



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Terms of Reference (ToR):

**Procurement of an IT Based Software Firm for the Development
and Maintenance of the New Version of the OLM System**

**Office of the Chief Controller of Imports and Exports (CCI&E)
62/3, NSC Tower, 15th floor, Purana Paltan, Dhaka-1000.
Ministry of Commerce**

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CCI&E (Head Office)



Terms of Reference (ToR)

A. Background of the project:

1.1 The role of import and export trade is important in the context of Bangladesh in a free market economy. A large portion of the demand for food grains, agricultural produce, industrial machinery, raw materials and parts, fuel, and daily necessities is being sourced and met up through imports from abroad. In terms of financing the national budget, import-derived 'taxes and duties' are one of the main sources of revenue for the country's domestic resource accumulation. On the other hand, we have to build industries to increase exports and survive in the international market, thereby earning foreign exchange through exports. In this case, imports and exports are closely related to each other. The first import and export controls were introduced in the subcontinent during World War II. After the independence of Pakistan, a control system was introduced and applied in East Pakistan and imports and exports were controlled through the Control Act, 1950. Subsequently, the disposal of appeals relating to imports and exports are governed by two orders made under the powers conferred by the above Act, The Importers, Exporters and Indenters (Registration) Orders, 1981 and The Review, Appeal and Revision Order, 1977. Recently, registration order, 1981 has been revised and upgraded and entitled as The Importers, Exporters and Indenters (Registration) Orders, 2023.

1.2 After 1995, with the strong participation of Bangladeshi businessmen in the free market economy and international trade, various initiatives were taken to simplify the services of government institutions. Previously, about 54 types of services, including import and export registration certificates and import and export permits and other related services, had to be applied for and received through a manual process. Consequently, it took a long time for customers to receive services and the suffering increased due to this procrastination. A Memorandum of Understanding was signed in 2014 between the Ministry of Commerce and the World Bank Group's IFC to provide all services of the CCI&E Department through online. On December 24, 2018, the Online Licensing Module (OLM) system was firstly launched through online on a trial basis only in the Dhaka Regional Office. From 1 July, 2019, all types of registration services began to be provided in all 14 regional offices and the issuance of manual registration certificates was completely stopped. Now, almost 54 services are being given through OLM system. Service recipients' are getting the privilege of having such services from home with saving time, cost and labor.

1.3 Legal Context for CCI&E

The issuance of Licenses and Permits is based on the following Acts, Rules and Regulations:

- Import and Export (Control) Act, 1950
- Importers, Exporters and Indenters (Registration) Order, 2023
- Review, Appeal and Revision order, 1977
- Import Policy Order, 2021-2024 (Last updated)
- Export Policy, 2024-2027



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- 1.4 The services rendered by the CCI&E abiding above all rules and regulations are given below:
- i. Issue of Import Registration Certificates (IRC) in favour of commercial and industrial importers, Export Registration Certificates (ERC) in favour of exporters and Indenting Registration Certificates (Intending services) in favour of indentors and renewal and suspension/cancellation of aforesaid registration certificates for irregular activities;
 - ii. Issuing of permits for the import of goods by foreign entrepreneurs in exchange for equity shares in favour of foreign investment projects, 100% foreign and multinational companies;
 - iii. Issuance of import and export permits for the participation of organizations in domestic and foreign fairs, including international trade fairs and exhibitions;
 - iv. Issuance of export permits for personal belongings in favour of officials/employees working in foreign embassies in Bangladesh;
 - v. Issuing of import permit in favour of local investment with free of cost import or foreign-aid-funded projects;
 - vi. Providing direct assistance to the Ministry of Commerce in formulating import policy orders and its implementation.

- 1.5 CCI&E and its 14 regional offices are actively rendering their services to the client with exports and import related certificates and permits. Regional offices such as Dhaka, Chattogram, Sylhet, Rajshahi, Khulna, Barishal, Rangpur, Mymensingh, Dinajpur, Bogura, Naogaon, Sirajganj, Pabna, Cumilla are only rendering registration certificates whereas only Head office is providing permit related services except registration certificates.

The following services, listed below, are provided by different offices as per the delegation order:

Name of the Office	Services Through OLM
Office of the Chief Controller of Imports and Exports, Dhaka	Issues Permits/Prior Permission/Exemptions
Office of the Controller of Imports and Exports, Dhaka	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Controller of Imports and Exports, Chattogram	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Joint Controller of Imports and Exports, Khulna	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Joint Controller of Imports and Exports, Rajshahi	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Sylhet	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Barishal	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Rangpur	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Dinajpur	Issues (IRC/ERC/Indenting ERC) Registration certificates



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Office of the Assistant Controller of Imports and Exports, Cumilla	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Mymensingh	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Sirajganj	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Pabna	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Bogura	Issues (IRC/ERC/Indenting ERC) Registration certificates
Office of the Assistant Controller of Imports and Exports, Naogaon	Issues (IRC/ERC/Indenting ERC) Registration certificates
N.B.: In some cases, the approval of the Chief Controller's Office is required for the issuance of some particular registration certificates.	

1.6 List of Certificates and Permits of the CCI&E are provided as service:

i. Import Permit

- Import Permit to Government Project/Organization
- Import Permit to Private Organization
- Import Permit for Exhibition
- Import Permit (Prior Permission Basis)
- Import Permit (For equity share)
- Import Permit (For personal vehicle)
- Import Permit (Baggage Rule)
- Import Permit (Warranty Replacement)
- Import Permit (In the basis of goods of hospital, NGO, University)
- Import Permit (In the case of products sold as free/grants)
- IP Time Extension
- Import Permit (Prior Permission only for sample)
- Renewal of Permits (IP for Returnable basis)

ii. Export Permit

- Export Permit (For export of Sample)
- Export-cum-Import Permit
- Export Permit (For Personal and Household Goods)
- Export Permit (For warranty replacement)
- Export Permit (For gift and promotional products)
- Export Permit (For export of relief goods)
- Export Permit (For frustrated cargo)
- Export Permit (For empty container/cylinder)
- Export Permit (For Live Animal)
- Export Permit (For testing)
- Export Permit (In the basis of empty container/cylinder)
- Export Permit (General)
- EP Time Extension



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- iii. Import Registration Certificate (IRC)
 - Commercial IRC
 - Industrial IRC (First adhoc)
 - Multinational IRC
 - Industrial IRC (Other adhoc – second, third, regular)
- iv. Export Registration Certificate (ERC)
 - General ERC
 - Multinational ERC
- v. Export Registration Certificate (Indenting Services)
 - General Indenting Services
- vi. Re-Registration
 - Commercial IRC
 - Industrial IRC (First adhoc)
 - Multinational IRC
 - Industrial IRC (Other adhoc)
 - Multinational ERC
 - Regular ERC
 - Export Registration Certificate Indenting Service
- vii. Renewal of Registration Certificates
- viii. Re-Export Permit
- ix. Export-Cum-Import Permit
 - EP-cum-IP Time Extension
- x. Clearance Permit
- xi. Extension Shipment Date
- xii. Extension of Time Limit for LC opening
- xiii. All kinds of Changes Information on Client queries
- xiv. Other Services (Permission/Prior Permission/Ex)

1.7.1 Volume of registration certificates and permits generated from 2019 to 2025 (November)

Services Name	Type of Services	Unit	Actual
			2019 to 2025 (November)
1	2	3	4
Import Registration Certificate (IRC)	Registration Certificate	No.	69543
Import Registration Certificate (IRC) (Industrial)	Registration Certificate	No.	12440
Export Registration Certificate	Registration Certificate	No.	27832
Export Registration Certificate (Indenting Services)	Registration Certificate	No.	2293
Import permit	Permit	No.	32983
Export permit	Permit	No.	10920
Active registered user in OLM system	Account Creation	No.	116400



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1.7.2 Approval process of registration certificates based on offices:

Services	Chittagong & Dhaka	Khulna & Rajshahi	Sylhet & Barishal	District Offices Mymensingh, Cumilla, Pabna, Dinajpur, Bogura, Naogoan, Sirajganj, Rangpur
Commercial IRC	Regional Office	Regional Office	Regional Office	Regional Office
Industrial IRC (First adhoc)	Regional Office	Regional Office => Head Office => Regional Office	Regional Office => Head Office => Regional Office	Regional Office => Head Office => Regional Office
Industrial IRC (Other Adhoc – Second, Third, Regularized)	Regional Office	Regional Office	Regional Office	Regional Office
Multinational IRC	Head Office => Regional Office	Head Office => Regional Office	Head Office => Regional Office	Head Office => Regional Office
Export Registration Certificate (ERC)	Regional Office	Regional Office	Regional Office	Regional Office
Multinational ERC	Head Office => Regional Office	Head Office => Regional Office	Head Office => Regional Office	Head Office => Regional Office
ERC (Indenting Services)	Regional Office	Regional Office	Regional Office	Regional Office
Renewal of Registration Certificates (All Types)	Regional Office	Regional Office	Regional Office	Regional Office

1.7.3 Approval process of different permits based on offices:

Services	Head Office	Regional Office
All kinds of Import Permits	Head Office	Not required
All kinds of Export Permits	Head Office	Not required
Export Cum Import Permits	Head Office	Not required
Import Cum Import Permits	Head Office	Not required
Other all Permits	Head Office	Not required

[N.B: The Import Permit (IP) for government projects under the jurisdiction of Chittagong regional office is issued from Chittagong regional office]



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1.7.4 Validity of registration certificates, renewals, and time extensions of permits:

Sl.	Services	Validity	Renewable	Time Extension	Extension of Validity	Can be Cancelled	Can be Suspended
1.	Import Registration Certificate (All Types)	First Issue for 1 year & For renewal 1-5 years	Yes	No	1-5 years	Yes	Yes
2.	Export Registration Certificate (All Types)	First Issue for 1 year & For renewal 1-5 years	Yes	No	1-5 years	Yes	Yes
3.	Export Registration Certificate (Indenting Services) (All Types)	First Issue for 1 year & For renewal 1-5 years	Yes	No	1-5 years	Yes	Yes
4.	Import Permit	6 months	No	Yes	Max. 6 Months	Yes	Yes
5.	Export Permit (All Types)	6 months	No	Yes	Max. 6 Months	Yes	Yes
6.	Export-Cum-Import Permit (All Types)	6 month	No	Yes	Max. 6 Months	Yes	Yes
7.	Import Cum Import Permit	6 month	No	Yes	Max. 6 Months	Yes	Yes
8.	Clearance Permit	N/A	N/A	N/A	N/A	N/A	N/A

1.8 Online Licensing Module (OLM) Software:

Online Licensing Module (OLM) is online based software widely used for licensing and permits related to exports and imports. For the very first time in 24 December, 2018, OLM was first launch for piloting purpose and finally in 1 July, 2019, it was implemented successfully with 18 kinds of services. A massive hit of service seeker was made on OLM site for seeking service turned the system sluggish down. Subsequently, server specifications for swift operation were enhanced and modified. Gradually almost 54 services are now on board and unceasingly CCI&E are rendering almost all services through this system. A new renowned vendor IT firm had been procured for service provider. It supports this system 24/7 hours and this firm are deployed for further improvement and maintenance of this system. It is a web-based application software designed user-friendly experience to user applying for a registration or a certificate as an importer, exporter or indentors. The Database of this software is hosted in BCC as well as back up service. Besides, Disaster Recovery (DR) has also been deployed for data security and data storage and been ensured functional in case of occurring disaster like hacking or



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cyber-attack or phishing. Moreover, Web Application Firewall (WAF) has also been deployed for ensuring and protecting system from unethical access.

1.8.1 Technical Details of OLM system server:

Software Name	Software Description
Operating System	Debian-11
Frame Work	PHP Laravel Framework version 5.5
Language	PHP 7.4.28
Database	Maria DB- 14.1
Design	Twitter Bootstrap/Responsive
Reporting Tool	HTML / PDF

1.8.2 Existing Server Specification:

OLM System is fully automated online software and reserved all rights bestowed solely to CCI&E, Ministry of Commerce. This system is under developed & maintained under appointed vendor organization. This system is hosted in Bangladesh Computer Council (BCC) data centre and was dedicated to VPS server. But for increasing flexibility and scalability, subsequently data storage has been migrated to Cloud server for better performance. System administrator has to connect to the server via VPN. OLM system has two servers, one for application and one for database. Necessary server specifications has been implemented unceasingly for smooth operation with 50k concurrent users with net 2 lakh users. IT firm are directly associated with OLM system maintenance and development with specified task mentioned in contract. Server specifications of OLM system are given below:

Specifications	Application Server	Database Server
Processor Family	Xeon	Xeon
Number of servers	1	1
Processor (Core)	16	32
RAM	32 GB	64 GB
Swap	4 Gi	4 Gi
Storage	3 TB	500 GB
LAN	2 X1 GB	2 X1 GB
OS	Debian 11	Debian 11
Infrastructure Environment	Cloud Server of Bangladesh Computer Council	

1.8.3 Backup Service for OLM System:

A backup service is crucial for server systems to protect against data loss from various threats like hardware failure, cyber-attacks, or human error. It ensures business continuity by enabling quick recovery from disasters and minimizing downtime. Furthermore, backups enhance data security and help maintain a positive reputation by safeguarding sensitive information. We have taken steps on having backup services for OLM System in BCC which specifications are given below:



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Sl No	Host Name (FQDN=Fully Qualified Domain Name)	OS & Version (centos 7, ubuntu 18 etc)	IP Address (Give all IPs present in the Server)	Directory to Backup (/var, /opt etc)	Backup Frequency (Daily or Weekly)	Backup Retention (Time to Keep Backup e.g. 30 Days, 60 Days)	Backup Size (Estimated)
01	olm.CCI&E.gov.bd	Debian 11	***** *****	*****	Weekly Full & Daily increment	30 days	2 TB

1.9 Functions of existing OLM software:

Function Name	Features
Registration for creation Log In ID/ Account	<ul style="list-style-type: none"> ➤ Trader fills in online form with details as required for getting any service. ➤ Trader needs verified official email ID and phone no. ➤ OTP send to phone no for verification and validation of authenticity. ➤ Email ID stands for ID and given password for recurrent access to log in.
Type of applications	<p>All services are being given through OLM system. Main categoral services are given below:</p> <ol style="list-style-type: none"> i. Online Application for Registration Certificates ii. Online Application for renewal of Registration Certificates iii. Online application for different permits iv. Time Extension of Permits v. Others <p>[N.B.: Details aforementioned in note 1.6]</p>
Application for services	<ul style="list-style-type: none"> ➤ Trader has to log in into the system first for getting any service. ➤ Trader needs to select desired service for application. ➤ He needs to submit all required information and documents for submission. ➤ He needs to pay the government fee for each service through online e-Chalan or A-chalan system before submission his application finally.

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Internal Processing Workflow	<ul style="list-style-type: none">➤ The incoming application is added to the internal workflow task queue.➤ Applications are processed by officers designated in a predetermined workflow system.➤ Officers check and confirm documents validity along with given data in application form.➤ Trader gets notified once the application is approved, through a system-generated email and SMS.➤ If needed, the officer may request the trader to provide valid data and valid documents or additional documentation, via a system-generated email and SMS.
Issuance of Registration certificates and permits	<ul style="list-style-type: none">➤ Duly approval needs to get the certificates and permits.➤ The system logs the details of payments details.
Archive the files	<ul style="list-style-type: none">➤ Once approved, each file is stored in the archive for future storage and uses.
Status Tracking	<ul style="list-style-type: none">➤ Software allows status checking for live status of application during processing or further approval.
Interfaces	<ul style="list-style-type: none">➤ This software is a service oriented layer to allow future exchange of messages with external systems. This consist of an open interface to accept a message from an external system and return a response with the necessary levels of security, authentication, and non-repudiation.
Language	<ul style="list-style-type: none">➤ The system has been built in English version.
System Administration	<ul style="list-style-type: none">➤ System administrators manage user roles, backup procedures, transfers of officials, workflow set up, retrieval of certificates and other activities.
Other database connectivity	<ul style="list-style-type: none">➤ OLM system are connected with different office's database connectivity with API connection for smooth operation and service obtaining.
Reports generated	<ul style="list-style-type: none">➤ Several reports are available, including approved certificates, processed applications, pending/rejected applications, and fee collection of regional offices in cumulative and segregated form. This includes real-time importers exporters monitoring reports.

2.0 System Integration:

Moving towards to a fully paperless service, CCI&E has been working to reduce paper usage and deliver faster services to create a more business-friendly environment. The office has integrated systems from other stakeholders to enable easy data access and ensure the authenticity of information. Resultantly, faster data fetches and an improved payment system have made the service more efficient. Integration of e-service application with the other prescribed national system is highly essential. Effective integration and interoperability ensure that government services are delivered to citizens efficiently. The Vendor should include an integration plan in their technical proposal, demonstrating a



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clear understanding of the e-Service application's scope as outlined in the TOR. The possible integration scopes of this e-Service application are mentioned below as reference for the Vendor:

SI No	Organization and System	Purpose of Integration	System of Organization	Status Of Integration
01	Bangladesh Investment Development Authority	To facilitate the business process	OSS	Integrated and Active
02	Sonali Bank PLC	To facilitate the online payment system for client	Sonali payment Gateway	Integrated and Active
03	A-Chalan of IBASS++	To facilitate the online payment system for client	Ministry of Finance	Integrated and Active
04	National Board of Revenue	To get the Exporters and importers information	IVAS	Integrated and Active
05	National Board of Revenue	To bring all services mainly related with export and import business in single platform	BSW	Integrated and Active
06	Office of the Registrar of Joint Stock Companies and Firms	To be informed of the validity of company	Web Online Software	Integrated and Active
07	Bangladesh Bank	To get the data of LC and related info	BB FxTMS	MoU Signed and Integration processing On going
08	National Board of Revenue	To get the data of decisive import and export	ASYCUDA	MoU Signed
09	Hi-Tech Park	To facilitate the business process	Online Software	MoU Signed
10	National Board of Revenue	To obtain the info of e-TIN and income tax return of company	e-TIN (For TIN & Return verification)	Processing for MoU Signing
11	Election Commission	To verify the NID with applicants information	National Identity Registration Wing (NIDW)	Processing for MoU Signing
12	Bangladesh Small and Cottage Industries Corporation (BSCIC)	To facilitate the business process	Web Online Software	Processing for MoU Signing



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2.9 Payment System for Services

OLM is already integrated with Sonali payment Gateway of Sonali Bank PLC and is generating completely automated electronic chalan. Service recipient can make payment before their all required services through MFS system (Like mobile banking bKash, Nagad, Rocket etc) and credit or debit card of any commercial bank. CCI&E has integrated his OLM system with the A-Chalan system of IBASS++ to make the payment process faster and more client-friendly. Having applied for desired services on OLM, clients' no need to visit offices for seeking service with hard copies of application along with documents. Accomplishing all approval procedure, certificate is generated automatically and client gets the certificate from OLM system with email notifications and SMS.

2.10 Fees for Services and revenue

The Ministry of Finance has established a schedule of service fees for the respective services. As a revenue budgeted government office, CCI&E generates approximately 150 crore (one hundred and fifty million) BDT NTR revenue annually, making a significant contribution to the gradual increase in the national budget.

2.11 Exiting Vendor IT firm

CCI&E has procured Synesis IT Ltd., an IT service vendor, to provide maintenance and further development for its software, OLM. The agreement as covenant with this firm is for a three-year term, and the procurement is titled "Procurement of Three-Year IT-Enabled Services for Maintenance, Operational Support, and Further Enhancement of the Online Licensing Module (OLM) of CCI&E to Adapt to Modern Digital Systems in Comparison to Others.

B. Objectives of the assignment:

In alignment with global standards of facilitation and simplification, CCI&E has transformed its manual service delivery process into a fully automated digital system called the 'Online Licensing Module (OLM)', currently maintained by a vendor IT firm. This software system was initially developed in 2014 and officially launched in 2019. However, the system's application software including programming language and others have become obsolete now a days and in addition to high data volume and storage demands, system is not performing its functions and operations effectively. The integration with other government office software systems has been hindered in data fetching due to the outdated programming language and system architecture of this software. Therefore, a new version of this existing software system mainly application software must be developed as soon as possible to facilitate the business processes for traders. This new version will use the latest technologies like AI, Big Data, and Deep Learning with updated programming language and coding system to provide better services and support. All front-end/UI will be in familiar formats for ease at use and should be interlinked with all other necessary internal and external applications using API gateway. The objectives of this assignment are given below:



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- i. To improve TCV for traders and facilitate the smooth process of obtaining export-import registration certificates and permits.
- ii. To develop a user-friendly and intuitive digital interface for traders, bank and customs officials, and other stakeholders to interact with the system, simplifying application process, data entry, document submission, and approval system.
- iii. To facilitate the integration process with stakeholders and ensure accountability and transparency in data fetching during service provision.
- iv. To develop an integrated interface of export import data along with the database of exporters and importers of Bangladesh.
- v. To enhance the capacity building of internal users as well as applicants, and to make the service process faster and more efficient.

C. Scope of Services:

The IT vendor firm will be responsible for developing a new version of the OLM application software. In addition, the firm will continue to support and maintain the current OLM software until the new version is developed and deployed. Once the new software is live, the firm will be tasked with its ongoing development and maintenance with it.

1. Requirement analysis

- i. Collect requirements and conduct an assessment for developing the application software of OLM system, and prepare a comprehensive Requirement Analysis Report, assessment report, Functional Requirement Specification (FRS), System Requirements Specification (SRS), and other relevant documentation for the new software.
- ii. Assessment of existing infrastructure, backup capacity, recover ability and compatibility with the existing software.
- iii. To develop new software, they can conduct interviews and workshops with government officials, service recipients, and legal professionals.
- iv. Deliver a detailed development plan that includes all necessary designs (system design, UI design, database design, architectural design, etc.), featuring a context diagram of the proposed system, use case diagram, class diagram, process flow diagram, and a suitable project implementation plan.
- v. Compliance with national data protection and cyber security regulations to ensure legal adherence.
- vi. Evaluation of technical compatibility, scalability, and integration risks, operational efficiency and training needs, and regulatory compliance with ICT policies and cyber security standards.
- vii. Assessment of technical compatibility, scalability, and integration risks, along with operational efficiency, training requirements, and compliance with ICT policies and cyber security standards.

2. System architecture and File hierarchy

The vendor IT Firm can design the system architecture of new version of existing software in a way so that the system can be extended and enhanced both vertically and horizontally at any given time in the future development or enhancement scope intended by the Client. Existing System architecture are given and discussed at



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aforementioned section 1.8.1 to 1.8.3. OLM server and data server is hosted in Bangladesh Computer Council. For the architecture and technology aspects, **TOGAF (The Open Group Architecture Framework)** will serve as the primary methodology for developing the architecture. The consultant will establish enterprise principles, standards, frameworks, artifacts, and best practices. They will implement **TOGAF 9++** components, including the Architecture Development Method (ADM), ADM Guidelines & Techniques, Architecture Content Framework, Enterprise Continuum, Reference Models, and the Architecture Capability Framework. The firm will also create a detailed baseline business architecture and identify necessary catalogues of Business Building Blocks, such as catalogues for Organizations/Actors, Drivers/Goals/Objectives, Roles, Business Services/Functions, Processes/Events/Controls/Products, and Contracts/Measures.

File Hierarchy ensures that the files are logically arranged in a way that makes the software easy to maintain, scalable, and understandable for developers. For example, source code files, configuration files, assets, and documentation might be stored in different directories with a clear hierarchy.

The system should be designed using a micro services architecture for enhanced scalability and flexibility. Development plan and activity plan must be formulated by IT firm.

3. Development of the new version of application software

The vendor IT firm are given the task of developing the web application software for the OLM system. About 54 services have been integrated into this system and are provided online, while nearly 3 services are queued to be processed for online service swiftly. Development plan and activity plan must be formulated by IT firm. The vendor IT firm is tasked with developing an upgraded version of the existing software, providing all services through the new OLM software and must include the features described in section "D".

4. Workflow Development and Enhancement

The vendor will be assigned and responsible for developing a new software abiding below guidelines:

- Developing and enhancing workflows in the newly developed Online Licensing Module (OLM) software.
- Implementing workflow changes and integrations based on the dynamic needs of CCI&E.
- Ensuring new workflow functionalities are fully tested (functional, integration, UAT, performance testing) and verified before deployment.
- Ensuring all existing data, processes, and business rules remain intact and functional post-upgrade.

Scope of activities includes (but not limited to):

- Workflow Development and Modifications.
- Custom Report Development.
- System Functional Enhancements.



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- Introduction of New Business Processes.
- User Experience (UX) Design Enhancements.
- Adoption of Emerging Technologies for performance and scalability.

5. Change Request Management

A structured **Change Request Management Process (CRMP)** will be implemented to facilitate continuous process improvements and system enhancements throughout the project lifecycle. **Change Requests** may include, but are not limited to:

- Business Process Effectiveness Improvements
- System Functional Enhancements and Optimizations
- Introduction of New Modules or Services
- UX/UI Enhancements
- Technological Upgrades and System Integrations
- Time Optimization through Automation
- Regulatory Compliance and Process Alignment

The vendor is required to establish an efficient mechanism for:

- **Timely Assessment and Prioritization of Change Requests:** Ensuring that changes are evaluated and prioritized based on business impact, urgency, and resource availability.
- **Seamless Integration of Changes with Minimal Service Disruption:** Implementing changes in a manner that ensures system stability and continuous service.
- **Transparent Communication and Documentation of All Changes:** Ensuring full traceability of changes with clear documentation for stakeholders.
- **Flexibility to Incorporate Change Requests Related to Registration, Renewal, and Other Critical Business Processes:** Maintaining adaptability to business-critical updates in processes and workflows.

6. Technological Specification

New software are to be built of with below specified version of framework and language but vendor can use latest version of these in developing the software.

a) System Security, Stability, and Performance

- i. Implement stringent system security hardening measures, including:
 - Protection against OWASP Top 10 vulnerabilities.
 - Secure authentication and authorization mechanisms.
 - Data encryption both at rest and in transit.
 - Regular vulnerability assessments and penetration testing (VAPT).
- ii. Ensure system stability and high availability (HA) through:
 - Server load balancing.
 - Database clustering and replication.
 - Failover mechanisms and disaster recovery planning.
- iii. Optimize application performance by:



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- Conducting code profiling and optimization.
- Structuring queries for efficiency.
- Implementing application and database caching strategies.

b) System Version Up gradation

The newly assigned IT firm must use the upgraded version of the software coding and framework system. This new software needs to upgrade the existing application technology stack as follows:

- i. From PHP 7.4.28 to PHP 8.x. or (Latest stable version)
- ii. From Laravel 5.5 to Laravel 10.x (latest stable version).
- iii. Upgrade database engines (if required) ensuring minimal service disruption that can be upgraded from Maria DB 14.1 to Maria DB 12.1.2 or latest stable version.
- iv. Refactor legacy code to align with updated framework standards.
- v. Conduct comprehensive regression testing post-upgrade.
- vi. Ensure compatibility with existing integrations and user interfaces.
- vii. Adopt **Micro services Architecture (where feasible)** for modularity and scalability.
- viii. Follow **clean code practices, SOLID principles**, and industry-standard **coding guidelines** (BND Guidelines).

c) Developing tools are given below to develop new software of OLM.

❖ **Developing tools**

Issues/Phases/Purpose	Used Technology/ Tools
Project Management	JIRA/ Open Project
Version Control	Git
Front-End	Front-End Frameworks: Angular JavaScript, jQuery, HTML, Bootstrap, CSS
Back End	PHP-Laravel
API/Web services	REST API
API Response	JSON
Web Server	Apache/ Nginx
Communication	Email, WhatsApp/SMS
Database	MariaDB / MySQL
Security	SSL (Wildcard)
Authentication and Authorization	JWT (JSON Web Token) / OAuth 2.0 Tokens
Security Consideration	OWASP top 10, CSRF (Cross-Site Request Forgery), XSS (Cross-Site Scripting), DDOS (Distributed Denial of Service), SQL Injections, Malware Injections. <ul style="list-style-type: none"> • WAF to be used • VPN to be used
API testing	Postman
API Documentation	Swagger and Postman



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Application Load Balancing	HAProxy/Nginx
OS for Database	Linux (Centos/Ubuntu) 64 bit latest and stable
OS for Application	Linux (Centos/Ubuntu) 64 bit latest and stable
Client Server Secure Communication	HTTPS
File Service communication	SFTP / FTP

❖ Server requirements of newly developed application software of OLM:

	App Server	DB Server	API Server	Stage server	Load Balancer
Server	2	2	1	2	2
Processor (Core)	32	32	32	16	16
RAM	32	32	32	16	16
HD	200GB	200GB	200GB	200GB	200GB
Storage	3TB	1TB	500GB	500GB	-
OS	Linux (Centos/Ubuntu/debian)	Linux (Centos/Ubuntu/debian)	Linux (Centos/Ubuntu/debian)	Linux (Centos/Ubuntu/debian)	Linux (Centos/Ubuntu/debian)

d) CI/CD Automation & DevOps Implementation

- i. Implement fully automated Continuous Integration/Continuous Deployment (CI/CD) pipelines using open-source tools such as Jenkins, GitLab CI, Docker, and Kubernetes.
- ii. Automate build, test, deployment, and monitoring workflows to ensure streamlined and efficient operations.
- iii. Enforce secure DevOps practices, including Infrastructure as Code (IaC) with tools like Ansible, Terraform, and others.
- iv. Enable continuous monitoring and observability with tools such as Prometheus, Grafana, and the ELK Stack.

7. Mandatory Aspects of Cyber Security Testing

- i. Vulnerability Assessment: Identify and evaluate security weaknesses in the system.
- ii. Penetration Testing: Simulate cyberattacks to test the effectiveness of security controls.
- iii. Security Requirements Validation: Ensure that all security requirements are implemented and functioning as intended.
- iv. Access Control Testing: Verify that authentication and authorization mechanisms are robust and correctly enforced.
- v. Configuration Review: Assess system and network configurations for compliance with security best practices.



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- vi. Security Patch Verification: Confirm that all critical security patches have been applied.
- vii. Incident Response Testing: Test the organization's ability to detect, respond to, and recover from security incidents.
- viii. Reporting and Remediation: Document findings and ensure identified vulnerabilities are addressed promptly.

8. API Integration

The existing **Online Licensing Module (OLM)** system has successfully been integrated with several essential stack holders of national organizations, ensuring seamless data flow and enhancing operational efficiency. These integrations are pivotal in streamlining processes and improving service delivery within government and regulatory frameworks. OLM is already integrated with Sonali Payment gateway, IBASS++, BIDA, NSW, NBR, RJSC and standing in queue of integrating with Customs, e-TIN, BB, Hi-Tech Park, EC and other software as per demand.

So, new vendor IT firm are bound to develop the new version of software extended with adequate features to integrate with compatibility with this existing integration. The vendor will be responsible for secure and robust API integration mainly in two sides, including:

a) Payment Gateway Integration:

- Integration of secure Payment Gateway systems into the existing OLM platform.
- Support for major domestic and international payment methods:
 - i. VISA, MasterCard, NEXUS Debit/Credit Cards.
 - ii. Mobile Financial Services (MFS): bKash, Rocket, Nagad etc.
- Adherence to **PCI-DSS Compliance** and strong encryption protocols to safeguard transaction data during communication between systems, processors, and banks.
- At present 2 types of payment method are integrated
 - i. E-Chalan with Sonali Payment Gateway system
 - ii. A Chalan with IBASS payment system

b) Integration with Government Agencies:

- API development and integration with external databases, including but not limited to:
 - i. OSS of Bangladesh Investment Development Authority (**BIDA**)
 - ii. Sonali Payment Gateway of Sonali Bank PLC
 - iii. A-Chalan of IBASS++
 - iv. IVASS of National Board of Revenue
 - v. NSW of National Board of Revenue
 - vi. Online Application of RJSC

c) Systems to be integrated in queue:

- i. FxTMS of Bangladesh Bank
- ii. e-TIN of National Board of Revenue



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- iii. Hi-Tech Park
- iv. Election Commission of Bangladesh
- v. Bangladesh Small and Cottage Industries Corporation (BSCIC)
- vi. Other relevant agencies as per CCI&E requirements.
 - Ensure secure, scalable, and efficient data exchange in compliance with e-Government Interoperability Framework (e-GIF).

d) Integration details have been described in section “A (2.0)”.

9. Systems Security and Audit:

The IT firm shall comply with the security measures and activities performed by the firm and obtain approval from the authority. While validating the system, the firm must ensure that the software is free from the OWASP Top Ten vulnerabilities through thorough scanning using industry-standard tools. New developed software system auditing, following ISO 27001:2013, shall be performed at intervals defined by the Procuring Entity. The firm shall play an active role in implementing the IT security policy as per the requirements.

10. Database design including ER diagram

a) When updating or enhancing an existing software system, database design is a critical process that ensures the data structure is optimized for both current and future needs. It involves creating an efficient, scalable, and maintainable database schema that aligns with the software's functionality and user requirements. A well-thought-out database design minimizes data redundancy, improves query performance, and ensures data integrity. As part of the design process, an Entity–Relationship (ER) Diagram is prepared to visually represent the database structure. The ER diagram identifies key entities (such as users, data records, or transactions), their attributes, and the relationships between them. Vendor IT firm will submit a database design **including ER diagram** considering all these factors.

b) Data Migration and Management

All legacy data may be migrated to another database system of newly upgraded OLM software without harming the existing data. Existing data may be segregated into a normalized usable format conforming to the standard ACID properties (Atomicity, Consistency, Isolation, and Durability) system.

- i. **Data Entry & Updating Platform:** This platform will facilitate efficient data entry/update according to templates of all offices.
- ii. **Data Backup:** There must be a plan for data backup at different stages of the assignment including software application source codes without using any encryption and periodically check if data backup is okay or not. Secure repository with metadata tagging and controlled access.
 - Ensure periodic backup of critical Data.
 - Every 24 hours take a backup.



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- Share monthly backup reports.
- Execute backup restore every 3 month
- iii. **Case Disposal Process:** Streamlined handling of new and historical cases.
- iv. **Archiving System for Resolved Cases**
- v. **Digital Repository**
- vi. **Metadata Management**

11. Training and Capacity Development

Training and transfer of knowledge are mandatory for officials to cope up with the new version and run the system efficiently. Three types of training schedule are to be arranged which described in **section no. R** elaborately. Mainly three categorical training can be pondered over, are given below:

- i. Admin Training
- ii. TOT Training
- iii. Office end User Training

12. Support & Maintenance

Provide extensive 24x7 support services for the current platform until the upgraded application system is ready for operation. Similarly have to provide a full range of support services during the tenure of the contract for the upgraded new version of OLM system as per SLA.

a) Regular maintenance

Regular maintenance of existing OLM software and new upgraded version involves bug fixing, security updates, and performance optimization to ensure smooth operation.

Existing OLM Software maintenance activities include, but are not limited to:

Applicants end:

- Application rejection as per applicants demand (05 per day)
- Account Activation (05 per day)
- Certificate info update on technical issues (10 per day)
- Application for desired services issues (05 per day)
- Regenerating User ID and Password due to bug problem (05 per days)
- Online Problem Solution from all Zonal Offices (20 per days)
- Other workflow error and measurements (01 per day)
- Payment trouble issues (05 per day)
- Unable to show notification of Fees in application (05 per day)
- Problem in import slab limit (02 per day)
- Need data updates occurred due to a technical bug
- Basic quires (10 per day)

Office end user:

- File escalation problem and work flow breaches (10 per day)
- File transfer issues (rare case)



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- Info erased automatically (rare case)

Total around 90 issues arise and being solved by day with IT personnel through help desk and other ways.

b) Operational support and maintenance

Operational support besides developing new version of OLM software, existing software maintenance is essential to ensure the software operates smoothly and efficiently while meeting user needs and regulatory requirements. This maintenance along with further necessary initiatives is also applicable for newly developed upgraded version of software. Here are, given below, the key types of operational support that must be provided along with all types of maintenance, security, development and deployment:

- i. User support and helpdesk assistance:
Have to provide real-time help to OLM users (e.g., exporter and importers) who may encounter technical issues during the use of the software, such as system errors, login issues, application process, certificate generating issues or problems with data submission.
- ii. System Monitoring and Performance Optimization:
Continuously real-time monitoring the software needs to ensure that it is functioning correctly and efficiently. This monitoring includes system performance, identifying slowdowns, or any disruptions in services. Regular optimization of OLM system processes to ensure faster data processing, reduced downtime, and optimal system performance, especially during peak usage times.
- iii. Bug fixing and issue resolution:
Timely bug fixes ensure smooth operation and prevent disruption to the system. So vendor IT firm needs to find out software bugs, or functionality errors that may arise in regular uses of software and fix it for smooth operation.
- iv. Data management and backup:
Vendor IT firm needs to ensure that the data entered into the software, such as export/import registration data, permit data, certificates, and associated documents, is accurate and secured. Firm also must implement routine backups to protect data from loss due to system failures, cyber-attacks, or other disasters.
- v. Database Management and Optimization:
It firm needs continuous monitoring of the OLM database to ensure smooth operation and efficient query processing for export-import data.
- vi. Performance and Load Testing:
Conducting periodic stress tests or other related test to ensure the system can handle large volumes of data and traffic, especially during peak times. Using load



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balancing techniques to distribute traffic evenly across servers, ensuring high availability and minimizing downtime or slowdowns.

vii. Incident Management and Troubleshooting

IT firm must establish a clear incident management process to track, prioritize, and resolve issues in a timely manner. This involves categorizing incidents based on severity and ensuring appropriate responses from the support team. Investigating and diagnosing the underlying causes means root cause analysis of recurring issues or failures, providing long-term solutions to prevent similar incidents in the future.

viii. User Feedback and Continuous Improvement

IT firm may collect feedbacks from users regarding software usability, issues faced, and suggestions for improvement. This feedback can help guide future updates and feature enhancements. Implementing an iterative improvement process where the software is constantly updated based on user needs, feedback, and emerging technological trends.

13. Replication Between Primary Server Data and Secondary Server Data (DC Vs. DR)

Replication Between Primary Server Data and Secondary Server Data refers to the process of copying and maintaining data from the primary server (main source) to a secondary server (backup or replica) to ensure data availability, redundancy, and disaster recovery. Vendor IT firm has to maintain Primary Server Data which data is stored and managed on the primary server. This is the main system that handles the live, operational data. The secondary server is a backup or replica of the primary server. In case the primary server fails, the secondary server can take over, minimizing downtime and preventing data loss. Vendor IT firm is also responsible for maintenance and supervisor for these data storage.

14. Timeframe for completing this assignment or task

A new software firm will be procured to develop an updated version of the existing OLM software. This procurement aims to enhance and modernize the existing software. The contract for this assignment will span a total duration of 36 months (3 years), starting from the date the contract is signed. The assignment are framed with time and duration and divided into 05 (five) phases for desired accomplishment. The extension of this contract time will depend on the necessity of the requirements. The total time frame is segregated and described in section "T".

15. Rules and guidance to be followed

To develop new version of OLM system, should follow these standards and guidelines, given below:

c) National Law and Policies:

i. **Cyber security Act 2023:** Comply with policies protecting Critical Information Infrastructure (CII).

ii. **Data Protection:** Follow the Data Protection Act 2023 for safeguarding personal and sensitive data.



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- iii. **ICT Division Policies:** Adhere to policies on user access management, network security, and incident response.
- d) **International Standards:**
 - i. **ISO/IEC 27001 & 27701:** Adopt international information security (27001) and privacy management (27701) standards.
 - ii. **TOGAF 9.2:** Implement TOGAF principles for standardized data formats, business processes, and application technologies.
- e) **Cyber security Best Practices:**
 - i. **WAFs & SSL Encryption:** Utilize Web Application Firewalls (WAFs) and Secure Socket Layer (SSL) encryption for secure data transmission and protection against attacks.
 - ii. **Incident Management:** Establish comprehensive logging, monitoring, and proactive incident management.

D. Functions and Features of the new version of the OLM Software to be developed:

The new version of the OLM (Online License Module) software will have to bring a host of advanced functions and features designed to improve efficiency and user experience. The new version features a more intuitive, user-friendly interface, making it easier for users to navigate and manage their licenses. The new software must have more (further determined by CCI&E) but not fewer features than these, given below:

1. Information Regarding Services
2. Registration for new account creation
3. Log in management system
4. Online Application for Registration Certificates
5. Online Application for renewal of Registration Certificates
6. Online application for different permits
7. Time Extension of Permits
8. Tracking system of application
9. Client driven data updates
10. Office end users management
11. Dashboard management system
12. Admin panel management
13. Payment and revenue management
14. Report management
15. Ticket generating query box
16. Central documents Bank
17. Certificate and data verify
18. Archive Management
19. Other Tasks as Required by the CCI&E Office.



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Details of these aforementioned features are given below:

Module 1: Information Regarding Services

SL	System Features	Content	Actor	Media
01	Web based information service for OLM	<ul style="list-style-type: none">i. Provide OLM related information regarding application procedure, required information, Application fees, Payment system, required documents, Service receiving offices etc.ii. Brochure, leaflet, manuals, catalogue etc will be uploaded on that box.iii. FAQ- An updated FAQ will be prepared by the vendor IT firm.	Service Recipient	Web based
02	Notice Board	Updated any news regarding OLM will be published in this box	Service Recipient	Web based

Module 2: Registration for new account creation

SL	System Features	Content	Actor	Media
01	Registration for new account creation	<ul style="list-style-type: none">i. Every service recipient must have authenticated and valid registered account.ii. Clients have to fill in the online registration form with all necessary information and documents along with two step verification system (if required)iii. Given official email ID will be used as his log in ID further.iv. Email ID and valid phone no. are to be used for password retrieval afterwards.v. Smart account registration will be developed by vendor IT firm.	Service Recipient	Web based

Module 3: Log in authentication management

SL	System Features	Content	Actor	Media
01	Log in authentication management	<ul style="list-style-type: none">i. Every client have to face two step authentication to get access to his accountii. Have to face final authentication for every submission of desired services.	Service Recipient	Web based



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Module 4: Online Application for Registration Certificates

SL	System Features	Content	Actor	Media
01	New Account/ID	New Service recipient have to register on OLM software with required information along with verified company email and phone number.	Service Recipient	Web based
02	Application for Registration certificates	<ul style="list-style-type: none">i. After logging in account, applicants have to choose the desired service and fill up the application with precise information.ii. Filling up all required data, applicants have to upload scanned documents as stipulated in manuals.iii. Upon submitting the application, applicants are required to pay the government fee as stipulated in the government order.iv. After final submission, he can track his application.	Service Recipient	Web based

Module 5: Online Application for renewal of Registration Certificates

SL	System Features	Content	Actor	Media
01	Application for renewal of Registration Certificates	<ul style="list-style-type: none">i. When a registration certificate is about to be expired, applicants need to apply for renewal prior 60 days of expiry date without any penalty.ii. In every renewal of any registration certificates, applicants must pay the prescribed government fee.	Service Recipient	Web based

Module 6: Online application for different permits

SL	System Features	Content	Actor	Media
01	Online application for different permits	<ul style="list-style-type: none">i. After logging in account, applicants have to choose the desired service and fill up the application with precise information.ii. Filling up all required data, applicants have to upload scanned documents as stipulated in manuals.iii. Upon submitting the application, applicants are required to pay the	Service recipient	Web based



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		government fee as stipulated in the government order. iv. After final submission, he can track his application.		
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Module 7: Time Extension of Permits

SL	System Features	Content	Actor	Media
01	Time Extension of Permits	i. Permits are intended for single use only and are not eligible for renewal. However, the permit duration can be extended by providing valid reasons and supporting documents. ii. For each extension of the permit, applicants are required to pay the specified government fee.	Service Recipient	Web based

Module 8: Tracking system of application

SL	System Features	Content	Actor	Media
01	Tracking system of application	i. Any application will be tracked after submission from both client end and user end. ii. Client can track the application stage in office approval work flow.	Service Recipient	Web based

Module 9: Client driven data updates

SL	System Features	Content	Actor	Media
01	Client driven data updates	i. Once the certificates are generated, clients can update or modify their information to reflect any legal or official changes. They may apply for data updates by submitting valid documents, and the changes are to be approved within the specified timeframe. ii. Clients have to pay specified government fee for every application for updates.	Service Recipient	Web based



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Module 10: Office end users management

SL	System Features	Content	Actor	Media
01	Office end users management	i. All official users will be assigned in designated post for processing the file to approval. If the desired documents are submitted as attachment and valid data are input in application, file is to be held for approval. ii. In case of shortfall of data or any documents, queries are sent to the applicant's end to resubmit the file with desired things. iii. If necessary, the officer can set a reminder for a hearing along with a note in any application.	Office end user	Web based

Module 11: Dashboard management system

SL	System Features	Content	Actor	Media
01	Dashboard for monitoring	i. A monitoring dashboard or visual interface for the software is needed to provide real-time insights into file processing, movements, escalations, as well as real-time data approvals, rejections, and certificates, including date and time. ii. Any search can be customized based on the user's preferred date and time. iii. Other issues should be included on system: <ul style="list-style-type: none"> • Notification • Application Status • Payment Status • Graphical Reporting • New/Working in progress (WIP) • Application Notify • Applications Status • Category Based Case Info 	Office end user	Web based



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		<ul style="list-style-type: none"> • Year/month/week wise list of certificates and permits & Status • Live updates of all activities. 		
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Module 12: Admin panel management

SL	System Features	Content	Actor	Media
01	Admin panel management	i. Task Monitor ii. Back office workflow setup <ul style="list-style-type: none"> • Application-wise Workflow setup • Approval condition/pre-requisite setup • Reviewer/Approver Setup • Approval Process Setup • Committee Process Setup iii. User Management <ul style="list-style-type: none"> • Role Management • User Privilege Setup iv. Committee Setup <ul style="list-style-type: none"> • Committee Creation/Update • Committee Member setup v. Performance Management <ul style="list-style-type: none"> • Performance Indicator setup • Performance Indicator update vi. Template Setup <ul style="list-style-type: none"> • All Type of Application Template • All Type of Reporting Template • All Type of Form Template • Order Sheet Template setup vii. Notice Configuration <ul style="list-style-type: none"> • Application wise notice configuration viii. Others as per demand of office ix. File Transfer <ul style="list-style-type: none"> • Office to office • Officer to officer • Bulk file transfer • Bulk file transfer x. Payment Related Support <ul style="list-style-type: none"> • Slab Changes Payment issue • Basic Change Payment issue • Time extension Payment issue • Find and Add invoice/Challan 	Admin user	Web based



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		<ul style="list-style-type: none"> xi. Operational Setup <ul style="list-style-type: none"> • All banks and branches • Organization Designations • Job Distribution • Fees setup • Division/District • Regional Office setup • Services/subservices setup • Documents/Attachment setup • Workflow/Stage setup • Chamber Association setup • All Frequently Asked Questions, Tips and Comments xii. User Log xiii. SMS Log xiv. Application Delete as per request of applicants. xv. Certificate verification xvi. Profile information <ul style="list-style-type: none"> • Create/update Profile • Upload Photo/Signature • Change password xvii. Customized role management dashboard <ul style="list-style-type: none"> • Create/View/Modify/Delete Role • Assign Role xviii. Reviewer User Management <ul style="list-style-type: none"> • Create/View/Modify/Delete reviewer/ user xix. Employee Management <ul style="list-style-type: none"> • Create/View/Modify/Delete/transfer Employee xx. Any related development as per CCI&E demand 		
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Module 13: Payment and revenue management

SL	System Features	Content	Actor	Media
01	Payment and revenue management	i. No application will be finally submitted without due payment.	Admin and Office end user	Web based



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	<ul style="list-style-type: none"> ii. Application can be saved as draft and can be final submitted after completion of payment iii. Automatic payment system for desired service through e-Chalan and A-Chalan. iv. Additional payment option must be developed v. Payment must have to be tacked what already have been paid for desired service and need cumulative sum revenue. vi. Payment Receive List vii. Payment Tracking iii. Live cumulative Revenue collection. 		
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Module 14: Report Management

SL	System Features	Content	Actor	Media
01	Report Management	<ul style="list-style-type: none"> i. As this software is integrated with various government office software systems, CCI&E needs to generate various types of export-import reports, which are conducive to assessing demand and conducting analysis in the national interest. ii. The software must include sophisticated reporting and analytics capabilities, enabling users to generate real-time reports on integrated data, certificate status, numbers, payment records and others. iii. Some specific reports are required to be generated, given below: <ul style="list-style-type: none"> • Revenue Report • Application Summary report • Multiple TIN Applications • Office Wise Report • License wise report • Application per employee • PENDING APPLICATION REPORT • EP/IP application report • Approved application report • Equity Share Report 	Office end designated user and office chief	Web based



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		<ul style="list-style-type: none"> • EP Cum IP Application Report 		
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Module 15: Ticket Generating Query Box

SL	System features	Content	Actor	Media
		For each query, a unique ticket number will be generated for the case or task, and this number will remain active until the issue is resolved. Once the task is completed, a notification will be sent to the customer via email or mobile number.		
01	General query box	i. This general query box showed on the first log-in interface of this web software. ii. Any general query derived by client will be enlisted in queue with unique number that helps for accomplishment and further approach. iii. A general query can be included with the given information <ul style="list-style-type: none"> • Application types • Fees per application • Documents for desired service • Service per iv. This may integrated with payment system in future.	Service Recipient	Web based
02	Technical Query Box with unique ticket number	i. This technical query box will be created in main interface, showed after logging in with ID and password. ii. Any service or technical errors encountered during the application process or afterward can be reported through their account to resolve the issue. Only technical issues for desired service will be considered for further process. iii. An interface will be created for solving the technical issues maintained by IT officials. iv. The issues can be included with <ul style="list-style-type: none"> • Document upload issues • Information gap • Payment trouble issues • Application rejection File transfer	Service Recipient	Web based



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Module 16: Central documents Bank

SL	System features	Content	Actor	Media
01	Central Documents Bank	<p>i. One registered client for each company can upload his documents/credentials only one time in central documents bank.</p> <p>ii. He will seek his desired service every time using these documents from central documents bank without uploading documents twice.</p>	Service Recipient	Web based

Module 17: Certificate and data verify

SL	System Features	Content	Actor	Media
01	Certificate and data verify	<p>i. Any approved certificate can be verified from client end and stake holder end.</p> <p>ii. The required data for the relevant certificates will also be displayed to facilitate the export and import process.</p>	Stake holder & service recipient	Web based

Module 18: Archive Management

SL	System Features	Content	Actor	Media
01	Archive Management	<p>iii. All applications that are approved and generated certificates will be archived eventually.</p> <p>iv. The system must also have a tracking process to monitor all applications and certificates or permits that are approved or rejected, as well as reported cases, with the help of the archiving system</p>	Office end user	Web based



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E. Hosting Requirements:

Bangladesh Computer Council (BCC) is under the ICT Division of the Ministry of Posts, Telecommunications and Information Technology of the Government of Bangladesh offers comprehensive and standardized hosting services for applications and software used by government agencies. The application developed by the Vendor will be hosted Bangladesh Computer Council (BCC) as the existing software has been being hosted and run successfully in BCC. Therefore, the Vendor is required to provide an initial hosting plan for the OLM (Version-2) software, taking into account the considerations listed below:

- Hosting requirement /environment (hardware, servers, network, security, storage, traffic, firewall, bandwidth etc.)
- Hosting architecture
- Data Growth and Scalability plan
- User handling/load balancing mechanism
- Licensing issues
- Scheduled backup & Restore Requirements
- Disaster recovery requirements
- Monitoring tools requirements

F. System Audit:

This system will keep an audit trail for any modifications or updates made to critical information and should record the audit log containing details in both existing OLM software and upgraded application software (New version of software) such as:

- Log the users, User IDs who are accessing the system
- Log date and time records for when Users log on and off the system
- Log terminal ID, MAC Address, IP Address, OS, Browser etc
- Log the parts of the application that are being accessed
- Log the fields that are being modified
- Log the results of these modifications
- Log attempted breaches of access
- Log attempted breaches of modification rights
- Timestamp.
- Files accessed
- Networks access
- System configuration changes
- System utility usage

Have to make sure that an audit trail is maintained for all transactions and all audit transactions logged are kept on the trail file or trail database from where system can generate different audit reports whenever needed. Consultant is requested to submit their proposed "Audit Plan" including strategy & standard measures in their technical proposal.



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G. Interoperability and Data Exchange

The procured vendor must design and develop the new system in accordance with all standards and protocols for interoperability, integration, and data exchange with other systems. It is expected that the system will be based on open architecture and will be fully interoperable with the current and future systems. The following are the key expectations on interoperability requirements:

- a. The system must be designed to ensure interoperability by using industry-standard protocols.
- b. The system should make data available through Advanced Message Queuing Protocol and REST, secured by TLS.
- c. All imported data must undergo data validation to ensure full integrity.
- d. Data exchanged within the system across different levels via the internet must be encrypted.
- e. The system should have the capability to exchange data with other internal systems or external institutional systems.
- f. The system shall have functionality to export/import files based on the standard template defined through web services and/or API. Full API documentation must be provided so that third party integrators can integrate their system with this system.

H. Coding Conventions

The Vendor must follow the standard coding styles in new application software development to produce high-quality code for further uses of the code in terms of reusability, refactoring, task automation, language factors etc. The Vendor should submit a standard coding convention approach which may include different conventions like commenting, indent style, naming etc. following the best coding practices as prescribed before.

I. Documentation

Proper and detailed documentation is very vital and essential for ICT-based projects like the development and implementation of e-service applications for the government. Documentation serves as a reference, aids in knowledge transfer, provides insight into the development and implementation history, establishes a baseline for modifications or changes, and offers guidance. In this context, the vendor is expected to demonstrate the highest level of professionalism in delivering standardized documentation at every phase of the software development and implementation. The vendor should include a comprehensive documentation plan in their technical proposal, which should address the following:

- Document titles by phase or activity
- Purpose of each document
- Document format details (at least an index or fields, if possible)
- Type of expert resources to be used for documentation
- Document priority and dependencies
- Time requirements for preparation (if applicable)

J. UI/UX plan

The vendor must present a UI/UX plan that includes the UI design methodology and tools, prototype or mockup design (if applicable), UI review approach, process for studying and analyzing the user experience (UX), integration of basic web UX considerations, and the expected results and outcomes of the UX. The plan should also outline the process for finalizing the UI/UX



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design. In addition, the vendor should address the following requirements when preparing the UI/UX plan:

- i. The system interfaces should be highly user-friendly, easy to navigate, and optimized for fast loading.
- ii. The UI shall design by using well-established, supported and lightweight UI framework so that it follows widely used industry flow patterns.
- iii. The UI should be easily configurable in case any changes are needed.
- iv. Menu, content and navigation shall be based on the user entitlements, roles and permissions.

Vendors are obliged to hand over all UI/UX plan to CCI&E after completion of the assignment. These documents entirely belong to the CCI&E property.

K. Maintenance and Support Service:

The selected vendor must offer maintenance and support services for the existing OLM software for a period of 1 (One) year along with developed new version of this software for 2 (Two) years. Once the development and deployment phase of new version of software is completed and the implementation period begins, the vendor must provide maintenance and support services for two (2) years. Here it is expected that, the vendor must provide detail maintenance and support service plan in the technical proposal which may include the following:

- Support service types and mode of services
- Service desk functionalities
- Configuration management
- Change management
- Service layers for support
- Tools will be used for Support service management
- Communication management and modality
- Release management
- Incident management
- Problem management
- SLA (Service Level Agreement)
- Maintenance and support service related reporting
- Support service types
- Service Log Management

Apart from the above-mentioned issues, if Vendor thinks any other issue to be included in their plan it would be considered as added value addition.



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L. Language Support

The OLM system (Version-2) must support English as the only language for the Web application. All user interfaces will display and allow input exclusively in English. System/App users will not have the option to choose a different language. But the system should support any non-English languages, such as Bangla besides English for future uses, if needed.

M. Risk management

Risk management is a crucial aspect of the software development lifecycle, especially when developing a new version of existing software. The process ensures that potential risks are identified early, assessed, prioritized, and effectively managed to minimize negative impacts on the software. The vendor IT firm needs a comprehensive approach and plan to risk management in the development of a new version of software:

i. Risk Identification

The first step in risk management is identifying all potential risks that could affect the software development process. Common risks in software development may include:

- i. Technical Risks
- ii. Operational Risks
- iii. Project Management Risks
- iv. External Risks

ii. Risk Assessment and Prioritization

Once risks are identified, they must be assessed in terms of their potential impact on the project. This includes evaluating the likelihood of each risk occurring and its potential consequences. Risks should be categorized as:

- High Risk
- Medium Risk
- Low Risk

iii. Mitigation Planning

For each identified risk, a mitigation strategy should be developed. The objective is to reduce the likelihood or impact of the risk or to avoid the risk altogether. Mitigation plans may include:

- Technical Mitigation
- Project Management Mitigation
- Operational Mitigation

The risk mitigation plan should be closely aligned with the overall project goals and objectives, ensuring that it does not cause unnecessary delays or cost increases.

iv. Risk Monitoring

Continuous monitoring is essential to identify new risks and ensure that existing risks are being managed effectively. Proactive monitoring allows for the timely identification of risks that could affect the project's success.

v. Risk Response and Implementation

If a risk materializes, the mitigation strategy outlined in the plan should be implemented immediately. Effective risk response requires a flexible approach, allowing for rapid adjustments to the project as new challenges arise.



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vi. Communication of Risk Status

Regular communication about the risk status is critical to ensure that all stakeholders are aware of potential issues. Team leader should provide risk updates to key stakeholders, including development teams, senior management, and clients.

N. Help desk support:

The technical support team of the IT firm will provide a dedicated phone number for telephone support by qualified help desk engineers, available between 9:00 a.m. and 6:00 p.m. (Bangladesh time) to assist general applicants. In addition to the telephone help desk, visitors to the office with technical issues will receive assistance from the help desk support team. CCI&E officials may also use the hotline to address or bypass any technical issues in the software to the technical support team that have been identified.

O. Copyright:

Chief Controller of CCI&E be entitled to all proprietary rights including but not limited to patents, copyrights and trademarks, with regard to many Vendor. All types of source code, including code documentation and other approved documents (such as all version trails, products, developed applications, documents, and any deliverables) directly related to or created as a result of the services provided by the Vendor under the scope of this TOR.

Upon the request of the Chief Controller of CCI&E, the Vendor shall assist in securing the necessary property rights and transferring them in accordance with applicable legal requirements. Upon completion of the project, all rights related to the system developed and implemented throughout its lifecycle under the scope of this TOR will be transferred to and owned by the Chief Controller of CCI&E.

The Vendor must properly hand over all source codes of existing and developed software and other deliverables to the Chief Controller of CCI&E either after the contract period, without delay, or during the contract if the contract is terminated. The Vendor will have no claim to any royalties or rights regarding the replication of the source code, database, or any other deliverables under this TOR for future use, as deemed appropriate by the Chief Controller of CCI&E, Ministry of Commerce and the Government of Bangladesh.

Any studies, documents, reports, graphics, or other materials created by the Vendor for this project under this TOR shall be the property of the Chief Controller of CCI&E and shall remain with them. This includes materials such as the scope of the business, BRS, SRS, detailed database design, interface design, use case design, activity diagrams, relational diagrams, QA testing methodology, training module design, etc.

P. Place of software development

The IT vendor are obliged for developing the new software and performing all maintenance tasks on-site at CCI&E premises. This means that the desired software development, as well as any updates, troubleshooting, and ongoing support, must be carried out directly at CCI&E's premises. This ensures immediate access to the system and facilitates closer collaboration between the vendor and CCI&E's team for efficient maintenance and problem resolution.



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Q. Selection Method

The vendor firm will be procured following the **Quality and Cost Based Selection (QCBS), Time based** method or any relevant method (if required) under the Procurement of Intellectual and Professional Services as set forth in accordance with the Public Procurement Act, 2006 and the Public Procurement Rules, 2025 (Together the “National Procurement Laws”).

R. Training and Transfer of Knowledge:

1. Training the office users on new version of software is essential for ensuring smooth adoption and effective use of the system. Proper training equips this users with the necessary skills to maximize the software's capabilities, reducing errors and increasing productivity. It also helps in minimizing support issues and enhances overall user satisfaction. A well-trained user base ensures the long-term success and efficiency of the software implementation. The vendor must include a comprehensive Training Plan in their technical proposal, taking the following steps into account:
 - The plan should include the training methodology, necessary documentation, and support materials.
 - Training materials may consist of a user manual, administration manual, quick start tutorial, online help, video tutorials, and frequently asked questions.
 - The training plan must outline the sequence, timing, duration, and resources required for the implementation of each proposed training activity.
 - Full course descriptions for all courses to be conducted for each user group should be included in the plan.
 - The Vendor should create multimedia training materials for all users and provide training materials to the trainee.
 - The training activities have to be inclusive with feedback collection, evaluation, and reporting.
 - Additionally, the Vendor must propose an effective and efficient knowledge transfer strategy along with the training plan in their technical proposal.
2. The firm will also need to update (in Bangla and English) user manual and administrators manual of newly developed system. Manual language should be available in both English and Bengali.

Training schedule:

Types of Training	Durations & Numbers of the training	Venue	Description	Comment
Admin Training	5 Officers for 1 day long	Outside Dhaka but nearest renowned	Honorarium not less than 4000 taka. Besides food, logistic support,	All expenses of arrangement will be covered by the vendor firm.



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		favourable place.	accommodation and other all necessary support will be borne by the vendor firm.	
TOT Training	15 Officers for 2 days long	Outside Dhaka but nearest renowned favourable place.	Honorarium not less than 3500 taka. Besides food, logistic support, accommodation and other all necessary support will be borne by the vendor firm.	All expenses of arrangement will be covered by the vendor firm.
Office end User Training	Total office end user 192. Total of 8 batches, with 25 participants in each batch and each training will be held for 2 days long.	Outside Dhaka but nearest renowned favourable place.	Honorarium not less than 3000 taka for each trainee. Besides food, logistic support, accommodation and other all necessary support will be borne by the vendor firm.	All expenses of arrangement will be covered by the vendor firm.

S. List of reports and Schedule of deliveries:

Vendor IT firm is compelled to provide stipulated deliverables as per covenants. The total tenure of this contract will be 36 months, starting from the contract signing date. The following timeline identifies key deliverables and timeframe for this assignment:

- i. During new Software Developmental stage (1st to 12th month):** Vendors are bound to accomplish the development and deployment of software **within first 12 months** from the date of the signing of contract with providing deliverables within the time frame and the reports must be submitted within one week after the end of the following month, quarter, or any other specified time frame, given below:

Deliverable Service	Numbers	Estimated time
Inception Report (Including work plan, deployment of personnel and implementation schedule)	01	Within 2 month (from the date of the signing of contract)
Software Requirements Specification (SRS) Report	01	Within 2 month (from the date of the signing of contract)
Needs Assessment of development Summary Report with all necessary designs plan and diagram plan	01	Within 2 month (from the date of the signing of contract)



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User acceptance and validation report	1	Within 10 months (from the date of the signing of contract)
Service Log report	1	Every months
Quarterly report including maintenance and Support issues.	4	After every 3 months (from the date of the signing of contract)
Testing and Quality Assurance Report i. Cyber security testing report ii. Integration testing report iii. Functional testing report iv. Others testing as required	1	Within 11 th month from the date of the signing of contract or before deployment of new software.
Preparation of Training Module i. Admin training module ii. Office end User Training Module iii. Client end application Module	1	Within 12 th month from the date of the signing of contract.
Training and documentation report i. Admin user Training, ii. TOT Training and Office end iii. User Training Completion Report iv. Others related documents	1	Within 12 th month from the date of the signing of contract.
Phase accomplishment report	4	After accomplishment of every phase (within 12 th Month from the date of the signing of contract)
Final Completion and implementation report of new version of OLM software	1	Within 13 th month from the date of the signing of contract

[N.B.: At least 6 copies of reports have to be delivered at firm's own cost.]

ii. New software maintenance stage (13th to 36th month):

OLM software needs to be continued maintenance until the new version of OLM software launched. After completion of new version of software, the existing application server will be closed down and drawn all application through the new one. Once the new version is developed, the deliverables listed below must be provided between the 13th and 36th months from the contract signing date. The reports must be submitted within one week after the end of the following month, quarter, or any other specified time frame.

Deliverable Service	Numbers	Estimated time
Service Log report	1	Every months
System health and security report	8	Quarterly (Within 13 th to 36 th month from the date of the signing of contract)



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Testing and Quality Assurance Report	4	Every 6 month (From 13 th month to 36 th month from the date of the signing of contract)
Monthly accomplishment report including maintenance and Support issues.	24	Every months (from 13 th month to 36 th month from the date of the signing of contract)
Phase accomplishment report	1	Accomplishment of last phase

[N.B.: All reports must be borne at their own expense, and at least 6 copies of the reports must be delivered at the firm's own cost.]

T. Period of Performance and breakdown

a) Total duration of the assignment

The duration of the assignment for the vendor IT firm will be 36 calendar months on a full-time basis, starting from the commencement date of the contract. The duration of the assignment may be extended or shortened depending on the needs of system supervision. Depending on new task and emergency needs, the contract period for the consulting firm, subject to satisfactory performance, may be extended on taking the proper approval.

b) Implementation Timeframe

The Vendor IT firm must complete the assignment within a stipulated timeline based on the proposed nature of assignment. The assignment are framed with time and duration and divided into 05 (five) phases for desired accomplishment. Phases are given below:

- i. Phase-1: Requirement Analysis, design submission & documentation
- ii. Phase-2: New Software Development, Data Migration & UAT
- iii. Phase-3: Testing, Piloting, Bug fixing and Training
- iv. Phase-4: Final Deployment and Go live
- v. Phase-5: Support and Maintenance service

Phase 1: Requirement Analysis, design submission & documentation

Title	Duration
➤ System take over entirely	Within 0.5 month (15 days) from the contract signing
➤ System Architecture & Design ➤ Inception report ➤ Software Requirements Specification (SRS) ➤ Gap Analysis ➤ Functional Requirement Analysis (FRS) ➤ High Level Design (HLD), ➤ LLD Design	1.5 months (within 2 nd month from the date of contract signing)



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<ul style="list-style-type: none"> ➤ Necessary designs (system design, UI design, database design, architecture design, etc.) plan ➤ Featuring a context diagram of the proposed system (Case Diagram, Class Diagram, Process Flow Diagram) ➤ Audit Plan ➤ Others related 	
<ul style="list-style-type: none"> ➤ Maintenance and necessary development of the existing software 	Until the new version of software deployed.

Phase 2: New Software Development, Data Migration & UAT

Title	Duration
<ul style="list-style-type: none"> ➤ Software Development <ul style="list-style-type: none"> • System Design / Architecture • Frontend Development • Backend Development • Integrate third-party services • Others required development • Others related 	6 months (3 rd to 8 th month from the date of contract signing)
<ul style="list-style-type: none"> ➤ Data Migration ➤ UAT 	1 month (9 th month from the date of contract signing)
<ul style="list-style-type: none"> ➤ Maintenance and necessary development of the existing software 	Until the new version of software deployed.

Phase 3: Testing, Piloting, Bug fixing and Training

Title	Duration
<ul style="list-style-type: none"> ❖ Admin, TOT and User Training ❖ Cyber Security Testing ➤ Vulnerability Assessment ➤ Penetration Testing ➤ Security Requirements Validation ➤ Access Control Testing ➤ Configuration Review ➤ Security Patch Verification ➤ Incident Response Testing ➤ Reporting and Remediation ➤ Acceptance Testing <ul style="list-style-type: none"> • User Acceptance Testing (UAT) • Business Acceptance Testing (BAT) • Operational Acceptance Testing (OAT) • Others required testing 	2 month (10 th to 11 th month from the date of contract signing)



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<ul style="list-style-type: none"> ➤ SQTC Parallel with feedback incorporation ❖ Others testing may be included: ➤ Functional Testing <ul style="list-style-type: none"> • System Testing • Interface Testing • End-to-End (E2E) Testing • API Testing • Others required testing ➤ Integration Testing ➤ Non-Functional Testing <ul style="list-style-type: none"> • Performance Testing • Security Testing • Usability Testing • Compatibility Testing • Others ➤ Maintenance / Post-Deployment Testing ❖ Major Bug Fixing ❖ Trial run & Pilot Testing of the new software ❖ Integration with stakeholder's online software ❖ Others related as required 	
<ul style="list-style-type: none"> ❖ Maintenance and necessary development of the existing software 	Until the new version of software deployed.

Phase 4: Final Deployment and Go live

Title	Duration
<ul style="list-style-type: none"> ➤ Deployment of new version of software conforming standard deployment guide. 	1 month (12 th month from the date of contract signing)
<ul style="list-style-type: none"> ➤ Close down the existing application software 	After the new version of software deployed.

Phase 5: Support and Maintenance service

Title	Duration
<ul style="list-style-type: none"> ➤ Support and Maintenance service existing software and after the development of new version of software ➤ Bug fixing and incessant development of the new software unto contract time ➤ Further API development with the other software listed above, as required. 	24 month (13 th to 36 th month from the date of contract signing)

[N.B.: All testing must be borne and meet up within the firm own cost]



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U. Payment Schedule

This is a time-based contract and payments is to be made upon the completion of each phase. Payments will be disbursed in the following month after the completion of each phase. From phase 5, all payments will be disbursed on a quarterly basis in arrears for the immediately preceding quarter and must be supported by the consultant's submission of deliverables and progress reports. The negotiable contract ceiling (that is, total contract price for the duration of the contract) shall represent the consolidated remuneration inclusive of applicable Income Tax and VAT as per the laws of Bangladesh. Payment will be made according to the following timeframe:

Phases	Phase Name	Duration of phase	Terms of Payment and Time	Payment amount
Phase 1	Requirement Analysis, design submission & documentation	2 months (with 2 nd months from the date of contract signing)	Under the condition of phase-1 report submission and approval. 3 rd month from the date of contract signing.	10% of the contract price
Phase 2	New application Software Development, Data Migration & UAT	7 months (3 rd to 9 th months from the date of contract signing)	Under the condition of phase-2 report submission and approval. 10 th month from the date of contract signing.	20% of the contract price
Phase 3	Testing, Piloting, Bug fixing and Training	2 month (10 th to 11 th months from the date of contract signing)	Under the condition of phase-3 report submission and approval. 12 th month from the date of contract signing.	05% of the contract price
Phase 4	Final Deployment and Go live	2 month (12 th months from the date of contract signing)	Under the condition of phase-4 report submission and approval.	10% of the contract price



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			13 th month from the date of contract signing.	
Phase 5	Support and Maintenance service (for both existing and new developed software)	36 months (1 st to 36 th months from the date of contract signing)	Quarterly payable manner under the condition of regular performance and quarter report submission and approval. i. 10% payment of rest 55% of contract price will be made in every 3 months from 1 st to 12 th month from the date of contract. ii. 90% payment of rest 55% of contract price will be made in every 3 months, from 13 th to 36 th month from the date of contract.	Rest 55% of the contract price.

N.B.: 1. Whatever mentioned in aforesaid conditions, completion of every phase will be eligibility of getting payment of that phase but in case of any valid calamities not exceeding 36 months of total duration of contract. If the contract price needs to be extended, only Phase 5 will be considered, and payment will be made according to the Phase 5 payment schedule.

2. After the completion of each phase, the report will be reviewed by a dedicated committee and approved by the CCI&E authority. The approval of these reports will make the IT firm eligible for getting payment.

V. Key Personnel Requirement:

Consulting firm will be directly assigned in developing a new version of existing software (OLM) and maintaining the OLM system along with all 54 rendering services. The assignment requires to have a dedicated team of 08 (Eight) professionals to ensure full range of developing and maintaining support to the OLM System. The consulting Firms



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are bound to strictly follow the team composition and total input in their manning schedule and in financial proposal. Any deviation from parameter will culminate the proposal to non-responsive. Moreover, if they propose alternative staffing arrangement dissimilar to this which will be considered as non-consideration. The following indicative staffing arrangements are deemed essential as the minimum requirement for effective execution of the Assignment.

i. Staff/Professional requirements:

SL. No.	Name of Position	Number of Employees
01	Team Leader & Business analyst	01
02	Senior Programmer	01
03	Programmer	02
04	Database Administrator	01
05	User Interface (UI) Designer/ User Experience (UX) Designer	01
06	DevOps Engineer	01
07	Support Service Engineer	01
Total		08

ii. Qualification of the Professionals:

1. Team Leader & Business analyst	
Education	i. Minimum Graduate or BSc. / BSc. Eng. /MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Electrical & Electronics Engineering/ Communication Engineering/ ICT/ IT from UGC approved reputed university.
Work Experience	i. At least 12 (Twelve) years of professional experience in different project and govt. project will add extra value. ii. At least 08 (Eight) years of experience as Team Leader & business analyst in similar/higher size/complex govt. project and private sector. iii. At least 01 (one) similar govt. project with 2 years tenure completed within last 5 years as a Team Leader or System analyst/ Business analyst. iv. Preference will be given having experience in working with trade related govt. project such as export/import and customs procedure, trade policy, SPS/TBT issues, trade facilitation govt. project. v. Having experience of leading at least three end-to-end web based software development govt. projects.
Age Limits	Maximum 45 years



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<p>Professional Requirements/ Certifications</p>	<ul style="list-style-type: none"> i. PRINCE/PMP certification can add value. ii. Automation of infrastructure provisioning (Infrastructure as Code) iii. Continuous Integration/Continuous Deployment (CI/CD) pipelines iv. Containerization and orchestration (Docker, Kubernetes, etc.) v. Version control and automated testing frameworks. vi. Strong understanding of business process workflows and the ability to align technical solutions with organizational needs. vii. At least 02 (Two) valid vendor certifications such as OCP, CCNA, RHCE, RHCA, ETH will add value.
<p>Major Responsibility</p>	<ul style="list-style-type: none"> i. Overall management of the this project activities ii. All kinds of reporting submitted to the CCI&E iii. Define Statement of Work (SoW). iv. Requirement Collection, Analysis and Prepare SRS. v. Communication with the clients (PMU) and other stakeholders if required. vi. Managing own Team and providing work plans and progress reports regularly.
<p>2. Senior Programmer</p>	
<p>Education</p>	<p>Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Communication Engineering/ICT/IT from UGC approved reputed university.</p>
<p>Work Experience</p>	<ul style="list-style-type: none"> i. At least 10 (Ten) years of professional experience in different govt. or private project. ii. At least 05 (Five) years' experience as senior programmer/ senior software Engineer in similar/higher size/complex govt. project and private sector in designing, developing, programming, coding, scripting and implementing web-based software. iii. At least 01 (one) similar govt. project completed successfully within last 5 years as a programmer/ senior software Engineer. iv. Designing, building, and maintaining high-performance, reusable, and scalable codebases capable of handling large traffic volumes. v. Large system integration projects (Integrated service delivery platform or Workflow Management Systems) vi. API design, development, and integration. vii. Knowledge in modern software architecture patterns and software lifecycle management will be considered an asset.

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	viii. Proven experience in design, development, deployment, and implementation of large-scale integrated software applications.
Age Limits	Maximum 40 years
Professional Requirements/ Certifications	<ol style="list-style-type: none">i. Hands-on expertise in configuration, maintenance, and administration of:<ol style="list-style-type: none">a. PSP (PL-SQL Server Pages)b. Oracle 10g Developer Suite (Optional)c. Oracle Database Administration & Development (Optional)d. Front-end technologies: HTML, DHTML, XHTML, XML, AJAX, JavaScript, CSS.e. Backend & Server-side scripting: PHP, JAVA, python, NodeJS.f. Web server environments: Apache, Apache Tomcat, Nginx.ii. Strong understanding of business process workflows and the ability to develop software solutions aligned with enterprise needs.iii. Experience with DevOps practices, CI/CD pipelines, Automation tools (e.g., Jenkins, Ansible), and Containerization technologies (Docker, Kubernetes) will be considered as added value.iv. At least 02 (Two) valid vendor certifications such as OCP, CCNA, RHCE, ETH, MCP, RHCA, AWS or related certifications will add value.
Major Responsibility	<ol style="list-style-type: none">i. Coding and structuring of new version of existing software as per statement of work (SOW), i.e., APIs'ii. Software installing, testing, debugging & running, etc.iii. Understanding the SRS and Plan to implement business logic maintain coding standardiv. Conduct pair-review, white box testing, deployment, bug review.v. Ensure code quality, system performance, fine tuning etc.vi. Dictate SE to develop the software as per instructions.
3. Programmer	
Education	Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Communication Engineering/ICT/IT from UGC approved reputed university.
Work Experience	<ol style="list-style-type: none">i. At least 08 (Eight) years of professional experience in different govt. project and private sector.ii. At least 04 (five) years' experience as programmer/ software Engineer in similar/higher size/complex



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	<p>govt. project and private sector in designing, developing and implementing web-based software.</p> <p>iii. Must have minimum 01 ICT enabled application or software project of govt. sector experience within last 04 years in the field of web-based software programming/coding/scripting as a core development team member.</p> <p>iv. Large system integration projects (Integrated service delivery platform or Workflow Management Systems).</p> <p>v. Designing, building, and maintaining high-performance, reusable, and scalable codebases capable of handling large traffic volumes.</p> <p>vi. API design, development, and integration.</p> <p>vii. Knowledge in modern software architecture patterns and software lifecycle management will be considered an asset.</p> <p>viii. Proven experience in the design, development, implementation, operation, and maintenance of integrated software applications in large-scale ICT projects.</p>
Age Limits	Maximum 40 years
Professional Requirements/ Certifications	<p>i. Hands-on expertise in application development using:</p> <ol style="list-style-type: none"> PSP (PL-SQL Server Pages) Oracle 10g Developer Suite (Optional) Oracle Database Administration & Development (Optional) Front-end technologies: HTML, DHTML, XHTML, XML, AJAX, JavaScript, CSS. Backend & Server-side scripting: PHP, JAVA, python, NodeJS. Web server environments: Apache, Apache Tomcat, Nginx. <p>ii. Strong understanding of business process workflows to align software development with enterprise needs.</p> <p>iii. At least 02 (Two) valid vendor certifications such as OCP, CCNA, RHCE, ETH, MCP, RHCA, AWS or related certifications will add value.</p> <p>iv. Experience with DevOps practices, CI/CD pipelines, Automation tools (e.g., Jenkins, Ansible), and Containerization technologies (Docker, Kubernetes) will be considered as added value.</p>
Major Responsibility	<p>i. Software coding, installing, testing, debugging & running, etc.</p> <p>ii. Conduct pair-review, white box testing, deployment, bug review.</p>



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	<ul style="list-style-type: none">iii. Implement business logic and maintain coding standards.iv. Perform unit testing, bug fixing, and help SSE to deploy the system.
4. Database Administrator	
Education	Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Communication Engineering/ICT/IT from UGC approved reputed university.
Work Experience	<ul style="list-style-type: none">i. At least 10 (ten) years of professional experience in IT sector in different govt. project and private sector.ii. At least 08 (Eight) years of experience as Database Administrator in database design data normalization, data analysis, database management and administration for ICT based applications or Software project, installing, configuring and troubleshooting SQL Database systems on RDBMS such as Oracle, MS SQL Server, PostgreSQL, MySQL, etc. in similar/higher size/complex govt. project and private sector.iii. Must have experience in at least 2 ICT-enabled application or software projects completed within the last 8 years in the field of database-related skills as a Database Administrator, with each project having a minimum duration of 2 (two) years.iv. Strong experience in data migration, backup & recovery.v. Proven expertise in the design, implementation, configuration, administration, and maintenance of large-scale database systems.
Age Limits	Maximum 40 years
Professional Requirements/ Certifications	<ul style="list-style-type: none">i. Experience in managing Relational Databases and NoSQL Databases, including:<ul style="list-style-type: none">a. Oracle Database (including Oracle RAC & Data Guard for High Availability and Clustering)b. MySQL / MariaDB (including Galera Cluster, Replication Setup)c. PostgreSQL (with streaming replication, logical replication, clustering solutions like Patroni, Pgpool-II)d. MongoDB (including Replica Sets, Sharding, and Cluster Management)ii. Administration experience on Linux, UNIX, and Windows platforms, with strong knowledge of:<ul style="list-style-type: none">a. Database server configuration, optimization, tuning, and backup/recovery strategies.



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	<ul style="list-style-type: none"> b. Web/Application Layer technologies such as PHP, Java, Apache, NGINX, IIS. iii. Experience with Database Clustering, Load Balancing, and High Availability (HA) architectures, and Disaster Recovery (DR) Planning. iv. Strong understanding of RDBMS concepts, Normalization, Query Optimization, Stored Procedures, Triggers, Partitioning, and Data Archival strategies. v. Exposure to NoSQL database design principles for large-scale applications and integration with RDBMS systems. vi. Knowledge of Automation tools for Database Deployment, Monitoring, and Scaling (e.g., Ansible, Puppet, Terraform, Prometheus, Grafana). vii. Clear understanding of enterprise business processes and ability to translate business requirements into optimized data models and database systems. viii. Knowledge of DevOps processes related to database automation and CI/CD pipeline integration will be an added advantage. ix. At least 02 (Two) valid vendor certifications such as RHCE, AWS, RHCSA or related certifications will add value.
Major Responsibility	<ul style="list-style-type: none"> i. Design, implementation and configure Database. ii. Preparation of Relational Database iii. Preparing ER diagram and onwards. iv. Ensure data transfer as per security expert. v. Prepare script for data back-up while interconnection among another module. vi. Preparation of complete dataset (.csv,.txt, .dbf) vii. Ensure quality data for the data-bank.
5. User Interface (UI) Designer/ User Experience (UX) Designer	
Education	Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Electrical & Electronics Engineering/ Communication Engineering/ICT/ IT/ Graphic design/ Web design from UGC approved reputed university.
Work Experience	<ul style="list-style-type: none"> i. At least 06 (Six) years of professional experience in different govt. project and private sector. ii. At least 05 (Five) years of professional experience in IT sector as User Interface (UI) Designer/ User Experience (UX) Designer in different govt. project and private sector. iii. Must have experience in at least 1 ICT-enabled application or software projects completed within the



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	<p>last 5 years as a User Interface (UI) Designer/ User Experience (UX) Designer, with each project having a minimum duration of 2 (two) years.</p> <p>iv. Proven experience as User Interface (UI) Designer/ User Experience (UX) Designer methodologies, processes, and tools for large-scale web-based and integrated ICT applications.</p> <p>v. Clear understanding of key business processes and the ability to ensure software systems meet functional and performance expectations.</p> <p>vi. Related certifications will added advantage.</p>
Age Limits	Maximum 40 years
Professional Requirements/ Certifications	<p>i. Figma, Adobe XD, Sketch, InVision, Miro, Balsamiq, Adobe Creative Suite (Photoshop, Illustrator).</p> <p>ii. Experience in designing UI/UX for government e-services or high-traffic enterprise systems.</p> <p>iii. Knowledge of Agile/Scrum methodologies.</p> <p>iv. Working knowledge of HTML5, CSS3, and JavaScript (for design feasibility).</p> <p>v. Working knowledge of UI frameworks (Bootstrap, Tailwind CSS, and Material Design).</p> <p>vi. High-fidelity mockups, component libraries, responsive layouts.</p> <p>vii. Visual design principles, typography, color theory, and branding.</p> <p>viii. User research, persona creation, user journey mapping, flow diagrams.</p> <p>ix. Ability to conduct UX research, A/B testing, and usability evaluation.</p> <p>x. At least 02 (Two) valid vendor certifications related to this post will add value.</p>
Major Responsibility	<p>i. Gathering and evaluating user requirements, in collaboration with product managers and engineers</p> <p>ii. Illustrating design ideas using storyboards, process flows and sitemaps</p> <p>iii. Prepare user interface aligned with SRS/business logic.</p> <p>iv. Creating user flows, wireframes, prototypes and mockups</p> <p>v. Translating requirements into style guides, design systems, design patterns and attractive user interfaces</p> <p>vi. Ability to create and maintain a scalable, reusable design system and UI component library.</p>



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6. DevOps Engineer	
Education	Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Electrical & Electronics Engineering/ Communication Engineering/ICT/IT from UGC approved reputed university.
Work Experience	<ul style="list-style-type: none">i. At least 08 (Eight) years of professional experience in IT sector in different govt. and private project.ii. At least 04 (Four) years of experience as DevOps Engineer experiencing in managing project hosted in data center in similar/higher size/complex govt. and private project.iii. Must have experience in at least 1 ICT-enabled application or software projects completed within the last 6 years as a DevOps Engineer, with that project having a minimum duration of 2 (two) years.
Age Limits	Maximum 40 years
Professional Requirements/ Certifications	<ul style="list-style-type: none">i. Proven experience in design, development, deployment, implementation, and maintenance of integrated computerized applications, particularly in:<ul style="list-style-type: none">a. Payment Gateway Integration for large-scale transactional systems.b. Web-based application layers using PHP, Java,python etc.c. Web Server Administration including Apache, IIS, and NGINX.ii. Strong experience in Database Administration, Configuration, and Maintenance for:<ul style="list-style-type: none">a. MySQL / MariaDBb. SQL Serverc. Working on Linux, UNIX, and Windows platforms.iii. Expertise in Database Clustering, High Availability, Load Balancing, and performance optimization for large-scale databases (Oracle, MySQL, etc.).iv. Hands-on experience in Cloud Environments (AWS, Azure, GCP, or Private Cloud) including:<ul style="list-style-type: none">a. Provisioning and configuring virtual infrastructure (Compute, Storage, Network)b. Managing Cloud-based databases and storage solutionsc. Implementing scalable, secure, and resilient cloud architectures.v. Knowledge and experience with DevOps practices:<ul style="list-style-type: none">a. CI/CD Pipelines (Jenkins, GitLab CI, etc.)b. Infrastructure as Code (IaC) using Ansible,



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	<ul style="list-style-type: none"> Terraform, etc. c. Containerization (Docker, Kubernetes) d. Monitoring and Automation of system operations. vi. Understanding of key business processes to align technical infrastructure with organizational objectives. vii. Experience in system hardening, network security, and vulnerability management is desirable. viii. At least 02 (Two) valid vendor certifications such as RHCA or AWS or RHCE or MCSA or related certifications will add value.
Major Responsibility	<ul style="list-style-type: none"> i. Building and setting up new development tools and infrastructure ii. Testing and examining code written by others and analyzing results iii. Ensuring that systems are safe and secure against cyber security threats iv. Identifying technical problems and developing software updates and 'fixes'. v. Working with SSE and SE to ensure that development follows.
7. Support Service Engineer	
Education	Minimum Graduate or BSc. / BSc. Eng. / MSc. /M. Eng. /MSc. Eng. in Computer Science & Engineering/ Electrical & Electronics Engineering/ Communication Engineering/ICT/IT or related degree from UGC approved reputed university.
Work Experience	<ul style="list-style-type: none"> i. At least 5 (Five) years of professional experience in IT sector. ii. At least 03 (Five) years of experience as Support Service Engineer in similar/higher size/complex govt. and private project. iii. Experience in development and implementation of computerized integrated applications in large-scale ICT projects. iv. Strong problem-solving abilities with excellent communication skills for effective user support. v. Familiarity with ticketing systems and remote troubleshooting tools. vi. Ability to escalate complex technical issues to specialized teams and assist in root-cause analysis
Age Limits	Maximum 35 years
Professional Requirements/ Certifications	<ul style="list-style-type: none"> i. Hands-on expertise in: <ul style="list-style-type: none"> a. Web development technologies: HTML, DHTML, XHTML, XML, AJAX, JavaScript, CSS. b. Multimedia tools: Adobe Photoshop, Flash,



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	<ul style="list-style-type: none"> ii. Proven work experience in Technical Support roles, including: <ul style="list-style-type: none"> a. Technical Support Engineer b. Desktop Support Engineer c. IT Help Desk Technician or similar. iii. Practical experience in: <ul style="list-style-type: none"> a. Installing, configuring, and troubleshooting Windows, Linux, and Mac OS environments. b. Diagnosing and resolving basic hardware/software/network issues. c. Supporting end-users and client teams for software and system-related queries. iv. At least 01 (One) valid vendor certifications related to this post will add value.
Major Responsibility	<ul style="list-style-type: none"> i. Follow standard procedures for proper escalation of unresolved issues to the appropriate internal teams ii. Provide prompt and accurate feedback to customers iii. Prepare accurate and timely reports iv. Document knowledge in the form of knowledge base tech notes and articles v. Follow the SLA for issues.

iii. Key Person Man Month Input:

The personnel in designated position will be appointed for 36 months and personnel have to render their stipulated task as long as holding that positions. Other entitled facilities are mentioned below which will be applicable subsequently as per contract.

SL	Key Personnel/positions	Number	Input Person-Month (For Costing)	Total Person-Month (For Costing)
01	Team Leader & Business analyst	01	36	36
02	Senior Programmer	01	36	36
03	Programmer-1	01	36	36
04	Programmer-2	01	36	36
05	Database Administrator	01	36	36
06	User Interface (UI) Designer/ User Experience (UX) Designer	01	36	36
07	DevOps engineer	01	36	36
08	Support Service Engineer	01	36	36
	Total	08		288



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W. The client will provide the following support and services:

- i. All development and maintenance activities will be conducted by vendor IT firm at the CCI&E premises.
- ii. CCI&E will arrange a team of focal points for each entity where the system is deployed. The focal points will facilitate monitoring in every possible way.
- iii. CCI&E will ensure the timely delivery of deliverables and respond to consultant requests related to monitoring requirements.
- iv. During monitoring, the client will ensure the presence of relevant personnel from the vendor's side.
- v. While monitoring, the client will make sure that CCI&E employees convey the users' feedback regarding the system and forward it to the consultant.

X. Institutional arrangement:

1.1 Data and Access Facilities:

All existing hard-copy/softcopy documents, reports of different relevant departments/Divisions/Vendors on existing OLM software will be provided by the Client. Necessary access to the software codebase, system backend, frontend, database, OS access, access to hardware and network infrastructure for development and maintenance activities of new software will be provided.

1.2 Office Space

CCI&E shall provide requisite furnished office space free of charge to the vendor IT firm's personnel from the assigned consulting firm for properly carrying out the assignment. IT equipment with free internet and other amenities will be provided for daily operational work as assigned in the covenants.

1.3 Facilities:

- i. Space at office premises for the vendor firm's consultants will be provided for total activities.
- ii. Internet and other facilities as official equipment are to be provided.
- iii. All required info from client end and user end are to be provided for proper system understanding and business analysis.
- iv. Mini conference room will be provided on demand for meeting with apropos permission.
- v. No facilities of transportation, accommodation and local support will be provided in case of visits.

1.4 Working hour:

From 09:00 to 17:00 BST; however, if required to work beyond regular hours or on non-working days due to specific emergency demands, the consultant shall agree to work on holidays.

1.5 Holidays

Fridays, Saturdays, and government holidays during the contract period will be applicable. The consultant shall not be entitled to overtime pay or any form of paid leave.



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1.6 Systems to be gotten access for development and maintenance

CCI&E shall give VPN access to the vendor IT Firm the existing Online Licensing Module (OLM) for maintenance, monitoring and further development from the commencement of contract.

1.7 Responsible for privacy protection

The newly appointed vendor firm together with all consultants are bound to protect the data and make the data secure. Any breach of contract of securing data privacy is to be imputed to be guilty. If any personnel of the vendor firm is involved in any breach of contract or privacy, the vendor firm along with that personnel will be held liable.

1.8 Systems to be Property of CCI&E

This system name Online Licensing Module (OLM) (version-2) is the property of CCI&E and this office shall have the entire rights of the data and system administration of this system. The vendor company is obliged to hand over the system to CCI&E without any delay after the expiry of the contract.

Md. Zahidul Alam Chowdhury
Executive Officer
Office of the Chief Controller Imports & Exports
Dhaka.

আবু হোরায়রা
প্রোগ্রামার
বাণিজ্য মন্ত্রণালয়
বাংলাদেশ সচিবালয়, ঢাকা

Md. Tarikul Islam
BCS (Trade)
Deputy Controller
Office of the Chief Controller of Imports & Exports
Govt. of the People's Republic of Bangladesh