



Terms of Reference

**For developing Enterprise Electronic File Management
and its post-development support service.**

Access to Information - II
Prime Minister's Office
Government of Bangladesh

1. Introduction

E-Governance is the public sector's use of information and communication technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. The Knowledge Base of Innovative E-government Practices requires Innovative e-government solutions, services and applications. The Knowledge Base does not promote one solution over another, but rather highlights e-government practices that place the citizen in the forefront. Traditional filing system in Government of Bangladesh is, therefore, needs to be electronic to comply the decision support system more effective. ICT enabled filing, noting, work-flow and its associated solutions can supplement the initiative of smart government. To bring transparency, dynamism in the administrative process and also to improve the efficiency, Bangladesh government has already launched e-file management system. After a while, the next discovery session become obvious to introduce better user experience in addition to new requirements to process files faster, efficiently and easily.

2. Business Case & Business Realization

1. e-File management system is a nationwide GoB document filing, handling and management system. It should cover the all-administrative document flow phase by phase. All applications etc. are required to be filed and follow up electronically.
3. Expectancies from the solution are
 - a. A convenient filing tool that helps to manage faster document filing, retrieval and tracking
 - b. Easy & Concurrent Access and Navigation
 - c. Capable of communicating with other apps/services
4. There will be 3 pillars
 - a. A document or file management system which will serve as electronic application repository
 - b. A workflow engine which will capture the intricacies of decision making and processing
 - c. A notification engine to notify using any form of communication (email/sms/ and/or just notification on web apps

3. Scope of work highlights

3.1. Analyze, Design and Develop Electronic Filing Software Suite comprising of modularized operational work-flow under n-tier application model compatible with cloud infrastructure environment.

- 3.2. Prepare Technical Documents including (Not limited to) SRS, Data Dictionary, Use cases, Test Cases, Training Manual and ERD.
- 3.3. Design and Develop Database for the software in a structured architecture.
- 3.4. Share source code, data structure, technical documents and all other design documents with a2i or its nominated expert or experts creating inter-team IDE with a2i.
- 3.4. Define technical managed hosting requirements and prepare its technical document.
- 3.5. Develop data migration tool and assist a2i Implementation team in Piloting the software with possible level of Data Migration.
- 3.6. Test and confirm Prototype of the software piloting in a specific district as Technical POC.
- 3.7. Provide Post development support service under structured SLA and Change Management Architecture.
- 3.8. Ensure application level security creating necessary controls in the software.
- 3.9. Creating necessary plug-ins for future integration with other system bus.
- 3.10 Creating Open Data Layer and Data Analytics Platform for future BI Application to be developed.
- 3.11 Design and Develop role-based access control system forming api server for directory service for E-file software user.
- 3.12 Design and develop both operational and monitoring dashboards for different layers of users with configurable presentation and configurable layer definition.
- 3.13. Design and develop functional and analytical reports based on due study on the user requirements.
- 3.14. Provide Data Import/Export facility by UI and ensure data portability.
- 3.15. Adding necessary controls and mechanisms for ensuring system interoperability.
- 3.16. Ensure full cloud compatibility and international IS control compliance in the software system to address any acceptable test and audit on the system.
- 3.17. Carrying on Change Management documentation and customization in the system during both development and production environment under either test or production mode.
- 3.18. Ensure addressing acceptable UX survey and update the system by reasonable time.
- 3.19. Provide necessary support to Data Center and users for data, content and application configuration.
- 3.20 Provide ToT for minimum 30 users and Operational Orientation for minimum 50 end-users nominated by a2i.
- 3.21 Integrate plug-ins for integrating SMS gateway, Payment Gateway and separate gateway for inter-office communication.
- 3.22. Adding Notice management by Email and integration with Email Text as File Note importing method in the software.
- 3.23 Provisioning PKI as a service.
- 3.24. Using static analyzers, Vendor will review codes and will submit the report to a2i.
- 3.25. System needs to have necessary controls for being browser independent and mobile OS responsive.
- 3.26 Vendor will provide ToT for atleast two batches for minimum 100 end-users to develop master trainer for this product.

3.27 Vendor will have clear exit process handing over technical documents and source codes on completion of the total assignment after maintenance period without any additional cost. Vendor will handover technical design document and source to a2i or its nominated agencies after maintenance period based on written request from a2i or it nominated agencies.

3.28 During development and maintenance, vendor will provide full access to Technical documents, Database and source codes to a2i nominated limited IT Professionals to review and understand inside.

4. UAT and User Group

4.1 UAT for new technology: During POC one DC office, one District level office of Social Welfare Officer and one Mohila Bishoyok Officer's Office at district level should be covered where single office file flow and inter office file exchange would be tested. Findings and feedback from POC must have to be incorporated into the system before go live.

4.2 User Group: Government of Bangladesh or a2i or its nominated authority can form user group to conduct UAT for new generation e-File system and the contracting firm will comply user feedback in a structured technology management procedure.

5. Implementation Strategy:

Implementation strategy would be divided into four phases, quarter one, quarter two, quarter three and quarter four. Each quarter would be three months long.

Phase wise implementation plan [but not limited to the number mentioned below] is follows :

Phase No.	Ministry/Division /Directorate	Divisional Level Office	District Level office	Upazilla Level Office	Total No. Offices
Phase-1	Nil	3 Divisional Commissioner's Office	32 District Commissioner's Office	Nil	35
Phase-2	Ministry and Directorate of Social Welfare, Ministry and Directorate of Mohila Bishoyok and Cabinet Division	4 Divisional Commissioner's Office	32 District Commissioner's Office	Nil	41
Phase-3		Nil	32 Social Welfare Officer's Office And 32 Mohila Bishoyok Officer's Office	Nil	64
Phase-4		Nil	32 Social Welfare	64 Sadar	192

			Officer's Office And 32 Mohila Bishoyok Officer's Office	Upazilla UNO office and 64 Social Welfare Officer's Office	
Total no. of offices	5	7	192	128	332

It is expected that the contracting firm will assist implementation team in continuous change management, version control, application management support and software maintenance for all implemented offices.

NB: Offices are changeable as per clients direction.

6. High Level Design

This e-File system will have 5 major components:

6.1 A Back End Database: This will be used for all sorts of 'WRITE' operations. This will be the central repository of the data. But, for reference, to read data, 64 districts will have 64 separate databases, which will act as a slave of the master/central database. These databases will be synced automatically with the master.

6.2 The API server: This will host the core application with business logics and open up API's request with required features. This will sit in-between Database and any application server.

6.3 Application Server: A web application or any other smart device app server that plays data commissioning role as a consumer of the API repository.

6.4 Front-end: A very rich interface using JavaScript is a must to make the system user friendly and cutting edge.

6.5 A notification Server: This will push notifications to the apps. e.g. when an application creates a notification, an alert will be generated on the dashboard without refreshing or calling by repeating Ajax/Applet Request.

6.6 Better user experience is the crying need of the application. Here are some areas where we need that mostly:

- Auto save option for any data as draft so that when a user writes something that will not be lost (e.g . google doc). Browser level storage option like HTML5 is expected.
- The Look and feel of the file should be as is the existing file system. We want to emulate the current manual system online upto the reasonable degree of operational efficiency and technology compliance.
- Vendor will also provide a simpler look like facebook timeline for better experience in low speed internet connection as an option.

7. Modules

Major module can be [but not limited to] articulated as follows:

1. Settings

- a. Geo Info
- b. Office Info
- c. Designation Info / Organogram
- d. Office Classification
- e. Seniority Definition
- f. Template Classification
- g. Class-wise template Information
- h. Nothi Workflow Info
- i. Notification
- j. Decision Phrase Setup
- k. Priority Setup
- l. Nothi/Letter Classification Info
- m. Disposal rule info
- n. Document Categorization : Level Ka, Level Kha etc. document

2. User Registration

- a. Creating/Updating User & Password (Authentication)
- b. Password Rule
- c. ID Rule
- d. Role Definition (Authorization)
- e. User Profile

3. Audit Trail

- a. User Log
- b. Nothi Log
- c. Nothi Movement Log to generate pattern of a nothi from start to end
- d. File/Letter Log
- e. Office Log
- f. Resource Log
- g. Auth Log

4. Dak

- a. Receive Dak & Docketing
- b. Send a Dak

- c. Peon Book
- d. Sorting/segregation
- e. Classification
- f. Forwarding, Marking, Noting & Moving
- g. Tracking
- h. Configurable Listing
- i. Metadata for better searching
- j. Disposal

5. Nothi

- a. Opening/Creating
- b. Noting/UO-Notes [Un-official Notes]
- c. Forwarding and marking
- d. Disposing
- e. Tracking
- f. Summary
- g. Flagging
- h. Reference and Supporting
- i. Configurable Listing
- j. Classification
- k. Draft Letter with Versions
- l. Issuing Letters
- m. Acknowledgement management

6. Guard File

- a. Adding Documents
- b. Meta Data
- c. Ref Analytics

7. Search

- a. Tracker
 - i. Dak
 - ii. Nothi
 - iii. File/Letter
 - iv. User
 - v. Guard File
- b. General searching
- c. Document (PDF, Word, PPT etc.) Search

8. Analytics

- a. Trend Analysis by both Graphical and Textual representation
- b. Configurable DSS Analytics based on User Requirements study

9. Reports

- a. Dak in-out summary/Details
- b. Nothi Movement Summary/Details
- c. Digital Guard File Meta Data Report
- d. Nothi Tracking Report
- e. Dak inflow notice
- f. Online Payment/Receipt Report
- g. Officer Information
- h. Office Information
- i. Search Information
- j. Note Printing
- k. Work-flow information report

10. Dashboard

- a. Dashboard Config
- b. Graphical Representation
- c. Textual Representation
- d. Drill Down Facility with hyperlink

11. Office Topology

- a. Office mapping
- b. Role mapping
- c. Interoffice role definition

12. System Administration

- a. Automatic Scheduled Backup
- b. File Conversion Tools/3rd Party Links
- c. All System Administration Attributes

8. Technology Specification

8.1 There will be 3 versions of the application

1. Enterprise Version – Requires full time internet connection
2. Limited Version – Requires internet once a day
3. Desktop Version – Does not require internet while operating

8.2 Technology Platform

1. Need to use MVC
2. Need to use Open source preferably. But proprietary development platform can be allowed with due reason and architecture behind having no reasonable cost and ensuring compliance with national ICT Preparation in place.
3. Future technology Change, iterative prototyping and agility in product design are the generic expectation.
4. Technology will be open to a2i for IT Audit.
5. Need to use user acceptable framework in IDE
6. No proprietary 3rd party tools for reporting other than the backbone technology will be used.

8.3 Security

The vendor should follow any of the industry standard secure development methodology such as (but not limited to) Comprehensive Lightweight Application Security Process (CLASP) by OWASP etc. The vendor should consider (but not limited to) common vulnerabilities such as SQL Injection, Cross Site Scripting (XSS) etc. Vendor will undertake responsibility for Input Validation Controls, Authorization/Authentication Control and other security controls in place in both test and production environment of application.

8.4 Ideal block diagram of the solution [Enterprise Edition]

Enterprise Edition is basically the core version running under proper setup with internet connection and bandwidth. Other editions also inherit this version with additional options to run on different environment.

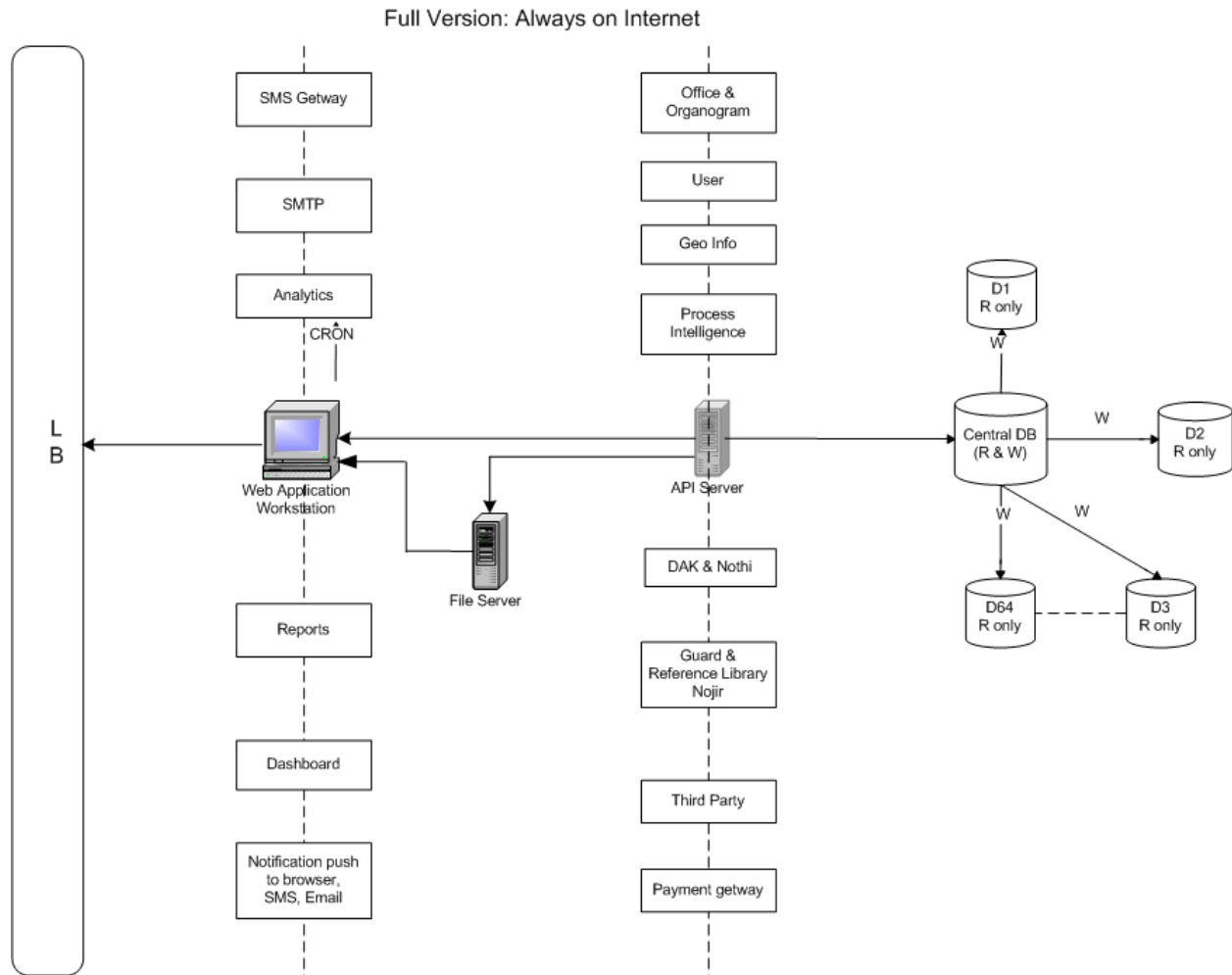


Figure 1: Enterprise Edition

8.5 The selected vendor will allow 3rd Party Audit on product development/maintenance environment as appointed by the client.

8.5 The selected Vendor will allow client appointing external QA Expert on Product testing.

9. Duration of the assignment

9.1 Total Duration of the assignment is 22 Months

9.2 Six Months is core development period and Vendor needs to release Online version with functional attributes and functional & usable prototype.

9.3 One Month for Model implementation as Pilot & POC.

9.4 Three Months is for development period again for Limited and Offline Version.

9.5 Twelve Months for Post Development Support Service and Change Management.

9.6 There will have a master agreement for developing this product covering clause 9.2 to 9.4. Separate agreement for Clause 9.5 will come annual maintenance and change management. Master Agreement

will be for 10 Months and the Maintenance agreement will be for 12 months. Total contract value will be negotiated under the master agreement that will reflect the accumulated cost of product as budgeted and as negotiated there after during final negotiation meeting with the selected vendor.

10. Eligibility criteria

This is a national project with utmost importance towards the digital Bangladesh goal so the bidder must prove that they have solid technical background and operational strength to undertake and take this work forward without any hindrances. Bidder must also have adequate technical ability, resources, human resources and processes. As such, following are defined as minimum eligibility criteria:

1. Minimum 4 years experience in ICT business as a registered company/entity in Bangladesh
2. Registered entity with Register of joint stock & companies (RJSC) in Bangladesh
3. Must have 3 years practical experience of developing web-based enterprise solution.
4. Experience of developing Software Solution for Government of Bangladesh or any of its agencies will be an added advantage.
5. Vendor needs to have at least one existing running software solution in Bangladesh in either Government or in other corporate Sector in Document management or File Management or Data Management or Workflow Management.
6. Needs to have full time experienced human resource in Software Development, Database management, System Analysis, Security, Project Management and in Support.
7. Needs to have Test Environment ready with equipped devices at vendor's premise.
8. Vendor's Headquarter must be located at Dhaka.
9. Multiple Companies having technical and legal competency for developing such Product can bid jointly but they must have legal agreement among them where one company needs to be master. Master company needs to fulfill all conditions mentioned in this ToR. Joint-venture agreement needs to have clear identification about each responsibility matrix along with IPR.