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**Mortgage Finance Authority
Information Technology
Needs Assessment**

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Table of Contents

I. INTRODUCTION AND EXECUTIVE SUMMARY	I
II. THE ORGANIZATION	1
Goals and Objectives	1
Organization Structure	1
Powers of and Services offered by the Authority	1
III. AUTOMATION NEEDS ASSESSMENT	2
III.1. Regulatory Information Management System	2
Mortgage Finance Companies Database	2
Mortgage Brokers, Legal Agents and Appraisers Databases	3
Real Estate Associations Database	3
Financial Auditors Database	4
Insurance Companies Database	4
License Follow-up	4
Complaints Follow-up	4
Loan Contracts Follow-up	5
Foreclosure Follow-up	5
III.2. Financial and Administration Systems	6
III.3. Office Automation Software	7
III.4. The Document Management / Workflow Management Systems	8
Need for Document Management / Workflow Management Systems	8
Goals, Objectives and Benefits of Document Management / Workflow Management Systems	8
Assumptions and Limitations	9
Develop Workflow Process	10
Coding Schemes	10
Functional Requirements – High Level	11
III.5. The Authority’s Web Portal	11
Goals, Objectives and Benefits of having a Portal	11
Suggested Layout of the Web Site	12
III.6. Call Center Service:	15
Benefits of Having a Call Center Service	16
Outsourcing Call Center Service	16

IV. HARDWARE AND SYSTEM SOFTWARE REQUIREMENTS – HIGH LEVEL	18
V. HUMAN RESOURCES (TRAINING AND STAFF) REQUIREMENTS	20
APPENDIXES	30
Appendix A – The Authority’s Organization Structure	30
Appendix B – Integration Between the Different Automation Components	32
Appendix C – Capital Budget	39
Appendix D – Expenses Budget	42
Appendix E - Visited Web Sites	49
Appendix F – The Work Plan	50

I. Introduction and Executive Summary

An IT needs assessment was conducted to identify the automation needs for the Mortgage Finance Authority for the coming three years. This report shows the results of this assessment. The main purpose of this report is to reach a consensus about which Authority activities to automate, and to set priorities for the automation processes of the different activities. It is intended to be reviewed by the Authority's top and middle management, the Authority's IT department and IT consultants, as well as the EFS advisors.

The report covers all the IT needs of the Authority regardless of the funding source (USAID/EFSP, the Authority, or other donors).

The report consists of the following sections:

Section II. The Organization: This section talks about the Authority's goals and objectives, the organization structure, and the powers of and services offered by the Authority.

Section III. Automation Needs Assessment: This section identifies the different automation components needed by the Authority.

The following basic components were identified for the Authority's automation:

1. Regulatory Information Management System
2. Financial / Administration System
3. Office Automation Software
4. Document Management / Workflow Management System
5. The Authority's Web Portal
6. Call Center Service

The components shall be integrated, as much as possible, to facilitate the Authority's back office operations as well as to provide the necessary information to the public.

Section IV. Hardware and System Software requirements: Contains the suggested hardware configuration.

Six servers are suggested to handle the workload of the Authority. Each server is to be dedicated to handle a specific task:

The Application Server
The Document Management System Server
The Firewall Server
The Web Server
The E-mail Server
The Backup Server

Further details are listed in this section.

Section V. Human Resources (Training and Staff) requirements: This section contains the staff required to support the automated systems, and the training needs.

Appendix A: Contains the Authority's Organization Structure Chart.

Appendix B: Contains a chart explaining the relationship between the different automation components.

Appendix C: Contains the Capital Budget estimates.

Appendix D: Contains the Operation Budget estimates.

Appendix E: Contains a list of the web sites visited when conducting the needs assessment activity.

Appendix F: Contains a tentative work plan to implement the Authority's automation activities. A phased approach is taken to implement the automation activities. This appendix shows a detailed implementation plan.

II. The Organization

Goals and Objectives

According to the Law No. 148 of the year 2001, and the presidential decree No. 277 of the year 2001, the objectives of the Mortgage Finance Authority shall be:

- Supervising the real estate financing affairs.
- Overseeing the proper implementation of the Law on Real Estate Financing.
- Following up and controlling the financing activities.
- Working for the development of that activity and taking procedures and measures that ensure the efficiency of the financing market.
- Safeguarding the rights of the market participants.

Organization Structure

Appendix A shows the current Organization Structure of the Mortgage Finance Authority.

Powers of and Services offered by the Authority

According to the Law No. 148 of the year 2001, and the presidential decree No. 277 of the year 2001, the powers undertaken and services offered by the Mortgage Finance Authority shall be:

- A. Setting the general policies required for directing the real estate financing activity in accordance with the provisions of the real estate financing law.
- B. Preparing and maintaining registers for listing the names of appraisers referred to in the above referenced law, and supervising their work.
- C. Preparing and maintaining registers for listing the names of legal agents and supervising their work.
- D. Preparing and maintaining registers for listing the names of mortgage brokers and supervising their work.
- E. Licensing mortgage finance companies for practicing, and following up and controlling the activities thereof.
- F. Deciding upon mortgage finance companies applications for merger, cease of operations, or liquidation of all or major assets.
- G. Preparing the forms of essential conditions for real estate financing.
- H. Enabling relevant parties to have access to the registers, reports, documents and other papers that are pertinent to the real estate financing activity available for the Authority, or obtain official extracts of those documents without prejudices to the provisions of the laws that regulate the confidentiality of the information, in accordance with the rules and procedures as stipulated by the executive regulations of the above referenced law. Those services shall be rendered against payment of the fees stipulated by the executive regulations.
- I. Providing and disseminating sufficient information and data on the activity of real estate financing.

III. Automation Needs Assessment

The following basic components were identified for the Authority's automation:

1. Regulatory Information Management System
2. Financial / Administration System
3. Office Automation Software
4. Document Management / Workflow Management System
5. The Authority's Web Portal
6. Call Center Service

The components shall be integrated, as much as possible, to facilitate the Authority's back office operations as well as to provide the necessary information to the public.

The chart in Appendix B explains the integration between the different components.

III.1. Regulatory Information Management System

The suggested Regulatory Information Management System should include databases and systems for:

- Mortgage finance companies
- Mortgage brokers, legal agents, and appraisers
- Real estate Associations
- Financial auditors
- Insurance companies
- License follow-up
- Complaints follow-up
- Loan contracts follow-up
- Foreclosure follow-up

Mortgage Finance Companies Database

Contains information about the mortgage finance companies such as:

- Company name
- Company address/headquarters
- Company branches
- Company type (legal form)
- Establishment date
- License date and status
- Management
- Key persons
- Contact information
 - Phone
 - Fax
 - E-mail Address
 - Web site
- Consumer service

- Contact person(s)
 - Phone
 - Fax
 - E-mail
- Public relations
 - Contact person(s)
 - Phone
 - Fax
 - E-mail

Mortgage Brokers, Legal Agents and Appraisers Databases

Contain information about the mortgage brokers and legal agents such as:

- Name
- Address
- Area
- Registration status
- Contact information:
 - Contact person(s)
 - Phone
 - Fax
 - E-mail
 - Web site

And information about the appraisers such as:

- Name
- Address
- Area
- Registration status
- Exams passed, dates, etc.
- Contact information
- Contact person(s)
 - Phone
 - Fax
 - E-mail
 - Web site
- Appraisal types (residential apartments,

These information should be sorted according to regions.

Real Estate Associations Database

Contains information about the associations such as:

- Name of association
- Association address
- Board of directors
- Members of the association
- Contact information

- Contact person(s)
 - Phone
 - Fax
 - E-mail
 - Web site

Financial Auditors Database

Contains information about the financial auditors approved by and registered at the MFA, such as:

- Name of the financial auditor
- Address
- Registration number and date at the syndicate
- Registration number and date at Central Accounting Agency
- Registration number and date at Accountants and Auditors
- Registration number and date at MFA
- Contact information
 - Phone
 - Fax
 - E-mail
 - Web site

Insurance Companies Database

Contains information about the insurance companies, such as:

- Name of the insurance company
- Address
- Contact information
- Contact person(s)
 - Phone
 - Fax
 - E-mail
 - Web site

License Follow-up

The license follow-up system should include information about the mortgage finance companies that are related to licenses, such as, administrative, financial, and related information. The system should be able to track the licensing process from the time of submitting the petition until the license is either granted or rejected. The system should be able to track the current license status (active, renewed, suspended, or cancelled).

A link to the document and workflow management system is highly recommended.

Complaints Follow-up

A simple tracking system, including common tracking forms is required. The system will likely include but not be limited to the following:

- a. Filing of complaints (either phone, letter or email)
- b. Assignment of staff member to study the complaint
- c. Gathering of information
- d. Recommendation of action
- e. Outcome

Loan Contracts Follow-up

A simple tracking system that is used to capture statistical and financial information about the loan contracts issued by the mortgage finance companies. It should include loan contract information such as:

- Company Name (lender)
- Contract number
- Contract date
- Contract scope (housing, commercial, renovating, buying, building, etc.)
- Loan Amount
- Mortgage broker
- Buyer
- Seller
- Property address and description
- Price
- Repayment schedule
- Contract Status

Foreclosure Follow-up

Capturing foreclosure information may give an indication about the thoroughness of the mortgage finance companies in checking the consumer's credit ability. A simple tracking system is needed to capture the foreclosure information and procedure and produce the necessary statistics.

All the above components are non-standard software and should be developed according to the Authority's requirements.

III.2. Financial and Administration Systems

A local standard Commercial Off-The-Shelf (COTS) Financial and Administration System will most adequately fit the Authority's needs. A standard integrated financial system is required. The system should consist of the following modules:

- General Ledger
- Accounts Receivable
- Accounts Payable
- Budgeting
- Fixed Assets
- Inventory Control
- Payroll and Personnel (Human Resources)

The Financial and Administration System should be designed to fit the requirements of the Public Economic Authorities and should use the Egyptian Unified Accounting System.

A link to the document and workflow management systems is highly recommended to allow the retrieval of documents related to financial and administration data, e.g. copies of issued checks, personnel records, etc.

III.3. Office Automation Software

The objective of the Authority is to have a workstation for almost every employee. This workstation should run standard office automation software beside applications specific to the staff member.

The office automation software needed includes:

1. Microsoft Office
 - Word
 - Excel
 - Access
 - Power Point
 - Outlook
2. Microsoft Project
3. Adobe Acrobat / Adobe Acrobat Reader
4. Internet Explorer
5. Visio

III.4. The Document Management / Workflow Management Systems

Need for Document Management / Workflow Management Systems

As part of the functions of the Authority, the Authority will receive reports from the established mortgage finance companies, new market entrants, potential new market entrants, consumers, other departments in the Government of Egypt, and other regulatory authorities.

These documents will be of different types: Paper documents or electronic documents. Electronic documents could be filed either electronically over the Internet, or on a magnetic or optical media (disk or tape). Electronic files may have different forms: MS Word documents, MS Excel spreadsheets, HTML files, Adobe files, Image files, etc.

The system should be capable of assigning different access levels to the information stored and of posting information to the Authority's Web Server.

An effort should be made to standardize the types of documents, as well as unify the format of similar documents.

Some of the filed documents will be revised and then made available to the public. This could be done through publishing the documents over the Authority's web portal, or by printing such reports upon request from the public.

Some examples of the documents to be archived are:

- Companies' financial reports
- License applications and supporting documents
- Complaints / Complaint handling (companies/consumers)
- Disputes / Outcome
- Publications
- Financial Records
- Personnel Records
- Personnel Regulations
- Etc.

A Commercial Off-The-Shelf Electronic Document Management System will best suit this requirement. A Workflow Management feature will present an added value to the Document Management System.

It is advantageous to implement the Electronic Document Management System in the early start of the Authority, as the back-log of documents is not much. This will provide a fast start for the system implementation.

Goals, Objectives and Benefits of Document Management / Workflow Management Systems

As the number of documents increase, the efficient organizing, classifying and archiving of these documents becomes of great importance. Installing an electronic document management system will:

- Enhance the efficiency of work within the Authority.
- Encourage the development of a proper and consistent document hierarchy within the Authority.
- Facilitate document storage/retrieval/reviewing which guarantees continued access to information.
- Facilitate search through documents.
- Facilitate access of documents by as many users as needed in different departments.
- Enhance document and data safety.
- Enable links to other documents and databases.
- Eliminate unnecessary extra copies of the same document.

The Workflow Management System is the automation of procedures where documents, information or tasks are passed between participants (human and machine-based) according to a set of rules in order to achieve a business goal.

The key benefits of a Workflow Management System are:

- Improved efficiency since the automation of many business processes results in the elimination of many unnecessary steps.
- Better management of business processes achieved through standardizing working methods.
- Improved consumer service since consistency in the processes leads to greater predictability in levels of response to consumers.
- Flexibility since software control over processes enables their re-design in line with changing business needs.
- Business process improvement since focus on business processes leads to their streamlining and simplification.

Workflow Management Systems are available either as standalone software packages, or as an integrated part of a Document Management System.

Assumptions and Limitations

- The document types and forms are unified.
- Documents are expected to be received in a timely manner.
- Documents are expected to be received in different forms: paper documents, electronically over the Internet, or electronically on a magnetic or optical media.
- Some of the documents posted on the web site need to be in an interactive format, so the public can submit input to the Authority.
- Some of the documents as well as parts of other documents may not be disclosed to the public.

Develop Workflow Process

The following represents a high level workflow for a general document management system practice:

a. Paper Documents:

- Receive documents.
- Review completeness of documents.
- Scan and/or OCR the documents.
- Place documents under proper hierarchical structure.
- Provide indices and search keywords.
- Provide opportunity for series of drafts of one document.
- Provide opportunity for comments on documents to be filed for retrieval together.
- Provide mechanism for changing already archived documents

b. Electronic Documents:

- Receive documents.
- Virus Scan Documents.
- Review completeness of documents.
- Place documents under proper hierarchical structure.
- Provide indices and search keywords.
- Provide opportunity for series of drafts of one document.
- Provide opportunity for comments on documents to be filed for retrieval together.
- Provide mechanism for changing already archived documents.
- Provide for interactive input.

c. In both cases:

- Coordinate with Webmaster regarding documents to be published on the Authority's web portal.

Coding Schemes

A unified coding scheme should be developed for the different entities such as:

- Mortgage Finance Company Codes
- Members (mortgage brokers, appraiser, legal agents, etc.) Codes
- License Codes
- Certificates
- Document Types

Functional Requirements – High Level

- Ability to process Arabic / Latin document names and keywords.
- User-definable hierarchical storage structure.
- Ability to modify archiving structure after definition.
- Ability to relocate documents within the tree structure.
- Ability to combine different document types (scanned images, word processing files, spreadsheets, etc.) under the same hierarchical structure.
- Ability to monitor different types of transactions (adding documents, deleting documents, changing documents, retrieving or printing documents, etc.).
- Controlled and secured access to the stored documents (user accounts definition, user role definition, etc).
- Scanning features:
 - Multi-page document scanning
 - Scanned images should be viewed, printed, copied, deleted, annotated, or commented
- Indexing features:
 - Ability to index the different documents by document type, document date, keywords, and/or text within the document (for word-processing documents)
- Retrieval features:
 - Ability to view the entire archiving structure contents efficiently
 - Ability to search the different levels of archives by document type, document date, keywords, and/or text within the document (for word-processing documents)
 - Ability to search through the pages' comments or annotations
 - Image zooming, rotating, printing, and graphical annotation capabilities
- Arabic Menus.
- Link to the other databases.
- Revision control feature.
- Compression of stored images.
- Tools to enhance the scanned image quality.
- Arabic full text search (Optional).
- Ability to hide portions of the document to protect confidential information.
- Web enabled software.
- Workflow Management.
- Options:
 - Arabic Optical Character Recognition

III.5. The Authority's Web Portal

Goals, Objectives and Benefits of having a Portal

Part of the goals of the Authority is to oversee the proper implementation of the Law on Real Estate Finance, and to safeguard the rights of the market participants.

Some of the services offered by the Authority are to enable relevant parties to have access to the registers, reports, documents and other papers that are pertinent to the real estate financing activities, and to provide and disseminate sufficient information and data on the activity of real estate financing.

Developing a web portal will help the Authority in achieving these goals and providing such services in a proper and timely manner.

Having a web portal helps in:

- Providing input to Authority processes and building consensus for Authority decisions.
- Providing information about services delivered by the Authority to the companies and to the public (ex. Granting licenses to companies, following up consumer complaints, etc.).
- Enhancing the transparency of the Authority's work.
- Providing information about services delivered by the companies to the consumers, which will help establishing competition between the companies. It will also give the consumer the ability to compare services offered by different market participants.
- Providing on-line services (free or paid) through the web portal.
- Facilitating contact between the Authority and the market participants through easy access and retrieval of information.
- Receiving consumer complaints more efficiently.
- Announcing available job opportunities.

The web portal will also allow electronic mail between the Authority's staff, the companies, the consumers, and the public.

The portal pages can be created for public, staff, companies, service seekers, etc. The portal would enable audience targeting, which allows relevant information to be pushed to a specific group of users. The portal access should be classified as follows:

- Public Access (no login required)
- Services login
- Management / Staff login

An initial web site should be developed and published quickly, say during three months, with the available public information. In the future, on-line services should be made available on the Internet. Frequent updates to site are to be made periodically, say every three to six months.

Hosting the portal at the Authority will require a 24x7 operation in the Authorities IT department. It is recommended that the initial web site to be developed and hosted at an Internet Service Provider. Then the final web site may be developed and hosted at the Authority.

Suggested Layout of the Web Site

0. Welcome message from the chairman

Mission statement

1. About the Authority

Objectives:

(The Acts)

Powers/Services Offered:

(The Acts)

History of the Authority

Milestones-to-date

2. Organization Structure

Organization Chart:

(Chart)

Functions of the Board of Directors (BOD):

(Highlights from the Act)

Profiles:

(BOD - management – key staff)

Photo, summary resume

Officers:

(List of officers – job description – Contact info)

Finance (sources of financing)

(The Act)

3. The Acts

- The law on Public Authorities enabled by law no. 61 for 1963
- Law no. 50 for 1973 on the General Budget of the State
- The law on Civil Servants of the State, enabled by law no. 47 for 1978
- The law on Real Estate Financing, enabled by law no. 148 for 2001
- The cabinet decree no. 1 for 2001 on the issuance of the bylaws for the law on Real Estate Financing
- The presidential decree No. 277 for 2001 on the Public Authority for Mortgage Financing Affairs (MFA)
- The presidential decree no. 4 for 2003 on the regulation of the Fund for Guarantee and Subsidy of Real Estate Finance Activity
- Others related information

4. The Fund for Guarantee and Subsidy of Real Estate Finance Activity

- Qualifying for a subsidized loan.
- How to obtain a subsidized loan.
- Link to website.

5. Licenses (Mortgage Finance Companies)

- Licensing requirements.
- Licensing fees.
- Licensing regulations.
- Guide to completing application forms/documents needed.
- License renewal.
- Disqualified Mortgage Finance Companies.

- License status check (for a member).
 - E-Licensing (future requirement).
 - List of Mortgage Finance Companies (licensees).
 - Frequently asked questions and answers (specific to licenses).
6. Registration (Appraisers, Legal Agents, Mortgage Brokers,)
- Registration requirements (for each entity separately).
 - Registration fees.
 - Registration regulations.
 - Guide to completing application forms/documents needed.
 - Registration renewal.
 - Disqualified entities (for each entity separately).
 - Registration status check (for a member).
 - E-Registration (future requirement).
 - Frequently asked questions and answers (specific to registration).
7. Examinations
(list by entity type : mortgage brokers, legal agents, appraisers,)
- Syllabus.
 - Qualifying exams (regulations, fees....)
 - Sample exams.
 - Announcements (changes to exam regulations, exam dates.....).
 - Frequently asked questions and answers (specific to examinations).
8. Training
(list by entity type : mortgage brokers, legal agents, appraisers,)
- Seminars.
 - List of certified training centers.
 - Pre-qualification training.
9. Consumer Assistance/Protection
- Glossary
 - Information for the consumer.
 - Standard documents and sample contracts.
 - How to obtain a loan.
 - How to obtain a subsidized loan.
 - The Fund for Guarantee and Subsidy of Real Estate Finance Activity.
 - Complaints/complaint handling.
 - Disputes/resolutions.
 - Foreclosure.
 - Frequently asked questions and answers (related to consumer protection).
10. Lists of related entities
- List of mortgage finance companies .
 - List of appraisers.
 - List of legal agents.
 - List of mortgage brokers.

- List of insurance companies.
- List of financial auditors registered at MFA.
- Real estate associations.
- List of certified training centers
- Others.

11. Authority publications

- Circulars.
- Presentations.
- Studies.
- Annual administrative, financial reports and progress reports.
- Others.

12. Job Opportunities

List of jobs available at the Authority if any.

13. Downloads

List of documents that can be downloaded by the consumer.

- Standard documents.
- Sample contracts.
- Application forms for licenses.
- Application forms for registration.
- Others

14. Contact us

Sending e-mail to the Authority for :

- Getting info
- Sending in complaints
- Feedback on web site

15. What's new

List here recent Authority news.

16. Site map

17. Links

Links to other related web sites (Mortgage Finance Companies' web sites, www.investment.gov.eg, www.egypt.gov.eg, Credit Bureau (when established), etc.).

18. FAQ

Frequently asked questions and the answers.

III.6. Call Center Service:

As the Mortgage Finance market grows, more contact with the public and potential consumers will be expected. Most of the calls will be inquiring about a certain service and receiving a straight forward response. In general, MFA staff will not have the time to

respond to all these calls. A Call Center Service may be required for the MFA to streamline the consumer service activity.

A call center is a central place where consumers' and other telephone calls are handled by a service provider with some amount of computer automation facilities.

Benefits of Having a Call Center Service

The call center will insure that no call is missed, provide more effective public feedback to the MFA, and provide standardized level of service to the consumers and market participants. It also keeps the MFA staff concentrating on their main line of business.

It is highly recommended that a call center service be contracted before starting a public awareness campaign. It is expected that huge number of calls will be received after the campaign which the MFA will not be able to handle.

Outsourcing Call Center Service

In the initial stages, the call center service is to be outsourced at a call center service provider. A low number of seats as well as a limited work schedule may be contracted (e.g. three seats, 7 days a week, 12 hours a day). It is expected that many consumers will call after work hours.

Outsourcing this service will reduce investment and operation costs, and facilities needs. Outsourcing will relieve the MFA from the technicalities behind acquiring and maintaining a call center.

A skilled call center is needed to perform the needed services. A skilled call center resolves large numbers of incidents, allowing only a limited number to be escalated to the MFA staff.

The skilled call center should be able to receive and respond to the e-mail or web inquiries.

As the market expands, the contracted number of seats and the work schedules could increase. It is expected that the MFA may receive calls from consumers calling from abroad, sometimes from different time zones. In this situation a 24x7 working schedule may be required.

Initially, Arabic speaking operators are required in the first stage. The need for multilingual call center service needs to be studied later. If it is anticipated that calls might be received from people who speak foreign languages, then few seats could be reserved for that purpose.

It is difficult to estimate the workload of the call center, but having this service outsourced allows the MFA to adjust the contracted number of seats and/or work schedules according to the workload.

In the future, the MFA could conduct a cost/benefit analysis to determine the feasibility of hosting the call center in-house.

Hosting the call center service in-house will require:

- Well equipped facilities
- Call center hardware and recording equipment (if needed)
- Call center software
- Operators to answer the calls
- Supervisors to supervise the operators
- Managers to manage the center
- Telephone lines
- CTI (Computer Telephony Integration) system
- Operation and business continuity manuals

The MFA should prepare call scenarios, i.e. MFA should list all the expected inquiries and all the possible answers. This has to be prepared in advance before contracting a call center service provider.

The call center service provider should be able to escalate the inquiries that could not be answered according to the existing scenarios to an MFA specialist who should be able to respond to the inquiry. The MFA should analyze all the inquiries that are escalated to the MFA and decide about including them in the standard scenarios.

The call center should have limited access to the MFA data center through the MFA portal. The call center should be able to receive complaints and dispatch them in a special electronic form to the MFA.

The call center service provider should be able to report to the MFA the following:

- Total number of received calls
- Number of received calls classified by type of inquiry
- Number of received calls distributed by time / day of week
- Number of unanswered calls
- A list of inquiries not available in the provided scenarios

The call center should post a voice message to inform callers calling off schedule about the normal work schedule.

Call center response time should not exceed 5 minutes or else consumers will become frustrated.

Another service that could be provided by the call center is to call the MFA debtors (e.g. companies, brokers, appraisers, etc.) to remind them about late payments due.

IV. Hardware and System Software Requirements – High Level

Six servers are suggested to handle the workload of the Authority. Each server is to be dedicated to handle a specific task:

- The Application Server
- The Document Management System Server (Archiving Server)
- The Firewall Server (ISA Server)
- The Web Server
- The Mail Server
- The Backup Server
- 2 Active Directory Servers
- Database Server
- Domain Name System (DNS) Server

The Application Server: This server should be used for the Regulatory Information Management System, the Financial and Administration System, as well as the Office Automation Software.

The Document Management System Server (Archiving Server): This server should be used for handling the electronic documents of the Authority. Disk storage requirement is a main factor in sizing this server.

The Firewall Server (ISA Server): This server should be used to host the firewall and intrusion detection applications.

The Web Server: This is used to host the Authority's web portal and Internet surfing.

The Mail Server: This is used to host e-mail software and the incoming and outgoing mails.

The Backup Server: This should be used as a warm standby backup server for any of the above servers.

The systems should be linked together as information is expected to be shared between the different users.

A workstation is required for each employee.

A total of 13 printers are also estimated.

- 2 high capacity, duplex, network printers that are shared among the staff members.
- 4 low speed and 5 high speed printers should be dedicated printers that are used either by the managers or shared by staff in the same room.
- 2 high quality ink jet colored printer

Three scanners, one high speed A3 Scanner and two low speed A4 Scanner are required for scanning paper documents.

In addition to that, some network equipment, such as, routers, switches, and hubs are also required to connect the Authority's network.

The details of the hardware specifications will be included in the Request for Proposals - Technical Specifications section.

V. Human Resources (Training and Staff) Requirements

The following positions are required for the operation and support of the Authority's automated systems. The organization structure used here is the one developed for the Authority and approved by the Organization and Management Authority.

Media and Public Relations Department:

Webmaster (1 position)

Computer Department:

IT Manager

System Administrator / Network Administrator (At least 2 positions)

Analyst / Programmer (2-3 positions)

Database Administrator (1 position)

Document Management System Administrator (1 position)

Documentation and Libraries Department:

Document Management System Specialist (2 positions)

Archiving System Operator (2 positions)

IT Security Officer

The above positions represent a full IT department support staff. It might be advisable, in the early stages of the implementation that limited support staff to be hired directly by the authority, and the remaining services to be outsourced. The following represents the minimum required staff:

Computer Department:

IT Manager

System Administrator / Network Administrator (1 position)

Analyst / Programmer (1 position)

Documentation and Libraries Department:

Archiving System Operator (1 position)

IT Security Officer

The following represents the job description for each of the suggested positions:

Media and Public Relations Department:

Webmaster (1 position)

This position may be outsourced in case of insufficient workload, i.e., changes in the web site are limited. An in-house programmer can also fill-in this position as a part-time job.

The Webmaster is the general team leader for the updating and management of the web site. He/she should have high technical, design, project management and problem solving skills, solid communication skills (oral and written) and strong computer skills.

Qualifications

- University Degree, preferable computer science or electronic engineering.
- Other graduates: need intensive courses in the field of programming, and database management systems.
- Knowledge of data communication principles, network security basics, and web development and administration techniques is essential.
- Good knowledge of the English language.
- Web development experience with Windows 2000 or XP, Unix, or Macintosh platforms (depending on acquired platform).
- Web portal software experience.
- Advanced proficiency with HTML, including style sheets, templates, complex tables, frames and image maps.
- Must be able to program forms and implement scripts using languages such as Perl, Java, C, C++, Visual Basic, VB Script, etc. (depending on acquired platform).
- Working knowledge of basic composition, page layout, art and presentation packages such as Front Page, MS Word, Excel, PowerPoint, PageMaker, Illustrator, or PhotoShop (depending on acquired platform).
- Excellent time and project management skills as well as organizational and personal skills to work with a variety of people.
- Strong design sense along with a methodical attention to detail.
- Ability to work as team member and independently with minimal supervision.

Training

- Basic Orientation to Authority's activities and documents

Responsibilities

- Program HTML and upload pages on to the site.
- Integrate multimedia components and applications into the site.
- Develop and maintain a strategic plan for internet presence, based on management priorities, policy directions, and goals.
- Create enhancements and modifications to the web site.
- Organize and maintain the site.
- Adapt to a changing scene with sometimes conflicting priorities.
- Assess new standards, technologies and trends, and formulate strategies and plans for enhancing the site.
- Maintain cross-platform and cross-browser compatibility so that the web site is accessible from a variety of different environments.
- Produce a consistent visual image on the site by promoting uniform fonts, formatting, icons, images, layout techniques, and modularization, including maintenance of template and image archives.
- Manage links and cross promotions with other sites, ensuring that links are up to date.
- Update information in pages and databases so that content is kept current.
- Check bugs and problems, diagnose and fix them.
- Ensure that all Webmaster mail receives timely responses.

- Analyze traffic statistics and report on a monthly basis relevant information and the "what and why."
- Develop, research, lay out, and write/edit new sections/features.

Reports to:

Manager of Public Relations Department

Information Technology Department:

IT Manager

Qualifications

- University Degree, preferable computer science or electronic engineering.
- 10-20 years of total experience in the IT field
- 5 years of IT and operation management experience
- Good knowledge of the English language
- Good communication and writing skills
- Good negotiating and decision taking skills
- Ability of leading and working with a team
- Ability to conduct meetings

Training

- Basic Orientation to Authority's activities and documents

Responsibilities

- Manage the day-to-day IT operations activity
- Work on developing the Authority's IT strategy
- Plan and manage disaster recovery plans
- Preparing technical reports related to the IT operations
- Considering and evaluating new technologies
- Managing and coordinating the IT team
- Prepare and negotiate contracts with service providers
- Cooperate and coordinate service providers

Reports to:

The Chairman of Authority

System Administrator / Network Administrator (At least 2 positions)

Assuming 9x5 work schedule, possibility of working over weekends. Workload and nature of business do not justify 24x7 work schedule.

The recommendation is to outsource advanced system administration and network support.

Qualifications

- University Degree, preferable computer science or electronic engineering.
- Other graduates: need intensive System Administration/Networking courses

- Knowledge of data communication principles, network security basics, and web development and administration techniques is essential.
- Good knowledge of the English language.
- Previous System Administration/Networking Experience

Training

- Operating System Level I
- Operating System Level II (advanced)
- Operating System Security

Responsibilities

- Perform system installation.
- Perform system startup and shutdown.
- Develop a backup and recovery procedure.
- Perform daily, weekly, and periodic system backup.
- Perform system recovery.
- Provide first level support for system and network administration.
- Report problems to higher level support (outsourced).
- Configure and support the network security system.
- Maintain inventory of computer system supplies and monitor stock levels.

Reports to:
IT Manager

Analyst/Programmer (2-3 positions)

Qualifications

- University Degree, preferable computer science or electronic engineering.
- Other graduates: need intensive programming and database courses.
- Programming languages (Such as Visual Basic, C++, etc.) depending on acquired applications.
- Database Management System (such as Oracle, Access, SQL Server) depending on acquired applications.
- At least one should have former programming experience.

Training

- Depending on acquired applications

Responsibilities

- Develop in-house applications.
- Provide technical support for the software applications to the end-users.
- Communicate technical problems to the application software vendor.

Reports to:
IT Manager

Database Administrator (1 position)

Qualifications

- University Degree, preferable computer science or electronic engineering.
- Other graduates: need intensive programming and database courses.
- Programming languages (Such as Visual Basic, C++, etc.) depending on acquired applications.
- Database Management System (such as Oracle, Access, SQL Server) depending on acquired applications.
- Should have previous database administration experience.

Training

- Depending on acquired applications

Responsibilities

- Install and configure the database engine
- Perform periodic database tuning and backup, and restore the database when needed.
- Provide technical support for the database to the programmers and the end-users.
- Communicate technical problems to the database software vendor.

Reports to:
IT Manager

Document Management System Administrator (1 position)

(An in-house analyst/programmer can perform this function as a part-time job)

Qualifications

- University Degree
- Advanced Computer operation skills
- Medium / High level knowledge of the English language

Training

- Orientation to Authority activities and documents
- Advanced Level Document Management System
- Document management System Administration

Responsibilities

- Define document hierarchy
- Modify archiving structure after definition
- Define indices and keywords
- Define security levels
- Define users and user access permissions
- Relocate documents when needed
- Maintain links to other databases used by the Authority
- Enhance image quality if needed

- Handle compression of stored images if needed
- Define annotation and hidden portions of the documents
- Coordinate with webmaster

Reports to:
IT Manager

Documentation and Libraries Department:

Document Management System Specialist (2 positions)

Qualifications

- University Degree
- Advanced Computer operation skills
- Medium / High level knowledge of the English language

Training

- Orientation to Authority activities and documents
- Advanced Level Document Management System
- Use of scanners and printers

Responsibilities

- Classify documents, and provide indices and keywords
- Revise entered information and verify contents
- Coordinate with the publishing department and the Webmaster about what to be posted to the web.
- Provide annotations and hiding on the documents
- Provide document security level
- Monitor different types of transactions (adding documents, deleting documents, changing documents, retrieving or printing documents, etc.)
- Control revisions of the documents

Reports to:
Manager of Documentation and Libraries Department

Archiving System Operator (2 positions)

The document management system specialists can perform this function provided that most of the received documents are in electronic form.

Qualifications

- Commercial High School Diploma, or University Degree
- Basic Computer operation and data entry skills
- Some knowledge of the English language

Training

- Basic Orientation to Authority activities and documents
- Basic Level Document Management System (Production)

- Use of scanners and printers

Responsibilities

- Organize Documents
- Scan Documents

Reports to:

Manager of Documentation and Libraries Department

IT Security Officer

The Security Officer is the person responsible for the security of the Authority's communications and other business systems, especially those exposed to intrusion from outsiders on the Internet.

Qualifications

- University Degree, preferable computer science or electronic engineering.
- Good knowledge of the English language
- 10-20 Years of total experience, 5 of which is in a system and network security
- Knowledge of basic network and system operation functions
- Knowledge of basic network and system security issues
- Experience in administration, logistics, and organization

Training

- Basic Orientation to Authority activities and documents
- Network and system security principles
- Network and system security audit

Responsibilities

- Develop and execute the IT security policy
- Run, or arrange for, regular security audits
- Review security alerts and taken actions towards them
- Plan and manage, together with the IT Manager, the disaster recovery plans
- Purchase security products
- Promoting awareness for IT security throughout the authority
- Monitoring the effectiveness of the security policy and update accordingly

Reports to:

The Chairman of Authority

Training Needs

The following table summarizes the training needs for the Authority's appointed staff. It is assumed that the archiving system operators and document management specialists have no previous experience on the system.

The hired computer support staff is assumed to have the minimum qualifications mentioned in the previous section. In case of filling the positions with staff having less than the minimum qualifications, additional training courses will be needed.

Other Authority staff is assumed with limited computer operation and office automation background.

The following symbols are used as indicated below:

A= Means that the training is needed regardless of the staff qualifications

B= Means that the training is needed based upon job requirements

X= Means that the training is needed only if the required qualifications are not available.

Subject	Job Titles									
	Webmaster	IT Manager	System/ Network Admin.	Analyst/ Programmer	Database Admin.	Document Management System Admin.	Archiving System Operator	Document Management System Specialist	IT Security Officer	Other Authority Staff
Computer Support										
Basic Orientation to Authority Activity	A	A	A	A	A	A	A	A	A	X
Basic Hardware/ Networking			X	X	X					
Use of Scanners/Printers	X		X	X	X	X	X	X	X	A
Windows (Operating System)	X		X	X	X	X	X	X	X	A
System Security Principles	X		X						X	
System Security Audit Principles									X	
Office Automation Software										
MS Word										A
MS Excel										A
MS PowerPoint				X						A
MS Access				X						A
MS Project		X								B
MS Visio	X	X	X	X	X				X	B
Web Surfing / E-mail										
Internet Explorer	X		X		X	X	X	X	X	A
MS Outlook	X		X		X	X	X	X	X	A
Adobe Acrobat	X									
Adobe Acrobat Reader	X		X	X	X	X	X	X	X	A
Application Systems										
Financial/Administration Software				A	A					B

Subject	Job Titles									
	Webmaster	IT Manager	System/ Network Admin.	Analyst/ Programmer	Database Admin.	Document Management System Admin.	Archiving System Operator	Document Management System Specialist	IT Security Officer	Other Authority Staff
Document Management/Workflow Software – Production				A		A	A	A		
Document Management/Workflow Software – Viewing	A					A	A	A		A
Document Management System Administration						A				
Programming Languages / Web Development Tools										
Visual Studio				X						
HTML	X			X						
JavaScript	X			X						
Other Programming Languages	X			X						
Web Editor (e.g. FrontPage)	X									
Image Creation (e.g. Paint Shop Pro, Adobe PhotoShop 6.0)	X									
Database Management System	X			X	X					

Appendixes

Appendix A – The Authority’s Organization Structure

Appendix B – Integration Between the Different Automation Components

Appendix C – Capital Budget

Appendix D – Expenses Budget

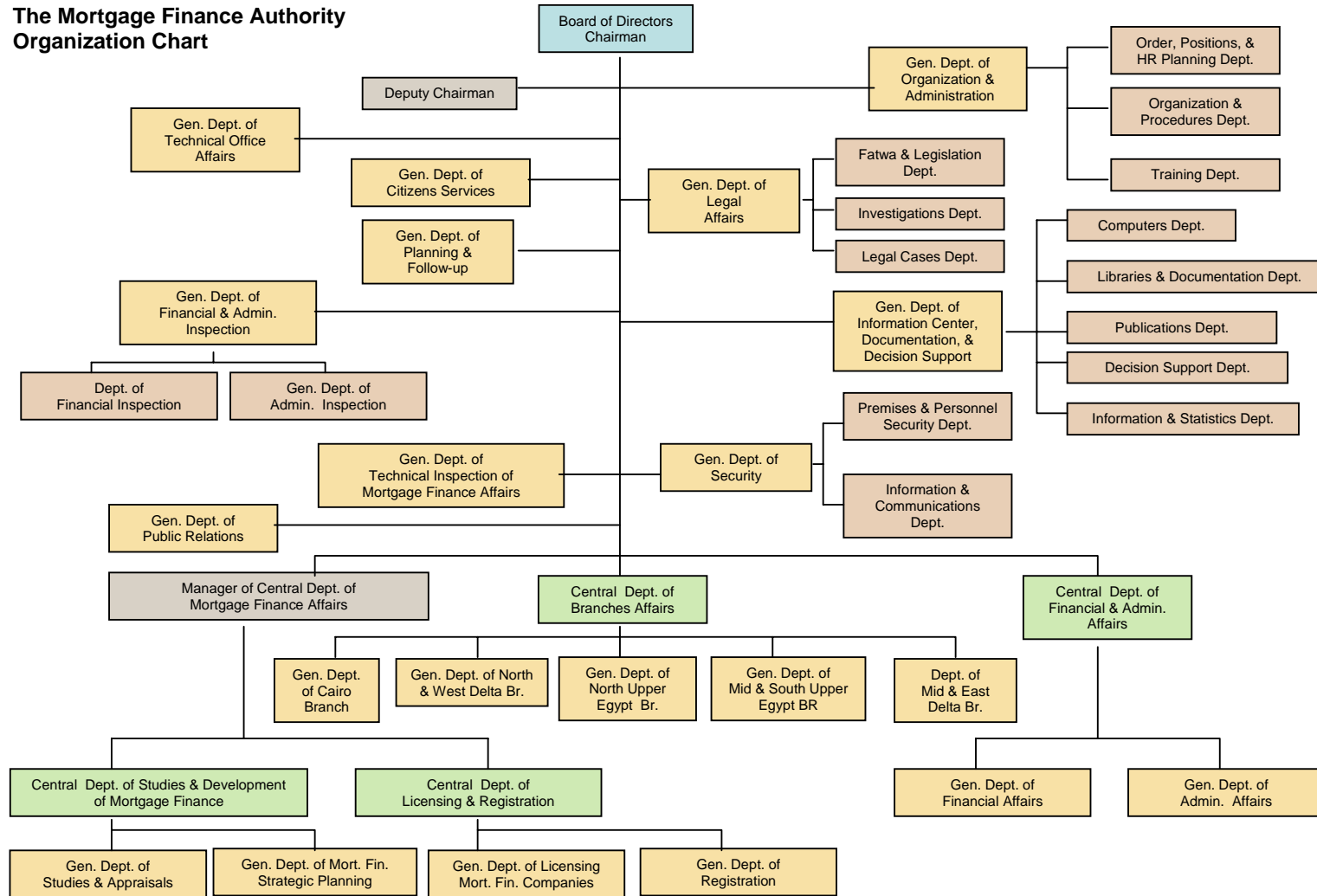
Appendix E - Visited Web Sites

Appendix F – The Work Plan

Appendix A – The Authority’s Organization Structure

The following chart shows the current Organization Structure of the Mortgage Finance Authority.

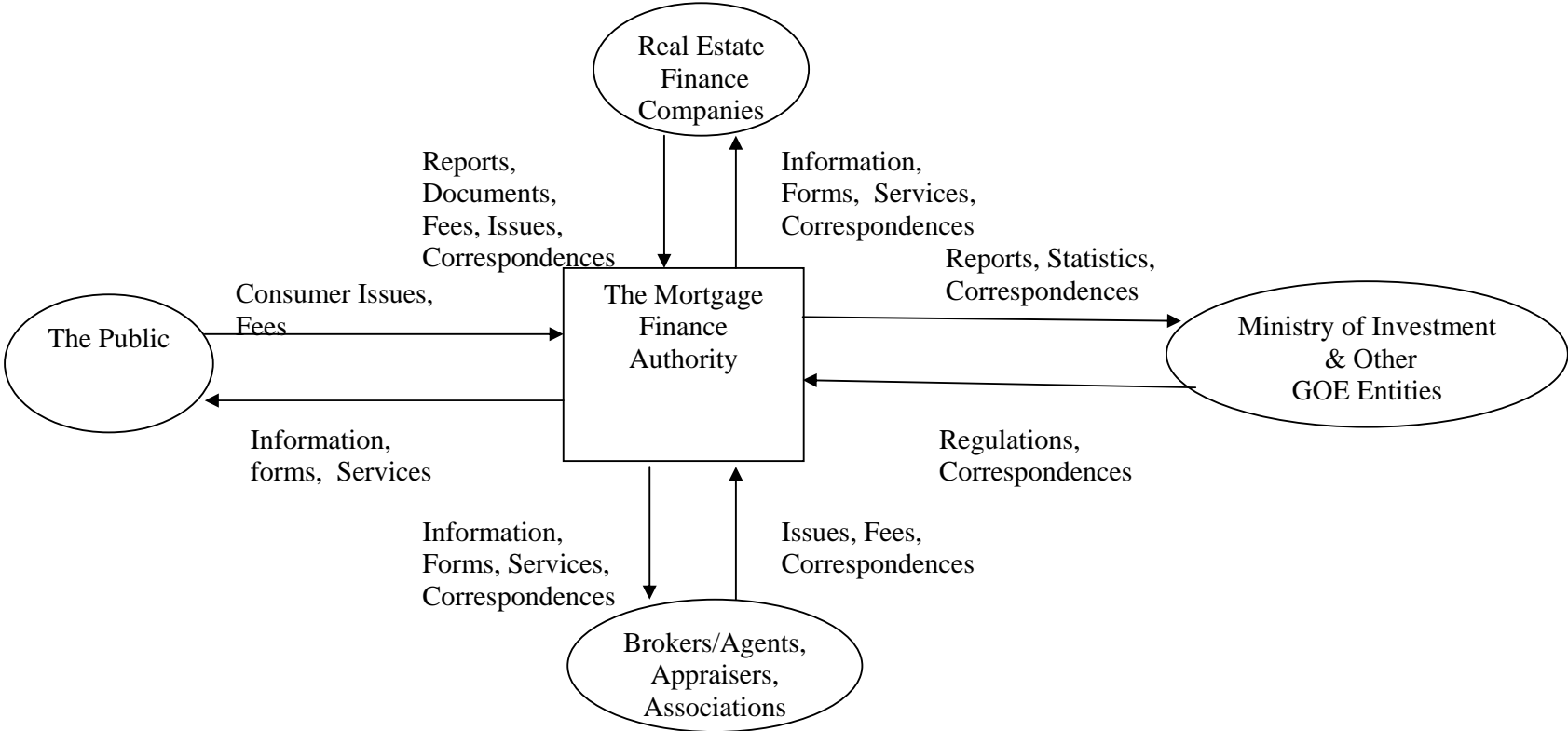
**The Mortgage Finance Authority
Organization Chart**



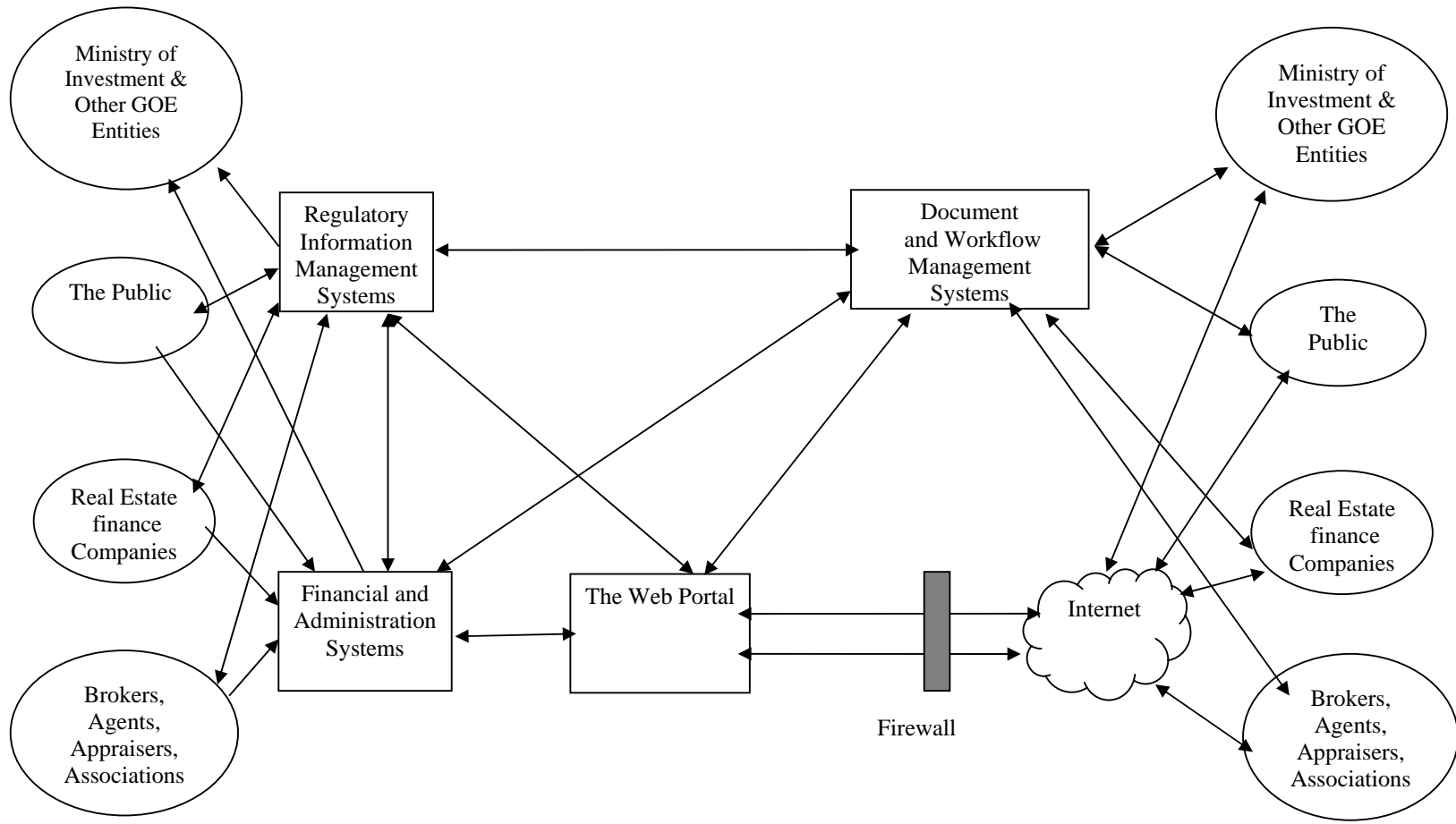
Appendix B – Integration Between the Different Automation Components

The following charts represent a high level conceptual diagram of the MFA systems, as well as the relationship between the different automation components.

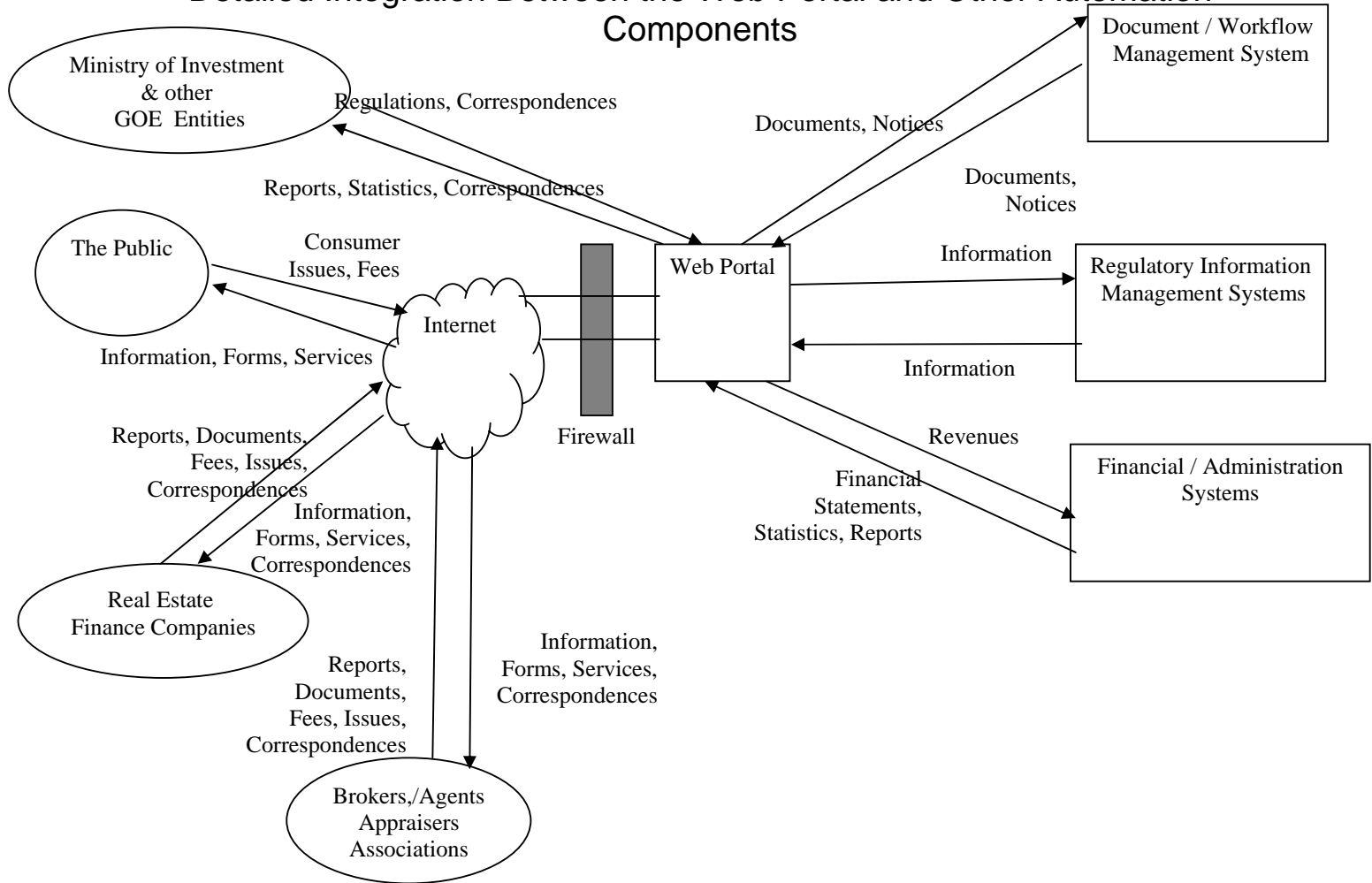
The Mortgage Finance Authority Top Level Conceptual Diagram



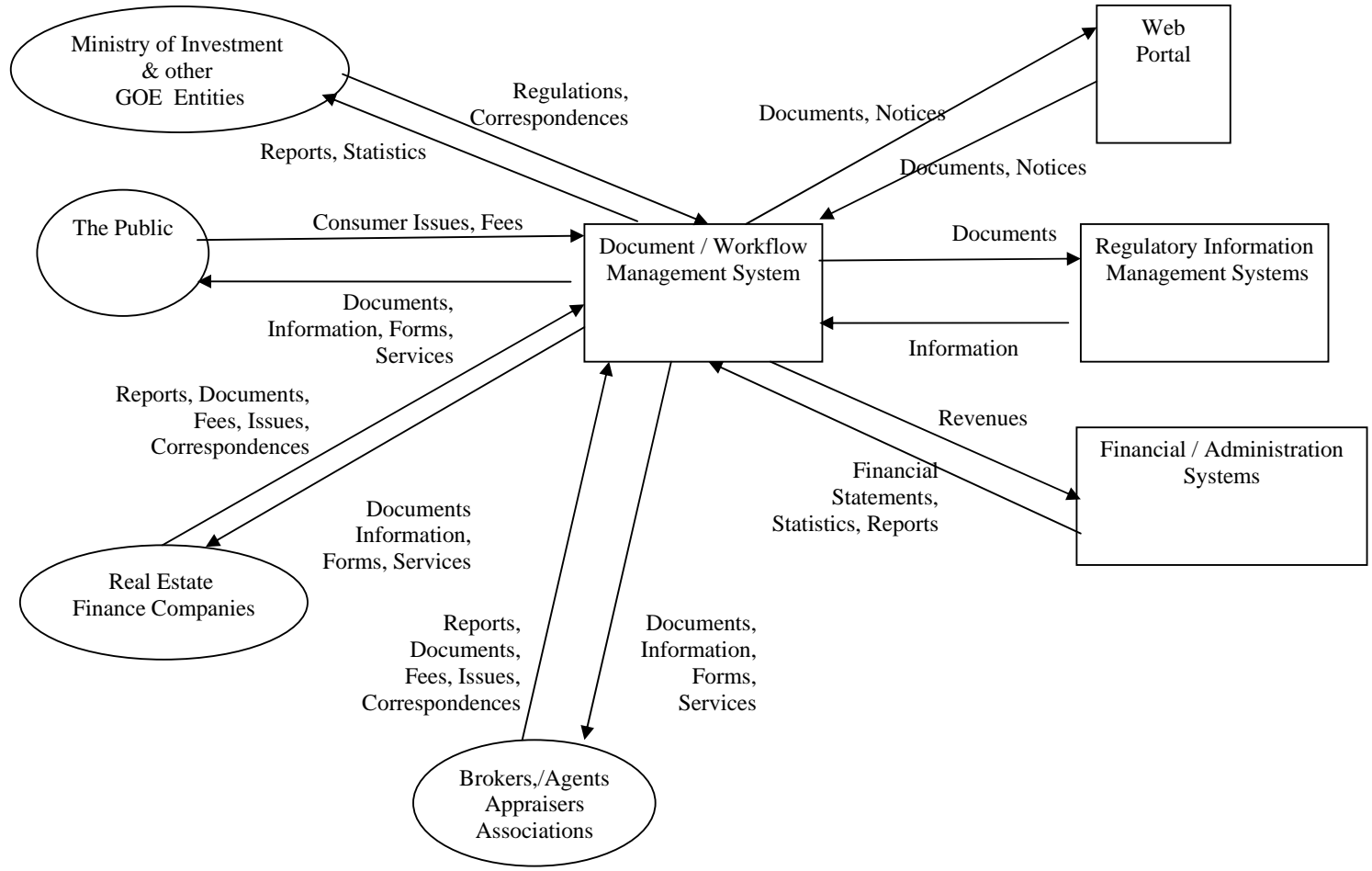
Integration Between the Different Automation Components



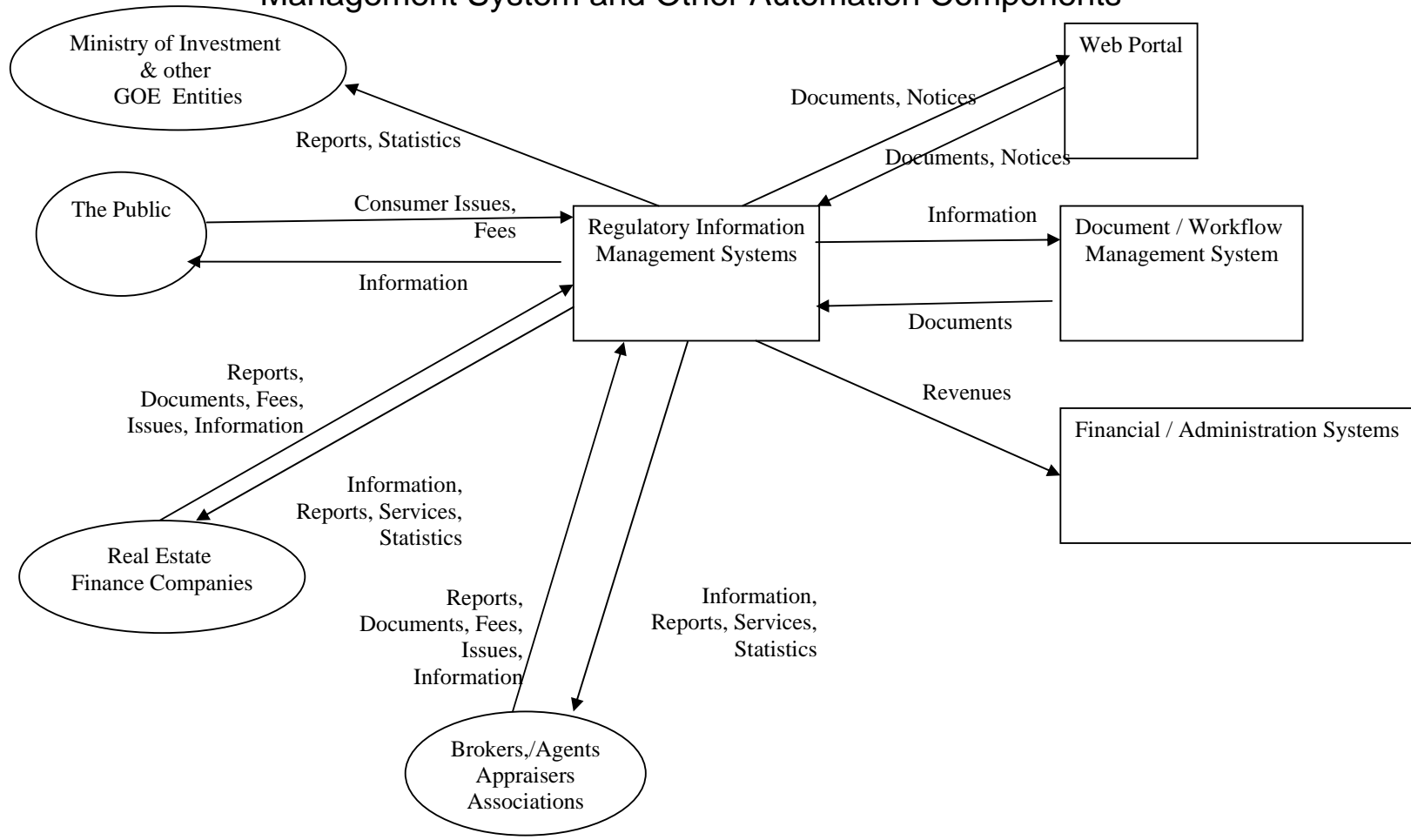
Detailed Integration Between the Web Portal and Other Automation Components



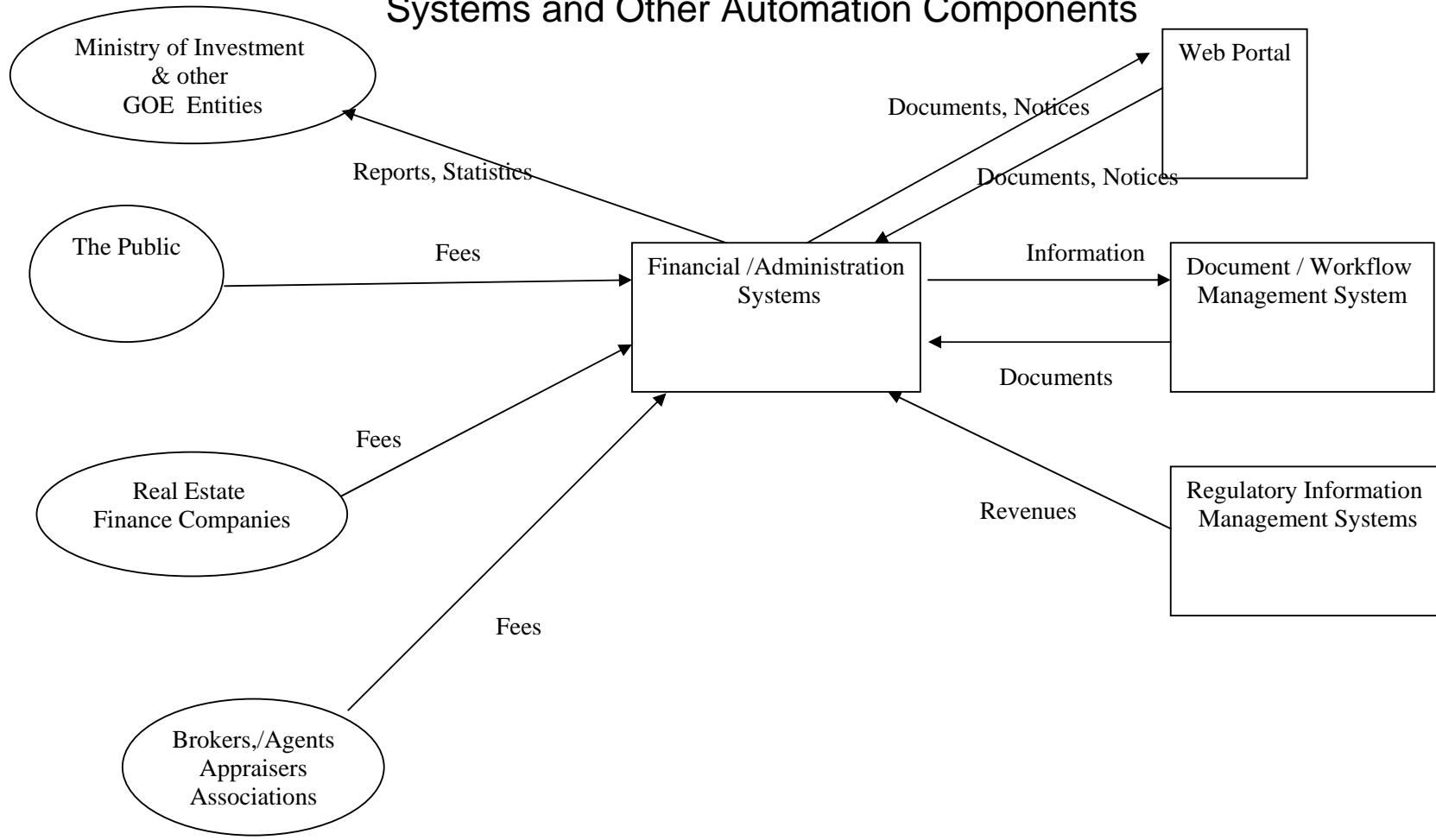
Detailed Integration Between the Documents /Workflow Management System and Other Automation Components



Detailed Integration Between the Regulatory Information Management System and Other Automation Components



Detailed Integration Between the Financial and Administration Systems and Other Automation Components



Appendix C – Capital Budget

The following capital budget covers all the automation requirements of the Authority regardless of the funding source (USAID/EFSP, the Authority, or other donors).

The Mortgage Finance Authority Estimated Capital Budget

				Phase I	Phase II
	Item Description	Qty	Estimated Unit Cost (US\$)	Estimated Total Cost (US\$)	Estimated Total Cost (US\$)
I.	Hardware				
I.1	Servers/Workstations/Network Equipment:				
I.1.1	Application Server	1	\$10,000	\$10,000	
I.1.1	Backup Server	1	\$10,000		\$10,000
I.1.1	Mail Server	1	\$10,000	\$10,000	
I.1.1	Archiving Server	1	\$10,000	\$10,000	
I.1.1	Firewall Server (ISA Server)	1	\$10,000	\$10,000	
I.1.1	Active Directory Server	2	\$10,000		\$20,000
I.1.1	Database Server	1	\$10,000		\$10,000
I.1.1	Web Server	1	\$10,000	\$10,000	
I.1.1	Domain Name System (DNS) Server	1	\$10,000		\$10,000
I.1.2	Tape drive	1	\$4,000	\$4,000	
I.1.3	KVM switch 1x4 + Flat Panel console	3	\$2,600	\$7,800	
I.1.4	Notebooks	3	\$1,700	\$5,100	
I.1.5	Network (Racks, Switches, Routers, etc.)			\$20,000	
I.1.6	Desktops	60	\$1,700	\$51,000	\$51,000
I.1.7	Wireless Router w/Firewall	4	\$75	\$300	
I.1.8	Hardware Firewall	1	\$6,000	\$6,000	
I.1.9	Servers UPS	4	\$3,000	\$6,000	\$6,000
I.1.10	Desktops UPS	60	\$200	\$6,000	\$6,000
I.1.11	Storage Area Network (SAN)	1	\$80,000		\$80,000
I.2	Printers:				
I.2.1	High Capacity Laser / A3 B&W	2	\$3,800	\$7,600	
I.2.2	High Capacity Laser / A4 B&W	5	\$1,000	\$3,000	\$2,000
I.2.3	Low Capacity Laser/ A4 B&W	4	\$150	\$300	\$300
I.2.4	High Quality Inkjet / A3 / Color	2	\$1,000	\$2,000	
I.3	Scanners:				
I.3.1	High Speed / Color / Feeder / A3	1	\$3,400	\$3,400	
I.3.2	Low speed / color / feeder / A4	2	\$700	\$1,400	
	Subtotal Hardware			\$173,900	\$195,300
II	Software				
II.1	MS Windows Server 2003 Enterprise+25 CALs	10	\$2,000	\$8,000	\$12,000

The Mortgage Finance Authority Estimated Capital Budget

				Phase I	Phase II
	Item Description	Qty	Estimated Unit Cost (US\$)	Estimated Total Cost (US\$)	Estimated Total Cost (US\$)
II.2	MS Windows Server 35 CALS @ \$25	4	\$875	\$3,500	
II.3	Microsoft Exchange Server (60 CALs)	1	\$3,900	\$3,900	
II.4	Firewall, Intrusion Detection, and Anti virus	1	\$15,000	\$15,000	
II.5	Backup software	1	\$2,000	\$2,000	
II.6	Database Engine	3	\$25,000	\$50,000	\$25,000
II.7	Development Software (Visual Studio .NET Enterprise Edition) /Other Tools /Reporting software (Crystal reports)			\$10,000	
II.8	Office Automation software (Microsoft Office)	60	\$350	\$10,500	\$10,500
II.9	Web related software / Other tools				\$97,500
II.10	MS Project 2003 Standard	2	\$375	\$750	
II.11	MS Visio	1	\$150	\$150	
II.12	Portal System Software				\$300,000
II.13	Document and Workflow Management			\$80,000	
II.14	Financial & Admin Software			\$65,000	
	Subtotal Software			\$248,800	\$445,000
III Services					
III.1	Site Preparation/Network equipment			\$22,000	
III.2	Web Site Development			\$10,000	
III.3	Portal Applications development/Other services				\$180,000
III.4	Regulatory IMS Development			\$30,000	
	Subtotal Services			\$62,000	\$180,000
	Subtotal Cost			\$484,700	\$820,300
	Total Cost				\$1,305,000

Installation cost of hardware and software are embedded in cost

Appendix D – Expenses Budget

The following matrix represents a five-year expenses budget. The budget covers the cost needed to maintain and operate the MFA IT infrastructure.

The budget includes the following main items:

Salaries
Supplies
Maintenance cost
Services
Equipment depreciation

Cost Notes:

Note (1):

Based on Monthly Salary + Fringe

Note (2):

Register with about 50 Search Engines

Note (3):

Maintenance cost of equipment is assumed at 10% of Total Equipment Cost - One Year Warranty Period is expected for all equipment

Note (4):

Software maintenance cost is based on 15% of the total software cost -One Year Warranty Period is expected.

Note (5):

Depreciation is based on 20% of the Equipment and Software Cost

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
Salaries + Fringe Benefits			See Note (1)	5%												
Information security officer			5%	Month	10,000	0	-	12	120,000	12	126,000	12	132,300	12	138,915	517,215
WebMaster			5%	Month	5,000	12	60,000	12	63,000	12	66,150	12	69,458	12	72,930	331,538
System / Network Administrator			5%	Month	4,000	12	48,000	24	100,800	24	105,840	24	111,132	24	116,689	482,461
Analyst/Programmer			5%	Month	4,000	0	-	36	144,000	36	151,200	36	158,760	36	166,698	620,658
Document Management System Administrator			5%	Month	2,000	0	-	12	24,000	12	25,200	12	26,460	12	27,783	103,443
Document Management System Specialist			5%	Month	2,500	0	-	12	30,000	12	31,500	12	33,075	12	34,729	129,304
Archiving System Operator			5%	Month	1,500	12	18,000	24	37,800	24	39,690	24	41,675	24	43,758	180,923
Database Administrator			5%	Month	3,000	0	-	12	36,000	12	37,800	12	39,690	12	41,675	155,165
Total Salaries + Fringe Benefits						48	246,000	156	681,600	156	715,680	156	751,465	156	789,038	3,183,783
Supplies:																
Flash Memories			10%	Units	480	20	9,600	10	5,280	10	5,808	10	6,389	10	7,028	34,105
Backup tape media			10%	Units	180	72	12,960	72	14,256	72	15,682	72	17,250	72	18,975	79,123
CDs /DVDs			10%	Units	12	900	10,800	900	11,880	900	13,068	900	14,375	900	15,812	65,935
Recordable/Rewritable Laser printer toner / Printer cartridges			10%	Units	600	50	30,000	50	33,000	50	36,300	50	39,930	50	43,923	183,153
Printer paper A4, A3			10%	Block Of 500	30	600	18,000	600	19,800	600	21,780	600	23,958	600	26,354	109,892
Total Computer Supplies								81,360	84,216		92,638		101,902		112,092	472,208

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
Other Fees:																
Call Center Service Fee (One Year)		See Note (2)	10%	Year	120,000	1	120,000	1	132,000	1	145,200	1	159,720	1	175,692	732,612
Web site fees (Leased lines, Domain Name Registration, etc.)			10%	Year	120,000	1	120,000	1	132,000	1	145,200	1	159,720	1	175,692	732,612
Others (startup costs+contingency)					Year	171,000	1	171,000	1	42,000	1	42,000	1	42,000	1	42,000
Total Other Fees							411,000		306,000		332,400		361,440		393,384	1,804,224
Maintenance (Outsourced)																
Hardware Maintenance		See Note (3)														
Phase I:																
Application Server	10%		10%			-			6,000		6,600		7,260		7,986	27,846
Mail Server	10%		10%			-			6,000		6,600		7,260		7,986	27,846
Archiving Server	10%		10%			-			6,000		6,600		7,260		7,986	27,846
Firewall Server	10%		10%			-			6,000		6,600		7,260		7,986	27,846
Web Server	10%		10%			-			6,000		6,600		7,260		7,986	27,846
Tape Drive	10%		10%			-			2,400		2,640		2,904		3,194	11,138
KVM switch 1x4 + Flat Panel console	10%		10%			-			4,680		5,148		5,663		6,229	21,720
Notebooks	10%		10%			-			3,060		3,366		3,703		4,073	14,202
Network (Racks, Switches, Routers, etc.)	10%		10%			-			12,000		13,200		14,520		15,972	55,692
Desktops	10%		10%			-			30,600		33,660		37,026		40,729	142,015
Wireless Router w/Firewall	10%		10%			-			180		198		218		240	836

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
Hardware Firewall	10%		10%			-			3,600		3,960		4,356		4,792	16,708
Server UPS	10%		10%			-			3,600		3,960		4,356		4,792	16,708
Desktop UPS	10%		10%			-			3,600		3,960		4,356		4,792	16,708
Printers	10%		10%			-			7,740		8,514		9,365		10,302	35,921
Scanners	10%		10%			-			2,880		3,168		3,485		3,834	13,367
Phase II:																
Backup Server	10%		10%			-		-			6,000		6,600		7,260	19,860
Active Directory Server	10%		10%			-		-			12,000		13,200		14,520	39,720
Database Server	10%		10%			-		-			6,000		6,600		7,260	19,860
Domain Name System (DNS) Server	10%		10%			-		-			6,000		6,600		7,260	19,860
Desktops	10%		10%			-		-			30,600		33,660		37,026	101,286
Server UPS	10%		10%			-		-			3,600		3,960		4,356	11,916
Desktop UPS	10%		10%			-		-			3,600		3,960		4,356	11,916
SAN	10%		10%			-		-			48,000		52,800		58,080	158,880
Printers	10%		10%			-		-			1,380		1,518		1,670	4,568
Software Maintenance																
		See Note (4)														
Phase I:																
MS Windows Server 2003 Enterprise+25 CALs	15%		10%			-			7,200		7,920		8,712		9,583	33,415
MS Windows Server 35	15%		10%			-										14,620

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
CALS @ \$25									3,150		3,465		3,812		4,193	
Microsoft Exchange Server (60 CALs)	15%		10%			-			3,510		3,861		4,247		4,672	16,290
Firewall, Intrusion Detection, and Anti virus	15%		10%			-			13,500		14,850		16,335		17,969	62,654
Backup software	15%		10%			-			1,800		1,980		2,178		2,396	8,354
Database Engine Development Software (Visual Studio .NET Enterprise Edition) /Other Tools /Reporting software (Crystal reports)	15%		10%			-			45,000		49,500		54,450		59,895	208,845
Office Automation software (Microsoft Office)	15%		10%			-			9,450		10,395		11,435		12,579	43,859
MS Project 2003 Standard	15%		10%			-			675		743		817		899	3,134
MS Visio Document and Workflow Management	15%		10%			-			135		149		164		180	628
	15%		10%			-			72,000		79,200		87,120		95,832	334,152
Financial & Admin Software	15%		10%			-			58,500		64,350		70,785		77,864	271,499

Phase II:																
MS Windows Server 2003 Enterprise+25 CALs	15%		10%			-			-		11,880		13,068		14,375	39,323
Database Engine	15%		10%			-			-		24,750		27,225		29,948	81,923

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
Office Automation software (Microsoft Office)	15%		10%				-		-		10,395		11,435		12,579	34,409
Web related software / Other tools	15%		10%				-		-		87,750		96,525		106,178	290,453
Portal Software	15%		10%				-		-		270,000		297,000		326,700	893,700
Total Maintenance Cost							-		328,260		883,042		971,348		1,068,488	3,251,138
Total Operation Cost							492,360		718,476		1,308,080		1,434,690		1,573,964	5,527,570
Total Op. Cost + Salaries							738,360		1,400,076		2,023,760		2,186,155		2,363,002	8,711,353
Equipment / Software Depreciation		See Note (5)														
Phase I:																
Hardware			0%	Year			208,680		208,680		208,680		208,680		208,680	1,043,400
Software	20%		0%	Year			298,560		298,560		298,560		298,560		298,560	1,492,800
Site Preparation	20%		0%	Year			26,400		26,400		26,400		26,400		26,400	132,000
Phase II:																
Hardware			0%	Year					234,360		234,360		234,360		234,360	937,440
Software	20%		0%	Year					534,000		534,000		534,000		534,000	2,136,000
Web Site Development	20%		0%	Year					12,000		12,000		12,000		12,000	48,000

The Mortgage Finance Authority Five-Year Expenses Budget (L.E.)

Item	%	Basis of Calculation	Annual Rate of Increase	Unit	Unit Cost (L.E.)	No of Units	Total Year 1	No of Units	Total Year 2	No of Units	Total Year 3	No of Units	Total Year 4	No of Units	Total Year 5	Grand Total
Portal Applications development/Other services	20%		0%	Year					216,000		216,000		216,000		216,000	864,000
Regulatory IMS Development	20%		0%	Year					36,000		36,000		36,000		36,000	144,000
Total Depreciation							533,640		1,566,000		1,566,000		1,566,000		1,566,000	6,797,640
Total Cost with depreciation							1,272,000		2,966,076		3,589,760		3,752,155		3,929,002	15,508,993

Appendix E - Visited Web Sites

These web sites were visited as a sample for the layout of the Authority's web site:

www.arello.org
www.homefunders.org
www.hud.gov
www.sfmoh.org
www.egypt.gov.eg
www.investment.gov.eg

These web sites were visited to obtain estimated costs for hosting, domain name registering and registering with search engines:

www.joinwow.org
www.webopedia.com
www.domain.com
www.dotdnr.com
www.easyspace.com
www.egyptianhosting.com
www.getenhanced.com
www.dsr1.com
www.telecomegypt.com.eg

Appendix F – The Work Plan

The following 3 year work plan is suggested to complete the automation of the Authority's activities. The work plan will cover the procurement of the hardware, system software and application software for the standard systems. It will also cover the development of the software specific to the Authority as well as the implementation of the systems purchased or developed.

As indicated in the hardware requirements section of this report, the procurements will cover the following components:

- 10 Servers
- 60 Workstations
- 3 Notebooks
- Storage Area Network (SAN)
- Tape drive
- Printers
- Scanners
- UPSs
- Site Preparation / Network Installation
- Web Access software / e-mail
- Portal software
- Backup software
- Database Management Systems
- Document and Workflow Management Systems
- Firewalls
- Office Automation software
- Financial and Administration Systems

These components will be obtained over 2 phases as follows:

Phase one:

- 5 Servers
- 30 Workstations
- 3 Notebooks
- Tape drive
- Printers
- Scanners
- UPS
- Site Preparation / Network Installation
- Web Access software / mail
- Database Management Systems
- Document and Workflow Management Systems
- Firewalls
- Office Automation software
- Financial and Administration Systems

Phase two:

- 5 Servers
- 30 Workstations
- SAN

Printers
UPS
Portal software
Backup software

The procurements should be completed by the end of the 2nd year.

The software development / implementation will be completed by the end of the 3rd year according to the following schedule:

- Regulatory Information Management Systems
Development will start during the 1st year and the implementation will be completed by the end of the 3rd year. It is expected that, as the Authority grows, the needs for additional requirements will arise.
- Financial and Administration Systems
Implementation will be completed by the end of the 2nd year.
- Office Automation
Implementation will be completed within the 1st year.
- Document and Workflow Management Systems
Implementation will be completed within the 2nd year.
- Web Site (Initial Version)
Development and implementation will be completed by the end of the 1st year.
- Web Portal – Automated Services
Development will start at the beginning of the 2nd year and be completed by the end of the 3rd year.

During the discussion of this report, the source of fund for providing the necessary procurements will be determined.

The Mortgage Finance Authority Automation Work Plan

	Y1				Y2				Y3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site Preparation / Network Installation												
Procurement:												
Phase I												
Phase II												
RIMS – Development												
Financial /Administration Systems Implementation												
Office automation Implementation												
Document / Workflow Management												
Web Site Development												
Web Portal -Service												