.7.1.2 Discussion

The objective of this task will be to identify the business strategies, mission, goals, critical success factors, and information requirements of senior management.

19.7.1.3 Conclusions

19.7.1.4 Action items

19.7.1.5 Person responsible

19.7.1.6 Deadline

19.8 Conduct Senior Management Interview

19.8.1.1 Participants

CIQ, The Client

19.8.1.2 Discussion

The interviews will be documented and the results reviewed with the interviewees prior to incorporating the information into the study. The list of interview questions will be distributed to the interviewees for their review prior to the scheduled meeting. CIQ will assist management during the interview in articulating their needs.

19.8.1.3 Conclusions

19.8.1.4 Action items

19.8.1.5 Person responsible

19.8.1.6 Deadline

19.9 Define Goals and Critical Success Factors

19.9.1.1 Participants

CIQ

19.9.1.2 Discussion

Based on the senior management interview, the mission, goals, priorities, and critical success factors (CSF's) for the organization as a whole and for each department within the organization will be documented and analyzed.

19.9.1.3 Conclusions

19.9.1.4 Action items

19.9.1.5 Person responsible

19.9.1.6 Deadline

19.10 Review Current Operational Work-Flow Procedures

19.10.1.1 Participants

CIQ

19.10.1.2 Discussion

The objective of this task is to identify current operational procedures to acquire an understanding of the Client's day-to-day operational work processes to serve as the blueprint during the operation re-engineering strategy development.

19.10.1.3 Conclusions

19.10.1.4 Action items

19.10.1.5 Person responsible

19.10.1.6 Deadline

19.11 Obtain Preliminary Operational Work Information

19.11.1.1 Participants

CIQ, The Client

19.11.1.2 Discussion

19.11.1.3 Conclusions

19.11.1.4 Action items

19.11.1.5 Person responsible

19.11.1.6 Deadline

19.12 Analyze Information

19.12.1.1 Participants

CIQ

19.12.1.2 Discussion

19.12.1.3 Conclusions

19.12.1.4 Action items

19.12.1.5 Person responsible

19.12.1.6 Deadline

19.13 Operational Information Needs Definition

19.13.1.1 Participants

CIQ

19.13.1.2 Discussion

The objectives of this task are to define the information needs of operating management.

19.13.1.3 Conclusions

19.13.1.4 Action items

19.13.1.5 Person responsible

19.13.1.6 Deadline

19.14 Conduct Operating Management Interviews

19.14.1.1 Participants

CIQ, The Client

19.14.1.2 Discussion

Business functions performed, information needs by function, current uses of information systems support, outstanding information needs and problems.

19.14.1.3 Conclusions

19.14.1.4 Action items

19.14.1.5 Person responsible

19.14.1.6 Deadline

19.15 Profile the Current Information System Environment

19.15.1.1 Participants

CIQ

19.15.1.2 Discussion

The objective of this task will be to inventory the existing automated information systems. This will establish a base-line definition of the current information systems resources upon which future requirements can be planned. Detailed questionnaires will be distributed to the IS Division and the user for completion in order to gather the appropriate data for this activity. Follow-up discussions will be scheduled as required for clarification.

19.15.1.3 Conclusions

19.15.1.4 Action items

19.15.1.5 Person responsible

19.15.1.6 Deadline

19.16 Review Existing Applications

19.16.1.1 Participants

CIQ

19.16.1.2 Discussion

We will review the application systems that are presently installed at the organization. This will involve determining, among others, the following: application functionality, volumes, compatibility and interrelationships with other systems.

19.16.1.3 Conclusions

19.16.1.4 Action items

19.16.1.5 Person responsible

19.16.1.6 Deadline

19.17 Review Information Systems Resources

19.17.1.1 Participants

CIQ, The Client

19.17.1.2 Discussion

In this task we will profile and document the types of equipment and resources currently available to the organization. This will include resources in the organization (such as analyst personnel, office automation, or microcomputer equipment). This will entail the following steps:

Review the organization's IS Environment and its equipment, network, and environment. An inventory of the current equipment, systems, software, communications, and network resources will be developed. Moreover, any changes

planned by the organization over the next several years will be identified and discussed.

19.17.1.3 Conclusions

19.17.1.4 Action items

19.17.1.5 Person responsible

19.17.1.6 Deadline

19.18 Develop High-Level Strategic Implementation Plan

19.18.1.1 Participants

CIQ

19.18.1.2 Discussion

Identified tasks will be arranged into a feasible implementation schedule based on priorities and technical prerequisites as defined by the organization. These tasks will be defined based on implementation time frames and resource estimate prioritization.

19.18.1.3 Conclusions

19.18.1.4 Action items

19.18.1.5 Person responsible

19.18.1.6 Deadline

19.19 Develop High-Level Tactical Implementation Plan

19.19.1.1 Participants

CIQ

19.19.1.2 Discussion

The tasks that are identified in the plan for implementation will serve as the basis for preparing the tactical plan. This task will identify the time frames for individual tasks and major milestones of initial tasks.

19.19.1.3 Conclusions

19.19.1.4 Action items

19.19.1.5 Person responsible

19.19.1.6 Deadline

20 Appendix D-Site Request Change Form

Site Request Form
CubeIQ Ltd.

TYPE: [___] **CASE #:[_____]**
(I)ncident Report, (C)hange Request Assigned by CIQ

DATE: _____ TIME: _____ REF NO: _____ SITE: _____
Local date/time of fax Client Internal Reference # Client Location

SITE CONTACT: _____ PHONE :_____ FAX:_____
Site Person to Contact

INCIDENT REPORT SECTION: (system incident reporting/system queries)

INFORMATION ATTACHED:
☐ syslg ☐ debug ☐ shclog entries ☐ problem description
☐ other _____ ☐ other _____

DETAILS: (please check all appropriate entries)
☐ production emergency that is disruptive to business
☐ system testing incident that will impact live dates or project deadlines
☐ production issues/questions that are not disruptive to business
☐ performance enhancing issues
☐ site testing/installation issues or question
☐ configuration/setup question
☐ request CIQ person for on-site support or training to help resolve issues
☐ other _____

CHANGE REQUEST SECTION: (software changes or new development)

ATTACHED INFORMATION:
☐ specifications of change ☐ business goals to achieve ☐ technical goals to achieve
☐ projected schedule ☐ System performance goals to achieve ☐ acceptance script
☐ other _____ ☐ other _____

DETAILS: (please check all appropriate entries)
☐ new module/service required
☐ existing system module/service changes required: service/module affected:_____
☐ request CIQ to draft specifications based on information faxed
☐ CIQ person requested to be on-site during implementation phase
☐ other _____

PROJECTED DATES:
Expected Delivery: _____ Implementation Testing: **from** _____
Expected Production: _____ **to** _____

DESCRIPTION: (please use for both incident reports and change requests or attach descriptive information)

_____

_____

_____

_____

Please attach all information that is pertinent to the request being made. In general, Incident reports should include a portion of the syslog and possibly portions of debug files and shclog entries. Change requests should contain enough information to fully understand the scope of the change along with projected time lines, business/technical/performance goals. The more information we have the better and more efficiently we can serve you..

21 Appendix E-System Development Life Cycle (SDLC)

21.1 A. Project Initiation

User Request
Project Concept Paper (with sign-off)

- * High Level Requirements
- * Feasibility Study
- Budget/ Cost Justification
- * High-Level Project Plan
- Conversion Plan
- Capacity Planning
- Legal/Regulatory Implications
- Major Expenditure proposal (MEP)
- Audit Requirements Checklist
- * Project Team Organization Chart(with sign-off)
- * Management Approval to proceed.

21.2 B. Prototyping

High Level Local Functional Requirements

21.3 C. Requirements Analysis

Detailed Requirements Document (with sign-off)
TRC Meetings Minutes

21.4 D. Design

Detailed Design Document (with sign-off) URS/FRS
Detailed Project Plan and Master Test Strategy
System Development (or Implementation) Agreement/Specification
Hardware and Software Environment Requirements Document (with sign-off)
Conversion Plan (with sign-off)

21.5 E. Technical Review Committee Walkthrough of Detailed Design

Document
TRC Meetings Minutes

21.6 F. Client Design Review

Revised:
Detailed Design Document
Detailed Project Plan
Signed System Development (or Implementation) Agreement

21.7 G. Programs Construction

Programs conforming with DSC programming standards and Software Management Policy

Program Change Documentation

21.8 H. Unit Test Planning

* System Test Plan (with sign-off)

21.9 I. Unit Testing

* Test Completion Reports (with sign-off)

Technology Management Approval to proceed

21.10 J. Repairs and Adjustments (pre-QA)

Program Change Documentation

21.11 K. System Integration Planning

System Integration planning

Quality Plan

21.12 L. System Integration Testing

Test Completion Report (with sign-off)

QA Management Approval to proceed

21.13 M. Repairs and Adjustments (pre-UAT)

Program Change Documentation

21.14 N. Software Release

Packaged Software

Software Release Inventory Document

21.15 O. User Acceptance Testing

Problems Report

* User Sign-off

21.16 P. Repairs and Adjustments

Program Change Documentation

21.17 Q. Project Documentation

Completed Project Documentation Plan (with sign-off)

Contingency Plans

Cutover Plans

User Training plans

Program Change Documentation

21.18 R. Client User and Technologists Training

21.19 S. Conversion of Data

21.20 T. Parallel Run

Parallel Operations Results
Management Approval to proceed

21.21 U. Cutover

21.22 V. Post Project Critique

* Must saves

22 Appendix F-Change Design Document Table of Contents

CIQ Design Review
We approve the project design document

Design Sign-off Version X.X

_____ Date: _____

Project Manager

_____ Date: _____

Technical Reviewer

test Plan sign-off Version X.X

_____ Date: _____

Project Manager and Q/A Mgr.

22.1 Table of Contents

1. Customer Request
2. Change Objectives
3. Description of Current Problem
4. Description of the Proposed Change
5. Changes Required to product-XXX
   5.1. List of modules affected
   5.2. Description of changes to the module
   5.3. Detail diagram of the modules affected

6. Test Plan
   6.1. Test plan
   6.2. Test Result

7. Estimation
   7.1. Time Estimation for the changes
   7.2. Time Estimation for the test

23 Appendix G-Functional Requirement Specification Process Steps

Create a Functional Requirement Specification (FRS) as outlined in the steps below. The format and contents of the FRS must be agreed-to with the Client at the commencement of the requirement study phase.

Define the Functional Structure and Interrelationships

Define the data specifications

- Data Framework
- Data Inputs
  - Source of data
  - Estimated transaction size
  - Characteristics
  - Screen formats
- Data Outputs
  - Purpose
  - Frequency
  - Contents
  - Specialized format requirements
  - Formats- screen vs. hard copy
- Inter Functional Data Definitions
- Volumes

Define the overall system operational requirements for Normal operation.

- Modes and control
- Performance
- Security
- Start-up and close-down
- Availability
- Built in test
- Failure mode operation
- Error and failure reporting
- Recovery
- Purpose
- Formulae
- Decision criteria
- Applicability
- Assumptions

Functional requirements, should the complexity of the requirement demand it, should be broken down into a number of components. State for each the requirements relating to each of the categories above plus the inputs and outputs. An example of some of these is attached.

Attachment

- Technical Strategy Consideration
  - Strategy conformance

    - Manageability in the networked environment
    - Security
    - Information system conformance
- Constraints
    - Software Design Constraints
    - Software standards and languages
    - Software interfaces
    - Software packages
    - Software communications standards and interfaces
    - Database
    - Operating system
    - Tolerance margins
- Hardware design constraints
    - Requirements and environments
    - Standards
    - Interfaces
    - Tolerance margins
- User design constraints
- Performance Requirements
- Response times
    - Deadlines
    - Peak loads
    - Frequency of Operation
    - Maximum down times
    - Fall back
    - Operating cost constraints
    - Retention
    - Assumptions

The key performance criteria must be highlighted as these will affect the technical design of the system.

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CIQ Design Review
We approve the project design document

Design Sign-off Version X.X

_____ Date: _____

Project Manager

_____ Date: _____

Technical Reviewer

test Plan sign-off Version X.X

_____ Date: _____

Project Manager and Q/A Mgr.

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25 Appendix I-Acronyms

BA	Business Analyst
BRS	Business Requirement Specification
DD	Director Development
DI	Director Implementation
FRS	Functional Requirement Specification
QM	Quality Assurance Manager
PM	Project Manager
SA	System Analyst
SM	Sales Manager
TRS	Technical Requirement Specification