

Terms of Reference
for
**Obtain services of a consultancy firm to develop Employee Trust Fund (ETF)
core system**

ICTA/SG2/GOSL/CON/QCBS/2017/008

1. Introduction

The Employee Trust Fund Board (ETFB) of Sri Lanka was established in 1981 under the provisions of ETF Act No. 46 of 1980, in order to manage the large scale of operation of ETF Board. The Fund is administrated by the Employees' Trust Fund Board and at present the ETF Board is functioning under the Ministry of Development Assignments. Currently the active membership of the fund is approximately 2.6 Million and covered by 80,000 employers.

ETFB's mandate is to collect ETF contributions from Employers operating in Sri Lanka, maintain and develop the ETF contribution fund with the purpose of providing social security to the working population of the nation.

In addition, ETFB has designed some special benefits that are offered to active Members (i.e. Employees receiving ETF contribution).

A Business Process Improvement study has been carried out under the patronage of the ICTA to help ETFB achieve its goal above. It has been envisioned to implement a new ICT solution to support the improved processes designed for ETFB.

2. Background

In recent times, ETF has encountered several issues and limitations of the technologies used in their 15 years old existing system resulting delays in service delivery. Thereby, ICTA in collaboration with the ETF, in advance conducted a Business Process Improvement (BPI) study.

Consequent to the generated Business Process Improvement (BPI) study report, the necessity of transforming employer centric service delivery to member (employee) centric service delivery was recognized as the approach to increase the efficiency and productivity of process flows in the existing systems within ETF operations.

Project stakeholders inclusive of but not limited to;

- ICTA
- ETF Board
- Any other government organization attached to the project

3. Objective of the assignment

In order to overcome issues of the existing system, ETFB is pursuing on the necessity of developing a core system (proposed ETF system). Thus, a system which would enable the smooth functioning of services offered through the existing features of the system as well as enable the department's vision of providing a superior service through new features identified is desired.

The project intends to perform a system design and develop the system, deploy and maintain the system. The consultant firm (Software development firm) is required to design, develop and implement as well as maintain the software, which will be delivered to ETF. The total duration of the assignment must comprise of time for system design, development and final deployment including periodic user training and demonstrations.

4. ETF goal

To migrate from the current Employer Centric organization to a Member Centric organization.

In order to achieve this, there needs to be timely availability of:

- Member information for members to refer to anytime, anywhere
- View Transaction History to validate if all contributions have been paid on time and in full
- View Claim & Benefit eligibility status based on the transaction history

In addition, there needs to be an eco-system in place to provide an optimized service to Members, minimizing operational costs while achieving service excellence.

5. Scope of the service

1. The consultant should conduct a system requirements study of the ETF processes based on the BPI report. Moreover, proposed solution should improve the service delivery and enhance performance of the ETF operations to ultimately improve the service delivery while assisting ETF staff. (Refer Annex 1 - High-level Processes Identified by the BPI)
2. The selected consultant should conduct multiple workshop when necessary to verify the requirements specified in the BPI with all the relevant stakeholders in ETF. Furthermore, consultant should propose any improvement if required.
3. On completing the above, a Detailed Software Requirements Specification (DSRS) and a Detailed Software Technical Design (DSTD) document should be submitted. Vendor should obtain approval from ETF for the DSRS and approval from ICTA for the DSTD respectively.

4. The selected consultant should identify the suitable modules which could be purchase from the 3rd party service providers (elaborated in the Annex 1 “High-level Processes Identified by the BPI report”). Moreover, identified specifications of 3rd party modules should handover to the ICTA with modules features (i.e. considering the licensing cost, support and maintenance cost, integration features etc.)
5. The proposed modules will review the committee appointed by ICTA and said modules will procure by the ICTA and ETF based on the features given by the consultant.
6. Upon obtaining ICTA’s & ETF approval for the above, vendor should design and develop the system.
7. The consultant should integrate with existing applications (i.e. EISA etc.) as it is best suited for the proposed ETF system.
8. Adhere to ICTA project management practices.
9. Proposed system should be freely deployable, platform independent and interoperable. (Note: Freely deployable for enhancement, modification and redeployment purposes the system should have zero license cost.)
10. The consultant should implement security and governance including role-based security, user lifecycle management, complete audit-trails and double-entry accounting for all financial transactions.
11. The consultant shall complete the solution implementation within in 9 months’ period and operational acceptance should complete with in 3 months.
12. The consultant shall define the hardware requirements (such as computers, network devices use for LAN, printers, scanners etc.) and provide specifications of the proposed solution at the technical design stage.
13. The Web application should be compatible with latest technological components and best practices which proposed by ICTA and should be able to deploy into staging and production in cloud platform provided by ICTA.
14. The consultant shall adopt an iterative approach where the users should accept each iteration release into production.
15. The consultant may work in collaboration with the 3rd party vendors (i.e. Call Centre (inbound and outbound) module etc.) and provide necessary details and assistance required to implement the system.
16. The proposed solution should be able to generate reports quickly and in intuitive way

form data exists in the database (i.e. report builder).

17. The proposed services/modules (i.e. member module etc.) offers to public should available in tri-languages (Sinhala, Tamil and English)
18. The consultant who engage with the assignment should sign a Non-Disclosure Agreement (NDA) where applicable.
19. The consultant shall adhere to standards defined by ICTA such as relevant domain of Lanka Interoperability Framework (LIFe) and eGovernment Policy (Annex - 5).
20. The consultant shall comply with the independent quality assurance process, which will be carried by a team designated by ETF.
21. Obtain User Acceptance Test (UAT) for the implemented processes collaboratively with ICTA and ETF.
22. The consultant should follow the proper coding standard and maintain project source code in the ICTA, SVN system and upload documents to the ICTA, SCM.
23. Document and Training
 - 23.1. The consultant should provide user manuals in proper format. All manuals should be in English. The user manuals should be available in electronic format.
 - 23.2. The consultant should provide adequate training for the users of envisaged solution using operation documentations.
 - 23.3. The system administrators (IT offices) of the ETF should also be trained in relation to the system administration activities such as creating users, assigning user rights and back up procedures (not limited to) and technical training should provide the ETF technical team.
24. ICTA will facilitate any workshops or user trainings on request if desired.
25. Participate for Project Review Committee meetings and Project Implementation Committee (PIC) Meetings as a member and present the status of the project when necessary.
26. Maintain all issues in the Issue tracking system maintained by ICTA.
27. Adopt a proper application release procedure to release the ETF system to to the production environments during the deployment in the staging/ production environments at the cloud and server (configure, replicate and data migration the ETF system to the server) environments provided by ICTA.

28. Currently ETF has approximately registered 80,000 employers and 13 million registered employees and these records should migrate based on the quality index which was proposed in the BPI report.
29. Solution should be adhered to Web 2.0 concepts, open standards and Service Oriented Architecture (SOA) principles and n-tire architecture.
30. The consultant should coordinate with a relevant service provider to conduct system vulnerability assessment. (Relevant consultant should share the test script with ICTA).
31. The system should consume existing government authentication services and integrated with existing government software platforms (i.e. GOVSMS etc.) and also should expose API/web-services to external stakeholder organizations. (i.e. Employees Provident Fund (EPF), Registrar of Companies (ROC), Department of Registrar General (RGD) and Department of Registration of Persons (DRP) etc.)
32. The consultant should provide support and maintenance for 2 years to the developed solution from the date of launch.
33. The proposed solution should be able to manage the digitized documents securely (i.e. immutable scanned/digitized artifacts)
34. The consultant should provide support and maintenance services, from the date of launch to an agreed time period. Moreover, the consultant should adhere to the Service Level Agreement (SLA), during the support and maintenance (S&M) phase indicated and the level of support and maintenance of this for this assignment is “High” (Refer Annex 3 – Service Level Agreement for Support and Maintenance Services).
 - 34.1. The consultant should ensure efficient support to the ETF system through System Help Desk.
 - 34.2. The consultant should attend to any configuration changes related to parameters proposed for the system. (i.e. apply security patch and changes in resource files)
 - 34.3. Adopt a proper release procedure to release the patches/updates and deployment into the staging /production environments after completion of successful User Acceptance Test (UAT).
 - 34.4. At the end of the S&M period, the consultant should handover the source code and relevant documents to respective organization through ICTA as decided by the subject ministry, with a proper knowledge transfer session to the ICTA technology team including following artifacts (DSRS, DSTD and deployment document).

- 34.5. The consultant should work collaboratively with all stakeholders and attend to weekly progress meetings and management meetings.
35. The consultant should accommodate change request during the support and maintenance period. (If required) based on the agreed CR rate. The change request need to approve by the change control board at ETF.
36. Refer following Annexes which form a part and parcel of the Terms of References.

Annex 1 - High Level Functional BPI report.

Annex 2 - Non-Functional Requirements

Annex 3 - Service Level Agreement for Support and Maintenance Services

Annex 4 - eGov Policy

Annex 5 - Software Project Audit Process

6. Deliverables and timeline.

The Consultancy firm will be engaged for a period of 36 months, in which 9 months for the designing, developing, implementing, operation acceptance 3 months and 24 months for providing support and maintenance.

Consultancy firm is required to submit the following list of deliverables for the ETF system development and support & maintenance project for system.

No	Deliverables	Phase	Duration
1	Implementation Proposal 1.1 Implementation schedule / Project plan 1.2 Detailed Software Requirements Specification (DSRS) 1.3 Data migration and integration plan 1.4 Requirement verification report 1.5 Product backlog and iteration plan (3 Iterations for deployable and workable solution) 1.6 Acceptance criteria for the UAT	Inception	Commencement + 6 Weeks
2	2.1 Software architecture document 2.2 Detailed software technical design (DSTD) 2.3 Report on proposed 3 rd party modules and features (if required) 2.4 QA test plan	Design	Commencement + 11 Weeks

3	<p>3.1 Updated test plan for the iteration (Functional and Non-functional)</p> <p>3.2 Test cases and test scenarios (functional and non-functional)</p> <p>3.3 Proper maintenance of source code in SVN</p> <p>3.4 Developer and QA release notes</p> <p>3.5 Successful deployment of staging and production environments</p> <p>3.6 Test results</p> <p>3.7 UAT test cases and successful UAT acceptance</p> <p>3.8 User/Administration manual</p> <p>3.9 Deployment guide (including guide lines for system expansion)</p> <p>3.10 Maintenances guide</p> <p>3.11 User training</p> <p>3.12 API documentation (swagger documentation standard preferable)</p> <p>3.13 Data migration and integration</p> <p>3.14 Production deployment conformation report</p>	Iteration 1	Commencement + 18 Weeks
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	<p>4.1 Updated test plan for the iteration (Functional and Non-functional)</p> <p>4.2 Updated detailed software technical design (DSTD) (if required)</p> <p>4.3 Updated test cases and test scenarios (functional and non-functional)</p> <p>4.4 Proper maintenance of source code in SVN</p> <p>4.5 Updated developer and QA release notes</p> <p>4.6 Successful deployment of staging and production environments</p> <p>4.7 Updated test results</p> <p>4.8 Updated UAT test cases and successful UAT acceptance</p> <p>4.9 Updated user/administration manual</p> <p>4.10 Updated deployment guide (including guide lines for system expansion)</p> <p>4.11 Updated Maintenances guide</p> <p>4.12 Updated user training</p> <p>4.13 Updated API documentation (swagger documentation standard preferable)</p> <p>4.14 Updated data migration and integration</p> <p>4.15 Updated production deployment conformation report</p>	Iteration 2	Commencement + 26 Weeks
5	<p>5.1 Updated test plan for the iteration (Functional and Non-functional)</p> <p>5.2 Updated detailed software technical design (DSTD) (if required)</p> <p>5.3 Updated test cases and test scenarios (functional and non-functional)</p> <p>5.4 Proper maintenance of source code in SVN</p> <p>5.5 Updated developer and QA release notes</p> <p>5.6 Successful deployment of staging and production environments</p> <p>5.7 Updated test results (functional and non-functional)</p> <p>5.8 Updated UAT test cases and successful UAT acceptance</p> <p>5.9 Updated user/Administration manual</p> <p>5.10 Updated updated deployment guide (including guide lines for system expansion)</p> <p>5.11 Updated maintenances guide</p> <p>5.12 Updated user training</p>	Iteration 3	Commencement + 34 Weeks

	5.13 Updated API documentation (swagger documentation standard preferable) 5.14 Updated data migration and integration 5.15 Updated production deployment conformation report		
6	6.1 Specifications for required hardware improvements 6.2 Help Desk document for the system 6.3 Proper maintenance of issues in the Issue tracking System	Construction	Commencement + 36 Weeks
7	7.1 Successful Operational Acceptance	Transition	Commencement + 48 Weeks
8	8.1 Monthly support and maintenance Report 8.2 Final S&M report should consist with comprehensive knowledge transfer documentation.	S &M	Date of launch + 24 months (Quarterly)

Table 1: Deliverables and timeline.

7. Services and facilities provided by ICTA and ETF

- 7.1. Access to staging/ production environment.
- 7.2. Web-based access to the ICTA SVN system and SCM.
- 7.3. Access to Issue Tracking System.
- 7.4. Arranging meetings with stakeholders.
- 7.5. Access to GOVSMS API and relevant artifacts.

8. Review Committees and Review Procedures

The Software Development Service Provider is required to work closely with the ICTA Technology Team and the Software Process Audit (SPA) consultants.

All versions of deliverables will be reviewed by the team appointed by ICTA.

All the deliverables must be verified and confirmed to be accurate and complete by the Project Implementation Committee (PIC) or the Project Management Committee (PMC).

High-level Processes Identified by the BPI report

1. System Modules

1.1 Employer Portal

This is a public portal (Web & Mobile app) dedicated to provide self-service capability to manage all activities of Employers in relation to ETF payments

- 1.1.1 Registration request (for Employers)
- 1.1.2 Validate EPF number and Employer Name with the EPF system (via web-service)
- 1.1.3 User creation (multiple)
- 1.1.4 Update Employer master information
- 1.1.5 View profile completion progress (as a percentage) of the Employer account
- 1.1.6 Employee life-cycle management (employee registration, update Employee master information, categorization, salary changes, deactivation, reactivation & termination)
- 1.1.7 Map Employee categories against User logins (delegation of ETF payment management).
- 1.1.8 Generate monthly ETF contribution based on Salary Information and standard calculation formula
- 1.1.9 Display Employer status using a traffic-light system (Green, Amber & Red)
- 1.1.10 Raise requests for refund/set-off of excess payments
- 1.1.11 Raise requests for payment plan of overdue ETF contributions
- 1.1.12 View payment plan status (where applicable) and other dues
- 1.1.12 Raise disputes on member employment status, dues etc. (ticket to be created via the Incident Management Module)
- 1.1.13 View Transaction history
- 1.1.14 Manage Employer master information (contact information, board of directors etc)

1.2 Member Portal & App

This is a public e-service for the Employees (i.e. Members) to view ETF account details and to generate applications to Claims and Member Benefits.

- 1.2.1 Voluntary Registration
- 1.2.2 Self-Employment Registration
- 1.2.3 Update Member master information
- 1.2.4 View profile completion progress (as a percentage) of the Member account
- 1.2.5 Request change of Employment (subject to validation by Employer)

- 1.2.6 Raise disputes with balance, salary posted by employer, Employment status, statements etc. (ticket to be created via the Incident Management Module)
- 1.2.7 View Transaction History (i.e. Contributions, Interest, Dividends, Claim/Benefits)
- 1.2.8 View current balance (with interest and dividend components)
- 1.2.9 Check eligibility for Claims/Benefits (Green/Amber/Red Channel)
- 1.2.10 Generate Claim/Benefit application

1.3 Enforcement module

This helps identify and police Employers who have either defaulted ETF payments or Employers who have not yet registered & contributing ETF

- 1.3.1 System Generated Inspection Visit schedule (monthly) based on
 - 1.3.1.1 Defaulter list
 - 1.3.1.2 Complaints logged
 - 1.3.1.3 Referrals from Customer Service, Member Relations and Employer Relations teams
 - 1.3.1.4 Newly registered at EPF but not at ETF (i.e. Unmatched list)
 - 1.3.1.5 Pending Pay Orders
 - 1.3.1.6 Incomplete Inspections

Above based on user defined short list criteria specified. Should allow manual override of inspection schedule where required.

- 1.3.2 Assign inspection visits by inspection officer based on availability
- 1.3.3 Maintain Inspection Officers' schedules via system
- 1.3.4 Assign urgent complaints to nearest inspection officer (by zone and schedule)
- 1.3.5 Track status update of Inspection visits
- 1.3.6 Digitally prepare inspection report via mobile device
- 1.3.7 Digitally capture support documentation submitted during inspection
- 1.3.8 Facility to record signatures of Inspection officer, Employees and/or Employer
- 1.3.9 Generate Call-In Directives (i.e. request for additional information) based on pre-defined (configurable) list for reporting purposes
- 1.3.10 Automatically generate Pay Orders (i.e. dues + surcharge) based on information captured at Inspection subject to review and confirmation by Inspection Officer
- 1.3.11 Automatically track Pay Order payment status prior to defined activities in the process
- 1.3.12 Automatically generate reminders based on user defined criteria
- 1.3.13 Validate & conduct Amendment Requests – need to track cause of Amendment and timeline to complete Amendment.

- 1.3.14 Validate Instalment Requests. Process includes system based approval & escalation process
- 1.3.15 Generate Legal Action list of Pay Orders based on user defined criteria
- 1.3.16 Digitally assign Pay Orders to Legal by inspection officer / assigned user
- 1.3.17 Facilitate Internal Approval / Validation / Review / Escalation of information or issues via system
- 1.3.18 Registration of new Members encountered at inspection visits
- 1.3.19 Generate Surcharge notices, reminders and red notices based on configurable workflow timelines
- 1.3.20 Defaulter management (defaulter notices, visiting, collection of payment, rescheduling of visit)
- 1.3.21 Registration of new Employers (with information extracted from EPF via API/web-service)
- 1.3.22 Sync with Core System

1.4 Collections Module

This is to track and manage all payments including Contributions, Surcharges, Pay Orders, etc. made to ETFB

- 1.4.1 Match payments received via all channels (e-banking, cheque, non-bank channels such as mobile payments, supermarket payments, etc)
- 1.4.2 Generate cheque deposit lists
- 1.4.3 Generate cheque reject, refuse and return lists
- 1.4.4 Upload bank statements via text file/API/web-service for automated bank reconciliation
- 1.4.5 Manual reconciliation of payments received for unreconciled transactions by system
- 1.4.6 Calculate surcharges where applicable, create defaulter incident and assign to Enforcement
- 1.4.7 Status update of Employer account via Traffic Light System (i.e. Green, Amber & Red)
- 1.4.8 Facilitate entry corrections via double entry – Track reasons (configurable) for corrections by user
- 1.4.9 Validate and arrange for refunds on excess payments (including approval & escalation workflow via system)

1.5 Member Accounts

This is to track & manage contributions paid against members accounts ensuring an updated status quo for eligibility to claims & benefits

- 1.5.1 Automated allocation of contributions to Member accounts upon payment reconciliation

- 1.5.2 Manual allocation of contributions for contributions received via post
- 1.5.3 Automated Interest and Dividend calculation (annual) based on user defined date
- 1.5.4 Generate Annual Member Statements
- 1.5.5 Perform corrections on allocation details

1.6 Claims & Benefits Processing Module

This is to help manage and settle claims & benefits applications received from members

- 1.6.1 Administration of Claims (create Benefits, setup business-rules for eligibility, setup work-flows)
- 1.6.2 Claims and Benefits application submission (including scanning of the application)
- 1.6.3 Recall Claim/Benefit application from QR/bar code
- 1.6.4 Validate Claim/Benefit (using business rules configured in the rules engine)
- 1.6.5 Schedule and manage medical board/medical committee appointments
- 1.6.6 Manage Nominee/Beneficiary information obtained from 3rd party sources (e.g. EPF, Private Funds, Court Orders)
- 1.6.7 Pre-audit prior to payment (depending on value)
- 1.6.8 Approve Claim/Benefit (workflow-based)
- 1.6.9 Payment processing including Withholding Tax processing
- 1.6.10 SLIPS file generation
- 1.6.11 Cheque printing
- 1.6.12 Inform receipt/rejection/payment of Claim/Benefit to claimant via SMS/email/App

1.7 Investments & Equity Management Module

This module manages the investments made from the contributions.

- 1.7.1 Investments tracking
- 1.7.2 Data upload/ integration – CSE data, bank statements, bought notes & sold notes
- 1.7.3 Equity-baskets management
- 1.7.4 Portfolio/basket performance tracking
- 1.7.5 Investment maturity reporting
- 1.7.6 Calculate dividend declaration

1.8 Finance

This module is mainly to manage the accounts and cash in/out flows. The system must strictly comply with the prevailing GoSL accounting standards.

- 1.8.1 Upgrade/replace current accounting solution
- 1.8.2 Integrate with proposed ETFB solution to share transaction data (data files/ API)
- 1.8.3 Data upload via text file/ API (e.g. bank statements)
- 1.8.4 Export data to Excel

1.9 Admin/HR

This is mainly to manage the administrative functions related to the staff at ETFB. A comprehensive Human Resources Management System is required.

- 1.9.1 Create and manage organizational chart
 - 1.9.1.1 Graphical view of the approved cadre
 - 1.9.1.2 Workflows for managing cadre positions
 - 1.9.1.2.1 Create new cadre position (temporary or permanent)
 - 1.9.1.2.2 Change position
 - 1.9.1.2.3 Remove position
 - 1.9.1.2.4 Block/unblock position
 - 1.9.1.2.5 Setup expertise/specialized experience required for position
 - 1.9.1.3 Manage multiple hierarchies (Administrative, Operational and Disciplinary)
 - 1.9.1.4 Moving cadre positions as a sub-tree
- 1.9.2 Sharing of cadre position information (org-chart as an image and information for each position).
- 1.9.3 Recruitment (per Service)
 - 1.9.3.1 Identify positions which are currently vacant
 - 1.9.3.2 Prepare annual recruitment plan
 - 1.9.3.3 Receive applications from candidates and scanning (from both internal and external applicants)
 - 1.9.3.4 Preliminary screening of applications for interviews
 - 1.9.3.5 Manage interview board
 - 1.9.3.6 Manage interviews (capture interview outcome)
 - 1.9.3.7 Finalize and close interviews (freeze recruitment list)
- 1.9.4 Placement
 - 1.9.4.1 Assign new recruits to vacancies
 - 1.9.4.2 Generate Letter of Appointment
 - 1.9.4.3 Reassigning/substituting of recruits

- 1.9.5 Orientation and acceptance of duties
 - 1.9.5.1 Managing of orientation programs
 - 1.9.5.1.1 Scheduling
 - 1.9.5.1.2 Participation
 - 1.9.5.1.3 completion (by new recruits)
 - 1.9.5.2 Acceptance of Duties
 - 1.9.5.3 Manage verification of health/medical records
 - 1.9.5.4 Termination of new recruits (due to non-acceptance of duties)

- 1.9.6 Employee Development
 - 1.9.6.1 Annual updating of employee profile
 - 1.9.6.2 Manage 3600 feedback from relevant parties (peers, citizens, subordinates, superiors)
 - 1.9.6.3 Manage development interview
 - 1.9.6.3.1 Scheduling
 - 1.9.6.3.2 capture outcome (development needs etc.)
 - 1.9.6.4 Generate development needs summary
 - 1.9.6.5 Manage development programs
 - 1.9.6.5.1 Setup programs (local and overseas)
 - 1.9.6.5.2 Manage budgets
 - 1.9.6.5.3 Assign 3rd party organizations for conducting programs
 - 1.9.6.5.4 Schedule programs
 - 1.9.6.5.5 Assign Employees to relevant Development Programs
 - 1.9.6.5.6 Mutual exchange (by Employees)
 - 1.9.6.5.7 Capture feedback on programs
 - 1.9.6.5.8 Capture development outcome (for each employee)
 - 1.9.6.6 Manage Promotions
 - 1.9.6.6.1 Identify Employees eligible for promotion/confirmation
 - 1.9.6.6.2 Manage interviews
 - 1.9.6.6.3 Capture interview outcome
 - 1.9.6.6.4 Approval workflow for promotion/confirmation
 - 1.9.6.6.5 Prepare updated Terms of Employment
 - 1.9.6.7 Manage transfers and releases (temporary/permanent)
 - 1.9.6.7.1 Manage internal transfers (within organization)
 - 1.9.6.7.2 Update upcoming retirements

- 1.9.6.7.3 Process Employees who are due for mandatory-transfers (e.g. 5yr rule)
- 1.9.6.7.4 Process ad-hoc transfers (requests by Employee or Organization)
- 1.9.6.7.5 Process mutual transfers
- 1.9.6.7.6 Manage interviews (for positions that require interviews prior to approval of transfer)
- 1.9.6.7.7 Generate master schedule (finalized list) of transfers
- 1.9.6.7.8 Casual/temporary assignments to vacant positions
- 1.9.6.7.9 Manage hand-over of duties and starting of work at new position
- 1.9.6.7.10 Manage releasing (Temporary/Permanent) of Employee from Public Service (due to retiring from public sector, death or injury)
- 1.9.6.7.11 Reinstating an employee after Release (temp/permanent)

1.9.7 Discipline Management

- 1.9.7.1 Capture incident
- 1.9.7.2 Generate Vacation of Post notice
- 1.9.7.3 Schedule and Conduct investigations
- 1.9.7.4 Preparation of Charge Sheet
- 1.9.7.5 Follow-up on actions proposed by the investigations
- 1.9.7.6 Schedule and conduct disciplinary inquiry (in-house and/or 3rd party)
 - 1.9.7.6.1 Manage assignment of Prosecuting/Investigating Officers
 - 1.9.7.6.2 Capture progress of inquiry
 - 1.9.7.6.3 Manage Charges (in the charge sheet)
 - 1.9.7.6.4 Manage extensions and changes
 - 1.9.7.6.5 Capture inquiry decision and create relevant tasks
 - 1.9.7.6.6 Follow-up on task completion/execution

- 1.9.8 Staff Payroll
 - 1.9.8.1 Strict adherence to GoSL payroll standards
 - 1.9.8.2 Ability to link with the finger-print scanner devices to obtain time-in/out information.
 - 1.9.8.3 Calculation of staff incentives based on
 - 1.9.8.3.1 Attendance
 - 1.9.8.3.2 Incentive rate + salary
 - 1.9.8.3.3 Fixed incentives
- 1.9.9 Staff Benefits Management
 - 1.9.9.1 Manage staff benefits for each Service (Example: Medical Reimbursements, Staff Loans)
 - 1.9.9.2 Allocation of staff benefits for groups of Employees (and individuals as well)
 - 1.9.9.3 Manage staff benefits provided by 3rd parties
 - 1.9.9.4 Process staff benefit requests
 - 1.9.9.5 Disbursement of staff benefit (internal or via 3rd party)
 - 1.9.9.6 Upgrade/replace Medical Settlement system and integrate with (or absorb the functionality into) staff-benefits management module.
 - 1.9.9.7 Generate SLIPs files for staff benefit settlement

1.10 Legal

This is to help track and manage all legal cases filed against Employers to recover ETF dues on behalf of members

- 1.10.1 Generate Warning notices to Government Institutes
- 1.10.2 Generate Letter of Demands with copies for Directors
- 1.10.3 Centralized tracking of all Legal files – statuses/stages should be configurable
- 1.10.4 Record Payment plans approved by courts
- 1.10.5 Monitor settlement statuses of all Legal files during all stages of the workflow
- 1.10.6 Traffic Light warning / flagging system

1.11 Call Centre (inbound and outbound)

- 1.11.1 Telephony
- 1.11.2 Automatic call distributor (ACD)
- 1.11.3 Interactive voice response (IVR)
- 1.11.4 Skills-based routing
- 1.11.5 Call queues
- 1.11.6 Automatic screen pop
- 1.11.7 Business tools integration
- 1.11.8 Call control
- 1.11.9 Disposition codes
- 1.11.10 Call recording

- 1.11.11 Call monitoring
- 1.11.12 Call barging
- 1.11.13 Whisper coaching
- 1.11.14 Conference calling
- 1.11.15 Voicemail, transcription and notifications
- 1.11.16 Predictive dialler
- 1.11.17 Click-to-call
- 1.11.18 Real-time reporting
- 1.11.19 Historical reporting

1.12 Transport

- 1.12.1 Automated Mileage tracking facility preferably with IOT devices installed at vehicles
- 1.12.2 Fuel consumption & refuelling tracking preferably via IOT devices
- 1.12.3 Tracking of Insurance & Revenue License renewal
- 1.12.4 Maintenance scheduling & Tracking

1.13 Internal Audit

- 1.13.1 Upload medical bills & necessary copies of scanned Documents (viyana housing loan)
- 1.13.2 Update the member/staff portal
- 1.13.3 Add comments to the validation process
- 1.13.4 check financial summary progress
- 1.13.5 checking SMIB for previous transfers

1.14 Business Intelligence

- 1.14.1 Reports and dashboards.
- 1.14.2 Data analysis.
- 1.14.3 KPIs and data analysis.
- 1.14.4 Data Warehousing supporting multiple data sources

1.15 Incident Management

This module is expected to manage incidents recorded in relation to any issues relevant to the ETF system. This include technical issues as well as business issues.

- 1.15.1 Create, assign, escalate, close incidents
- 1.15.2 Maintain history/timeline of incident
- 1.15.3 Add attachments and comments to incidents
- 1.15.4 Automatic escalation of incidents upon reaching pre-defined target date (set for each incident based on type)
- 1.15.5 SMS/Email notifications upon event triggers (e.g. send SMS to customer upon closing the ticket)
- 1.15.6 Feedback management (e.g. star rating of service received)

1.15.7 View incident status and details via RESTful API.

1.16 Procurement & Inventory

This is an industry-standard procurement and inventory management solution which is integrated into the ETFB solution landscape.

- 1.16.1 Strictly NPA-Compliant procurement process
- 1.16.2 Centralized procurement
- 1.16.3 Routine and ad-hoc procurement
- 1.16.4 Supplier registry and annual refresh
- 1.16.5 Annual procurement budgeting (replacement and expansion)
- 1.16.6 Over-budget warning for purchase requisitions (when applicable) and route to DGM approval.
- 1.16.7 Workflow based on NPA guidelines
- 1.16.8 Distributed inventories (GRN, Issues & Transfers)
- 1.16.9 Centralized inventory monitoring
- 1.16.10 QR/bar code based inventory management
- 1.16.11 Inventory forecasting
- 1.16.12 Setup maintenance schedule for assets
- 1.16.13 Cost optimization
- 1.16.14 Standard inventory statistics (e.g. movement, age etc.)

1.17 Document Management

This module is a comprehensive digital content managements system which can securely hold any digital asset uploaded into the repository.

- 1.17.1 Bulk scanning support
- 1.17.2 Single document (set) scanning support
- 1.17.3 QR code integration
- 1.17.4 Data capture from scanned documents
- 1.17.5 Tagging and immutable storage
- 1.17.6 Replacement of digital artefacts with original preserved (versioning)
- 1.17.7 Physical storage bin allocation
- 1.17.8 Document movement (QR code based)

1.18 IT

This is a system administration module which provides back-end maintenance facilities to be used by the IT department.

- 1.18.1 User Life-cycle management
 - 1.18.1.1 Role based security (at system function level)
 - 1.18.1.2 User Groups
 - 1.18.1.3 Centralized user repository
- 1.18.2 Workflow administration

- 1.18.2.1 An industry standard workflow engine that is customized to ETFB environment is expected
- 1.18.2.2 Setup new workflows
- 1.18.2.3 Update existing workflows
- 1.18.3 Business Rules administration
 - 1.18.3.1 An industry standard business rules engine that is customized to ETFB environment is expected
 - 1.18.3.2 Business rules-creation based on existing system objects
 - 1.18.3.3 Business rules testing capability
- 1.18.4 Change request management system (linked to Incident Management System)
- 1.18.5 Periodic backup with standard backup profiles - incremental/full/daily
- 1.18.6 Disaster Recovery capabilities (a comprehensive DR plan is to be proposed by the vendor)
- 1.18.7 Data migration (import cleansed data)
 - 1.18.7.1 Employer master data
 - 1.18.7.2 Member master data
 - 1.18.7.3 Contributions and surcharges received
 - 1.18.7.4 Allocations to Members
 - 1.18.7.5 Claims & Benefits completed

Non-Functional Requirements

1. SECURITY

1.1. User authentication and authorization

All applications should be able to access via ICTA's common infrastructure/application itself and independently via respective department's web site if required. Any authorization requirements should be implemented within the specific web/mobile application.

However, the solution should have the provision to integrate with the ICTA's proposed Identity Management solution in future.

An administrative application need to be developed wherever applicable.

Wherever applicable internal small applications need to be developed to capture and store relevant data.

1.2. Confidentiality and Integrity

All developed web/mobile applications should ensure "confidentiality" and "integrity" whenever required by adhering to transport and message level security standards. (i.e.: HTTPS, WS-Security)

1.3. Authentication

The web/mobile application should be able to verify the users.

1.4. Authorization

The web/mobile application should be able to verify that allowed users have access to resources.

1.5. Non-repudiation

All Web/mobile applications should ensure non-repudiation by having standard audit-trails and provisions to have WS-Security using digital signatures.

1.6. OWASP Guidelines

All web/mobile applications should ensure that the OWASP guidelines for security are followed when designing, developing and deploying the web/mobile application.

2. AUDIT FACILITIES

Wherever applicable, an audit trail of all activities must be maintained. On a service or operation being initiated, the system should log the event, creating a basic 'audit log entry'. It should not be possible for the operation to be executed without the log entry being made. The information recorded in the audit trail depends on the type of activity which takes place. Each service would be responsible for logging detailed information. The different types of operations are -

- Data Capture & Maintenance
- Creation of an entry / item
- Modification an item
- Deletion
- Control (or status change)
- Process execution
- Data synchronization
- Print (only selected item)
- Retrieval
- Monitor

Detail logging may be enabled or disabled for each type of operation, and/or for each business object. It should be possible to configure which attributes of a data item should be traced at the detail level. Tracing of some attributes may be considered mandatory, and they should not be turned off.

3. BACKUP AND CONTINGENCY PLANNING

The main contingencies that should be considered and the training with regards to these shall be given to the relevant staff -

- Equipment failure
- Physical / natural Disaster
- Messaging or communication facilities.
- Changes in operations and policy
- Sudden absence of key personnel

- Breach in Security

Automatic Backups daily, weekly *and* monthly should be taken. All the backup procedures and backups needs to be tested regularly for restoration.

4. PERFORMANCE TESTING

Please find the below index as a guide to determine the benchmark values for the Application under the test.

Following performance criteria is provided as a guideline only. If the actual performance is falling below the stipulated figures, the consultant is to justify the reasons. However, the performance level must be accepted by the technical evaluation committee appointed by the client. The bandwidth is assumed at 1mbps (shared) with 1,000 concurrent users (50% load factor) in total.

Item	Performance
Screen Navigation: field-to-field	< 5 milliseconds
Screen Navigation: screen-to-screen	< 3 seconds
Screen Refresh	< 3 seconds
Screen list box, combo box	< 2 seconds
Screen grid – 25 rows, 10 columns	<3 seconds
Report preview – (all reports) – initial page view (if asynchronous)	< 40 seconds in most instances. It is understood that complicated / large volume reports may require a longer period
Simple inquiry – single table, 5 fields, 3 conditions – without screen rendering	< 4 seconds for 100,000 rows
Complex enquiry – multiple joined table (5), 10 fields, 3 conditions – without screen rendering	< 6 seconds for 100,000 rows
Server side validations / computations	< 10 milliseconds
Client side validations / computations	< 1 millisecond
Batch processing (if any) per 100 records	< 120 seconds
Login, authentication, and verification	< 3 seconds

Daily backups (@Dept.) – max duration	1 hour (on-line preferred)
Total Restore (@Dept.) – max duration	4 hours

4.1 Performance Test Process Outputs

- Performance Test Scripts
- Performance Test Results

5. USABILITY

The web/mobile application should be extremely usable, even a greenhorn user should be able to handle the system and incorporate all the functionality of the system in a simple and user friendly interface. The web/mobile application should be internationalized and localized if needed. The web/mobile application should be responsive where it should be viewable on any computing device.

6. INTEROPERABILITY

The web application should be able to view in standard compatible web browsers.

7. AVAILABILITY

The web/mobile application should be performed as follows,

- 99.99% available unless the web/mobile application is designed with expected downtime for activities such as database upgrades and backups.
- Hence to have high availability, the web/mobile application must have low downtime and low recovery time.

8. ROBUSTNESS

The web/mobile application should be able to handle error conditions gracefully, without failure. This includes a tolerance of invalid data, software defects, and unexpected operating conditions.

- Failure Detection
 - Once deployed, there should be appropriate tools to discover anomalies and failures of the system

- Fault Tolerance
 - Web/mobile application developer should anticipate exceptional conditions and develop the system to cope with them. The web/mobile application must be able to use reversion to fall back to a safe mode, meaning, the application should continue its intended functions, possibly at a reduced level, rather than falling completely.

9. MAINTAINABILITY

The code of web/mobile application should be properly documented with appropriate comments and no complex codes (highly cohesive and loosely coupled) to do modifications such as corrections, improvements or adaption.

10. COMPLIANCE TO STANDARDS

The code of web/mobile application should be standardized by following web/mobile standards like W3C and ECMA – European Computer Manufacturers Association, to save time, augment the extensibility of the code, increase web/mobile traffic and improve the accessibility and load time of your application.

11. REUSABILITY

The web/mobile application should be able to use of existing assets in some form with the software product development process. Assets are products and by-products of the software development life cycle and include code, software components, test suites, design and documentation.

12. INTERNATIONALIZATION

The web/mobile application should be able to access in Sinhalese, English and Tamil. The web/mobile application should be able to view in a usable manner in all three languages in any computing device.

13. API MANAGEMENT

13.1. API Standards and Best Practices

API standards and best practices that *should be adhered* to the code.

13.2 API Documentation

- Swagger documentation should be provided.

13.3. API Security

The web/mobile application should be used appropriate API security protocol mentioned below.

- Basic API authentication
 - Basic authentication should never be used without TLS (formally known as SSL) encryption as user name and password combination can be easily decoded otherwise.
- OAuth1.0a
 - Uses cryptographic signature value that combines the token secret, nonce, and other request based information. Can be safely used without SSL.
 - Recommend for sensitive data applications
- OAuth2
 - No need to use cryptographic algorithms to create, generate and validate signatures as all the encryption handled by TLS.
 - Recommend for less sensitive data applications
- JWT (JSON Web/mobile Tokens)

14. SCALABILITY

The web/mobile application should be both scalable and resilient. A well-designed application should be able to scale seamlessly as demand increases and decreases. It should be resilient enough to withstand the loss of one or more hardware resource.

15. LEGAL AND LICENSING

The web/mobile application should comply the national law.

15. EXTENSIBILITY

The web/mobile application should be designed and developed in a way that it can cater to future business needs.

16. TESTABILITY

The web/mobile application should be designed and developed in a way that testability is high, meaning, the ease of testing a piece of code or functionality, or a provision added in software so that test plans and scripts can be systematically executed. In simple terms, the software should be tested easily with most famous 5 testing categories;

- Unit test
- Integration test
- System test
- Safety test
- Experience test

Refer Aden (2016)'s view on semantic testing for more information.

The web application should be working according to the given criteria in the latest version and 5 versions before in web browsers such as Mozilla Firefox, Google Chrome, Opera, and Apple Safari and the latest version and 2 versions before in Internet Explorer.

17. NOTES

- Some of the none-functional requirements shall be excluded based on the project requirement with the approval of the ICTA Technology Team.
- The vendor can propose similar standards/requirements for the above-mentioned standards/requirements with the approval of the ICTA Technology Team.
- The design documents should be based on 4+1 architecture model.

BIBLIOGRAPHY

1. The White House. *White House Web/mobile API Standards*. Washington, D.C.: git hub.com, 2015. Print.
2. Aden, S. (2016). Semantic Testing. Retrieved August 30, 2017, from <https://semantictesting.org/>

SERVICE LEVEL AGREEMENT *for* SUPPORT AND MAINTENANCE SERVICES

1 Introduction

The aim of this agreement is to provide a basis for close co-operation between the Service Provider (name of the company) and Client (ICTA) for support and maintenance services to be provided by the Provider, thereby ensuring a timely and efficient support service is available. The objectives of this agreement are detailed below point(ii).

This agreement is contingent upon each party knowing and fulfilling their responsibilities and generating an environment conducive to the achievement and maintenance of targeted service levels.

1.1 Objectives of Service Level Agreements

- To create an environment conducive to a co-operative relationship between Client, Service Provider and Client's representatives (government organizations) to ensure the effective support of all end users.
- To define the commencement of the agreement, its initial term and the provision for reviews.
- To define in detail, the service to be delivered by each party and the level of service expected, thereby reducing the risk of misunderstandings.
- To institute a formal system of objective service level monitoring ensuring that reviews of the agreement is based on factual data.
- To provide a common understanding of service requirements/capabilities and of the principals involved in the measurement of service levels.
- To provide for all parties to the Service Level Agreement a single, easily referenced document which caters for all objectives as listed above.

1.2 Principal Period of Support (PPS) Requirements

The Principal Period of Support (PPS) is considered in 2 categories as follows;

PPS category	Duration	Applicability
PPS1	From 08:00 AM to 05:00 PM Monday to Saturday.	For the internal department administration system.
PPS2	From 08:00 AM to 07:00 PM All 7 days.	Online services offer via portal.

Service Provider **MUST** assure System Support and Maintenance Services during the above stipulated times.

1.3 On-Call Services Requirements

Provider MUST make at least ONE qualified personnel available to the Client by telephone and email for the reporting and resolution of non-conformities or other issues, defects or problems. Dedicated telephone numbers and emails should be available for reporting issues. Client will nominate the personnel who are authorized to report non-conformities or other problems with the system from the departments. Reporting of non-conformities includes requests by the Client to apply critical software updates or patches.

Table-1 shows the response priority assigned to faults according to the perceived importance of the reported situation and the required initial telephone response times for the individual priority ratings. All times indicated represent telephone response time during specified PPSs. The indicated telephone response time represents the maximum delay between a fault/request being reported and a Provider's representative contacting the Client by telephone. The purpose of this telephone contact is to notify the Client of the receipt of the fault/request and provide the Client with details of the proposed action to be taken in respect of the particular fault/request.

	Business Critical	Non-Business Critical
Fatal	30 minutes	45 minutes
Impaired	45 minutes	90 minutes

Table-1: Response Priority

Note:

- Fatal - Total system inoperability
- Impaired - Partial system inoperability
- Business Critical - Unable to perform core business functions
- Non-Business Critical - Able to perform limited core business functions

Provider notification can occur outside PPS time, and thus the response may occur after the next PPS begins. Furthermore, "Time to Arrive On-Site (Table-3)" starts from PPS starting time and "Time to Resolve the Problem" is PPS time starting from the actual time of arrival on site.

1.4 Problem Resolution and Penalties

If problems have not been corrected within two (2) hours of the initial contact, the Provider shall send qualified maintenance personnel to the respective Client's site to take necessary actions to correct the issue reported (defect, problem or non-conformity).

If faults are not corrected within the time limits specified in the Table-2, the Client shall be entitled to a penalty payment for each hour that the Consultant fails to resolve the fault. Maximum ceiling of penalty for a given month is 10% of the invoice amount for the month.

	Business Critical	Non-Business Critical
Fatal	1 Hours LKR 12,000.00	2 Hours LKR 8,000.00
Impaired	2 Hours LKR 5,000.00	5 Hours LKR 3,000.00

Table-2: Resolution Time and Penalties

The time to arrive on-site is specified in the Table-3.

	Business Critical	Non-Business Critical
Fatal	2 Hours	3 Hours
Impaired	3 Hours	5 Hours

Table-3: Time to arrive on-site

1.5 Service Level Monitoring

The success of Service Level Agreements depends fundamentally on the ability to meet agreed service levels and effective measuring of performance, comprehensively and accurately so that reliable information is available for both parties in agreement. Thereby a clear understanding and effective communication can be maintained between the provider and customer.

Service factors must be meaningful, measurable and monitored constantly. Actual levels of service are to be compared with agreed target levels on a regular basis by both Client and Provider. In the event of a discrepancy between actual and targeted service levels both Client and Provider are expected to identify and resolve the reason(s) for any discrepancies in close co-operation.

Compliance to SLA will be monitored via:

- a. Completion of deliverables as per agreed time lines;
- b. Accuracy, completeness and quality of the deliverable;
- c. Issues resolution within the agreed upon time;
- d. On call support within agreed upon time;

Service level monitoring will be mainly performed by Client. Provider may also monitor the level of compliance, for possible improvements. Reports will be produced as and when required and forwarded to the necessary parties.

[ANNEX 4]

EGOV POLICY

Refer following url:

<https://www.gov.lk/elaws/wordpress/wp-content/uploads/2015/03/eGov-Policy-structured-v4-0.pdf>