



BID DOCUMENT

**REQUEST FOR PROPOSAL FOR SELECTION OF SYSTEM INTEGRATOR
FOR
Implementation of Comprehensive IT Governance Solution for Tea Board of India
VOLUME II**

Tender no. : IT/e-Gov/2013 Date: 20.11.2015



**Tea Board of India
(Under Ministry of Commerce & Industry, Government of India)
14, B.T.M. Sarani, Kolkata 700 001**

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List of Abbreviation

Abbreviation	Description
CDAC	Centre for Development of Advanced Computing
CIC	Central Information Commission
CMS	Content Management System
CSP	Content Service Provider
CVC	Central Vigilance Commission
DA	Dealing Assistant
DARPG	Department of Administrative Reforms and Public Grievances
DDTD	Deputy Director Tea Development
DeitY	Department of Electronics and Information Technology
DGFT	Directorate General of Foreign Trade
DTP	Director Tea Promotion
ED	Executive Director
EMD	Earnest Money Deposit
FSMS	Food Safety Management System
FSSAI	Food Safety and Standards Authority of India
GFR	General Financial rules
GoI	Government of India
GoI	Government of India
HACCP	Hazard Analysis and Critical Control Points
ICT	Information and communication Technology
ISO	International Organization for Standardization
IT	Information Technology
ITC	International Tea Committee
MCIT	Ministry of Communication and Information Technology
MoCI	Ministry of Commerce and Industry
MSA	Master Service Agreement
NABL	National Accreditation Board for Testing and Calibration Laboratories
NEFT	National Electronic Funds Transfer
NeGP	National e-Governance Plan
NIC	National Informatics Centre
NOC	No Objection Certificate
NPI	National Portal of India
NPS	New pension Scheme
PCC	Per Capita Tea Consumption
PIs	Principle Investigators
PRAN	Permanent Retirement Account Number
RFP	Request for Proposal
SI	System Integrator
SLA	Service Level Agreement
TBAS	Tea Board Application System
TBAS	Tea Board Application System
TBI	Tea Board of India
TMCO	Tea (Marketing) Control Order
TMS	Tea Management System
TRI	Tea Research Institute
UT	Union Territory

GLOSSARY OF TERMS

The definitions of various terms that have been used in this RFP are as follows:

- **“Request for Proposal (RFP)”** means all three Volumes and its annexures and any other documents provided along with this RFP or issued during the course of the selection of bidder, seeking a set of solution(s), services(s), materials and/or any combination of them.
- **“Contract / Agreement / Contract Agreement / Master Service Agreement”** means the Agreement to be signed between the successful bidder and Tea Board of India (TBI), including all attachments, appendices, all documents incorporated by reference thereto together with any subsequent modifications, the RFP, the bid offer, the acceptance and all related correspondences, clarifications, presentations.
- **“Bidder”** means any firm offering the solution(s), service(s) and /or materials as required in the RFP. The word Bidder when used in the pre-award period shall be synonymous with parties bidding against this RFP, and when used after award of the Contract shall mean the successful party with whom the agreement is signed for rendering of services for implementation of this project.
- **“Proposal / Bid”** means the Pre-Qualification, Technical and Commercial bids submitted for this project against this RFP.
- **“TBI”** means Tea Board of India which is responsible for executing the project, carrying out the tendering.

1 Introduction

- I. Tea Board of India, is committed to serve all its stakeholders with the following vision & mission:

Vision:

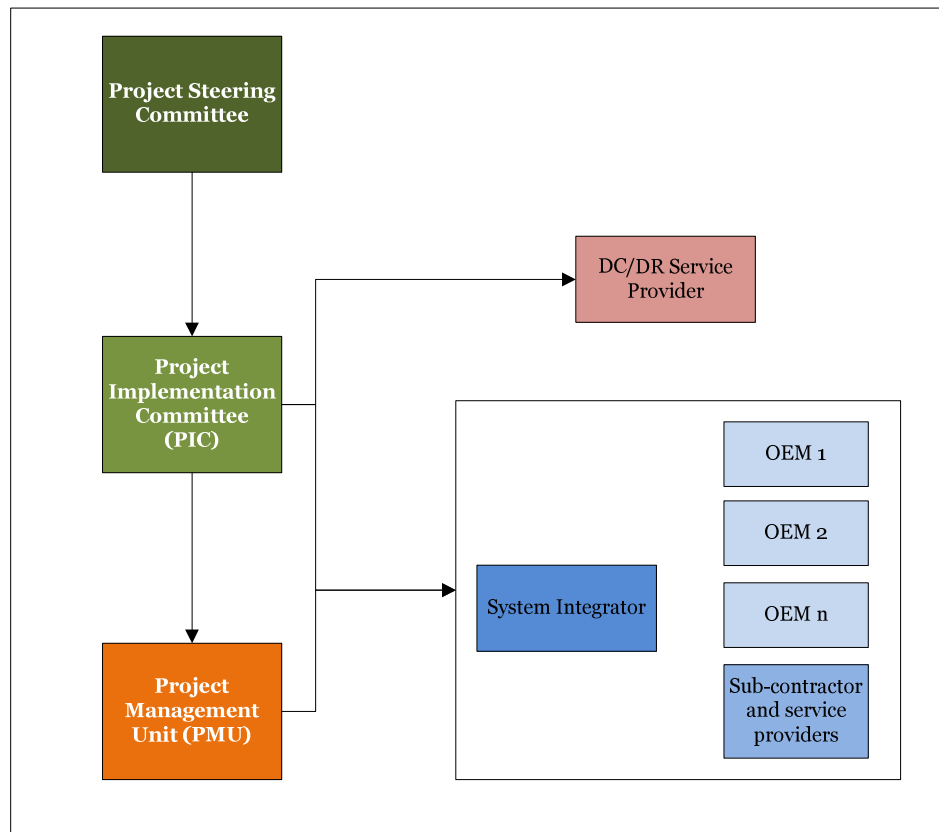
“To serve all stakeholders using the best practices of Information Technology for fulfilling the responsibilities prescribed as per Tea Act.”

Mission:

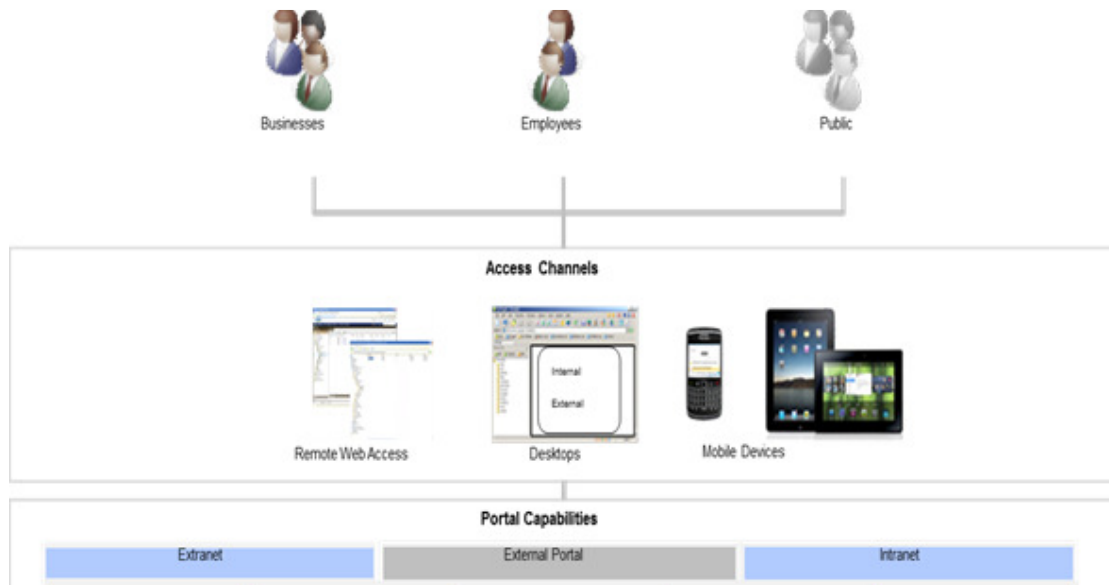
- *Setup a paperless transaction of all deliverables from Regulatory to implementation of Subsidy Schemes.*
 - *Develop a system with clearly defined role and goals for each employee of Tea Board.*
 - *Establish a Performance Monitoring System for all activities (domestic / international) undertaken by Tea Board.*
 - *Develop a user friendly e-platform for all stakeholders in Tea Industry.*
- II. In this regard Tea Board envisages to implement a Comprehensive IT Governance Solution – TBAS (Tea Board Application System) to realize its vision and mission. This includes delivery of citizen, business, employee and government facing services offered by the Tea Board of India.
- III. Tea Board plans to implement the TBAS solution in cloud enabled data centre of any State/PSU/Department/Govt. Undertakings. The services will be extended to all the offices of Tea Board of India and all the stakeholders.

2 Implementation Framework

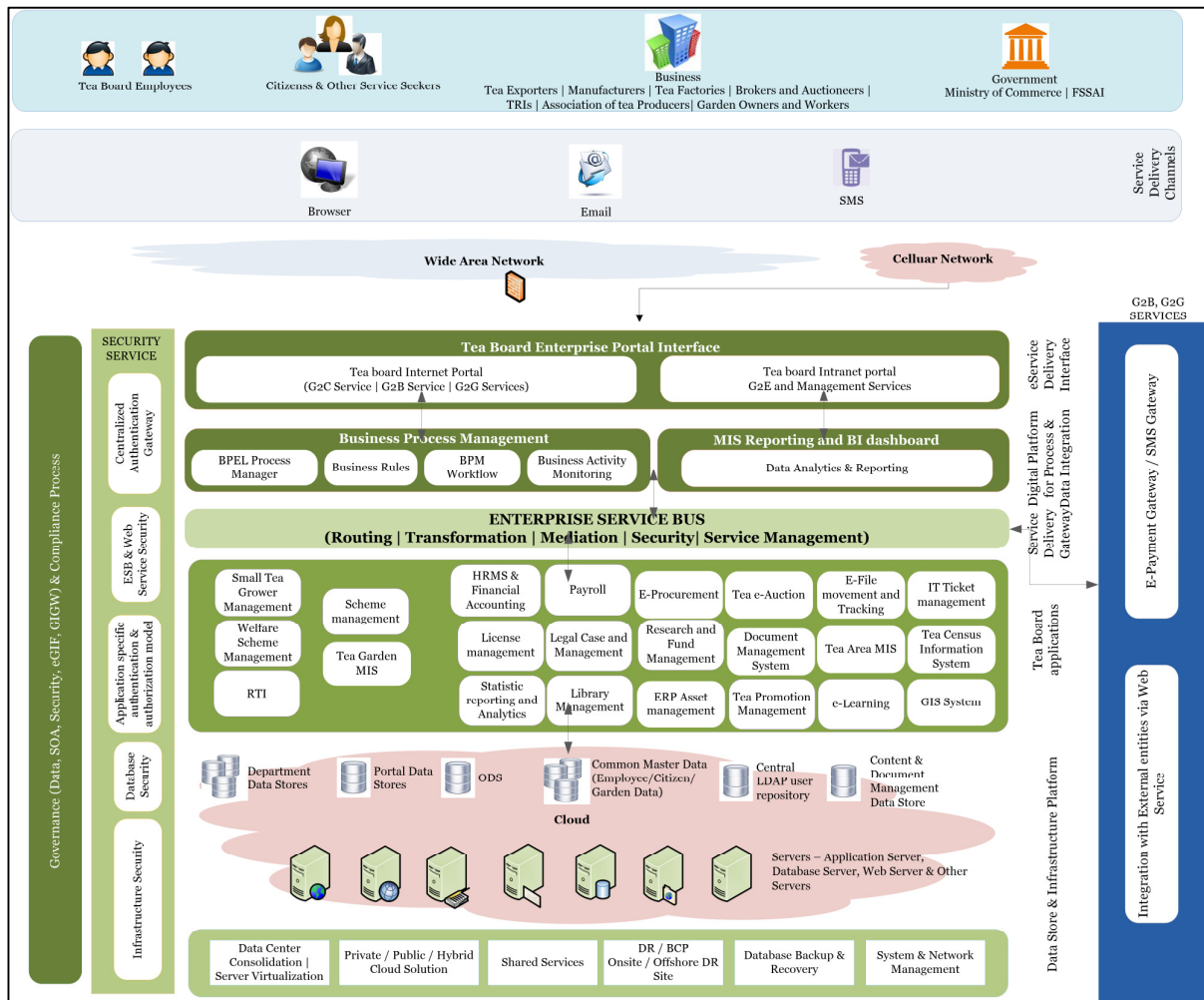
- I. Tea Board Application System (TBAS) project shall be implemented across the offices of Tea Board and for all the stakeholders of Tea Board India.
- II. There shall be a Project Steering Committee headed by the Chairman, Tea Board or a person from Tea Board nominated by the Chairman, Tea Board and committee members selected by Chairman, Tea Board. The steering committee shall be the highest body for the management and governance for the TBAS project. There shall be a Project Implementation Committee (PIC) consisting of the members nominated by the Chairman of Tea Board and this unit shall monitor and manage the progress of the TBAS project along with the responsibility of highlighting and solving administrative issues or any other relevant issues raised by the bidder and accepted by this PIC. Further this PIC shall recommend its observation and advise the steering committee for taking various decisions pertaining to this project. A project Management Unit (PMU) shall be available to assist, monitor, review, assess, advise for the successful implementation of the TBAS project. PMU shall monitor and evaluate the SI's work by its recommendation and present the same to PIC or steering committee as required from time to time. The diagram illustrating the key stakeholders is shown below:



- III. TBAS project aims to deliver all the services as listed in the scope of services section in this document by means of electronic means or by IT enabled services. The detail scope is given in section 3 of this volume of the RFP.
- IV. The TBAS portal and application are envisaged to be accessed by multiple channels. The diagram provided below explains the access channels required for the successful implementation of this project.



- V. The application software will be hosted in the cloud enabled government Data Centre; the selection and infrastructure services will be arranged and provided by the Tea Board. Integration and scalability facility shall be available in the proposed solution and service of the bidder through mandatory adherence to technical specifications and e-Governance standards, besides facility to use MSDG/Payment Gateway etc. Compliance to latest Unicode standard for local language content/data encoding is also mandatory. The Integrated Framework shall be treated as part of this RFP and shall be followed with appropriate modifications, required by the Board.
- VI. Two key aspects of the implementation are Business Process Re-engineering (BPR) and creation of databases based on e-Governance standards for the purposes of ensuring interoperability. BPR is intended to enable process simplification and significant value addition. Tea Board as part of its e-Governance initiative has undertaken the BPR activity and the same may be provided to the successful bidder, after entering into an agreement for this project. However the bidder after studying the BPR document, is free to suggest simplification to the processes if necessary and feasible.
- VII. The solution architecture of the TBAS project envisages a centralised application and database and with the option of integration and interoperability with required gateways and applications as required. The diagram provided below explains the envisaged solution architecture for the implementation of TBAS project however the bidders can propose better or improved solution architecture as part of their response to this bid.



- VIII. Further TBAS shall be integrated with a mobile service delivery gateway and Aadhaar initiative of the Unique Identification Authority of India. Localisation of the application will be carried out as per the requirement of the Board in terms of local language and other needs.
- IX. The TBAS project envisages centralised architecture with common application software for each of the identified services for all the offices and stakeholders as applicable.
- X. Integration with other government institutions or application shall be enabled, through mandatory adherence to technical specifications and e-Governance and localization standards. The detailed guidelines in this regard have been issued by Department of Electronics and Information Technology (DeitY) Government of India.

3 Detailed Scope of Work

TBI reserves the right to add/edit the Scope of Work/quantity of any item in this RFP and related Annexure(s) in this RFP. Accordingly total contract value may change on the basis of the rates defined in the financial proposal. Actual payments will be made on invoices claimed by the successful bidder and based on the actual delivery of services/goods. It is to be noted that the quantities mentioned in this document and the Annexure(s) are only indicative.

High level, Scope of work for the selected bidder will be:

1. Requirement Gathering for Citizen & Business Centric services (Licensing and subsidy disbursement services and Statistical report returns)
2. Procurement, Configuration, Installation commissioning and Testing of OS and system software at the cloud DC and DR and hosting of application and utility software
3. Solution Architecture and Design for Citizen and Business Centric services (Licensing, report returns (statistics) and Subsidy Disbursement Services)
4. Installing & preparing the environment with all the required software/tool/products as applicable in the DC and DR provided by TBI
5. Requirement gathering for all other services
6. Solution Architecture and Design for all other services
7. Application development for Citizen and Business Centric services (Licensing, report returns (statistics) and Subsidy Disbursement Services)
8. Application development for all other services
9. Final UAT & Acceptance & Data Migration for Citizen and Business Centric services
10. Final UAT & Acceptance & Data Migration for all other services
11. Data Digitization
12. Final integration testing
13. Training
14. Third party Audit & Go-Live
15. Procurement, customization and integration of other applications as may be required.
16. During the UAT and roll-out stage the SI would deploy manpower for user handholding in the identified offices of TBI.
17. Centralized User Helpdesk
18. Providing documentation of the TBAS Project at all relevant stages. (TBI will be the sole owner of the documents.)
19. O&M of all associated artefacts for a period of 2 years post implementation/Go Live.

3.1 Introduction

- I. Tea Board Application System (TBAS) project shall be implemented across all the offices of Tea Board and for all the stakeholders of Tea Board India.
- II. The TBAS project is envisaged to be implemented in two phases. In the first phase all the Licensing and Subsidy disbursement services along with statistics activities will be implemented and in the second phase rest of all the services as per the scope of work shall be implemented. The bidder shall implement any related or depended activity or modules that required to be implemented/digitized/migrated/developed to achieve the implementation phases.
- III. Indicative List of offices of Tea Board of India:

Type of office	Number of offices	Office location
Headquarter	1	Kolkata
Zonal Offices	2	Guwahati
		Coonoor
Regional offices	13	New Delhi
		Mumbai
		Palampur
		Kurseong
		Jalpaiguri
		Siliguri
		Guwahati
		Silchar
		Dibrugarh (RO & Small Tea Grower Development Directorate)
		Tejpur
		Agartala
		Coimbatore
		Kochi
Sub-Regional offices	4	Gudalur
		Itanagar
		Kotagiri
		Kumily

Type of office	Number of offices	Office location
Field Offices	74	

List of Field Offices			
#	Field Offices	#	Field Offices
1.	Aizal	39.	Kil Kotagiri, Tamil Nadu
2.	Almora, Uttarakhand	40.	Kishanganj, Bihar
3.	Amguri, Assam	41.	Kotagiri, Tamil Nadu
4.	Aravenu, Tamil Nadu	42.	Lahoal, Assam
5.	Baracola, Tamil Nadu	43.	Lakhimpur, Assam
6.	Baite, Mozoram	44.	Ledo, Assam
7.	Bidhannagar, West Bengal	45.	Makum, Assam
8.	Biswanath Charali, Assam	46.	Malbazar, West Bengal
9.	Bongaogaon, Assam	47.	Manjoor, Tamil Nadu
10.	Borpathar, Assam	48.	Margherita, Assam
11.	Chabua, Assam	49.	Mariani, Assam
12.	Chopra, West Bengal	50.	Mayanaguri, West Bengal
13.	Darjeeling, West Bengal	51.	Mekhliganj, West Bengal
14.	Devarsholla, Tamil Nadu	52.	Nagrakata, West Bengal
15.	Dhekiajului, Assam	53.	Naharkatia, Assam
16.	Dhuliajan, Assam	54.	Namsai, Assam
17.	Digboy, Margherita	55.	Numaligarh, Assam
18.	Digboy, Assam	56.	Ooty, Tamil Nadu
19.	Dimapur, Assam	57.	Phansidewa, West Bengal
20.	Diphu, Assam	58.	Rajganj, West Bengal
21.	Doom Dooma, Assam	59.	Rajgarh, Assam
22.	Dwarbund, Assam	60.	Rupai Siding, Assam
23.	Elappara	61.	Sapekhati, Assam
24.	Gogamikh, Assam	62.	Selas, Tamil Nadu
25.	Gohpur, Assam	63.	Silchar, Assam
26.	Golaghat, Assam	64.	Sivsagar, Assam
27.	Gourisagar, Assam	65.	Sonapur, West Bengal
28.	Islampur, West Bengal	66.	Sonari, West Bengal
29.	Jalpaiguri, West Bengal	67.	Talap, Assam
30.	Janai(Dhemaji), Assam	68.	Thakurganj, Bihar
31.	Kgguchi, Tamil Nadu	69.	Thumanatty, Tamil Nadu
32.	Kailashahar, Tripura	70.	Tiloinagar, Assam
33.	Kalibar, Assam	71.	Tinsukia, Assam
34.	Kamalpur, Tripura	72.	Titabar, Assam
35.	Kattappana, Kerala	73.	Umnsning, Meghalaya
36.	Kharupetia (Udalguri), Assam	74.	Valparai, Tamil Nadu
37.	Khowang, Assam	75.	Yedapalli, Tamil Nadu
38.	Kundah	76.	

Following are the indicative activities to be carried out by the selected Bidder:

1. Preparation of Detailed Project Plan in line with the overall plan provided in the RFP. The same should be prepared in consultation with Tea Board of India (TBI).
2. Providing manpower with required skills on IT systems
3. Procure the OS, System Software, Utility software etc. and install and maintain the same at the cloud enabled DC & DR as applicable.
4. Procure, install, commission, operate and maintain:
 - a. Requisite Application, OS, system software and Utility software at selected DC and DR as per the requirements mentioned in this RFP
 - b. Meet the defined SLAs for the performance of the system
5. Addressing technology obsolescence by appropriate updates, replacement and / or replenishment of systems deployed under the scope of this RFP
6. Rectification of system software problems due to crashing or malfunctioning of the OS, RDBMS or front end within the time limits to meet the SLAs as defined in RFP.
7. Develop / customize, host & deploy and maintain the requisite Software Solution as per the requirements at DC and DR locations.
8. Provide necessary support for the resolution of bugs, patches & updates of the software solution.
9. Provide necessary manpower for managing the Change Requests and support and maintenance.
10. Design and develop various manuals (as per CMMi Level 3/4/5 guidelines; whichever is applicable for the Bidder) like User manual, Trouble Shooting manual etc. for the system. e.g- If a bidder is CMMi level 4 then the bidder should develop various manuals as per CMMi level 4 guidelines.
11. Provide computer basic skills training and advanced training on application modules to the staff members and stakeholders of the TBI.
12. Suggest and Maintain the business continuity.
13. Deploy requisite manpower and infrastructure for the digitization of the existing data.
14. Deploy the required manpower to manage the operations.
15. Ensuring the SLAs for downtime of system, software development/customization, procurement and delivery of various artefacts, errors in data entry as defined in this RFP are met.
16. Management and quality control of all services.
17. Any other services which is required for the successful execution of the project.
18. Take regular backup.
19. Generation of MIS reports as per the requirements of Tea Board of India (TBI).
20. Generation of the report for the monitoring of SLAs.
21. Meet the defined Technical Specifications for ICT components keeping in mind the application and future requirements of the Board.
22. To set up a two seated helpdesk at TBI premises with all the required infrastructures like (resource, systems, log book/tool, connectivity, toll free numbers etc.)

Note: An indicative Functional Requirement Specification (FRS) Report is provided as annexure to this RFP separately and the same should be treated as part the whole RFP and form a part of the MSA. All the functionalities mentioned in the Annexure (FRS) will be the scope of the SI to include those in to the developed application and services to be provided under the agreement for TBAS project.

3.1.1 TBI Specific Requirements

I. Key Migration/Integration Requirements

The following table provides a snapshot of the existing systems at TBI and which are considered to be migrated/integrated with the TBAS project. The volume given in this table is indicative in nature.

Sl. No.	Application Name	Back end details	Data to be migrated
1.	Online Checking of Import and Export Data	C++/SQL	Less than 20 GB in MS excel, doc, pdf, mdb, gif, tif, jpeg, etc. format and Oracle 8, SQL data base
2.	INFAST	.net/SQL	
3.	TMS	.net/SQL	
4.	Biometric Attendance System (Integration only for Head office as of now and can be extended to other offices in future)	Proprietary	
5.	Form E Submission	.net/SQL	
6.	Licensing data	Oracle 8	
7.	Datavane system	.net/SQL	

II. Integration & Interfacing Requirement

The TBAS Portal and Application shall be open for integration with other Government Applications with platform and technology independent facility in TBAS. Further the proposed application should have integration facility with MSDG/Payment Gateways and further getting and effecting the data received through any integration in the TBAS database.

3.1.2 DC & DR Arrangement by TBI

Indicative arrangement for DC & DR:

1. As a part of the bid response the SI has to provide the configuration that they propose for each VM in terms of vCPUs, RAM and Storage.
2. An indicative VM configuration for the server instances at DC and DR is provided below.

Indicative VM configuration

Note: Bidders are free to propose the sizing of the VMs as per their solution.

For DC	Server Type	VM configuration	Total Additional Storage	Minimum Indicative Number of servers
	Application Server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	2000 GB	2
	Database Server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	2000 GB	2
	Web Server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	-	2
	Staging Server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	-	2
	Management Server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	-	1
	Back Up server	1 VM with 8vCPU, 32GB RAM and 60GB Storage	-	1

For DR (DR will run at 50% capacity of the DC)	Server Type	VM configuration	Total Additional Storage	Minimum Indicative Number of servers
	Application Server	1 VM with 4vCPU, 32GB RAM and 60GB Storage	2000 GB	1
	Database Server	1 VM with 4vCPU, 32GB RAM and 60GB Storage	2000 GB	1
	Web Server	1 VM with 4vCPU, 32GB RAM and 60GB Storage	-	1

3. TBI has requested for some allocation from the government cloud. The Virtualization technology is bare-metal based on **VMWare**. SI has to ensure that the proposed solution functions on the VM environment already available with the cloud operator.
4. TBI will send a request to the cloud data center operator for providing the actual VM configuration as proposed by the selected bidder during their bid response.
5. The cloud data center operator will do the initial configuration of the VM as per the request of the selected bidder. Then the VM's access would be handed over to the SI for further tuning and configuration in terms of hosting, installation and configuration of all applicable components proposed by the SI.
6. The SI has to install the proposed OS and provide the virtual machines to TBI. The proposed OS should be either RHEL 6.x or Windows Server latest edition.
7. The maintenance, further configuration and the scaling of the VM during contract period would be the SI's responsibility.

TBI will Host the application in a government cloud enabled DC, the probable offerings from the government cloud are listed below.

1. Provide 99.5% uptime.
2. The NOC (network operation centre) of cloud data centre may provide managed services
3. The Cloud services should be accessible via internet and private connectivity like Leased line and MPLS links
4. The self-service portal provided by the cloud environment may automate for network provisioning including the VLAN and IP subnets, load balancer provisioning, firewall ACL rules provisioning, server provisioning etc.
5. A dashboard may be provided for complete automation of the orchestration, administration, provisioning, management, features that may be provided are :
 - a. Easy-to-use interface: The simple, flexible web-based user interface
 - b. Granular control of resources: ability to configure servers, supporting the customization of CPU, memory and storage on servers
 - c. Granular Network Management: Provision, Addition and change of IP address, coupled with firewall management with global IP address translation, inbound/outbound policy creation and management, Load balancer management, etc.
 - d. Role-based Access Control (RBAC): Granular administrator permissions controlling the activities of each administrator like Network administrator, Server administrator etc.
 - e. Server Anti-affinity: May have the capability to allow users to define anti-affinity rules for their servers to ensure application availability even if more than 1 physical blade is down
 - f. Separate dedicated physical layer-2 VLAN provision with firewall ACLs at IP and port level between the VLANs and for every network segment created by client.
 - g. May provision for deploying Web/App/DB tiers in separate security zones with ACL control between them.
6. Cloud Servers will support popular operating systems including Linux, Microsoft Windows

The cloud environment may provide built-in security like IDS / IPS, DDoS mitigation, firewall and load-balancer should be provided by the cloud platform

Note: The development environment will not be provided by TBI. Only the staging & production environment will be provide by TBI from the cloud enabled DC.

3.2 Solution & Technology Architecture

3.2.1 Overview

- I. A centralized architecture (servers and processing at single and central location) has been proposed for the TBAS project. All requests from internal and external users will be sent to this system, located in a central place for processing. All users will access the application through local or remote terminals using a browser (through internet for external users and through internet or VPN for internal users).
- II. The overall technology solution shall be based upon the most relevant and suitable architecture standards including standards for Service Oriented Architecture (SOA), XML services & necessary protocols for internet applications, Cloud Data Centre standards etc.
- III. The design should include integration with existing IT infrastructure selected under cloud enabled SDC/NIC/Government Data Centre and any other Project for the implementation of TBAS Project. TBAS Application developed should be integrated with SMS Gateway, Payment Gateway etc. Requirement for these should be included in the FRS, SRS and Design.
- IV. A cloud enabled data centre of state/central government or PSU will be provided by Tea Board of India and the application will be hosted at the same.

3.2.1.1 System Study and Design

- I. The FRS will be developed by the SI by referring to the Annexure FRS already prepared by TBI. The SI shall carry out a detailed systems study to refine the Functional Requirements Specifications through a requirement document and formulate the System and Software Requirements Specifications documents incorporating the functional specifications mentioned in the Annexure FRS.
- II. The SI should prepare a detailed document on the implementation of TBAS Application with respect to configuration, extension and integration as per the requirements of the Tea Board.
- III. As part of the System Study, the SI shall be responsible for Preparation of a comprehensive System Study document by studying the legislation, business processes and organization design of the Tea Board of India.
- IV. The selected Bidder shall perform the detailed assessment of the functional requirements (including localization framework) and MIS requirements and prepare a new FRS report, as part of the System Study document incorporating the list of additional features that shall result in further improvement in the overall application performance for consideration of the TBI.

A. Project Documentation: The SI shall create and maintain all project documents that shall be passed on to the Tea Board as deliverables as per the agreed project timelines. The documents created by the SI will be reviewed and approved by TBI.

Project documents include but are not limited to the following:

1. Detailed Project Plan
 - a. Detailed System Study Report
 - b. List of Services, Service Definitions, Service Levels,
 - c. Updated/vetted FRS
 - d. SRS document
 - e. HLD documents
2. TBAS Application architecture documents.
3. ER diagrams and other data modelling documents.

4. Logical and physical database design.
5. Data dictionary and data definitions.
6. Application component design including component deployment views, control flows, etc.
 - a. LLD documents
7. Application flows and logic.
8. GUI design (screen design, navigation, etc.).
 - a. All Test Plans
9. Requirements Traceability Matrix
10. SLA and Performance Monitoring Plan.
11. Design of real-time tools/dashboards for monitoring Transaction volumes and for generating real-time MIS
12. Training and Knowledge Transfer Plans.
13. Issue Logs.
14. Maintenance Plans - Software, IT components & Firmware
15. SLA reports from application monitoring tools & service desk as per format agreed upon by Tea Board

The SI shall submit a list of deliverables that they shall submit based on the methodology they propose. The SI shall prepare the formats/templates for each of the deliverables upfront based upon industry standards and the same will be approved by the TBI prior to its use for deliverables.

All project documents are to be kept up-to-date during the course of the project. The SI shall maintain a log of the internal review of all the deliverables submitted. Soft copy and hardcopy of logs and deliverables shall be submitted to Nodal Officer on regular basis and when demanded by Tea Board.

3.2.1.2 Preparation of Software Requirements Specifications (SRS)

As part of the preparation of SRS the selected SI shall be responsible for preparing and submitting detailed requirement specification documents as per IEEE or equivalent standards which meets all the Business, Functional and Technical (including localization) requirements of TBI. The SI shall prepare the SRS documents and have it reviewed and approved by the TBI.

The SI is required to update the FRS / SRS as and when any enhancements / modifications are made to the TBAS application till the duration of the Contract.

3.2.1.3 Preparation of TBAS Project Plan

The SI shall prepare a comprehensive TBAS implementation and deployment plan in consultation with the TBI. This implementation document shall also comprise of

- I. Application Trainings to be provided to the departmental officials at different stages of the project
- II. Procurement, deployment and commissioning of required hardware and software
- III. Deployment of applications

Further, SI will also prepare detailed work plan and estimate the timelines and resources required for configuration, customization, extension, integration, and commissioning of the TBAS software as per the requirements of the Tea Board. All the plans and frameworks prepared by SI during the duration of the Contract shall require approval from TBI.

3.2.1.4 Preparation of TBAS Application Design

Detailed Design documents shall include:

- I. Technical Architecture Document (Application, Network, and Security)
- II. The IT infrastructure available at Tea Board shall be a part of the document.

- III. Gap infrastructure
- IV. High Level and Low Level Design.
Database architecture, including defining data structure, data dictionary, as per requirements of data storage in English, Hindi and the local language with compliance to meta data as per standards defined by DeitY, GoI.

3.2.1.5 Sign off Deliverable

Deliverables under the scope of this RFP will be reviewed and approved by TBI.

The steering committee or Project Implementation Committee for this project will approve or sign off the deliverables submitted by the SI, this will be based on the requirement and acceptance criteria of the respective milestone/deliverable.

3.2.1.6 TBAS Functional Modules

TBAS Project aims at delivery of services and internal operation through the use of IT/ICT. The functional modules which are part of the scope of the SI to deliver under this project as described below and the detailed functional requirements are given in Annexure FRS which is part of this RFP.

Department	Sr. No.	Functions /Processes
Central Licensing	1.	Issuance of Exporter License
	2.	Renewal of Exporter License
	3.	Temporary to Permanent Exporter License
	4.	Issuance of Distributor License
	5.	Issuance of Registration Cum Membership Certificate
	6.	Renewal of Registration Cum Membership Certificate
	7.	Issuance of Buyer Registration
	8.	Issuance of Tea Waste License
	9.	Renewal of Tea Waste License
	10.	Issuance of Tea Warehouse License
	11.	Renewal of Tea Warehouse License
	12.	Issuance of Broker License
	13.	Renewal of Broker License
	14.	Fresh Enlistment of Tea Testing laboratory
	15.	Renewal of Enlistment of Tea Testing laboratory

Department	Sr. No.	Functions /Processes
	16.	Issuance of Flavoured Tea Registration
	17.	Issuance of Certificate of Change of Ownership of Registered Tea Garden
	18.	Issuance of Certificate of Change of Ownership of Registered Tea Factory
	19.	Issuance & Renewal of Auction Organizer License
	20.	Recording Change of Office Address
	21.	Allied Services
Legal and Vigilance	1	Tracking of Court Case filed against Tea Board
	2	Tracking of Court Case filed by Tea Board
	3	IPR related cases
	4	Monitoring of Grievances (External)
	5	Handling Right to Information (RTI) cases
	6	Tracking Vigilance related issues
	7	First appeal for RTI Cases
	8	Appeal in front of CIC
Research	1	Approval of Budget for TRI & UPASI
	2	Release of Fund to Tea Research Institutes and Others
	3	Approval of Technical Proposal other than Research Project
	4	Empanelment of Food Safety Management System Bodies
	5	Mechanism for the Assessment of R & D activities
	6	Enlistment of Soil Testing Labs
Promotion	1	General Proposal approval
	2	General Claim/payment disbursement procedure
	3	Domestic Promotional activities

Department	Sr. No.	Functions /Processes
	4	Overseas Promotional activities
	5	Project 5-5-5 related activities
	6	Trade related activities
	7	Incentive to exporters
	8	Management of Publicity Materials
	9	Fund management for MPS Cell
Development	1	Fund management of Special Purpose Tea Fund (SPTF)
	2	Quality Up gradation and Product Diversification Scheme (QUPDS)
	3	Management of Plantation Development Scheme (PDS)
	4	Management of Orthodox Scheme
	5	SPTF Loan Recovery related activities
Finance	1	Budget preparation
	2	Management of GPF & PRAN
	3	Processing of Bills
	4	Processing of other Bills
	5	Processing of TA/LTC and Over Time
	6	Processing of Employee Loans
	7	Accounting and fund disbursement for various offices
	8	Maintenance of Main Accounts
	9	Processing of salary and pension by Pay section
	10	Management of payments by Cash Section
	11	Processing of Pensions by Pension Section
	12	Audit of Finance processes

Department	Sr. No.	Functions /Processes
Statistics	1	- Statistical analysis and reporting (Export, Import, Production etc.) - Return forms (Export, import, production, sell, Form E etc.) - Analytics
Establishment	1	Recruitment and Confirmation
	2	Resignation processing
	3	Increment processing
	4	Approval for House Building Advance
	5	Approval for Motor Cycle /Computer Advance
	6	Approval for LTC
	7	Approval for Transfer TA /TA and Daily Allowances
	8	Processing of medical Bills
	9	Processing of Medical Bills (In Patient – private Hospitals)
	10	Processing of Medical Bills – Out Patient
	11	Activities of Special Wing/Foreign Wing for DTPs posted in Dubai, London & Moscow
	12	Maintenance of Service Book
	13	Processing of ACR Forms
	14	Approval of Children Education Allowance
	15	Retirement (Retirement List, Notice & Pension) related activities
Security Section	1	Security related processes (Vehicle management, Visitor management, Unplanned equipment maintenance)
Library	1	Library related activities (Book requisition, order, issue, reminder for submission, safe storage and digitization of various publications)
Hindi Cell	1	Training of Officials in Hindi
	2	Performing Translation

Department	Sr. No.	Functions /Processes
	3	Process for providing training, incentive to officials performing tasks in Hindi and other process
Stores	1	Stores related processes (e-Procurement, Inventory management, Maintenance)
Labour & Welfare	1	Management of HRD scheme (Stipend disbursement, Disability assistance, Education Stipend, Scholarships etc.)
Secretariat Branch	1	Secretariat affairs, dak services, board meeting agenda preparation, minutes preparation and circulation, tax payment, Parliamentary query and standing committee query response and arrangement
Monitoring services	1	Application monitoring, dashboards for decision makers and head of departments etc.
Dashboard	1	Chairman's Dashboard

These modules are critical to the success of this project.

- I. **Application should have a generic workflow engine.** This generic workflow engine will allow easy creation of workflow for new services with minimum technical programming support and thus enable the TBI to create new services as and when required by the various Departments without creating a change request.
- II. The application should have a module for management of digital signature including issuance, renewal and suspension of digital signatures based on the administrative decisions taken by the Tea Board. In case of any change (transfer, promotion, leave, suspension, termination, superannuation etc.) of the officials under TBAS Project, a copy of order should be marked to the digital signature management team for assigning and revoking of the access rights. The following section details the requirement for Digital Signatures in the TBAS application:
 - **Using Digital signatures to authenticate existing databases:** The TBAS project, plans to use digitally signed databases and verification reports based upon field visits. It is also possible that the data in such digitally signed databases would undergo periodic revision and updation. Hence, the SI must provision for designing an appropriate set of tools for:
 - digitally signing different databases used in different applications by appropriate authorities,
 - effecting changes in digitally signed documents including cancellation
 - tracking of database records which are digitally signed and digitally not signed
 - posting of appropriate notifications to the users in case of demand for service in respect of which the relevant data record has not been digitally signed by the competent authority
 - verification of digital certificates (e.g. a website to authenticate a particular certificate on the basis of certificate details or barcode)
 - **Integration of Digital Signatures with TBAS Application:** The TBAS portal should be made accessible to government official users / registered users over

internet through secure user id and password. The biometric/digital signatures need to be integrated for enabling authenticity of the approving authority.

- **Capacity Building and Institutional strengthening to manage Digital Signature:** the System Integrator should plan the process for institutionalizing the management (issuance/ renewal/ revocation) of digital certificates/sanction letter/licenses etc. for Tea Board.
 - Identification of Officials authorized for delivering services/ authenticating the electronic records.
 - Designing policies and procedures for management of digital signatures.
 - **Procurement of Digital Certificates for the authorized officials from competent certifying authority**
- **Training on use of Digital Signatures:** As the TBAS project would entail significant amount of field verification and relevant updating of records, digital signatures have to be used by various levels of officials. These officials may also keep on changing due to transfers / superannuation, etc. Hence the SI should ensure the following:
 - A one-time training to all the concerned officials in the usage of digital signatures
 - As and when required, training / on-demand web based training for the new officials taking charge of TBAS service provisioning.
- TBAS application and its Digital Signature Certificate, PKI Infrastructure for TBAS application must be operational in all LINUX platform (REDHAT, SUSE, UBUNTU), MICROSOFT platform (XP, Windows 7, Windows 8 and higher versions) or any other proprietary or Open Standard platform.
- End-to-end processes for issuance of Digital signature right from application collection to issuance and delivery of signature to respective officials must be managed by the SI's resources and SI to ensure such delivery of DSCs within 48 hours of receipt of application. In such cases SI is required to use their crypto token from their existing stock, which can be subsequently adjusted through delivery of new DSC to officials and receipt of old crypto token.

With the supply of new digital signatures to new officials, the changes in databases of the officials in the TBAS application have to be updated by the SI through an automated process without any delay.

3.2.1.7 Interoperability Standards

Keeping in view the evolving needs of interoperability, especially the possibility that the solution shall become the focal point of delivery of services, and may also involve cross-functionality with the e-Government projects of other Government / businesses in future, **the solution should be built on Open Standards.** The SI shall ensure that the application developed is easily integrated with the already existing applications and hardware. **Every care shall be taken to ensure that the code does not build a dependency on any proprietary software, particularly, through the use of proprietary 'stored procedures' belonging to a specific database product.**

3.2.1.8 Scalability

One of the fundamental requirements of the proposed application is its scalability. The architecture should be proven to be scalable (cater to increasing load of internal and external users and their transactions) and capable of delivering high performance for at-least four years from the date of deployment. In this context, it is required that the application and deployment architecture should provide for Scale-Up and Scale out on the Application and Web Servers, Database Servers and all other solution components.

3.2.1.9 Security

The systems implemented for project should be highly secure, considering that it is intended to handle sensitive data relating to the stakeholders of Tea Board. The overarching security considerations are described below.

- I. The security services used to protect the solution shall include: Identification, Authentication, Access Control, Administration and Audit and support for industry standard protocols.
- II. The solution shall support advanced user authentication mechanisms including digital certificates.
- III. Security design should provide for a well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.
- IV. The solution should provide for maintaining an audit trail of all the transactions and should also ensure the non-repudiation of audit trail without impacting the overall performance of the system.
- V. The overarching requirement is the need to comply with ISO 27001 standards of security.
- VI. The application design and development should comply with OWASP top 10 principles.

3.2.1.10 Application Architecture

- I. It has been proposed that the applications proposed for design and develop for the TBI must follow some best practice and industry standards. In order to achieve the high level of stability and robustness of the application, the system development life cycle must be carried out using the industry standard best practices and adopting the security constraints for access and control rights. **The various modules / application should have a common Exception Manager to handle any kind of exception arising due to internal/ external factors.**
- II. Similarly the modules of the application are to be supported by the Session and Transaction Manager for the completeness of the request and response of the client request. The system should have a module exclusively to record the activities/ create the log of activities happening within the system / application to avoid any kind of irregularities within the system by any User / Application.

3.2.1.11 Application Architecture

Application Architecture to be proposed by the bidder should be of N-tier architecture.

3.2.1.12 High Level Design (HLD)

Once the SRS are approved, the SI shall complete the High Level Designing and all HLD documents of all the functionalities, integration with external /internal applications. The SI shall prepare the HLD and have it reviewed and approved by the TBI.

3.2.1.13 Detailed (Low Level) Design (LLD)

The LLD shall interpret the approved HLD to help application development and shall include detailed service descriptions and specifications, application logic (including “pseudo code”) and UI design (screen design and navigation). The preparation of test cases will also be completed during this stage. The SI shall have the design documents reviewed and approved by the TBI.

3.2.1.14 Test Plan

Once the SRS is approved and design is started, the SI shall prepare all necessary Test Plans (including test cases), i.e., plans for Acceptance Testing. Test cases for Initial and Final User Acceptance Testing shall be developed in collaboration with domain experts identified at the TBI. Initial and Final User Acceptance Testing shall involve Test Case development, Unit Testing,

Integration and System Testing, Functional testing of Application, Performance testing of the Application including measurement of all Service Levels as mentioned in this RFP and finally SI shall also carryout Load/ Stress testing. The SI will submit the test plans and test result reports to the TBI for comprehensive verification and approval.

3.2.1.15 Requirement on Adherence to Standards

TBAS application must be designed following open standards, to the extent feasible and in line with overall system requirements set out in this RFP, in order to provide for good inter-operability with multiple platforms and avoid any technology or technology provider lock-in.

3.2.1.16 Compliance with Industry Standards

In addition to above, the proposed solution has to be based on and compliant with industry standards (their latest versions as on date) wherever applicable. This will apply to all the aspects of solution including but not limited to design, development, security, installation, and testing. There are many standards that are summarised below. However the list below is just indicative and is not to be treated as exhaustive.

- I. Portal development W3C specifications and GIGW guidelines
- II. Information access/transfer protocols SOAP, HTTP/HTTPS
- III. DeitY / GOI guidelines
- IV. Photograph JPEG (minimum resolution of 640 x 480 pixels)
- V. Scanned documents TIFF (Resolution of 600 X 600 dpi)
- VI. Biometric framework BioAPI 2.0 (ISO/IEC 19784-1:2005)
- VII. Latest HTML standards
- VIII. The solution should be preferably built on open source technologies and should follow the DeitY's open source guidelines/standards/policies.

3.2.1.17 Specification

- I. Digital signature RSA standards
- II. Document encryption PKCS specifications
- III. Information Security to be ISO 27001 compliant
- IV. Operational integrity & security management to be ISO 17799 compliant
- V. IT Infrastructure management ITIL / EITM specifications
- VI. Service Management ISO 20000 specifications
- VII. Project Documentation CMM Level 3/4/5/IEEE/ISO specifications for documentation
- VIII. The SI shall adhere to all the standards published by the Department of Electronics and Information Technology, Government of India.

3.2.1.18 Specific Requirements

It is to be noted that the SI shall be completely responsible for successful implementation of end to end TBAS project in TBI as per the requirement of the TBI and in line with GOI guidelines.

An indicative list of specific requirements of the Tea Board is detailed in the Scope of Work section of this RFP; however, final specific requirements shall emerge from the Detailed System Study to be conducted by Selected Bidder.

3.2.1.19 Obtain Certification for TBAS Application

TBI will engage the third party for audit of all applicable software, application, ICT components etc. at its cost and SI shall cooperate with the audit agency and should act upon the finding of the audit report to be audit compliant. In case the SI is unable to act upon the recommendations given in the audit report as agreed with TBI then TBI may consider terminating the contract as per the MSA and seize the Performance Bank Guarantee.

3.2.1.20 Payment and SMS Gateway

National Payment Gateway and SMS Gateway may also be used for this project and proposed solution should have the facility to integrate with these gateways. If the National Payment Gateway and SMS Gateway are not available, then TBI will procure Payment Gateway and SMS Gateway services from the open market and SI has to integrate the same.

The SI should integrate the TBAS application with e-Sign and Digital Locker facilities provided by Government of India.

3.2.1.21 Application Support

SI shall ensure the support of developed application during the implementation phase and O&M phase. SI shall be responsible for providing seamless support for Application support during the entire contract period.

3.2.1.22 UAT and Go-Live Report

SI will also assist in successful completion of User Acceptance Testing (UAT) and audit of the system. The audit of the system will take place in agreement with TBI as & when the modules are completed and ready for roll out.

3.2.1.23 Sign-off Deliverables (Go-Live & UAT)

- I. Ready for Go-Live report for the applicable modules
- II. UAT Report signed off from TBI

3.2.2 Data Digitisation

The objective of data digitization is mainly to utilize the data for searches and modifications. As the data digitization estimates can be made post Database design only, this section captures the broad level concept of the data digitization for various modules. The SI should engage the digitization team to undertake the activities and TBI will provide the required data to be digitized. It will be the responsibility of the SI to return all the collected hardcopy in the original shape to TBI without any damage/lost. The transfer of hardcopy documents used for digitization between TBI & SI will be done in writing and should be accepted by transfer. Data digitization activities shall be done at the physical location of the records to be digitized or at a nearest office in a consolidated manner in agreement with TBI.

It is expected that the SI will design data entry forms and prepare software for data entry/digitization which will have all valid checks and balances. At any point of time the software should be able to intimate TBI the number of records entered into the system.

3.2.2.1 Sign off Deliverables (Data Digitization)

- I. Data Digitisation Strategy Document
- II. Data entry module for entry of Master Data and importing Historical Data
- III. Approval by TBI on successful digitisation of data, completeness of the activity and quality of the digitized data

3.2.3 Licenses

- I. The system software licenses mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of the TBI.
- II. The SI shall provide with a full use database license. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of TBI. SI shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance by TBI. The

- warranty should cover all materials, licenses, services, and support for software & ICT components supplied. SI shall administer warranties with serial number and warranty period. SI shall transfer all the warranties to the TBI at no additional charge at the time of termination of the project. All warranty documentation will be delivered to TBI.
- III. SI shall review the licenses requirements with the TBI. The TBI shall clarify on the licenses requirements to be provided by the SI.
 - IV. All licenses should be supported by OEMs /subscription providers for entire contract period. **Bids based on Community/Free/Open licenses will not be acceptable and are liable for disqualification.**
 - V. All the aforesaid products should have a roadmap for updates and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the SI for the contract period.
 - VI. IPR for the bespoke developed source code would lie with TBI. The same applies for Customization source code on COTS/package product, if proposed.

3.2.4 Capacity Building / Training

Capacity building will include the following:

- I. Imparting training in Information Technology (IT), Business Process Reengineering (BPR) and Change Management.
 - A. Such trainings and skills will be imparted to all levels of employees involved in the processes pertaining to the services.
 - B. These would range from senior officers up to the officials working in the field offices
- II. Prepare and organize training programs to facilitate the user departments in the efficient usage of the new system training will be provided to department's employees whose Information & services will be provided through TBAS Application.
- III. Training shall encompass the knowledge of basic functionalities of TBAS Application, Guidelines and other backend processes required during the maintenance phase.
- IV. Training shall also be provided for teaching the basic trouble shooting activities in case of problems.
- V. Trainings shall be provided to all the new employees as and when joining the TBI and for this the SI should have adequate crypto token installed with demo Digital Signature Certificate for the purpose of providing training using the development/training server to be installed at DC and equipped with demo PKI server component. The following table captures officers to be trained in processing the selected services:

Indicative list of staffs at various offices of Tea Board (The indicative staff list may also be referred from <http://teaboard.gov.in/pdf/rtiact>)

Note: This list may be referred by the bidders while proposing the training plan, handholding and support etc.

#	LIST OF OFFICES	NO OF STAFF
39.	AGARTALA	5
40.	TEA BOARD TEA CENTRE, KOYEMBEDU, CHENNAI	4
41.	THE SECRETARIAT, TEA BOARD TEA ROOM, CHENNAI	3
42.	COIMBATORE	6
43.	COONOR	31
44.	DIBRUGARH	8
45.	STGDD, DIBRUGARH	9
46.	GUDALUR	5
47.	GUWAHATI	10
48.	ITANAGAR-ARUNACHAL PRADESH	1
49.	JALPAIGURI	5
50.	JORHAT	20
51.	KOCHI	15
52.	KOLKATA	269

#	LIST OF OFFICES	NO OF STAFF
53.	KOTAGIRI, TAMIL NADU	7
54.	KUMILY	7
55.	KUNDAH	5
56.	KURSEONG	16
57.	MUMBAI	6
58.	NEW DELHI	62
59.	PALAMPUR	6
60.	SILCHAR	4
61.	SILIGURI	14
62.	TEZPUR	4
63.	SINGLE MAN OFFICES (List of offices given in Vol. – I of the RFP)	74
TOTAL		596

3.2.5.1 Sign off Deliverables (Capacity Building)

- I. Capacity Building Plan
- II. Change Management Plan
- III. Training Plan
- IV. Completion of training and change management activities and signoff

3.2.5 Manpower requirements for Application Handholding support

The project would require provisioning of dedicated manpower at below locations for handholding and support.

The below manpower requirement is minimum and indicative in nature.

Location	Department	Month 1	Month 2	Month 3	Total Man Month
HO	Licensing	2	1	1	4
	Development & Welfare	2	1	1	4
	Establishment & Finance	2	2	1	5
	Promotion	1	1	0.5	2.5
	Research	1	0.5	0.5	2
	Legal, Stores, Library, Security	1	1	0.5	2.5
	Statistics	1	0.5	0.5	2
21 RO	for all departmental activities	21	10	5	36
ZO Guwahati	Licensing	1	1	0.5	2.5
	Development & Welfare	1	1	0.5	2.5
	Establishment & Finance	1	1	0.5	2.5
	Promotion	0.5	0.5	0.5	1.5
	Research	0.5	0.5	0.5	1.5
	Legal, Stores, Library, Security	0.5	0.5	0.5	1.5
ZO Coonoor	Licensing	1	1	0.5	2.5
	Development & Welfare	1	1	0.5	2.5
	Establishment & Finance	1	1	0.5	2.5
	Promotion	0.5	0.5	0.5	1.5
	Research	0.5	0.5	0.5	1.5
	Legal, Stores, Library, Security	0.5	0.5	0.5	1.5

The following needs to be considered when identifying manpower for roll implementation support at TBI offices:

- I. The SI would be required to position resources to provide technical support at TBI offices during the implementation period. This would be essential to ensure sufficient handholding is provided to department personnel in the head office and field level offices to manage the system after the end of SI's Contract Period.
- II. The SI should ensure that the roster schedule of all deployed manpower for each day at the required locations has been communicated in advance to TBI. No change to the deployed staff shall be done by the SI without written approval from the TBI.
- III. Adherence to all laws pertaining to personnel, labour laws, etc. for any manpower deployed by the SI on this Project shall be the responsibility of the SI
- IV. The SI would issue Identity cards to each of the staff members deployed at the TBI offices.
- V. The SI will maintain adequate leave reserve for the staff, so that the work in the respective offices remains unaffected in all cases.

3.2.6 Business Continuity Planning

The selected Bidder is expected to develop a Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP) with dependency for the operations carried out by the selected Bidder.

3.3 Scope of Services - Operation and Maintenance Phase

The selected Bidder is responsible for the day to day maintenance of the system for the entire period of Contract. For the ICT components procured as part of this RFP, the selected Bidder will be responsible for Operations and Maintenance Services for the period of 2 years of onsite warranty/ AMC support from the date of Go-Live date of the project covering the following:

- I. Onsite Warranty support for complete system
- II. Onsite Periodic and AMC support including repair and replacement
- III. Annual Technical Support (ATS) for all the licensed software
- IV. Providing Help desk support with Escalation matrix for registration of complaints related to the ICT components , software and application procured/developed through this RFP at the TBI designated premises.

3.3.1 Overview of Post Implementation Services

An indicative list of activities and nature of support to be provided is mentioned below:

I. System Administration and Trouble Shooting

- A. Overall monitoring and management of all ICT components deployed by the selected Bidder for the Project including utility software, system software, application, database, and all other services associated with these facilities to ensure service levels, performance and availability requirements as prescribed in the RFP are met.
- B. Repair or replace ICT components deployed for this Project, either directly or through a third party warranty provider depending on the case
- C. Replace component due to technical, functional, manufacturing or any other problem with a component of the same make and configuration. In case the component of same make and configuration is not available, the replacement shall conform to open standards and shall be of a higher configuration and shall be approved by the TBI
- D. Perform system administration tasks such as managing the user access, creating and managing users, taking backups etc.
- E. Performance tuning of the system to ensure adherence to SLAs and performance requirements as indicated in the RFP.

- F. Maintenance of TBAS application developed by the SI
- G. Management of TBAS application and up-gradation as when required along with troubleshooting

II. Database Administration and Trouble Shooting

Undertake end-to-end management of database on an on-going basis to facilitate smooth functioning and optimum utilization including regular database backup and periodical testing of backup data, conducting configuration review to tune database, maintaining the necessary documentation and managing schemes to database schema, disk space, user roles, and storage.

III. Overall

- A. Undertake preventive maintenance (any maintenance activity that is required before the occurrence of an incident with an attempt to prevent any incidents) and carry out the necessary repairs and replacement of ICT components wherever needed to keep the performance levels of the ICT components in tune with the requirements of the SLA. Such preventive maintenance shall not be attended during working hours of the TBI, unless inevitable and approved by the TBI.
- B. Undertake reactive maintenance (any corrective action, maintenance activity that is required post the occurrence of an incident) that is intended to troubleshoot the system with sufficient teams.
- C. Escalate and co-ordinate with its OEMs/ OEM's subscribers for problem resolution wherever required

3.3.2 Warranty Support

As part of the warranty services SI shall provide:

- I. SI and the respective OEM/OEM's subscription provider shall provide a comprehensive support & warranty for 2 years from the date of Go Live for all artefacts which would be provided by the SI.
- II. SI and the respective OEM/OEM's subscription provider shall provide the comprehensive manufacturer's warranty and support in respect of proper design, quality and workmanship of artefacts which would be provided by the SI.
- III. SI and the respective OEM/OEM's subscription provider must warrant the artefacts which would be provided by the SI, procured and implemented as per this RFP against any manufacturing defects during the warranty period.
- IV. SI and the respective OEM/OEM's subscription provider shall provide the performance warranty in respect of performance of the installed artefacts to meet the performance requirements and service levels in the RFP.
- V. SI is responsible for sizing and procuring the necessary software/tools etc. licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new licenses/tools at no additional cost to the TBI in case the procured artefacts supplied by the SI is not adequate to meet the service levels.
- VI. However, if the new software/tool etc. supplied is priced lower than the price at which the original support services for all system software, utility software, RDBMS (Relational Database Management System) other products deployed as part of this project will require proper arrangements of SI with OEM.
- VII. During the warranty period SI and the respective OEM shall maintain the systems and repair / replace at the installed site, at no charge to TBI, all defective components that are brought to the SI's notice.
- VIII. SI shall monitor warranties to check adherence to preventive and repair maintenance terms and conditions.
- IX. The SI shall ensure that the warranty complies with the agreed Technical Standards, Security Requirements, Operating Procedures, and Recovery Procedures.

- X. Any component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the time frame indicated in the Service Level Agreement (SLA).
- XI. The SI shall develop and maintain an inventory database to include the warranties of the supplied artefacts by the SI.

3.3.3 Help Desk and Troubleshooting

The selected Bidder as part of provisioning support for TBI users at each location and shall support and resolve the issue as per MSA – SLA (RFP Vol. – III). SI shall arrange a 5 member helpdesk team (2 persons for helpdesk support and 3 persons for Application, System & Database respectively) at TBI premises (in Kolkata) for coordinating and resolving the user issues/queries.

3.4 General Requirements

I. Licensing Requirements

- A. All system software, licenses, etc. have to be procured in the name of the TBI
- B. The licenses should be supported by the OEM/subscription provider for the core application and other software unless otherwise stated. The software licenses shall not be restricted based on location and the TBI should have the flexibility to use the software licenses for other requirements, if required
- C. All licenses should be either supported by OEMs/subscription providers for entire contract period.
- D. All the aforesaid products should have a roadmap for update and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the SI for the contract period.
- 3) IPR for the bespoke developed source code would lie with TBI. The same applies for Customization source code on COTS/package product, if proposed.

II. Asset Management

The selected Bidder will perform the following asset management functions with respect to the ICT components deployed :

- A. Take periodic stock of, review physical ICT components and maintain stock registers The selected Bidder would maintain stock registers as per format agreed with the TBI.
- B. Maintain documentation of the ICT components , maintain asset Information for all Project locations, on parameters to be mutually agreed between the TBI and the selected Bidder, which shall include details like -
 - 1. Product type, model number, version number, Unique serial no.
 - 2. Manufacturer
 - 3. Location
 - 4. Maintenance status, etc.
- C. Update or correct the asset information following any new installations, movement, addition, or change performed by the selected Bidder.
- D. Produce periodic reports and machine readable files in agreed upon format pertaining to some or all of the asset information.

III. Warranty and Support

- A. The selected Bidder shall warrant that the ICT components supplied to the TBI for this Project shall have no defects arising from design or workmanship or any act or omission of the selected Bidder. The warranty shall remain valid for the Contract period on all the items supplied as per the Contract.

IV. Knowledge Transfer

- A. At the end of the Contract period, the selected Bidder will be required to provide necessary handholding and transition support to designated staff or any other agency that is selected for maintaining the system post the Contract with the selected Bidder. The handholding support will include but not be limited to,

conducting detailed walkthrough and demonstrations for the ICT components, handing over all relevant documentation, addressing the queries/clarifications of the new agency with respect to the working / performance levels of the infrastructure, conducting training sessions etc.

- B. Knowledge Transfer is an integral part of the scope of work of the selected Bidder. This will have to be done even in case the Contract with the Bidder ends or is terminated before the planned timelines.
- C. SI shall ensure smooth knowledge transfer in case of change in core team for the entire project. For any replacement of resource the SI shall give a notice to TBI with 30 days in advance of the replacement date. SI shall ensure smooth transfer of knowledge and project assets like documents, work in progress reports etc. (if any). All such replacements should be approved by TBI in advance. All these activities should be carried by the SI and there will not be any cost implication to TBI

Please note that this is only an indicative list. Any other activity, over and above these, as may be deemed necessary by the selected Bidder to meet the service levels and requirements specified in this Contract are also required to be performed by the selected Bidder at no additional cost.

3.5 Exit Management

3.5.1 Purpose

- I. This sets out the provisions, which will apply on expiry or termination of the MSA, the Project Implementation, Operation and Management SLA.
- II. In the case of termination of the Project Implementation and/or Operation and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.
- III. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

3.5.2 Transfer of Assets

- I. Transfer of assets would be done at any time during the time of exit management. TBI shall be entitled to serve notice in writing on the SI at any time during the exit management period as detailed herein above requiring the SI to provide the TBI with a complete and up to date list of the Assets within 30 days of such notice. TBI shall then be entitled to serve notice in writing on the SI at any time prior to the date that is 30 days prior to the end of the exit management period requiring the SI to sell the Assets, if any, to be transferred to TBI or its nominated agencies at book value as determined as of the date of such notice in accordance with the provisions of relevant laws.
- II. Upon service of a notice under this Article the following provisions shall apply:
 - A. in the event, if the Assets to be transferred are mortgaged to any financial institutions by the SI, the SI shall ensure that all such liens and liabilities have been cleared beyond doubt, prior to such transfer. All documents regarding the discharge of such lien and liabilities shall be furnished to the TBI.
 - B. All risk in and title to the Assets to be transferred / to be purchased by the TBI pursuant to this Article shall be transferred to TBI, on the last day of the exit management period.
 - C. The outgoing SI will pass on to TBI and/or to the Replacement SI, the subsisting rights in any leased properties/ licensed products on terms not less favourable to TBI / Replacement SI, than that enjoyed by the outgoing SI.

3.5.3 Cooperation and Provision of Information

During the exit management period:

- I. The System integrator will allow the TBI or its nominated agency access to information reasonably required to define the then current mode of operation

associated with the provision of the services to enable the TBI to assess the existing services being delivered;

- II. Promptly on reasonable request by the TBI the SI shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this agreement relating to any material aspect of the services (whether provided by the System integrator or sub-contractors appointed by the System integrator). The TBI shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. The System integrator shall permit the TBI or its nominated agencies to have reasonable access to its employees and facilities as reasonably required by the PIC to understand the methods of delivery of the services employed by the System integrator and to assist appropriate knowledge transfer.

3.5.4 Confidential Information, Security and Data

- I. The System integrator will promptly on the commencement of the exit management period supply to the TBI or its nominated agency the following:
 - A. information relating to the current services rendered and customer and performance data relating to the performance of sub-contractors in relation to the services;
 - B. documentation relating to complete TBAS Project's Intellectual Property Rights including the complete source code
 - C. documentation related to sub-contractors
 - D. all current and updated data as is reasonably required for purposes of TBI or its nominated agencies transitioning the services to its Replacement System integrator in a readily available, nominated by the TBI or its nominated agency;
 - E. all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable TBI or its nominated agencies, or its Replacement System integrator to carry out due diligence in order to transition the provision of the Services to TBI or its nominated agencies, or its Replacement System integrator (as the case may be).
- II. Before the expiry of the exit management period, the System integrator shall deliver to the TBI or its nominated agency all new or up-dated materials related to this project and shall not retain any copies thereof, except that the System integrator shall be permitted to retain one copy of such materials for archival purposes only.
- III. Before the expiry of the exit management period, unless otherwise provided under the MSA, the TBI or its nominated agency shall deliver to the System integrator all forms of System integrator confidential information, which is in the possession or control of Chairman, TBI or its users.

3.5.5 Employees

- I. Promptly on reasonable request by TBI at any time during the exit management period, the System integrator shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the TBI or its nominated agency a list of all employees (with job titles and Fulltime or Part time engagement details) of the System integrator dedicated to providing the services at the commencement of the exit management period.
- II. Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the System integrator to the TBI or its nominated agency, or a Replacement System integrator ("Transfer Regulation") applies to any or all of the employees of the System integrator, then

the Parties shall comply with their respective obligations under such Transfer Regulations.

- III. To the extent that any Transfer Regulation does not apply to any employee of the System integrator or its Replacement System integrator may make an offer of employment or contract for services to such employee of the System integrator and the System integrator shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Chairman, TBI or any Replacement System integrator.

35.6 Transfer of Certain Agreements

On request by the TBI or its nominated agency the System integrator shall effect such assignments, transfers, licences and sub-licences as the Chairman, TBI may require in favour of the Chairman, TBI, or its Replacement System integrator in relation to any equipment lease, maintenance or service provision agreement between System integrator and third party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by the TBI or its nominated agency or its Replacement System integrator.

3.5.7 Rights of Access to Premises

- I. At any time during the exit management period, where Assets are located at the System integrator's premises, the System integrator will be obliged to give reasonable rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) the TBI or its nominated agency and/or any Replacement System integrator in order to make an inventory of the Assets.
- II. The System integrator shall also give the TBI or its nominated agency or any Replacement System integrator right of reasonable access to the SI's premises and shall provide the TBI or its nominated agency or its nominated agencies and any Replacement System integrator rights of access to relevant third party premises during the exit management period and for such period of time following termination or expiry of the MSA as is reasonably necessary to migrate the services to the TBI or its nominated agency, or a Replacement System integrator.

3.5.8 General Obligations of the System integrator

- I. The System integrator shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the TBI or its nominated agency or its Replacement System integrator and which the System integrator has in its possession or control at any time during the exit management period.
- II. For the purposes of this Schedule, anything in the possession or control of any System integrator, associated entity, or sub-contractor is deemed to be in the possession or control of the System integrator.
- III. The System integrator shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

3.5.9 Exit Management Plan

- I. The System integrator shall provide the TBI or its nominated agency with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and Management SLA.
 - A. A detailed program of the transfer process that could be used in conjunction with a Replacement System integrator including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
 - B. plans for the communication with such of the System integrator's sub contractors, staff, suppliers, customers and any related third party as are necessary to avoid any

- material detrimental impact on the TBI's operations as a result of undertaking the transfer;
 - C. Proposed arrangements for the segregation of the *SI*'s networks from the networks employed by *TBI* and identification of specific security tasks necessary at termination;
 - D. Plans for provision of contingent support to TBI, and Replacement System integrator for a reasonable period after transfer.
- II. The System integrator shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
 - III. Each Exit Management Plan shall be presented by the System integrator to and approved by the TBI or its nominated agencies.
 - IV. The terms of payment as stated in the Terms of Payment Schedule include the costs of the System integrator complying with its obligations under this Schedule.
 - V. In the event of termination or expiry of MSA, and Project Implementation, each Party shall comply with the Exit Management Plan.
 - VI. During the exit management period, the System integrator shall use its best efforts to deliver the services.
 - VII. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
 - VIII. This Exit Management plan shall be furnished in writing to the TBI or its nominated agencies within 90 days from the Effective Date of this Agreement.

4 Detailed Implementation and Roll-out Plan

- I. SI shall prepare a detailed implementation plan for each phase and get the same approved by the TBI. SI is also responsible for conducting workshops for the key officers/committees/etc. (Steering Committee, PIC, PMU, any committee or person nominated by Tea Board or its Chairman) and gets the approval of the same.
- II. Before getting the final approval of the Tea Board of India, the SI shall update the key stakeholder of TBI during the design and implementation of TBAS project. A detailed implementation checklist should be maintained for migrating application to production as well as for location readiness.

5 Annexures

Note: The specifications given under each BOM components in this RFP are Minimum. Any specification higher than the same will be accepted.

5.1 Template for Bill of Material

Form A: Bill of Material (Indicative)

S.No.	Item	Minimum Indicative Qty.	Proposed Qty. by Bidder	Compliance (Yes/No)
A	Utility Software			
1.	Statistical Software/Tool (Minimum 5 user license)	1		
2.	Enterprise Management System (Application monitoring, Helpdesk)	1		
3.	Any other Item to complete the work (Add one line for each time category)			
B	System Software			
1.	Web / http server software	Lump Sum		
2.	BPM	1		
3.	ESB	1		
4.	Web 2.0 Portal	Lump Sum		
5.	Application Server Software	Lump Sum		
6.	Database (with high availability cluster)	Lump Sum		
7.	Server OS Software (For VMs and Backup Server)	Lump Sum		
8.	DR management and synchronization tool	1		
9.	Digital Signature	100		
10.	SMS Gateway Integration	Lump Sum		
11.	Payment Gateway Integration	Lump Sum		
12.	Antivirus for proposed servers/VMs	Lump Sum		
13.	Helpdesk toll free number	1		
14.	Any other item for helpdesk			
15.	Any other Item to complete the work (Add line for each item category)			

5.2 Indicative Minimum Specification for Bill of Material

S.No.	Item	Recommended Specification	Specification Provided By Bidder	Compliance (Yes/No) & Page No.										
A	Network Equipment and Hardware													
1.	DR management and synchronization tool	Recommended Specification: DR management and synchronization tool should be proposed accordingly. The solution must have the capability of automatic and manual (complete or partial) failover and / or fallback from and to TBI's main site.												
2.	Any other Item to complete the work													
B	System Software													
1.	Web / http server software	<table border="1"> <tr> <th>Sl. No.</th> <th>Description of requirement</th> </tr> <tr> <td>1.</td> <td>The web server should be capable of supporting clustering and load balancing.</td> </tr> <tr> <td>2.</td> <td>All components of the web server should be based on standards and selected such as to provide ease of management and to avoid compatibility issues.</td> </tr> <tr> <td>3.</td> <td>All web server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system.</td> </tr> <tr> <td>4.</td> <td>All the web server components must be capable of being managed from a remote management station and provide information on performance parameters</td> </tr> </table>	Sl. No.	Description of requirement	1.	The web server should be capable of supporting clustering and load balancing.	2.	All components of the web server should be based on standards and selected such as to provide ease of management and to avoid compatibility issues.	3.	All web server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system.	4.	All the web server components must be capable of being managed from a remote management station and provide information on performance parameters		
		Sl. No.	Description of requirement											
		1.	The web server should be capable of supporting clustering and load balancing.											
		2.	All components of the web server should be based on standards and selected such as to provide ease of management and to avoid compatibility issues.											
		3.	All web server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system.											
		4.	All the web server components must be capable of being managed from a remote management station and provide information on performance parameters											

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		5.	Web server software should support and provide access to all internal users, independent of the platform, operating system and underlying architecture of the application		
		6.	The software should be capable to pass the presentation server connection through SSL (Secure Socket Layer).		
		7.	The software should be capable of supporting the proposed authentication solution		
2.	BPM	1)	Should be BPMN 2.0 Compliant		
		2)	Should support both Human task and Integration tasks		
		3)	Should have a visual Modeller		
		4)	Should be able to assign task to individuals and groups		
		5)	Should have standard well documented API for consumption		
		6)	Should support version of processes		
		7)	Should support Escalation and Notification		
		8)	Should have audit trails for processes		
		9)	The BPM tool should be lightweight without restriction on a specific runtime environment and RDBMS.		
3.	ESB	1)	Should have a Graphical IDE for integration developers		
		2)	Should support zero message loss reliability		
		3)	Should be Compliant with All leading Operating systems like Windows, Linux, Unix		
		4)	Should support Data mapping and transformation between standard formats		
		5)	Should support standard Transports like TCP, SFTP, SOAP, MQ, WSDL, LDAP, SMTP, HTTP/S etc.		
		6)	Should support various Web service security policies like WS-Security, WSAddressing, WS-Policy, WS-I SecurityProfile		
		7)	Should support the follows securities, SSL, SAML, OAuth		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		8)	Should support Caching, High Availability and Clustering		
		9)	Should support data formats like CSV, XML, JSON.		
4.	Web 2.0 Portal	General Requirement	Should have the ability to have multilingual portal with regional & localization and Unicode support.		
		General Requirement	Should support multiple browsers like IE, Mozilla, Google Chrome, etc		
		General Requirement	Should authenticate users from Active Directory, LDAP, claim based authentication		
		General Requirement	Should support web services APIs, BLOB Storage, custom code solutions, REST, WSRP		
		General Requirement	Should support Virtualization		
		General Requirement	Should support customization of (Theme) Look and feel of the portal.		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		General Requirement	Should support a broad range of standards, for example: DOM 1.0, HTML 5, HTTP, HTTPS, MathML, ODBC , ODF (IS26300) , Open XML (IS29500), OpenSearch, OpenType, PDF 1.7, PDF/A, RTF, RSS, ATOM, SOAP, SVG, REST, UDDI, Unicode, URI/URN, W3C XML Schema, WCAG 2.0, WebDAV, WSDL, WSRP, XHTML, XML, XML Web Services, XMLDsig, XPATH, XPS, XSLT, AJAX		
		General Requirement	Should support responsive web design and multi-channel rendering of applications and content on smart phones, tablets, desktops/ laptops without duplicating the application code or logic. i.e. should provide outof-the box responsive design support.		
		General Requirement	Should integrate with instant messaging services, and support products and protocols like SIP/XMPP		
		General Requirement	Should have ability to persist user's session, including current location in portal, across browser sessions		
		General Requirement	Should integrate with any other portal products through open standards such as HTML, XML, RSS, web services, and WSRP etc.		
		General Requirement	Should provide Cross Platform, Zero Footprint Client Access		
		General Requirement	Should support Personal area / home page for each user and A personalized view for each user.		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		General Requirement	Should support Role Based Access (Admin, General User, Power User, Backup User etc.) to portal resources.		
		General Requirement	Should support encryption and compression features		
		General Requirement	Should support multiple roles (e.g. editor, facilitator, community		
			manager, moderator) with associated access controls.		
		General Requirement	Should be able to create team site to be configured with message boards, discussions, event calendar, blog, wiki, etc.		
		General Requirement	Should support Podcast Publishing, Rich media streaming and transcoding, Rich media search and organization		
		General Requirement	Should support RSS/ATOM export/import		
		General Requirement	Should support Template builder for create reusable templates or reusing successful activity/project/team/community spaces for building new ones by using Web UI- for developers/administrators		
		General Requirement	Should support web traffic reports for administrators and community managers		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		General Requirement	Should be XHTML 1.0/WCAG 2.0 AA compliant		
		General Requirement	Should be authoring capabilities.		
		General Requirement	Should have workflow capabilities with regard to the content approval/publishing process		
		General Requirement	Should support Publishing content in web viewable formats		
		General Requirement	Should provide multi-channel output capabilities		
		General Requirement	Should support editions (versions/rollback) of the web site managed		
		Web Content Management System	Support the management of content from multiple repositories. The system shall allow different groups to have their own content libraries, workflow, templates and taxonomies.		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		Web Content Management System	The portal system must have separate de-centralized web content authoring system for TBI users for creating, approving and publishing the web contents (including the rich media). The finally published contents must then be pushed/synchronized to delivery system on demand basis		
		Web Content Management System	Should have Content creation tools, which TBI users can use.		
		Web Content Management System	Should have Content Workflow management tool creation and publishing process with: * Publishing stages * Complex business rule support * Balancing of tasks across a group of users		
		Web Content Management System	The system should support: * Ability to manage content metadata via portal. * Mass import/export tools. * Content Conversion (e.g. Word to HTML)		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		Web Content Management System	Access control tied to portal access Control based on roles and responsibilities		
		Web Content Management System	Web Content Management should come with popular templates for jump starting product/services microsites/portals with pre populated contents and applications.		
		Web Content Management System	Should have out-of-box capability to publish content to social channels like facebook, twitter etc.		
		Web Content Management System	Should provide usage analytics of content published to social channels like facebook, twitter etc.		
		Web Content Management System	Should support automatic publishing, expiration of content from web portal and provide extensive reporting on the contents being managed in CMS to support the lifecycle		
		Web Content Management System	Should support integration with Enterprise systems using Content Management Interoperability Services (CMIS) standard.		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		Web Content Management System	The CMS must provide the capability for content creators to edit the images, use dictionary, thesaurus, spell check, identify broken links, see track changes for the edited contents etc.		
		Web Content Management System	Solution should provide framework which enables site developers to leverage external data and use CMS to quickly develop a data driven portal		
		Web Content Management System	Should provide search facilities to find data within the portal, makes new pages (on public website) instantaneously searchable by external search engines.		
5.	Application server software				
		1.	Application Server should be fully standards compliant providing support for Web Services, SOAP, WSDL, UDDI, LDAP v3, SSL v3, Java 1.3 and XML 1.0 standards		
		2.	Provide comprehensive XML support compliant with the W3C XML standards and contain the basic building blocks to XML-enable applications - including reading, manipulating, transforming and viewing XML documents		
		3.	Support developing, publishing and consuming web services and should allow integration (push and pull data) from other systems via web services		
		4.	The application server should be capable of supporting clustering and load balancing.		
			All components of the application server should be based on		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		5.	standards and selected such as to provide ease of management and to avoid compatibility issues.		
		6.	All application server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system.		
		7.	All the application server components must be capable of being managed from a remote management station and provide information on performance parameters		
6.	Database (with high availability cluster)		RDBMS licenses should be unrestricted and full use licenses (read, write and modify) in name of TBI		
		2.	RDBMS should be available on standard operating systems like Windows, Linux and Unix.		
		3.	RDBMS should provide continuous availability features to address hardware failures, instance failures, human errors like accidental deletion of data, tables, able to repair at block level. These features should be available on all the platforms as mentioned in point no. (2)		
		4.	RDBMS should have clustering with scalability, high availability and load balancing.		
		5.	RDBMS should have a Disaster- Recovery (DR) solution to replicate the changes happening in the database to the DR site.		
		6.	RDBMS should allow storing scanned images, text documents, xml, multi-media inside the tables. It should be		

S.No.	Item	Recommended Specification		Specification Provided By Bidder	Compliance (Yes/No) & Page No.
			part of the basic database distribution without any additional cost to the organization.		
		7.	RDBMS should provide strong encryption capabilities within database for stored information in the tables as well as the information transmitted over network.		
7.	Enterprise Management System (Application monitoring, Helpdesk)	<u>Generic Requirements:</u> 1. All the components of the proposed EMS solution should be seamlessly integrated with each other. 2. Solution shall be open, distributed, scalable, and multi-platform and open to third party integration. 3. Solution shall support Web Interface. 4. The Solution shall provide future scalability of the whole system without major architectural changes. 5. The EMS solution should be supported through OEM, either by license or subscription <u>Service Desk Management:</u> 1. Should be (Axelos (OGC) Gold level endorsed for ITILv3)/(PINK Verify certification for ITIL toolset 2011) in at least 6 of the following processes: Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management, Service Asset and Configuration management, Service Catalog and Request Fulfilment. 2. The Change Management module should provide a rule-based workflow system for controlling changes throughout their lifecycle: from initial request to approval, to planning and implementation, and to monitoring and evaluation. 3. Should provide out-of-the-box categorization, as well as routing and escalation workflows that can be triggered based on criteria such as			

S.No.	Item	Recommended Specification	Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		SLA, impact, urgency, CI, location or customer. - Should support knowledge management best practices and provide change category to manage Knowledge management workflow. - The Change Management module should provide the capability for Release Control Analysis inbuilt providing the stakeholders with automated decision-support to help make more informed assessment and approval decisions during the review process. It should also be able to provide the implementation team with real-time visibility into all in-flight change activity to reduce downtime risks and increase communication between different teams during execution. - The product must monitor SLAs against Service, Problem, and Change Management. - Should provide out of box and customizable reporting and personalized dashboard. <u>Application Performance Management:</u> - Web infrastructure Management - The proposed solution should have the capability to monitor both user and system initiated network traffic between client machines and servers and between servers, collecting network and server performance and availability data in real time, thus enabling administrators to pinpoint the cause of delays and quantify the business impact of detected performance issues related to end users. - Data, reports and views from the synthetic monitoring solution should be able to be incorporated into common dashboard views along with real user monitoring and infrastructure monitoring. - Should provide ability for Diagnostics Monitors as complementing extension for load test solution – Able to breakdown the time spent on each component across presentation, business and database layers. - Should drill down from slow, end-user transactions to the bottlenecked component, method or SQL statement, helping to solve memory, exception and other common problems.		

S.No.	Item	Recommended Specification	Specification Provided By Bidder	Compliance (Yes/No) & Page No.
		5. Should automatically detect all components touched by a business process across layers and traces them with no user intervention. 6. End to end Management of applications (J2EE/.NET based) with deep-dive diagnostics. 7. Determination of the root cause of performance issues whether inside the Java / .Net application in connected back-end systems or at the network layer. 8. Automatic discovery and monitoring of the web application environment and ability to monitor applications with a dashboard. 9. Monitoring of all real end user transactions; detecting failed transactions; gathering evidence necessary for problem diagnose. 10. Dashboards should be easily customizable using visual editing capabilities and no coding they should be role-based so that business and IT stakeholders get the necessary visibility into the health of business and provide out-of-box KPIs that can be used to Present different aspects of business service health.		
8.	Server OS Software	Latest Linux/Windows		
9.	Digital Signature	Digital signature with RSA standards		
10.	Antivirus for proposed servers/VMs	Antivirus such as McAfee, Kaspersky, Norton or equivalent with 3 years of subscription for Application server, Database server, Web server		
11.	Any other Item to complete the work			

Specification for Statistical Software or BI Tool:

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
1.	The system should provide an user friendly, web based interface for data preparation and presentation		
2.	The system should allow on line filling of return forms like form e, import/export return and other relevant forms		
3.	The system should be able to analyse Big Data		
4.	The system should allow data to be accessed from any industry standard data source (including legacy applications of Tea Board on India)		
5.	The system should provide self-service analytics		
6.	The system should be compatible with both Windows and Linux operating systems		
7.	The system should allow data classification as per the Tea Board policy		
8.	<i>The system should provide the following capabilities for Analytics:</i>		
9.	The system should have the capability to explore and seek correlations on data sets for any size data analysis		
10.	The system should provide interactive analytical capabilities such as Correlations & Regression, scenario analysis, decision tree, trend analysis		
11.	The system should provide capability to analyse unstructured data		
12.	The system should provide Text Analytics on unstructured Data		
13.	The system should provide enhanced forecasting capabilities with Scenario Analysis i.e. It allows users to see how the forecast would be effected by changing independent variable values		
14.	The system should automatically select the most appropriate forecasting algorithm for selected data		
15.	The system should provide a clear explanation of Analytical results		
16.	<i>The system should provide Scalability and High Performance leveraging cost-effective architecture with increasing needs of managing Big Data</i>		
17.	The system should provide Scalability and High Performance leveraging cost-effective architecture		

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
18.	The system should have the ability to scale up easily considering the increasing needs of managing Big Data		
19.	<i>The system should provide capabilities for analyzing / exploring data and creating reports using In-Memory technology:</i>		
20.	The system should provide Auto-charting Based on data selected for analysis, system should automatically choose best visualization suited to display the type of data selected		
21.	The system should provide Geographical map views to provide a quick understanding of geospatial data		
22.	The system should allow users to change queries dynamically		
23.	The system should provide viewable descriptive statistics, such as min, max and mean, enabling users to gain an overall sense of a particular measure		
24.	The system should provide the capability to link to an external url from a visual object with relevant context		
25.	The system should allow hierarchy creation for adding drill-down capabilities to visualizations and reports		
26.	The system should provide capabilities to Slice and dice multidimensional data by applying filters on any level of a hierarchy		
27.	The system should provide capabilities to Drill up and down through hierarchies, or expand and collapse entire levels		
28.	The system should allow previewing, filtering or sampling data prior to creating visualizations or reports		
29.	The system should provide users the capability to save and share their analysis as exploration, report, or PDF		
30.	The system should provide the capability to export data to Excel and CSV/TSV document formats		
31.	The system should be capable of read and write of comments on reports to aid in collaboration		
32.	The system should allow users to Capture screenshots and share comments with others		
33.	The system should provide progressive filters.		

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
34.	The system should provide collaboration support with Annotation on Tablet		
35.	The system should allow users to Receive Alerts		
36.	The system should provide a thumbnail view of recent and favourite items to select and open		
37.	The system should provide filtering and selection capabilities to reports with easy-to-integrate common action elements such as radio buttons, drop-down/combination boxes, check boxes and sliders		
38.	The system should provide Percentage of Records as part of Filtering and Result Data set giving a purview of the amount of data being Analysed		
39.	The system should have capability to calculate new data items on the fly from existing data items using expressions		
40.	The system should support distribution of Reports and Dashboards to tablets and mobile phones on latest operating systems like Android, iOS, windows and blackberry OS etc.		
41.	The system should allow the analysis / explorations / reports for offline viewing to mobile devices		
42.	The system should have the ability for Interactive report viewing for information consumers on iPad and Android devices		
43.	The system should support same dashboard / report created on Web to be accessed from iPad and Android devices without requiring any redesign		
44.	The system should allow users to securely view reports on mobile devices while online or offline		
45.	All users should have access to all capabilities of the solution platform and should not be restricted by way of licensing		
46.	The system should be able to create the required management dashboards and reports required by management		
47.	The system should provide the ability to switch between different percentages for the confidence interval		
48.	The system should have the capability to custom colors across reports and sessions		
49.	The system should have the ability to cancel query in process		

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
50.	The system should have the capability to link stored processes		
51.	Self-service capability to import data from databases and social networking sites		
52.	<i>The system should have the capability for Office Integration</i>		
53.	The system should support viewing Reports and Dashboards in Office solutions		
54.	<i>The system should have the capability to monitor the In-memory server environment:</i>		
55.	The system should have capability to monitor Resource utilization including CPU, I/O and Memory		
56.	The system should have capability to monitor User sessions		
57.	The system should have capability to monitor Mobile device logging history		
58.	The system should provide ability to Refresh reports from the device		
59.	The system should provide server side logging for user actions – reports downloaded		
60.	<i>Indicative requirement of reports</i>		
61.	Suggestive reports: • Land Use Classification wise Analysis • Tea Category pattern analysis (Tea-wise Area Statistics) • Wholesale and Retail Prices analysis • Auction Sale data reports category wise, district wise etc. • Production contribution of the District, State Nation in World Market. • Calculation of yield rate district/State and Identify High/Low Production States • Tea Category wise production • Tea Category wise Import/Export • Most demanded Tea Type in market • District wise Tea Category Production for given range year • District wise Production contribution for a selected season and state. etc		
62.	Existing Reports: • Price variations • Tea Category Wise Production for a state and Year • Tea Category Group wise Production Statistics • Productivity performance in Agro-Climatic Zones • District wise production contribution summary		

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
	- All India Yield Summary - Advance estimation on Production - Quarterly Estimate on Tea Category Production - Total Area and Classifications of Area - Area under Tea Category		
63.	Analysis and forecasting: - Time series Analysis (advance estimation of production) - Correlation analysis with regard to area and production as also production to consumption; - Price trend analysis and forecasting - Effect of market arrivals on wholesale and retail prices. - Tea Category Yield by District/State by season/year/zone - Land Usage by District Tea Category wise - Yield data and analysis for Tea category and area/location		
64.	Analysis on Tea Category: - Tea Category Pattern - Tea Category Diversification Analysis (minor or major) - Root cause analysis of reduction in yield - Demand analysis for the produce - Best market analysis to sell produce for high returns - Ideal Tea Category for optimizing returns - Irrigational needs based on past data and Tea Category record. - Soil types and fertility in the respective areas - Land usage patterns etc.		
65.	Data Sensitivity analysis, Impact Analysis, Tea Category Diversification, Variance analysis for production and sell etc.		
66.	Trend analysis: - Trend analysis of the Tea Category yield/ Tea Category pattern - Trend analysis of land usage/Area Expansion - Trend analysis of retail and wholesale prices		

S.No.	Recommended Specification	Proposed tool/software	Compliance (Yes/No) & Page No.
	• Trend analysis and diagnosis of market arrivals vis a vis production to determine the gaps. • Analysis of shifting of Tea Category from major to minor (and vice versa)		

