DEPARTMENT OF INFORMATION TECHNOLOGY

GOVERNMENT OF MANIPUR IMPHAL

REQUEST FOR PROPOSAL

FOR

SELECTION OF SYSTEM INTEGRATOR

FOR

IMPLEMENTATION OF e-DISTRICT MMP

VOLUME II

Table of Contents

List of Abbreviation

Abbreviation	Description
CDAC	Centre for Development of Advanced Computing
CMS	Content Management System
CSP	Content Service Provider
DeitY	Department of Electronics and Information Technology
EC	Empowered Committee
GoI	Government of India
SI	System Integrator
MCIT	Ministry of Communication and Information Technology
MMP	Mission Mode Project
NeGP	National e-Governance Plan
NIC	National Informatics Centre
NPI	National Portal of India
SDA	State Designated Agency
SeMT	State e-Governance Mission Team
SLA	Service Level Agreement
SPF	State Portal Framework
SSDG	State Services Delivery Gateway
UT	Union Territory
EMD	Earnest Money Deposit
RFP	Request for Proposal
SMS	Short Message Service
USSD	Unstructured Supplementary Service Data
IVRS	Interactive Voice Response System
RTO	Recovery Time Objective
RPO	Recovery Point Objective
PIU	Project Implementation Unit
PKI	Public Key Infrastructure

Terms and Legends used in this document

Symbol / Terms	Meaning
<<>>	Text to be filled in by the bidder in response to this document. This is not to be inputted / tinkered by the user.
Nodal Agency	The Manipur State Information Technology Society (MSITS).
Department	The Department of Information Technology is the ultimate "owner" of the project. The e-Governance is carried out within the domain of the department.
Bidder	Supplier/Vendor of Software application development, Software products

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 MSITS, Manipur, including all attachments, appendices, all documents incorporated by reference thereto there 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.

1 Request for Proposal Datasheet

S. No	Information	Details
1.	RFP No. and Date.	***RFP 34/1/2011-MSITS(Pt-1)***
2.	Non Refundable Tender Cost.	***Rs 10,000 (Ten Thousand INR Only)***
3.	Earnest Money Deposit (EMD/ Bid Security).	***Rs 10,00,000 (Ten Lakh INR Only)***
4.	Bid validity period.	**365 days from the last date (deadline) for submission of proposals.**
5.	Last date (deadline) for submission of Technical bids by the Bidders.	***20th November, 2013***
6.	Date of submission of Technical Bid in response to the RFP notice.	***On or before 3:00 PM on 20th November, 2013***
7.	Technical Presentation by the Bidders	***3rd December, 2013 from 11:00 AM at Old Secretariat, Imphal, Manipur***
8.	Date and time of opening of Financial proposals received in response to the RFP notice Notification to Selected SI.	***10th December, 2013 at 2:00 PM***
9.	Contact person for queries.	***Shri Nambam Deben*** ***Member Secretary, MSITS*** ***Manipur State IT Society, 4th Floor, Western Block, New Secretariat, Imphal West – 795001*** ***msits-mn@nic.in*** ***Fax 0385-2444118*** ***Phone 0385 - 2446877*** ***Email , n.deben@nic.in***
10.	**Addressee and address at which proposal in response to RFP notice is to be submitted:**	***Shri Nambam Deben*** ***Member Secretary, MSITS*** ***Manipur State IT Society, 4th Floor, Western Block, New Secretariat,***

		Imphal West – 795001 ***Fax: 0385-2444118*** ***Phone: 0385 - 2446877*** ***msits-mn@nic.in*** ***Email , n.deben@nic.in***

2 Introduction

NeGP was approved by the Government of India in May 2006, with the following vision:

"Make all Government Services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realise the basic needs of the common man"

To realize this vision, 31Central, State and Integrated Mission Mode projects (MMPs) along with 8 support components were identified and approved under NeGP. States have been given flexibility to identify up to 5 additional state-specific projects, which are particularly relevant for the economic development of the State. NeGP also envisages creation of the core IT infrastructure in the form of SWANs, SDCs and one lakh front ends namely CSCs in rural areas across the country to deliver public services electronically.

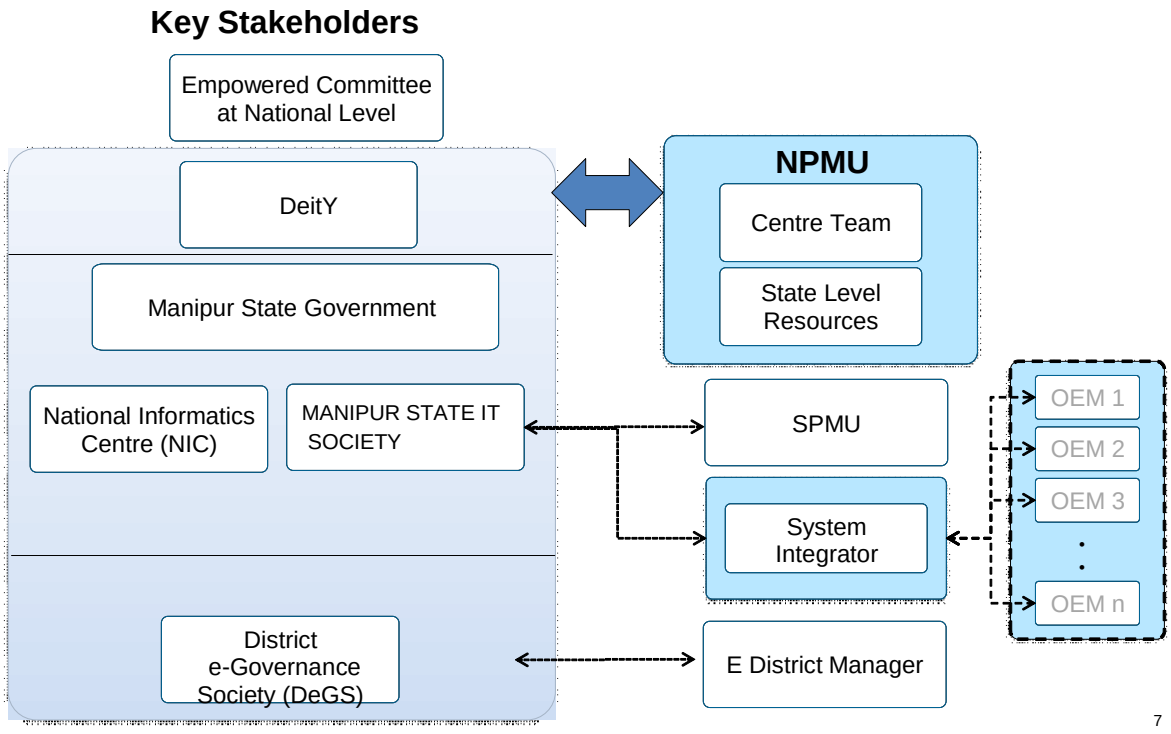
e-District is one of the 31MMPs under NeGP, with the Department of Information Technology (DIT), Government of India (GoI) as the nodal department, to be implemented by State Government or their designated agencies. **This MMP aims at electronic delivery of identified high volume citizen centric services, at district and sub-district level, those are not part of any other MMP.** To achieve these objectives service levels and outcomes for each of these services will be clearly laid down by the State concerned, with a view to improving the efficiency and effectiveness of the service

delivery. The MMP envisages leveraging and utilizing the four pillars of e-infrastructure namely, **State Data Centres (SDCs), State Wide Area Network (SWANs), State Service Delivery Gateways (SSDGs) and Common Service Centres (CSCs),** optimally to deliver public services electronically to citizens at their door steps. Initially only those high volume citizen-centric services will be taken up for implementation which have high priority for the State. New services will be added to the portfolio subsequently, once the demand for the initial set of e-enabled services increase.

3 Implementation Framework

I. e-District project shall be implemented in a way where the districts will play a major role. e-District shall be implemented in alignment with the NeGP principle of "**centralized planning and decentralized implementation**". State IT Department/ Nodal Agency shall play a key role in planning and implementation of the program in collaboration with the district.

II. The role of the DeitY, GoI focuses primarily in planning of national level roll out, issuing guidelines, funding support to the states, monitor and support the state in implementation of the project. States shall drive the implementation at the state/district level. The diagram illustrating the key stakeholders and their role in implementation and for managing the E-District MMP is shown below:



III. e-District MMP aims at electronic delivery of all public services at district / sub district level, progressively. Initially 10 categories (5 mandatory + 5 state specific) of identified high volume citizen centric public services at district and sub-district level will be taken up for implementation.

Services are classified into 3 basic categories:

- **Type 1 services are typically those services for which an accurate digital database is available**. For e.g. in the State of Andhra Pradesh, Land Records have been digitized and several land-related services are now available across the counter. Similarly, once birth and death are registered, stored in secured

database and digitally signed; birth and death certificate can be issued on demand across the counter.

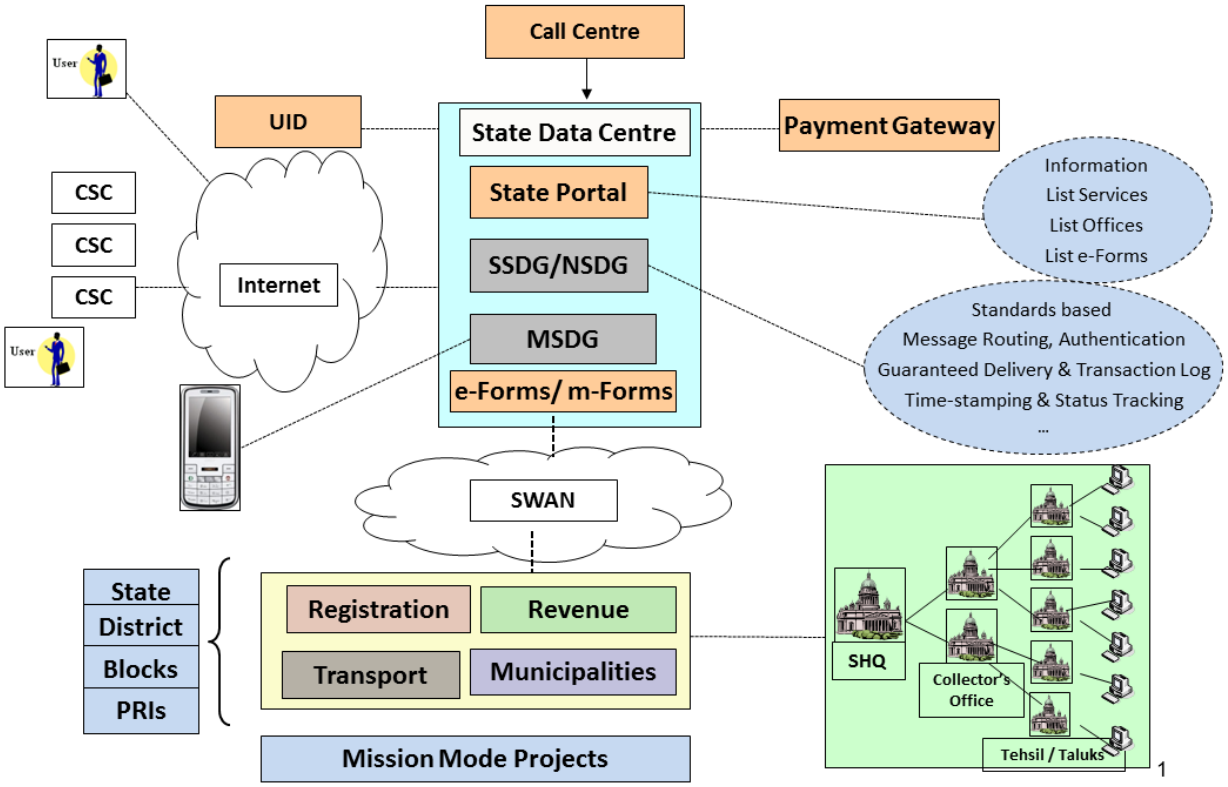
- **Type 2 services are those services which can migrate to Type 1 services with due data digitization and onetime physical verification.** For e.g. issue of Caste Certificate. Till such time as the centralized, digitally signed databases are created, Type 2 services are delivered within a pre-defined period, say 2 weeks.
- **Type 3 services require physical presence / verification and cannot be delivered across counter**, like issues of arm license.

Prioritization of Services shall be done on the basis of categories under which the Services shall fall.

IV. An Integrated Service Delivery Framework has been designed by DeitY in July 2012, and communicated to all the States. It can be accessed at (URL: **http://deity.gov.in/content/e-district-guidelines**). This framework envisages a centralized architecture for each major e-Governance application at the State level. **The application software will be hosted in the State Data Centre**. Integration across States shall be enabled, through **mandatory adherence to technical specifications** and e-Governance standards, besides use of the SSDG. The Integrated Framework shall be treated as part of this RFP and shall be followed with appropriate modifications, required by the State.

V. Two key aspects of the Scheme 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 to citizens.

VI. The solution architecture of the e-District project envisages a centralised application and database and will leverage the core e-infrastructure of State Wide Area Network, State Data Centre and State Service Delivery Gateway.



VII. Further e-District service will be integrated with a mobile service delivery gateway and Aadhaar numbers of the Unique Identification Authority of India. Localisation of the application will be carried out as per the requirement of the state in terms of local language and other needs. According to this, each States selects System Integrator (SI) who shall be responsible to implement the project in the state as per the DeitY, Government of India guidelines.

VIII. The e-District MMP envisages centralised architecture at the state level with common application software for each of the identified services for all the districts of the state. The application software will be hosted in the SDC.

IX. Integration across states shall be enabled, through mandatory adherence to technical specifications and e-Governance standards. The detailed guidelines in this regard have been issued by Department of Electronics and Information Technology (DeitY) Government of India as stated in para IV above.

4 Scope of the Project

Introduction

I. The e-District MMP is to be implemented in all 9 districts of Manipur to be taken up for implementation of the e-District Project. The implementation of the scheme will be completed in 1 year commencing from the date of award to the SI and will be followed by 3 years of Operation and Maintenance (O&M) phase.

II. The implementation in the states is proposed to be carried out in 2 phases. In the first phase, the following 5 districts in the State will be catered to and e-District services will be rolled out in them.

1. Imphal West
2. Imphal East
3. Bishnupur
4. Thoubal
5. Ukhrul

Once Go-Live is achieved in the above 5 districts, the same will be rolled out in the rest of the 4 districts in the State.

III. List of districts and CSC roll out status is as follows:

Name of District	District Type	No. of Blocks	CSC Status	
			Total No	Rolled out
Imphal East	Valley (4 Districts)	3	34	23
Imphal West		2	23	23
Thoubal		2	17	15
Bishnupur		2	8	8
Churachandpur	Hill (5 Districts)	10	91	20
Senapati		6	104	73
Ukhrul		6	33	33
Chandel		4	60	57
Tamenlong		5	29	29
9 Districts		**40**	**399**	**281**


MANIPUR
DISTRICT
N
NAGALAND
Senapati
SENAPATI
ASSAM
Ukhrul
UKHRUL
Tamenglong
TAMENGLONG
IMPHAL EAST
Lamphelpat
IMPHAL
IMPHAL WEST
Porompat
Thoubal
THOUBAL
Bishnupur
BISHNUPUR
IMPHAL EAST
MYANMAR
Churachandpur
CHURACHANDPUR
Chandel
CHANDEL
MIZORAM
Map not to Scale
Copyright © 2012 www.mapsofindia.com
(Updated on 4th October 2012)
LEGEND
International Boundary
State Boundary
District Boundary
State Capital
District HQ.

The following will be the activities to be carried out by the selected Bidder:

1. Project Planning and Management.
2. System Study and Design.
3. Business Process Reengineering for the selected applications/ services.
4. Finalized detailed To-Be Processes and Functional Requirements Specification.
5. System Requirements Specification.
6. Development of E-District Application.
7. Network Connectivity.
8. Data Digitization.
9. Site Preparation.
10. Hardware Procurement &Commissioning.
11. STQC Certification.
12. UAT & Go live.
13. Capacity Building.
14. Operation & Maintenance (O&M).

4.1 Solution & Technology Architecture

4.1.1 Overview

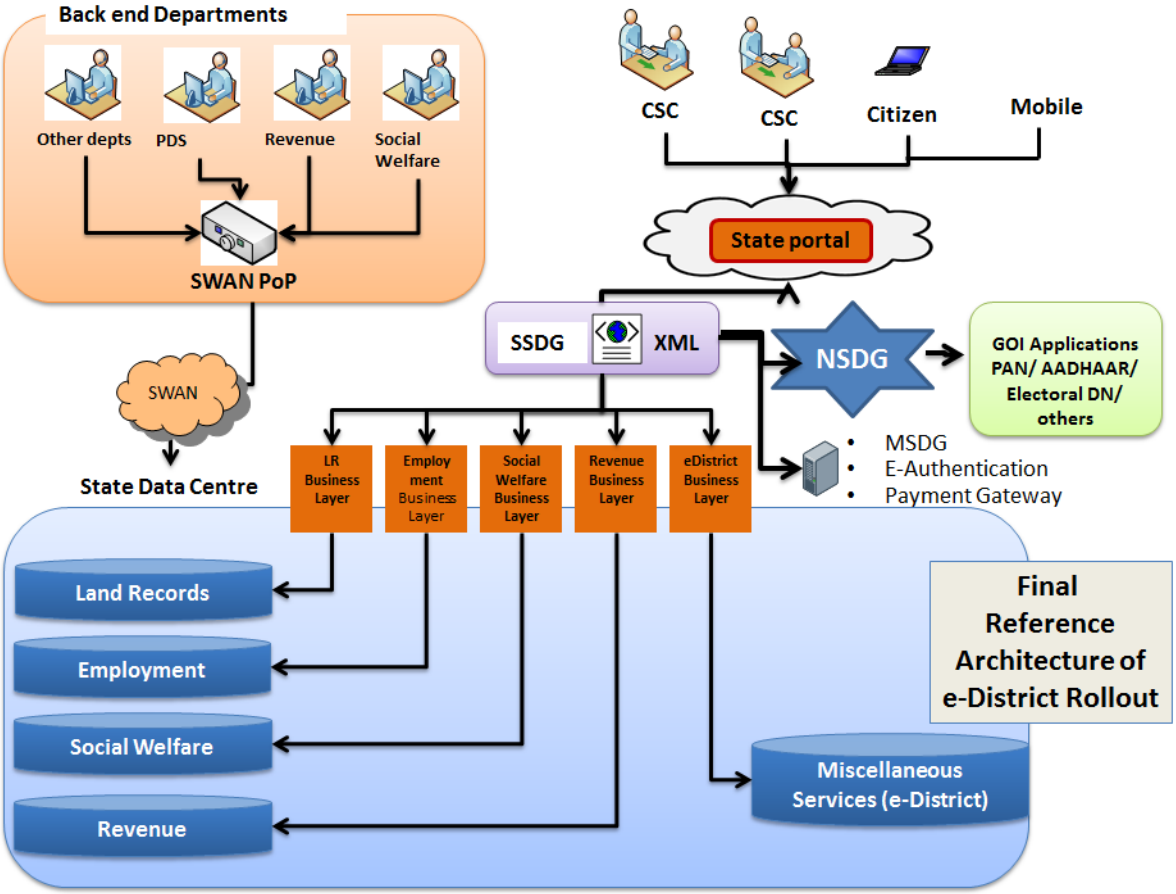
I. A centralized architecture (servers and processing at single and central location) has been proposed for the e-District project. All requests from internal and external users will be sent to this system, located in a central place for processing. All users will access the application through local or remote terminals using a browser (through internet for external users and through intranet or VPN for internal Departmental users).

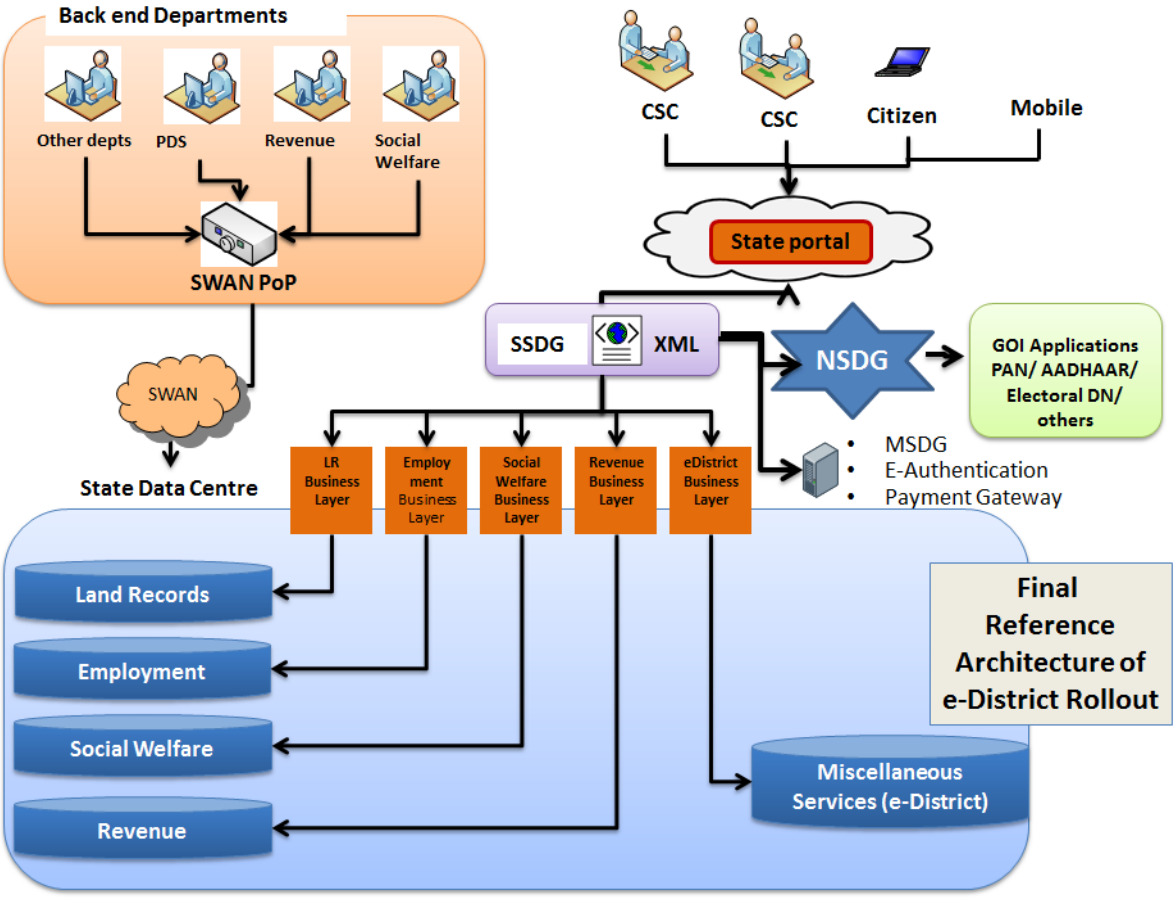
II. The overall technology solution shall be based upon most relevant and suitable architecture standards including standards for Service Oriented Architecture (SOA), XML services & necessary protocols for internet applications, Data Centre standards etc.

III. The design should include integration with existing IT infrastructure created under SDC, SWAN, CSC, State Portal, SSDG and any other MMP for the implementation of E-District Project. E-District Application developed should be integrated with existing State Portals and Gateways. Requirement for these should be included in the FRS, SRS and Design.

IV. The indicative structure is as below:

e-District Application Structure





The above diagram is indicative and will be subsequently updated after the induction of the SI.

V. The E-District architecture should be compatible with the SSDG and should get integrated.

VI. **Manipur envisages a Centralized Architecture with the State Data Centre.**

VII. Bidders should clearly understand that the desire of the department is not to create a mere IT Solution but an information infrastructure that will expand, integrate and enhance the functional needs of the department concerned, citizens and other stakeholders. It is in this spirit that the core design and functional requirements are elaborated in the forthcoming sections.

VIII. The reference architectures provided in the Integrated Framework for Delivery of e-Services (URL: http://deity.gov.in/content/e-district-guidelines) shall be necessarily followed and adopted with appropriate modifications required for the State.

4.2 Scope of Services – Project Implementation Phase

The State Government of Manipur envisages implementing the project by "bundling" the entire scope of work to one System Integrator who in turn will be the Single Point of Contact for the design and implementation of the entire project. This entails that the SI can enter into a consortium arrangement with competent partners but such a role based consortium should be explicitly declared. The following guideline may be followed in responsibility sharing in the event of a consortium formation and consolidation.

Sl. No	Cost head	Guidelines
1	Supply, Installation & Commissioning of Systems at SDC.	*Should essentially be with the System Integrator.*
2	Systems Support.	
3	Supply, Installation & Commissioning of Hardware.	
4	LAN Networking and Horizontal Connectivity.	
5	Technical Support for 3 years.	
6	Supply, Installation & Commissioning of necessary Software for e-District.	*This responsibility may be with a consortium partner but the Project Management should be with the SI.*
7	Application Support.	*It should be the same agency, which has developed the application.*
8	Data digitization.	*May be with a consortium partner with clear.*
9	Training and Capacity Building.	*Should be solely under the SI. Even if certain activities like awareness campaigns, district level training etc. is given to other partners there should be an umbrella guideline documented by the SI so that there is no deviation from the objectives.*
10	Site Preparation.	*This can be done with a consortium partner since this is necessary but can be delinked from the main scheme of activities. However, milestones and ensuring that they are met will be the sole responsibility of the SI.*

4.2.1 Solution Design

4.2.1.1 System Study and Design

I. The SI shall carry out a detailed systems study to prepare/ refine the Final To-Be Process, update & sign off the Functional Requirements Specifications and formulate the System and Software Requirements Specifications documents incorporating the functional specifications and standards provided by the DeitY, Government of India and the State nodal Agency requirements.

II. The SI should prepare a detailed document on the implementation of e-District Application with respect to configuration, customization, extension and integration as per the requirement of State.

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 state of Manipur.

IV. The selected Bidder shall perform the detailed assessment and refinement of the functional requirements and MIS requirements and prepare a new FRS report, as part of the System Study document incorporating list of all features that shall result in further improvement in the overall application performance for consideration of MSITS, Manipur.

A. Requirements Traceability Matrix: The SI shall ensure that developed e-District application is fully compliant with the requirements and specifications provided in the RFP such as functional, non-functional, technical and other requirements. For ensuring this, the SI shall prepare a Requirements Traceability Matrix on the basis of Functional Requirements Specifications (FRS), Non Functional Requirements Specification, and Technical Requirements provided by State (updated, expanded and fine-tuned by the SI). Refer to Annexure 6.8 for more details on the non-functional requirements.

B. Project Documentation: The SI shall create and maintain all project documents that shall be passed on to the State as deliverables as per the agreed project timelines. The documents created by the SI will be reviewed and approved by the SPMU & MSITS, Manipur.

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. E-District 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. Change Management and Capacity Building Plans.
11. SLA and Performance Monitoring Plan.
12. Design of real-time tools for monitoring e-Transaction volumes and for generating real-time MIS.
13. Training and Knowledge Transfer Plans.
14. Issue Logs.

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 MSITS, Manipur 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 of logs shall be submitted to State Nodal Officer on regular basis.

4.2.1.2 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, Technical and any other requirements of the departments concerned. The SI shall prepare the SRS documents and have it reviewed and approved by MSITS, Manipur, which will sign off on the SRS documents on the advice of the SPMU.

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

4.2.1.3 Preparation of e-District Project Plan

The SI shall prepare a comprehensive e-District implementation and deployment plan in consultation with MSITS, Manipur. This implementation document shall also comprise of the following:

I. Trainings to be provided to the departmental officials at different stages of the project, procurement.
II. Deployment and commissioning of required hardware and software.
III. Provisioning of network connectivity.
IV. Site preparation, etc.

For more details on these refer to Tables in Annexure 6.

Further, SI will also prepare detailed work plan and estimate the timelines and resources required for configuration, customization, extension, integration, and commissioning of the e-District software as per the DeitY/ GoI / State requirements. All the plans and frameworks prepared by SI during the duration of the Contract shall be required to seek approval from MSITS, Manipur.

4.2.1.4 Preparation of e-District Application Design

4.2.1.5 Detailed Design documents shall include but not limited to:

I. Technical Architecture Document (Application, Network, and Security).
II. The available IT infrastructure available at state shall be a part of the document.
III. Gap infrastructure.
IV. High Level and Low Level Design.
V. Database architecture, including defining data structure, data dictionary as per standards defined by DeitY.

4.2.1.6 Sign off Deliverable/ Exit Criteria

I. Detailed Project Plan.
II. Detailed System Study Report.
III. List of Services, Service Definitions, Service Levels.
IV. Finalized To-Be Processes.
V. Updated/vetted FRS.
VI. SRS document.
VII. HLD documents.
VIII. E-District Application architecture documents.
IX. ER diagrams and other data modelling documents.
X. Logical and physical database design.
XI. Data dictionary and data definitions.
XII. Application component design including component deployment views, control flows, etc.

a) LLD documents (including but not limited to)

XIII. Application flows and logic.

XIV. GUI design (screen design, navigation, etc.).

a) All Test Plans.

b) Application Manuals.

XV. Requirements Traceability Matrix.

XVI. Change Management and Capacity Building Plans.
Design of real-time tools for monitoring e-Transaction volumes and for generating real-time MIS.

XVII. SLA and Performance Monitoring Plan.

XVIII. Training and Knowledge Transfer Plans.

XIX. Issue Logs.

4.2.2 Software Development

4.2.2.1 e-District Functional Modules

e-District MMP aims at electronic delivery of all public services at district / sub district level, progressively. Initially 10 categories (5 mandatory + 5 state specific) of identified high volume citizen centric public services at district and sub-district level will be taken up for implementation. While doing so, the four pillars of e-infrastructure i.e. SWANs, SDCs, SSDGs and CSCs will be leveraged and no new infrastructure would be created. Later on, new services could be added depending on the requirements and the felt needs.

S.No.	e-District Modules	Description
1	Certificates	Includes services: Birth, Death, Domicile, Caste, Marriage, Income, Permanent Resident, Encumbrance etc.
2	Social Welfare Schemes	Includes services – Manipur Old Age Pension Scheme, Registration for pension under IGNOAP, Financial assistance for School going Dependent Children, Application for Balika Smridhi Yojana (B.S.Y.) etc.
3	Revenue Court	Services – Land Valuation, Land Mutation, Fixation of Land etc.
4	Public Distribution Scheme	Services including Addition of Name in Ration Card, Renewal, Deletion of Name, Duplicate Ration Card, Issuance of New Ration Card etc.
5	RTI Services & Grievances	Includes Lodging of Grievance and Submission of RTI application at district level. RTI services will be applicable to all departments/offices which have been

		provided with ICT infrastructure and connectivity for delivery of services under e District Scheme etc.
6	Electoral Services	Includes Application for inclusion, Application for Correction of Particulars etc.
7	Health Services	Includes Janani Surakshya Yojana (Registration of Pregnant Woman) etc.
8	Education Services	Includes Registration of Out of School Children, Registration of Children with Special Need etc.
9	Transport Services	Includes Registration of Vehicles, Issue of Driving License etc.
10	Employment Exchange	Includes Registration in Employment Exchange, Renewal and Transfer of Registration, Submission of Application against Vacancy, Updating Qualification and Experience etc.

Table 1: Services for Phase I

Category	Services for Phase I
Certificate	Application for Marriage Certificate
	Application for Birth Certificate
	Application for Death Certificate
	Application for Domicile Certificate
	Application for Income Certificate
	Application for OBC/SC/ST Certificate
	Application for Permanent Resident Certificate
Employment Exchange	Application for Registration in Employment Exchange
	Application for Renewal of Registration in Employment Exchange
	Application for Transfer of Registration to New Employment Exchange
	Application for Updating Qualification or Experience or both in Employment Exchange
RTI & Grievance	Application for Submission of Right To Information (RTI)
	Application for Lodging of Grievance
Social Welfare	Application for Registration under NOAP
	Application for Registration under Manipur Old Age Pension Scheme
Public Distribution System	Application for Issuance of New in Ration Card
	Application for Addition of Name in Ration Card
	Application for Renewal of Name in Ration Card
	Application for Deletion of Name in Ration Card

	Application for Issuance of Duplicate Ration Card
Electoral Services	Application for Inclusion in Electoral Roll
Transport	Application for Registration of Driving License
	Application for Certificate of (RC) of Vehicle
Revenue	Application for Land Valuation Certificate
	Application for Land Mutation Certificate

Table 2: Services for Phase II

Category	Services for Phase II
Certificate	Encumbrance Certificate
Employment Exchange	Submission of Application against Vacancy
Health Services	Janani Surakshya Yojana (Registration of Pregnant Woman)
Social Welfare	Application for Balika Smridhi Yojana (B.S.Y.)
	Financial assistance for School going Dependent Children
Public Distribution System	Certificate for inclusion under different scheme.
Electoral Services	Application for correction of particulars
Educational Services	Registration of Out of School Children
	Registration of Children with Special Need
Revenue	Fixation of land premium

The application for e-District is the most critical component for e-District project. The Integrated Service Delivery Framework released by Deity shall be leveraged for developing the application architecture for the State. The details on final reference architecture for the state have been provided here in addition to generic requirements.

I. Design and development of the E-District Application as per the FRS and SRS finalized by all stakeholders (MSITS, Manipur, State DIT, SPMU, SI etc)..).

II. E-District Application should ensure availability of all services, mandatory and optional as stated in the RFP and additional services as may be added later on based on State's needs and shall have the following components:

   A. Front end on the State's portal; if State portal is not operational, front end may be designed with migration strategy to State portal after operationalization of State portal.
   B. Back end for workflow management, printing, status update and centralized MIS application.
   C. Providing automatic acknowledgement with automated date and time stamping.
   D. Enabling tracking of the status of the application from any authorized office through a unique application ID.

III. Development of Role based, workflow driven Web based Content Management System (CMS) for contribution of any type of Content to the E-District Application including the metadata as specified in SRS.

IV. The user should be scalable to interact with the system in local language in addition to English. The application should provision for uniform user experience across the multi lingual functionality covering following aspects:
    A. Front end web portal in local language.
    B. E-forms (Labels & Data entry in local languages).
    C. Storage of entered data in local language.
    D. Retrieval & display in local language.
    E. Facility to printout having support for local language.

V. 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 State Government to create new services as and when required by the various Departments without creating a change request. At the minimum, the workflow engine should have the following feature:

    a. Feature to use the master data for the auto-populating the forms and dropdowns specifically with reference to:
        i. Name of District, Tehsils, Blocks & Villages.
        ii. Designation of officials involved in the processing of the application.
    b. Creation of application form, by "drag & drop" feature using meta data standards.
    c. Defining the workflow for the approval of the form, by providing various options like :
        i. First in First out.
        ii. Defining a citizen charter/delivery of service in a time-bound manner.
    d. Creation of the "output" of the service, i.e. Certificate, Order etc.
    e. Automatic reports
        i. of compliance to citizen charter on delivery of services.
        ii. of delay reports.

VI. 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 State. In case of any change (transfer, promotion, leave, suspension, termination, superannuation etc.) of the officials under e-District Project, a copy of order should be marked to the State Level digital signature management team for assigning and revoking of the access rights.

- **Using Digital signatures to authenticate existing databases:** The E-District project plans to use digitally signed databases and verification reports based upon field visits. Hence, there needs to be a clearly defined mechanism to undertake cleaning of existing databases and digitally signing the entire database to enable delivery of across the counter services. It is also possible that the data in such digitally signed databases would undergo periodic revision and update. Hence, the State 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.
  - tracking of database records which are digitally signed and which are not so 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 e-District Application:** The e-District portal should be made accessible to government official users / registered users over internet and to CSC users 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:** As it is envisaged that the users of digital signatures will be significant in numbers, the State should plan the process and the agency for institutionalizing the management (issuance/ renewal/ revocation) of digital certificates. The State should also identify the funding arrangement for the same.
  - 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 NIC.
- **Training on use of Digital Signatures:** As the E-District 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 RFP should entail:

- 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 E-District service provisioning.

- **Preparatory steps for digital signing of databases**

a. Identification & planning.

- Identifying registers and data to be digitized.
- Fixing cut-off date for data digitization.
- Determining logistics of data digitization (whether at office level, district level or State level).
- Selecting database to be used for data digitization.
- Assessment of volume of data to be digitized for delivering the services.
- Codifying process for continuous verification and correction of the digitized data.

b. Plan to establishing ownership of digitized data with State Government.

- Fixing the ownership of the department and timeline for completion of digitization.
- Instituting logical checks for checking the accuracy of data.

c. Selection of Agencies for data digitization.

- Identification of appropriate organization for data digitization.

d. Digitization of data (Data entry of existing records) and digitally signing.

- Digitization of data.
- Defining process for quality check of data and ownership transfer of data.
- Verifying and correcting the digitized data.
- Porting of the digitized data to State Data Centre (SDC) and making it available for e-District and other MMPs.
- Application for bulk data signing.
- Digitally signing of the digitized data by the authorized official.

e. Ensuring dynamic update of data during processing of each service request.

- Process for continuous addition, verification and correction of the digitized data - Service / Solution workflow should ensure dynamic update of data.

VII. Asset Management: As mentioned in Section 4.5 (II), there is a requirement to have an asset management module procured under e-District project, to monitor the assets used for e-District project at various offices and procured under various Schemes.

VIII. Transaction Report & accounting module: The e-District services will be provided through the CSCs in the State. The payments to the CSCs are being made to the CSCs on the number of transactions made by the CSCs. The CSCs are aligned to various organizations (SCAs). For e-District project to succeed, it is important to ensure that there is a streamlined method to calculate the fee payable to the SCA and the CSC operator. There are various ways in which this is being addressed separately. It is advised that in case there is a gap noticed in calculation of such fees to SCA/CSC operator, a separate module for calculation of such fee (and payments, if necessary) should be developed.

IX. e-Transaction & SLA Monitoring Tools.

(1) The MSITS, Manipur should be able to measure and monitor the performance of the deployed infrastructure at SDC and at Department offices and all SLAs set out in this RFP. More importantly, MSITS, Manipur should be able to monitor in REALTIME, the number of citizens touched through e-Services each day, month and year, through appropriate tools and MIS reports.

(2) The Enterprise Monitoring System used by the SI for their internal Project Monitoring purposes should be made available to the MSITS, Manipur for effective integration purposes.

(3) For monitoring of uptime and performance of infrastructure deployed at Department Offices, the selected Bidder shall have to provision for monitoring and measurement tools, licenses, etc. required for this purpose. .

X. It is also further envisaged that the e-District application to be deployed in Manipur should have roadmap to integrate with key initiatives of DeitY namely Portal Services, Citizen Contact Centre, Mobile Platform/ Gateway Services / National Service Delivery Gateway (NSDG) / State Service Delivery Gateway (SSDG), National Service Directory, Payment Gateway, Language Switch, Open Data, e-authentication including Aadhaar, Geographical Information System/ Global Positioning System, E-Gov Application Store, Document Repository, Certifying Authority etc.

a. The details for integration with other initiatives are given below.

Name of the initiative	Purpose for integration	Contact Agency	Agency Person details	Deity Nodal Person Details
SSDG	Integration with existing application.	MSITS	Mr. Herojit Sanjenban,	Ms. Kavita Bhatia, Additional

			Informatics Officer, MSITS +919774476394	Director, DeitY. Telephone: +91-11-24364729
Payment Gateway	e-payment.	MSITS	Mr. Herojit Sanjenban, Informatics Officer, MSITS +919774476394	Ms. Kavita Bhatia, Additional Director, DeitY. Telephone: +91-11-24364729
MSDG	Services over mobile phone.	MSITS	Mr. Herojit Sanjenban, Informatics Officer, MSITS +919774476394	Ms. Kavita Bhatia, Additional Director, DeitY. Telephone: +91-11-24364729
e-Authentication	Validation of beneficiary- using biometric.	MSITS	Mr. Herojit Sanjenban, Informatics Officer, MSITS +919774476394	Ms. Kavita Bhatia, Additional Director, DeitY. Telephone: +91-11-24364729
AADHAR	Applicant authentication.	MSITS		Mr. Gaurav Dwivedi, Director, DeitY. Telephone:+91-11-24301218
Localisation	Localisation of the application as per the requirement of the State in terms of local language and other needs.	MSITS		Ms. Swaran Lata, Director, DeitY. Telephone: +91-11-24301272

XI. Complete mobile enablement of the e-District applications and services including all appropriate channels such as SMS / USSD / IVRS and development of corresponding mobile applications to the E-District applications and services leveraging the Mobile Service Delivery Gateway (MSDG) and the Mobile App Store developed by DeitY.

XII. Operation and Maintenance of E-District Application including the suggested changes as indicated by the state for 3 years from the date of Go-Live.

XIII. Implement / add any additional forms of State Departments as and when the departments are ready for delivering.

XIV. The IPR and the Source Code of the E-District Application shall be with the State Government.
XV. The SI shall indicate the type of services to be made available using IVRS, SMS, and Helpdesk.
XVI. Detailed User and Operational Manual to be provided to each department, whose services will be hosted on E-District Application.
XVII. The application should have a web interface and should publish online transaction volume data for each service for each district & CSC.

Offline Service Capabilities:

The Offline capability should be developed only for those locations where there is acute shortage of electricity or connectivity. Most of the remote hill districts in Manipur operate under the constraints of inadequate power and insufficient connectivity. It is important to note that there is significant risk of loss of data in such conditions. Hence, the offline capability should be additional feature of application which can be utilized in specific conditions:

I. It is suggested that offline server capabilities on one Counter at each Block/Tehsil should be built and used judiciously so that during failures, the services can be provided to citizens from here.

II. When the services at SDC get resumed, the work done at offline server machine should be synchronized with central servers immediately and the offline server machines start functioning under the control of central server.

III. As long as the services are running from state data centre, the offline server machine will not function independently; these will run under control of state servers like any other browser based client.

4.2.2.2 Single-Sign On

The application should enable single-sign-on so that any user once authenticated and authorized by system is not required to be re-authorized for completing any of the services in the same session. For employees of the department concerned, the browser based

application accessed on the intranet, through single-sign-on mechanism, will provide access to all the services of the departments concerned (based on their roles and responsibilities), Help module, basic and advanced reporting etc. Similarly, for external users (citizens, etc), based on their profile and registration, the system shall enable single-sign on facility to apply for various services, make payments, submit queries /complaints and check status of their applications.

4.2.2.3 Support for PKI based Authentication and Authorization

The solution shall support PKI based Authentication and Authorization, in accordance with IT Act 2000, using the Digital Certificates issued by the Certifying Authorities (CA) such as MTNL or NIC. In particular, 3 factor authentications (login id & password, biometric and digital signature) shall be implemented by the selected Bidder for officials/employees involved in processing citizen services as per the Functional requirement specification of the e-District services.

4.2.2.4 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 departments / businesses in future, the solution should be built on Open Standards. Some of the states already have other applications deployed and running for delivering services to citizens. The SI shall ensure that the application developed is easily integrated with the existing applications.
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.

4.2.2.5 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. For pilot states, the scalability is very important and this aspect should be thoroughly tested before state wide roll out.

4.2.2.6 Security

The systems implemented for project should be highly secure, considering that it is intended to handle sensitive data relating to the citizens of the state. 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 and biometric authentication.
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.

4.2.2.7 Application Architecture

I. It has been proposed that the applications designed and developed for the departments concerned 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.

4.2.2.8 Proposed Application Architecture

An indicative 3-tier architecture (also referred to as multi-tier or N-tier architecture) has been proposed for the Application Solution.

The entire processing should take place in n-tier architecture:

I. Front-end software (client tier) - responsible for the presentation of information. In the short run it may be a separate web portal, but eventually it has to be on the State Portal.
II. Business Process / Service Layer – In the long SSDG may be used, as specified in the Integrated Framework for delivery of Services for the e-District MMP.

III. Application Layer –The Business logic for all the application.
IV. Database Layer -responsible for the manipulation and storage of data. As per the Integrated Framework for delivery of Services for the e-District MMP, the databases may be separated as per the ownership of the line department.

4.2.2.9 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 existing application and external application. The SI shall prepare the HLD and have it reviewed and approved by MSITS, Manipur. State Nodal Office will sign off on the HLD documents based on the advice of SPMU.

4.2.2.10 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 state Nodal Agency. State Nodal Agency will sign off on the LLD documents based on the advice of SPMU.

4.2.2.11 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 state nodal agency. 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 state nodal agency for comprehensive verification and approval.

4.2.2.12 Requirement on Adherence to Standards

e-District 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.

4.2.2.13 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 for reference and is not to be treated as exhaustive.

I. Portal development W3C specifications.
II. Information access/transfer protocols SOAP, HTTP/HTTPS
III. e-District 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 Bio API 2.0 (ISO/IEC 19784-1:2005).
VII. Latest HTML standards.

4.2.2.14 Specification

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

4.2.2.15 State Specific Requirements

SI shall be completely responsible for successful implementation of end to end e-District project in the State of Manipur and in lines of DeitY, GoI and MSITS, Manipur guidelines.

An indicative list of specific requirements of Manipur is detailed below; however, final specific requirements shall emerge from the Detailed System Study to be conducted by Selected Bidder.

4.3.3.1.6 Sign-off Deliverables / Exit Criteria

I. System Requirement Specification (SRS).
II. Functional Requirement Specification (FRS) (updated/modified).
III. High Level and Low Level Design.
IV. Functional and non-functional testing.
V. Fully functional E-District Application.
VI. User and Operational Manual for E-District Application.

4.2.2.3 Obtain STQC Certification for E-District Application

The SI will be responsible for engaging STQC to conduct the assessment / review for the system before "Go Live". The SPMU shall have the right to audit and inspect all the procedures and systems relating to the provisioning of the services. If there is any change /

addition in the application's functionality then the SI will have to obtain the STQC Certification for the changes / additions.

SI shall ensure the following points are duly addressed for successful completion of STQC Certification:

I. Successful completion of Application Audit. Application audit will include:
   A. Functionality audit that will map the functionality delivered to the FRS agreed upon during development phase.
   B. Identify the nature and type of transactions being processed by the application systems.
   C. Determine systematic measures implemented to control and secure access to the application programs and data including password controls, user authentications, roles and responsibilities, audit trails and reporting, configuration and interface controls, etc.
   D. Review of database structure including:
      1. Classification of data in terms of sensitivity & levels of access.
      2. Security measures over database installation, password policies and user roles and privileges.
      3. Access control on database objects – tables, views, triggers, synonyms, etc.
      4. Database restoration and recoverability.
      5. Audit trails configuration and monitoring process.
      6. Network connections to database.
   E. Review of Network and Website will include:
      1. Penetration and vulnerability testing.
      2. Security exposures to internal and external stakeholders.
   F. Definition and Implementation of Security Policies and Controls will include:
      1. Define and implement backup process, including schedule, storage, archival and decommissioning of media.
      2. Define physical access controls review (over DC and other critical area).
      3. Define IT Change Management process, Incident Management process – covering identification, response, escalation mechanisms.
      4. Define and implement Anti-virus (malware) controls – patching, virus definition file update.

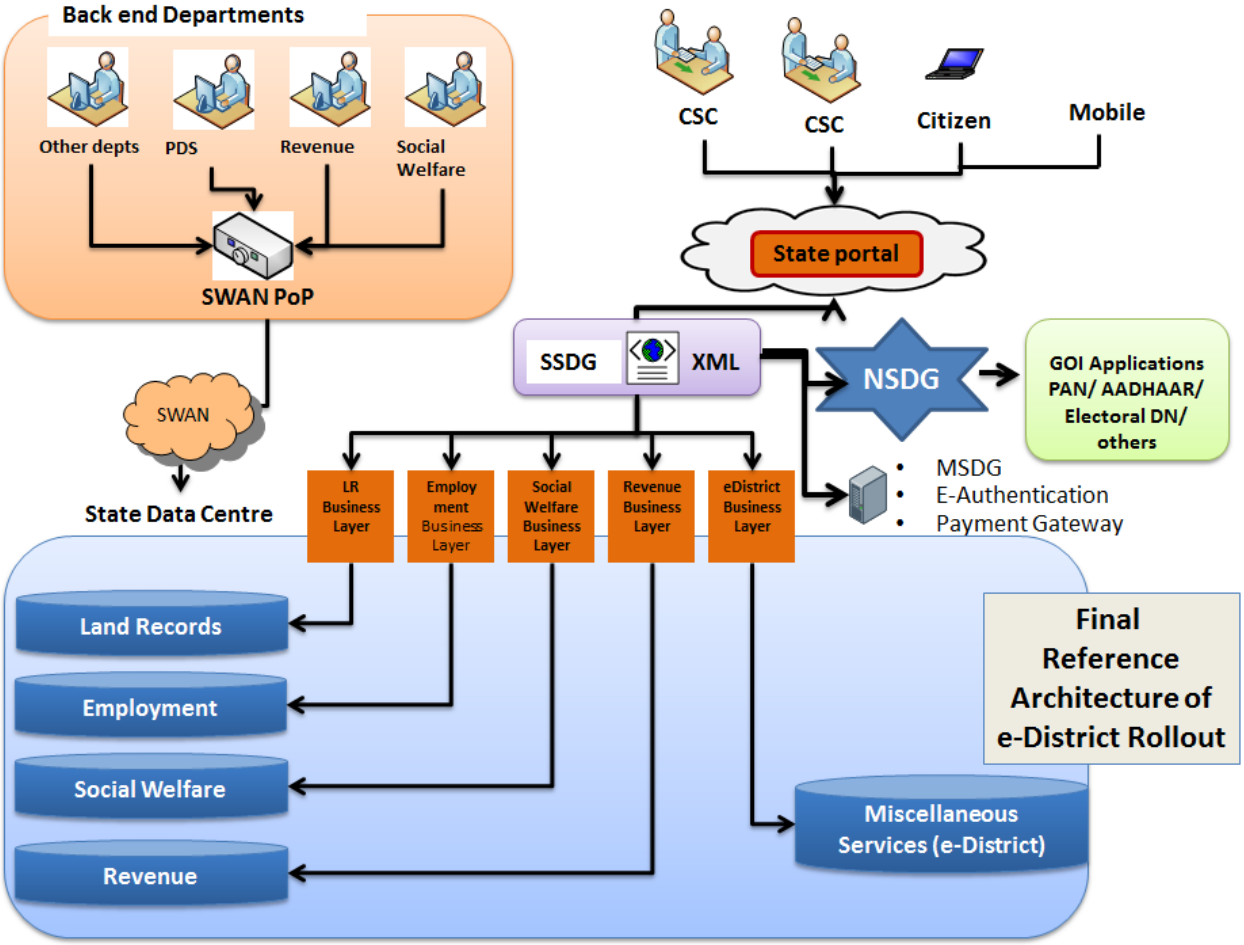
4.2.2.3.1 Sign-off Deliverables / Exit Criteria

I. Sign off from MSITS, Manipur.
II. STQC Certification.

4.2.2.4 Alignment with Integrated Framework

The E-District application should integrate with SSDG and provide access to citizens for E-District services through State Portal. It is envisaged that over a period of time all the existing state applications which have their own independent database and workflow and are identical to e-District should be made available on State Portal through the SSDG. The application may be States' own applications or adopted applications.

It is envisaged that gradually most of the services of e-District will move to their independent departmental application / MMPs. Hence the e-District is a "self – limiting" project offering services to the citizens as an interim measure. Thus e-District application plays a limited role for "miscellaneous services" which have been taken under e-District scheme as they do not have their own workflow and database. This reference architecture which should be achieved over a period of time is depicted below.



The key functionalities required are as follows.

- The SAP and SP Connectors will need to connect the e-district Business Layer. This would help in routing requests and responses to back-end departments within a stipulated time period.

- Design and implement an accounting module to keep track of all the transactions service category wise, department wise and break down of transactions SCA, VLE, DeGS wise.
- MIS of number of transactions including name of service and category of service on time and geographical scale should be published on e-District portal.
- Use e-authentication (including Aadhaar for citizens), e-payment, Digital signature and Mobile gateway.
- As and when required, migrate the data available in E-District database to newly created respective department database in case of Pilot states.

4.3.3.3.1 SSDG

I. The Integrated Service Delivery Framework envisages centralized architecture for each MMP at the State level. The application software will be hosted in the State Data Centre. Integration across States shall be enabled, through mandatory adherence to technical specifications and e Governance standards.
II. The solution architecture of the e-District project envisages a centralised application and database and will leverage the core e-infrastructure of State Wide Area Network, State Data Centre and State Service Delivery Gateway.
III. The e-District MMP envisages centralised architecture at the state level with common application software for each of the identified services for all the districts of the state. The application software will be hosted in the SDC.
IV. Integration across states shall be enabled, through mandatory adherence to technical specifications and e Governance standards. The detailed guidelines in this regard will be issued by Department of Electronics and Information Technology (DeitY) Government of India separately.

4.3.3.3.2 Payment and SMS Gateway

I. Provisioning of a payment gateway, SMS gateway and any other components required to meet the functional and Quality-of-Service requirements of the RFP is also within the scope of work of the SI.
II. Payment Gateway should allow net banking and debit card payments through atleastat least 20 banks in the country (including all leading banks), besides payments through credit cards (VISA, MasterCard).
III. Any one-time charges such as those for tie-ups, development of interfaces, registration, commissioning etc. of the gateway and any fixed recurring charges such as monthly rentals, etc. will have to be borne by the SI for the Contract period and may be budgeted for in the Total Contract Value of this Project.
IV. Any applicable transaction charges for making electronic payments or using SMS based services shall however be payable by the citizen and MSITS, MANIPUR respectively and need not be accounted for in the Total Contract value of this Project. Any transaction charges should be payable in Indian Rupees only.
V. The contracts that the SI does with the Payment Gateway provider and SMS gateway provider should be structured in a manner to allow the transaction charges to be paid directly by the citizen / MSITS, MANIPUR. However if the contract with payment

gateway / SMS gateway provider require any transactional charges to be paid by the SI, the same will be reimbursed to the SI by the MSITS, MANIPUR every month on an actual basis. The systems deployed by the SI should be able to provide logs of the transactions done and charges paid. The MSITS, MANIPUR will however reserve the right to negotiate and examine the rate contracts of the SI with the gateway providers.

VI. Payment gateway should enable receipt of all payments such as Tax, interest, penalty, arrear and fee etc. and crediting the same to the MSITS, MANIPUR/ Department account. The payment gateway should also allow credit of any refund amount to Kiosk/CSC's account. It should be possible to make electronic payments through a 3G / GPRS enabled mobile phone as well.

4.3.3.4 Application Support for Existing Services

The SI is expected to provide technical and operational support till the new system goes live. The SI is required to provide the resource persons as indicated below for the same.

S #	Position	Number of Resources
1	Project Manager	1
2	System Administrator	2
3	Network Administrator	2
4	Database Administrator	2
5	Programmers	30
6	District Manager	0
7	District Technical Support	9
8	Helpdesk Executive	5

An indicative list of activities to be performed by the deployed resources for existing system support is:

I. Project Manager shall be the SPOC to the MSITS, MANIPUR/SPMU/ Department for the implementation of the project.

II. The other staff shall function based on the scope of work of the RFP and contract signed between SI and MSITS, MANIPUR.

III. If required SI shall provide additional manpower to complete the work/task within timelines. While during the tenure of the project the MSITS, MANIPUR can instruct SI to change the manpower at any location as per the requirements of MSITS, MANIPUR/Department.

IV. SI will provide the list of actual deployed manpower on monthly basis.

V. The qualification and experience requirements of these resource persons are mentioned in Form 7 and 8 of Volume 1 of the RFP.

VI. SI will ensure that all the resources deployed at any location are easily approachable over mobile phones. SI will provide the contact details of the manpower at the time of commencement of operations. SI will also ensure

that the proposed resources will not be changed during project implementation without explicit approval of the MSITS, MANIPUR.

VII. The MSITS, MANIPUR reserves the right to evaluate the performance of the resource persons deployed on the project by SI and ask for a suitable replacement in case of unsatisfactory performance by any of the resource persons deployed to support the project.

4.2.2.5 UAT and Go-Live Report

I. SI will assist in successful completion of User Acceptance Testing (UAT) and audit of the system on the completion of the roll out of E-District pilot for each phase and will submit a Go-Live Report for each phase.

II. The State IT Department has decided to carry out the pilot in the below 5 districts before carrying out the state wide roll-out. The SPMU and SI has to co-ordinate the phasing of training, data digitisation, hardware procurement, site preparation, etc. in such a manner which synchronises with such a plan.

III. List of first 5 districts are given below:

- Imphal West
- Imphal East
- Bishnupur
- Thoubal
- Ukhrul

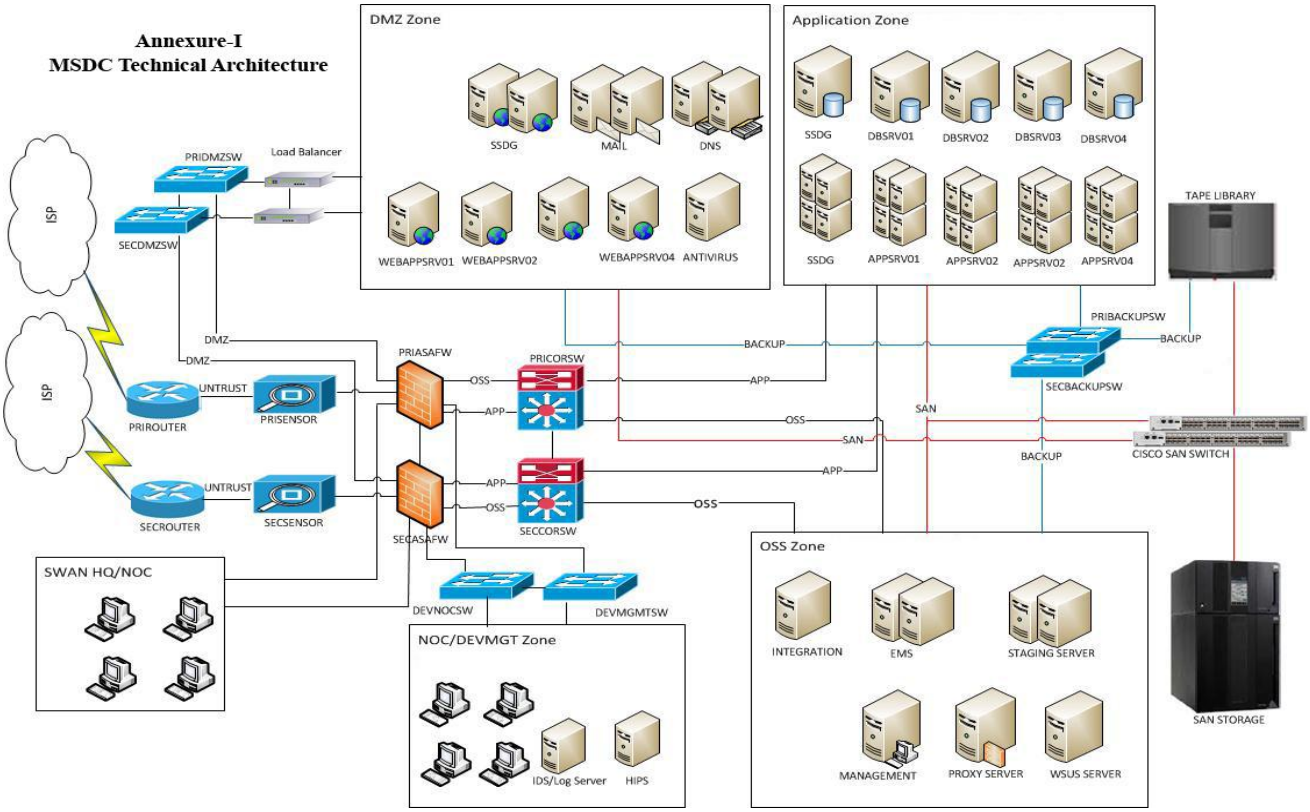
4.2.2.5.1 Sign-off Deliverables / Exit Criteria

I. Go-Live report for state and district level.

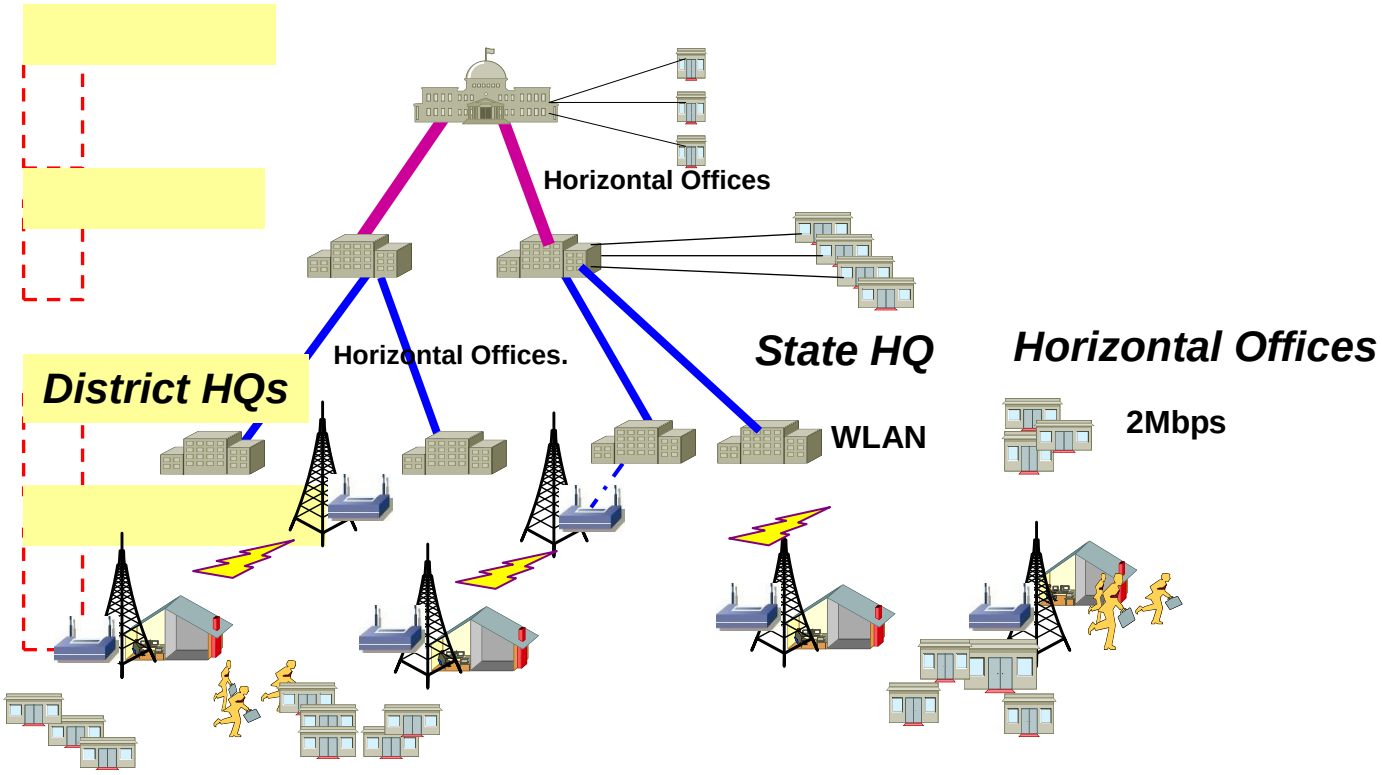
II. UAT Report signed off from MSITS, MANIPUR and SPMU.

4.2.3 Network Connectivity

A. The State Data Centre



B. State Wide Area Network



For the Manipur, the selected Bidder will undertake the following:

I. With implementation of State Wide Area Network (SWAN) across all the States with 2 Mbps vertical connectivity up to block level, once PoPs (Point of Presence) are operational, the district administration would be connected to the nearest SWAN PoPs. The selected Bidder shall ensure last mile connectivity from the nearest SWAN PoP to the Department offices processing the services requests.

II. LAN within all department offices including but not limited to IP addressing scheme, physical cabling, router/switch configuration, V-LAN configuration, load balancing configuration, and fail over mechanism. The selected Bidder should coordinate with the local department offices while designing and installing the LAN.

III. All networking equipment required to provide the LAN / WAN connectivity to meet the requirements of the Project is also to be provided by the selected Bidder as part of this RFP.

4.2.3.1 Sign-off Deliverables / Exit Criteria

Network Connectivity report signed off by MSITS, Manipur stating SDC, Departmental offices and all CSCs have been connected and SWAN, wherever applicable, has been leveraged to provide connectivity.

4.2.4 *Data Digitisation*

I. SI shall digitise all historical data at the implementation sites of States covering the last 5 years.
II. SI shall formulate the Data Digitisation Strategy which will also include internal quality assurance mechanism. This will be reviewed and signed–off by MSITS and SPMU prior to commencement of data digitisation.
III. SI shall include the learning from pilot project digitization and update the necessary changes in the strategy document for implementation.
IV. SI shall incorporate all comments and suggestions of MSITS, Manipur and SPMU in the Data Digitisation Strategy.
V. SI shall perform pilot data digitisation exercise to validate the conversion programs.
VI. SI shall ensure complete data cleaning and validation for all data digitised and loaded on to E-District Application.
VII. SI shall validate the data before uploading the same to the production environment.
VIII. SI shall generate appropriate control reports before and after digitisation to ensure accuracy and completeness of the data.
IX. SI shall conduct the acceptance testing and verify the completeness and accuracy of the data Digitised to E-District Application.
X. MSITS, Manipur and SPMU may, at its will, verify the test results provided by SI.

4.2.4.1 *Sign off Deliverables / Exit Criteria*

I. Data Digitisation Strategy Document.
II. Approval by MSITS, Manipur on successful digitisation of data.

4.2.5 *Site Preparation*

I. The SI is expected to prepare the client sites for setting up the necessary client site infrastructure.
II. Site preparation at all required client offices will include:
    A. Electrical fittings and LAN cabling along with conduit.
    B. Furniture & Fixtures (if required).
III. SI will have to ensure that CSCs are also equipped to offer services through E-District Application. Any gap infrastructure at CSCs that is required for providing services using E-District Application shall be provided by SI.
IV. The details of number of offices for site preparation will be provided by the MSITS, Manipur.
V. Maintenance of the computing and connectivity infrastructure for 3 years and training support to be imparted to the end user.

4.2.5.1 *Sign-off Deliverables / Exit Criteria*

I. List of offices for site preparation.
II. Site Preparation Completion Report.

4.2.6 *Supply / Procurement of IT Infrastructure at SDC*

The MSITS, Manipur will make provision for the Data Centre premises for hosting the IT Infrastructure. The Bidders are required to carefully assess the requirements of this RFP and size the infrastructure accordingly. Bidders are free to propose any higher / additional infrastructure that may be required as per their proposed solution to meet the project requirements, its scope of work and SLAs as listed in this RFP.

I. Bids / proposals which do not meet the minimum IT infrastructure specifications given in this RFP will be summarily rejected. The minimum technical specifications for the IT Infrastructure are provided in **Annexure 6.7: Bill of Material (Infrastructure at SDC) in Volume 2 of the RFPRFP** and note that these are the indicative requirements only.
II. The Bidder will be responsible for sizing the hardware to support the scalability and performance requirements of the E-District application. The Bidder shall ensure that the servers are sized adequately and redundancy is built into the architecture required to meet the service levels mentioned in the RFP.
III. None of the IT Infrastructure proposed is declared "End-of-Sale" by the respective OEM in next 3 years as on date of submission of Bid.
IV. The IT Infrastructure proposed should be purchased within last 2 months from the date of deployment and documentary proof for warranty and proof of purchase should be produced at the time of deployment of infrastructure.
V. The IT Infrastructure proposed should be compatible with infrastructure at SDC, SSDG, SWAN, State Portal, etc.
VI. The Bidder should provide requisite licenses for all the system software required for servers including, but not limited to industry standard operating system, enterprise class database software, application server software, web server software, OS hardening, and all other required software with sufficient number of licenses.
VII. The Bidder will be responsible for providing all the details of the Bill of Material (BoM) and specifications of the IT Infrastructure proposed, licenses of the system software, all other equipment proposed as part of its Technical Proposal. The financial quote submitted by the Bidder should include costs for these.

4.2.7 *Hardware Commissioning at Field Offices*

4.2.7.1 *Design, Supply, Installation, Commissioning, Operations & Maintenance of IT Infrastructure*

This shall consist of :

I. Supply / Procurement of IT Infrastructure at Department Offices (DHQ, Tehsil and Block).
II. Installation and Commissioning of IT Infrastructure.

A template for capturing scope of work for H/W is provided at Annexure: 6.3 of this Document.

The SDC will provide the necessary hardware for Storage, Firewall, DNS, Load Balancers, Antivirus software and DRS. The SI is required to perform study of gap infrastructure at various department offices (DHQ, and Block) within the Manipur.

4.2.7.2 Supply / Procurement of IT Infrastructure at Department Offices (DHQ, Tehsil and Block)

The Bidders are required to carefully assess the requirements of this RFP and propose the IT Infrastructure required at Department Offices. The following hardware and peripherals need to be installed in different districts, blocks and tehsils offices spread across the State processing the service requests submitted by the citizens:

I. PC
II. Laptop
III. Digital Web Camera
IV. Scanners
V. Laser Printers
VI. Other Printers
VII. UPS (1 KVA)
VIII. 9U Rack
IX. 24 Port Switch
X. Leased Line Modem
XI. Router

Bidders are free to propose any higher / additional infrastructure that may be required as per their proposed solution to meet the project requirements, its scope of work and SLAs as listed in this RFP.

I. Bids / proposals which do not meet the minimum IT infrastructure specifications given in this RFP will be summarily rejected.
II. None of the IT Infrastructure proposed is declared "End-of-Sale" by the respective OEM in next 3 years as on date of submission of Bid.
III. The IT Infrastructure proposed should be purchased within last 2 months from the date of deployment and documentary proof for warranty and proof of purchase should be produced at the time of deployment of infrastructure.
IV. The IT Infrastructure proposed should be compatible with infrastructure at SDC, SSDG, SWAN, State Portal, etc.
V. The Bidder will be responsible for providing all the details of the Bill of Material (BoM) and specifications of the IT Infrastructure proposed, licenses of the system software, all other equipment proposed as part of its Technical Proposal. The financial quote submitted by the Bidder should include costs for these.

4.2.7.3 Installation and Commissioning of IT Infrastructure

The selected Bidder is responsible for installation and configuration of the entire infrastructure set-up, including but not limited to the following:

I. All IT Infrastructure including operating systems and any other system software required for making the infrastructure operational and tuned for satisfactory performance.
II. The IT Infrastructure will be installed and configured in accordance with the IT Policies of the MSITS, Manipur.

The selected Bidder will ensure that the reports for monitoring of SLAs such as system uptime, performance, etc. are generated automatically from the system and the applicable penalties are calculated as indicated in the RFP.

4.2.7.3 Licenses

I. The system software licenses mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide upgrades, 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 MSITS, Manipur.
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 MSITS, Manipur. SI shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance by MSITS, Manipur. The warranty should cover all materials, licenses, services, and support for both hardware and software. SI shall administer warranties with serial number and warranty period. SI shall transfer all the warranties to the MSITS, Manipur at no additional charge at the time of termination of the project. All warranty documentation (no expiry) will be delivered to Department.
III. SI shall review the licenses requirements with the SPMU and Nodal Officer. The SPMU with the help of Nodal Officer shall clarify on the licenses requirements to be brought by the SI and availability at SDC.

4.2.8 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 government employees involved in the processes pertaining to the selected services.
   B. These would range from senior officers such as the State Department Secretaries up to the officials working in the districts and sub districts such as Lekhpal/Patwaries/Panchayat Secretaries etc .
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 E-District Application.

III. SI shall include the learning from pilot project and update the necessary changes in the training.
IV. Training shall encompass the knowledge of basic functionalities of E-District Application, Guidelines and other backend processes.
V. Training shall also be provided for teaching the basic trouble shooting activities in case of problems.
VI. Trainings shall be provided to all the new employees as and when joining the department.

4.2.8.1 Sign off Deliverables / Exit Criteria

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

4.2.9 Manpower requirements

The project would require provisioning of dedicated manpower at each district to provide support during the roll out process. The details of the manpower needed may be captured as under:

S #	Position	Number of Resources
1	Project Manager	1
2	System Administrator	1
3	Network Administrator	1
4	Database Administrator	1
5	Programmers	10
6	District Technical Support	1x9 districts = 9
7	Helpdesk Executive	5 in capital city of Imphal

4.2.10 Business Continuity Planning

The selected Bidder is expected to develop a Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP) for the operations carried out by the selected Bidder. An indicative list of activities to be performed by the selected Bidder is mentioned below:

I. Designing and implementing adequate data backup, business continuity and restoration procedures for the e-District application data (including but not limited to the database, attachments and all other data elements created in and generated by the system and users).
II. Ensuring that there is no single point of failure and adequate level of redundancy is built in to meet the uptime and other requirements of this RFP. While building redundancies, it should be ensured that failure of a single component of

communication link does not result in failure of primary as well as secondary connectivity. Hence primary and secondary connectivity should be taken from 2 separate communication link providers and both links should not have any single point of failure. Preferably, all the redundancy will be in auto fail over mode so that if primary component fails, secondary component automatically takes over.

III. Ensuring data backup till the last transaction occurring in the system to ensure enhanced service levels and following RPO and RTO objectives:

   A. Peak hours: Zero RPO and Zero RTO.

   B. Non-Peak Hours: Zero RPO and RTO <= 60 minutes.

IV. Any storage space / media required to maintain backups and other requirements of the RFP should be provisioned for by the selected Bidder in his Bid.

V. Designing and implementing data synchronization procedures for the DR Site. Periodic testing may be done to ensure that all replication and data synchronization procedures are in place all the time. Replication between Data Centre and DR Site as well as change-over during disaster should be automatic and real-time for minimal impact on user experience.

4.2.11 Others

4.2.11.1Information Security Management

Security of Application and the data contained therein is paramount for the success of this Project. Hence, the selected Bidder should take adequate security measures to ensure confidentiality, integrity and availability of the information.

Security Requirements	
Overall Solution	
1.	The proposed solution should include design and implementation of a comprehensive IS security policy in line with ISO 27001 standards to comply with the security requirements mentioned in this section. All the necessary procedures / infrastructure / technology required to ensure compliance with IS security policy should be established by the selected Bidder and should be approved by the MSITS, Manipur before they are implemented. The IS Policy shall include all aspects such as physical and environmental security, human resources security, backup and recovery, access control, incident management, business continuity management etc.
2.	The designed IS policy is not in conflict with the security policy of the State Data Centre where the infrastructure would be hosted.
3.	The proposed solution should ensure proper logical access security of all the information Assets.
4.	The proposed solution should be able to classify information assets according to criticality of the information asset.
5.	The proposed solution should provide security including identification, authentication, authorization, access control, administration and audit and support for industry standard protocols.

Security Requirements	
6.	The proposed solution should have a security architecture which adheres to the security standards and guidelines such as: • ISO 27001. • Information security standards framework and guidelines standards under e-Governance standards (http://egovstandards.gov.in). • Information security guidelines as published by Data Security Council of India (DSCI). • Guidelines for Web Server Security, Security IIS 6.00 Web-Server, Auditing and Logging as recommended by CERT-In (www.cert-in.org.in). • System shall comply with IT (Amendment) Act 2008.
7.	The proposed solution should support the below Integration security standards: • Authentication. • Authorization. • Encryption . • Secure Conversation. • Non-repudiation. • XML Firewalls. • Security standards support. • WS-Security 1.0. • WS-Trust 1.2. • WS-Secure Conversations 1.2. • WS-Basic Security Profile.
8.	The proposed solution should be a multi-layered detailed security system covering the overall solution needs having the following features: i. Layers of firewall. ii. Network IPS. iii. Enterprise-wide Antivirus solution. iv. Information and incident management solution for complete MSITS, Manipur landscape v. Two factor authentication for all administrators i.e. system administrators, network administrators, database administrators. vi. Audit Log Analysis. Selected Bidder must ensure that the security solution provided must integrate with the overall system architecture proposed.
9.	The proposed solution should be monitored by periodic information security audits / assessments performed by or on behalf of MSITS, Manipur. The scope of these audits / assessments may include, but are not limited to, a review of: access and authorization procedures, physical security controls, backup and recovery procedures, and program change controls. To the extent that MSITS, Manipur deems it necessary to carry out a program of inspection and audit / assessment to safeguard against threats and hazards to the

Security Requirements	
	confidentiality, integrity, and availability of data, the Selected Bidder shall provide MSITS, Manipur's representatives' access to its facilities, installations, technical resources, operations, documentation, records, databases and personnel. The Selected Bidder must provide MSITS, Manipur access to various monitoring and performance measurement systems (both manual and automated). MSITS, Manipur has the right to get the monitoring and performance measurement systems (both manual and automated) audited / assessed without prior approval / notice to the Selected Bidder.
10.	The proposed solution should facilitate system audit for all the information assets to establish detective controls. The selected Bidder is required to facilitate this by producing and maintaining system audit logs for a period agreed to with MSITS, Manipur.
11.	The proposed solution should ensure that data, especially those to pertaining to registration process, transaction process as well as the data that is stored at various points is appropriately secured as per minimum standard 128 Bit AES/3DES encryption.
12.	The proposed solution should provide database security mechanism at core level of the database, so that the options and additions to the database confirm the security policy of the MSITS, Manipur without changing the application code.
13.	The proposed solution should support native optional database level encryption on the table columns, table spaces or backups.
14.	The database of the proposed solution should provide option for secured data storage for historic data changes for compliance and tracking the changes.
15.	The proposed solution should be able to ensure the integrity of the system from accidental or malicious damage to data.
16.	The proposed solution should be able to check the authenticity of the data entering the system.
17.	The proposed solution should be able to generate a report on all "Authorization Failure" messages per user ID.
18.	The proposed solution should be able to monitor the IP address of the system from where a request is received.
19.	The proposed solution should be able to differentiate between the systems of the MSITS, Manipur network and other external systems.
20.	Retention periods, archival policies and read-only restrictions must be strictly enforceable on all logs maintained in the system.
21.	The proposed solution should provide ability to monitor, proactively identify and shutdown the following types of incidents through different modes of communication (email, SMS, phone call, dashboard etc): i. Pharming. ii. Trojan. iii. Domains (old/new).
22.	The proposed solution should be able to monitor security and intrusions into the

Security Requirements	
	system and take necessary preventive and corrective actions.
23.	The proposed solution should have the option to be configured to generate audit-trails in and detailed auditing reports.
24.	The proposed solution must provide ACL objects and a security model that can be configured for enforcement of user rights.
25.	The proposed solution should be designed to provide for a well-designed security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.
26.	The proposed solution should have tamper proof data storage to prevent unauthorised data tampering.
27.	The proposed solution should have a Business Continuity Plan and a Disaster Recovery Plan prepared and implemented by the selected Bidder before commencement of the operations. Robust backup procedures to be established for the same.
	Password Requirement
1.	The proposed solution should allow the MSITS, Manipur to define password policies. The minimum password policies to be defined are: i. Minimum/ Maximum password length. ii. Alpha numeric combination of password. iii. Compulsory use of special characters. iv. Minimum password age. v. Password expiry period. vi. Repeat passwords etc.
2.	The proposed solution should be able to automatically check the passwords with the password policy, which can be customized by the MSITS, Manipur.
3.	The proposed solution should enforce changing of the default password set by the system (at the time of creation of user ID) when the user first logs on to the system. The proposed solution should enforce all password policies as defined at the time of first change and thereafter.
4.	The proposed solution should store User ID's and passwords in an encrypted format. Passwords must be encrypted using MD5 hash algorithm or equivalent(selected Bidder must provide details).
5.	The proposed solution should be capable of encrypting the password / other sensitive data during data transmission.
6.	The proposed solution should ensure that the user web access shall be through SSL (https) only for all level of communication for providing higher level of security.

4.2.12 Project Management

4.2.12.1Project Planning and Management

E-District Mission Mode Project is a geographically spread initiative involving multiple stakeholders. Successful implementation and national roll out of the project ultimately

depends on all its stakeholders, the role of SI is very critical. Hence SI is required to design and implement a comprehensive and effective project planning and management methodology together with efficient and reliable tools.

Project planning exercise shall essentially commence with the start of the project, however, project management exercise shall commence at the start of the project and shall continue till the O&M Phase of the project.

To have an effective project management system in place, it is necessary for the SI to use a Project Management Information System (PMIS) at State Headquarters of his respective State to monitor the Project Progress. The SI shall address at the minimum the following using PMIS:

I. Create an organized set of activities for the project.
II. Coordinate and collaborate with various stakeholders including the Departments concerned.
III. Nodal Agency, State IT Department, NIC, SPMU, NPMU, DeitY, GoI.
IV. Establish and measure resource assignments and responsibilities.
V. Construct a project plan schedule including milestones.
VI. Measure project deadlines, budget figures, and performance objectives.
VII. Communicate the project plan to stakeholders with meaningful reports.
VIII. Provide facility for detecting problems and inconsistencies in the plan.

During the project implementation the SI shall report to the State Nodal Officer/SPMU, on following items:

I. Results accomplished during the period.
II. Cumulative deviations to date from schedule of progress on milestones as specified in this RFP read with the agreed and finalized Project Plan.
III. Corrective actions to be taken to return to planned schedule of progress.
IV. Proposed revision to planned schedule provided such revision is necessitated by reasons beyond the control of the SI.
V. Other issues and outstanding problems, and actions proposed to be taken.
VI. Interventions which the SI expects to be made by the State Nodal Officer and / or actions to be taken by the State Nodal Officer before the next reporting period. Progress reports would be prepared by SI on a fortnightly basis. These reports may be required to be shared with either the MSITS, MANIPUR or the SPMU, as the case may be.
VII. Project quality Assurance.
VIII. Change Control mechanism.
IX. Project Management activities.
X. Issue Management to help identify and track the issues that need attention and resolution from the State.
XI. Scope Management to manage the scope and changes through a formal management and approval process.

XII. Risk Management to identify and manage the risks that can hinder the project progress.

SI will closely work with SPMU and send the reports to the SPMU as well. SPMU will assist Nodal Officer in acceptance of the report/ document and suggest the action plan to the Nodal Officer. The Project plan prepared by the SI at the initial stage of the project shall be reviewed by the Manipur PeMT/ by the Apex / Empowered Committee on the advice of the State Mission Team and SPMU.

The SI shall update and maintain the Project Plan throughout the duration of the engagement. All changes are to be reviewed and approved by the MSITS, Manipur or appointed representatives.

4.2.12.2Sign off Deliverable/ Exit Criteria

I. PMIS data update &functioning.
II. Periodic Reports on on-going basis.

4.3 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 IT Infrastructure procured as part of this RFP, the selected Bidder will be responsible for smooth Operations and Maintenance Services for the period covering onsite support for 1 year of warranty and followed by 3 years of AMC from the date of commissioning the IT Infrastructure covering the following:

I. Onsite Warranty support.
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 IT Infrastructure procured through this RFP at the State designated premises.

4.3.1 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 IT and Non-IT infrastructure deployed by the selected Bidder for the Project including Server Infrastructure at SDC, Departmental locations, networking equipments & connectivity, 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 infrastructure 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 Department.
   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.
II. Network Administration and Trouble Shooting.
   A. Coordinate with the network service providers to maintain smooth network operations and ensure uptime and performance requirements of the IT infrastructure as indicated in the RFP are met. The selected Bidder will be totally responsible for all networking equipments installed by him.
III. Database Administration and Trouble Shooting.
   A. 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.

IV. 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 parts wherever needed to keep the performance levels of the hardware and equipment in tune with the requirements of the SLA. Such preventive maintenance shall not be attended during working hours of the State Departments, unless inevitable and approved by the MSITS, Manipur.

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 for problem resolution wherever required.

D. The selected Bidder will be required to comply with various policies relating to monitoring and management of infrastructure such as IS Policy, backup and archival policy, system software update policy etc. of the Manipur.

4.3.2 Warranty Support

As part of the warranty services SI shall provide:

I. SI shall provide a comprehensive warranty and on-site free service warranty for 4 years from the date of Go Live for all equipment. SI shall obtain the four year product warranty and five year onsite free service warranty from OEM on all licensed software, computer hardware and peripherals, networking equipment and other equipment for providing warranty support to MSITS, MANIPUR.

II. SI shall provide the comprehensive manufacturer's warranty and support in respect of proper design, quality and workmanship of all hardware, equipment, accessories etc. covered by the RFP.

III. SI must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented as per this RFP against any manufacturing defects during the warranty period.

IV. SI shall provide the performance warranty in respect of performance of the installed hardware and software to meet the performance requirements and service levels in the RFP.

V. SI is responsible for sizing and procuring the necessary hardware and software licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new equipment or additional licenses at no additional cost to the MSITS, Manipur in case the procured hardware or software is not adequate to meet the service levels.

VI. **Mean Time between Failures (MTBF)**: If during contract period, any equipment has a hardware failure on four or more occasions in a period of less than three

months, it shall be replaced by equivalent or higher-level new equipment by the SI at no cost to MSITS, Manipur.

VII. However, if the new equipment supplied is priced lower than the price at which the original support services for all system software, DBMS (Database Management System), EMS (Enterprise Management System), other products deployed as part of this project will require proper arrangements of SI with OEM.

VIII. During the warranty period SI shall maintain the systems and repair / replace at the installed site, at no charge to MSITS, Manipur, all defective components that are brought to the SI's notice.

IX. Warranty should not become void, if MSITS, Manipur buys, any other supplemental hardware from a third party and installs it within these machines under intimation to the SI. However, the warranty will not apply to such supplemental hardware items installed.

X. The SI shall carry out Preventive Maintenance (PM), including cleaning of interior and exterior, of all hardware and testing for virus, if any, and should maintain proper records at each site for such PM. Failure to carry out such PM will be a breach of warranty and the warranty period will be extended by the period of delay in PM.

XI. SI shall use the antivirus which is available at state. However in case there is a requirement to procure the license for anti-virus, SI shall in consultation with SPMU and Nodal Officer procures the anti-virus Licenses and maintains the service part.

XII. SI shall monitor warranties to check adherence to preventive and repair maintenance terms and conditions.

XIII. The SI shall ensure that the warranty complies with the agreed Technical Standards, Security Requirements, Operating Procedures, and Recovery Procedures.

XIV. 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).

XV. The SI shall develop and maintain an inventory database to include the registered hardware warranties.

4.3.3 Annual Technical Support

As part of the ATS services SI shall provide:

I. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements and maintenance.

II. If the Operating System or additional copies of Operating System are required to be installed/ reinstalled / de-installed, the same should be done as part of ATS.

III. SI should carry out any requisite adjustments / changes in the configuration for implementing different versions of Application Software.

IV. Updates/Upgrades/New releases/New versions/Patches/Bug fixes: The SI shall provide from time to time the Updates/Upgrades/New releases/New versions/Patches/Bug fixes of the software, operating systems, etc. as required.

The SI should provide free Updates/Upgrades/New releases/New versions/Patches/Bug fixes of the software and tools to MSITS, Manipur as and when released by OEM.

V. Software License Management. The SI shall provide software license management and control. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance.

VI. SI shall have complete manufacturer's technical support for all the licensed software problems and/or questions, technical guidance, defect and non-defect related issues. SI shall provide a single-point-of-contact for software support and provide licensed software support including but not limited to problem tracking, problem source identification, problem impact (severity) determination, bypass and recovery support, problem resolution, and management reporting.

4.3.4 Help Desk and Trouble ticket management system

I. The selected Bidder as part of provisioning support for Department users at each location and the SDC will setup centralized helpdesk and coordinate with the respective OEMs of the IT Infrastructure deployed at SDC and the Department offices. For Manipur, the selected Bidder will undertake the following:

   A. Provide Help Desk services to track and route requests for service and to assist department users in answering questions and resolving problems related to the IT Infrastructure installed at Data Centre and at all the Department Offices .

   B. Become the central collection point for contact and control of the problem, change, and service management processes (This includes both incident management and service request management).

   C. Shall provide a first level of support for application and technical support at E-District implementation locations across the State where the software, hardware, and other infrastructure will be rolled out.

   D. Provide the following integrated customer support by establishing 9 hrs X 6 days Help Desk facility for reporting issues/ problems with the software, hardware and other infrastructure.

II. This shall be an online system deployed centrally and shall be used by the selected Bidder extensively for management of network support activity and handling calls from citizen, departmental staff, any other stakeholders. Service desk is an application that facilitates the end-to-end service support. The proposed system should include required hardware and software.

III. This proposed software system is expected to facilitate the following:

   A. User Interface: - The proposed system should have an easy to use user interface (preferably a browser based), so that users across the State can lodge any complaints and service requests. The solution shall have a reporting interface with a consolidated view of the network status. All users

(departmental and external) of the system should be able to log a request in the system using any of the following channels:

1. Telephonic call on the Toll-free Helpline.
2. E-mail.
3. Online chat on the departmental web-portal.
4. Through intranet for departmental users or web-portal for external users.

B. **Complete incident and problem management: -** Service desk should address both Incident Management and Problem Management. The application should maintain a classification system that will distinguish the single occurrence trouble tickets or incidents needing immediate resolution from in-depth root cause analyses that may require longer term to resolve a problem.

The flow of events at the call centre should be:

1. Event is triggered and forwarded to service desk.
2. Service desk submits and updates the trouble ticket.

Tasks expected:

1. Ticket mapping and allocation: According to the severity, the ticket should be given the priority level. Also it should map the ticket to the appropriate personnel for the resolution.
2. Updating the status: Update the status of ticket.
3. It should be able to log and escalate user interactions and requests.
4. It should have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues.
5. Status of registered calls with interface for Call centre, using which call centre can inform the status to users over phone.
6. Historical report indicating number of calls, time to resolve, status etc for a specified period of time.

All relevant infrastructure and supporting system software required for the deployment and operation of the help desk is to be provided by the selected Bidder.

The system deployed by the SI shall be complied with ITIL and ISO 20000 service specifications.

4.4 General Requirements

I. Licensing Requirements.

A. All system software, licenses, etc. have to be procured in the name of the MSITS, Manipur**.**

B. The licenses should be perpetual and enterprise wide for the core application and other software unless otherwise stated. The software licenses shall not be restricted based on location and MSITS, Manipur should have the flexibility to use the software licenses for other requirements, if required.

II. Asset Management.

The selected Bidder will perform the following asset management functions with respect to the infrastructure deployed at various locations:

A. Take periodic stock of, review physical inventory and maintain stock registers of hardware at all locations covered under this Project. The selected Bidder would maintain stock registers as per format agreed with MSITS, Manipur.

B. Maintain documentation of the hardware assets, maintain asset Information for all Project locations, on parameters to be mutually agreed between MSITS, Manipur and the selected Bidder, which shall include details like -

1. Product type, model number, version number.
2. Manufacturer.
3. Office 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.

E. Restrict movement of server/equipment/items in or out of SDC or any other location under the Project without prior permission from MSITS, Manipur.

III. Warranty and Support

A. The selected Bidder shall warrant that the IT Infrastructure supplied to Manipur 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.

B. The selected Bidder shall replace any parts/ components of the IT infrastructure supplied for the Project if the components are defective and during the entire warranty period the selected Bidder shall apply latest upgrades for all the hardware components after appropriate testing. The MSITS, Manipur will not pay any additional costs separately for warranty and the overall IT infrastructure cost quoted by the selected Bidder shall include the same.

IV. Since the Project aims to reuse the common infrastructure created under SDC, SWAN, CSC, SSDG Projects, the selected Bidder will also be required to coordinate with SDC, SWAN, SSDG, CSC teams to ensure that uptime and performance requirements of the RFP are met. However, the selected Bidder shall be held solely responsible for performance and service levels of any infrastructure deployed by the selected Bidder as part of this Contract.

V. 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 IT Infrastructure, 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.

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.

4.5 Exit Management

4.5.1 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.

4.5.2 Transfer of Assets

I. MSITS, Manipur shall be entitled to serve notice in writing on the SI at any time during the exit management period as detailed hereinabove requiring the SI and/or its sub-contractors to provide MSITS, Manipur with a complete and up to date list of the Assets within 30 days of such notice. MSITS, Manipur 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 MSITS, Manipur 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. In case of contract being terminated by MSITS, Manipur, MSITS, Manipur reserves the right to ask SI to continue running the project operations for a period of 6 months after termination orders are issued.
III. 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 MSITS, Manipur.

B. All risk in and title to the Assets to be transferred / to be purchased by the MSITS, Manipur pursuant to this Article shall be transferred to MSITS, Manipur, on the last day of the exit management period.
C. MSITS, Manipur shall pay to the SI on the last day of the exit management period such sum representing the Net Block (procurement price less depreciation as per provisions of Companies Act) of the Assets to be transferred as stated in the Terms of Payment Schedule.
D. Payment to the outgoing SI shall be made to the tune of last set of completed services / deliverables, subject to SLA requirements.
E. The outgoing SI will pass on to MSITS, Manipur and/or to the Replacement SI, the subsisting rights in any leased properties/ licensed products on terms not less favourable to MSITS, Manipur / Replacement SI, than that enjoyed by the outgoing SI.

4.5.3 Cooperation and Provision of Information

During the exit management period:

I. The SI will allow MSITS, Manipur 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 MSITS, Manipur to assess the existing services being delivered;
II. promptly on reasonable request by MSITS, Manipur, 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 SI or consortium partners appointed by the SI). The MSITS, Manipur shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. The SI shall permit MSITS, Manipur or its nominated agencies to have reasonable access to its employees and facilities as reasonably required by the Chairman, PIU to understand the methods of delivery of the services employed by the SI and to assist appropriate knowledge transfer.

4.5.4 Confidential Information, Security and Data

I. The SI will promptly on the commencement of the exit management period supply to MSITS, Manipur or its nominated agency the following:
    A. Information relating to the current services rendered and customer and performance data relating to the performance of consortium partners in relation to the services;
    B. Documentation relating to Computerization Project's Intellectual Property Rights;
    C. Documentation relating to sub-contractors;

D. All current and updated data as is reasonably required for purposes of MSITS, Manipur or its nominated agencies transitioning the services to its Replacement *SI* in a readily available format nominated by MSITS, Manipur, its nominated agency;

E. All other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable MSITS, Manipur or its nominated agencies, or its Replacement *SI* to carry out due diligence in order to transition the provision of the Services to MSITS, Manipur or its nominated agencies, or its Replacement *SI* (as the case may be).

II. Before the expiry of the exit management period, the SI shall deliver to the MSITS, Manipur or its nominated agency all new or up-dated materials from the categories set out in Schedule above and shall not retain any copies thereof, except that the SI 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, MSITS, Manipur or its nominated agency shall deliver to the SI all forms of SI confidential information, which is in the possession or control of Chairperson, PIU or its users.

4.5.5 Employees

I. Promptly on reasonable request at any time during the exit management period, the SI shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to MSITS, Manipur or its nominated agency a list of all employees (with job titles) of the SI 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 SI to MSITS, Manipur or its nominated agency, or a Replacement SI ("Transfer Regulation") applies to any or all of the employees of the SI, 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 SI, department, or its Replacement SI may make an offer of employment or contract for services to such employee of the SI and the SI shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Chairperson, PIU or any Replacement SI.

4.5.6 Transfer of Certain Agreements

On request by MSITS, Manipur or its nominated agency the *SI* shall effect such assignments, transfers, licences and sub-licences as the Chairperson, PIU may require in favour of the Chairperson, PIU, or its Replacement SI in relation to any equipment lease, maintenance or service provision agreement between SI and third party lessors, vendors, and which are

related to the services and reasonably necessary for the carrying out of replacement services by MSITS, Manipur or its nominated agency or its Replacement SI.

4.5.7 Rights of Access to Premises

I. At any time during the exit management period, where Assets are located at the *SI*'s premises, the *SI* 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) MSITS, Manipur or its nominated agency and/or any Replacement *SI* in order to make an inventory of the Assets.

II. The *SI* shall also give MSITS, Manipur or its nominated agency or its nominated agencies, or any Replacement *SI* right of reasonable access to the Implementation Partner's premises and shall procure MSITS, Manipur or its nominated agency or its nominated agencies and any Replacement *SI* 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 MSITS, Manipur or its nominated agency, or a Replacement *SI*.

4.5.8 General Obligations of the SI

I. The *SI* shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to MSITS, Manipur or its nominated agency or its Replacement *SI* and which the *SI* 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 *SI*, associated entity, or sub-contractor is deemed to be in the possession or control of the *SI*.

III. The *SI* shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

4.5.9 Exit Management Plan

I. The SI shall provide MSITS, Manipur 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 *SI* 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 *SI*'s consortium partners, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on MSITS, Manipur's operations as a result of undertaking the transfer;

C. (if applicable) proposed arrangements for the segregation of the *SI*'s networks from the networks employed by MSITS, Manipur and identification of specific security tasks necessary at termination;
D. Plans for provision of contingent support to MSITS, Manipur, and Replacement *SI* for a reasonable period after transfer.

II. The SI 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 SI to and approved by MSITS, Manipur or its nominated agencies.
IV. The terms of payment as stated in the Terms of Payment Schedule include the costs of the SI 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 SI 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 MSITS, Manipur or its nominated agencies within 90 days from the Effective Date of this Agreement.

5 Detailed Implementation and Roll-out Plan

I. SI shall prepare a detailed roll-out plan for each of the districts in the phase and get the same approved by MSITS, Manipur. SI is also responsible for conducting workshops for the key officers (State Mission Team, District Mission Team, and District Core Team, NIC, SPMU, NPMU, MSITS, Manipur, State DIT) of the Districts / State for presenting the District-Wise roll-out plan and get the approval of the same.

II. Before getting the final approval of the State Nodal Officer, the SI shall also provide the necessary assistance for the key stakeholder of the Districts / State during the design and implementation of e-District project in the Manipur. A detailed rollout checklist should be maintained for migrating application to production as well as for location readiness.

III. One of the important factors that would determine the success of the e-District implementation in the Manipur State is the continuous availability of domain experts like Project Manager, Database Administrator, Change Management Expert, Technical Assistance, to the implementation team which would be selected with the approval of the State of Manipur. SI shall put together a team of domain experts with a minimum of 10 years of experience in the State Departments who will work on this project on a full time basis during the entire duration of the project.

6 Annexures

6.1 Template for Capturing Office Wise Requirements

S. No	District	Office Name	Office ID	Office Address & Contact No.	E-District Service being delivered from this office	Approx. No. of Users	Level of Office (District / Block / Tehsil/ Others)	Network Availability? (Yes/ No)	Additional H/W Required? (Yes/ No)	Site Preparation Required? (Yes/ No)	Details of Nodal Persons / District DIO
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											

6.2 Template for Capturing Network Connectivity Requirement

S. No	Office ID	SWAN Available? (Yes / No)	SWAN Available			SWAN Not Available				Concerned Officer Details
			Type of connectivity	Existing service provider	Service level / baseline	Distance from nearest SWAN POP	Bandwidth required	Type of Technology to be used	Equipment (Router, Switches, OFC, etc.) required	
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

6.3 Template for Capturing Hardware Requirement

Office ID					Remarks
S. No	Hardware Type	Total Requirement	Availability for re-use	Gap Hardware to be procured	
		(A)	(B)	(A) – (B)	
1.	PC				
2.	Laptop				
3.	Digital Web camera				
4.	Scanners				
5.	Network Printer cum fax				
6.	Laser Printer				

Office ID					Remarks
S. No	**Hardware Type**	**Total Requirement**	**Availability for re-use**	**Gap Hardware to be procured**	
7.	Other Printer				
8.	UPS (1 KVA)				
9.	9 U Rack				
10.	24 Port Switch				
11.	Leased Line Modem (pair)				
12.	Router				

6.4 Template for Capturing Site Preparation Requirement

S. No	Office ID	Site Preparation Required to be done? (Yes / No)	If yes, then provide additional info	If no, then details of Site Preparation requirement
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

6.5 Template for Data Entry

The Scope of work for data entry should specify the following:

- Software for data entry.
- Language of data entry.
- Use of transliteration – clarity on software to be provided.
- Back-up responsibility.
- Process to ensure Data integrity.
- Autocorrect software and logics to be used.
- Data base in which data is to be kept.
- Place/Location of data entry.
- Manner in which the records would be handed over and taken back.
- Hardware services required.

Illustrative

I. The bidder has to deploy at least 10 sets of workable set of computers and minimum 20 data entry operator for completing the data entry assigned to them with in timeline.
II. Among all system there should be one server system.
III. The data entry will be done on the provided software.
IV. The minimum System configuration to run the software is as follows:
    - Windows XP with SP2 or higher /Windows 2000 professional with SP4 or higher.
    - SQL Server 2000 or higher as database.
    - Net framework 2.0.
    - Minimum 512 MB RAM.
    - 800 MHz Pentium (or equivalent) processor or higher.
V. Quality Check
    - The bidder should ensure 98% data accuracy.
    - Random checking will be conducted by the officer/agency appointed by the data digitization committee.
VI. Location of work
    - Centralized – District Administration, <district name> will provide space for setting up temporary working office in District <district name> for project duration. Bidder has to arrange all necessary facilities not limited to electricity, power back up, water, cleaner, computers & other hardware at his own.
VII. Loss of data
    - Bidder should take good care of all Government records and will be responsible for security of the record from time of receipt to time of delivery.
    - Penalty for per record will be charged against the loss or damage of record.

- The bidder should not accept illegible record. Non-readable record at the time of returning of the data will be considered as damaged record.

Template for Data Entry

S.No	Service Name	Service description	Estimated Quantity (approx.)	Unit	Location of the database where it is placed	Indicative time taken for data entry based on average time taken for random 100 records (minutes)
1	Pension (Old Age Pension)	Data digitization of family register.	45000	Per Pensioner Form	District	
2	Ration card	Data digitization of Ration card.	420000	Per Ration Card	District/ Tehsil/Block	
3	Employment Exchange	Digitization of Employment Index Card.	650000	Per Index Card	Per District	
4	Marriage Certificate	Data digitization of Marriage Certificates.		Per Certificate	District	
5	Caste Certificate	Data digitization of all caste certificate.		Per Certificate	District	
6	Domicile Certificate	Data digitization of all Domicile Certificates.		Per Certificate	District	
7	Permanent Residence Certificate	Data digitization of all PR Certificate.		Per Certificate	District	

S.No	Service Name	Service description	Estimated Quantity (approx.)	Unit	Location of the database where it is placed	Indicative time taken for data entry based on average time taken for random 100 records (minutes)
8.	Land Valuation	Data digitization of all Land Valuation Certificate.		Per Certificate	District	
9	Land Mutation	Data digitization of all Land Mutation certificate.		Per Certificate	District	
10	Birth/ Death certificate	Data digitization of all Birth/ Death Certificate.		Per death/Birth certificate	District	

6.6 Number of Digital Signature required (Approx 400)

S.No	Designation officer	Number of Digital Signature Used (In – Number)
1	District Magistrate	1 for each district.
2	ADM	1 for each for all district.
3	HoD of all 10 Departments	10.
4	SDM	All SDM.
5	Tahsildar	All Tahsildar.
6	BDO	All BDO.
7	Others	As per system study of SI.

6.7 Template for Bill of Material

Form A: Bill of Material (Softwares) (Indicative)

S. No	Item	Proposed Solution (Provide the Product Name or fill Custom Built, in case of a new development)	Number of Software	Number of Licenses
1	Application	e-District (to be developed by SI).	1	N/A
2	Database	RDBMS.	1	1
3	O/S for Server	Operating System for Servers.	7	7
4	Workflow Middleware	Workflow, Rules, engine.	1	NA
5	Antivirus	Total System Security Antivirus.	1	439

Form B: Bill of Material (Infrastructure at SDC) (Indicative)

All specifications provided for required Hardware & Infrastructure are the bare minimum specifications. SI may based on their sizing calculations provided higher specification w.r.t the Hardware & Infrastructure as well.

Sl. No	Description of Item	Quantity
1.	Web Servers	2
2.	Application Servers	2
3.	Database Servers	2
4.	Backup Servers	1
5.	EMS servers with EMS software license for 4years	1
6.	Rack for Server (42 U)	1

1 Web Servers

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	2.0 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB Processor should be latest series/generation for the server model being quoted.			
4	**Number of Cores**	2 Quad core.			
5	**Processor Architecture**	RISC or Equivalent.			
6	**RAM**	Min 32 GB FBD RAM with min 8 Nos. free slots for future expandability. Minimum Memory: 32 GB scalable to 128 GB per blade.			
7	**HDD**	2 X 146GB HDD or more hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks, or min.16 GB compact			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		flash card to be provided. It should be possible to hot swap the drives without shutting down the server.			
8	**Operating System**	Should support heterogeneous OS platforms.			
9	**Additional Features**	Blade can be half / full height with I/O connectivity to backplane 2x (1000BASE-T) Tx Gigabit LAN ports with TCP / IP offload engine support / dedicated chipset for network I/O on blade server VGA / Graphics Port / Controller.			

Application Server:

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	2.0 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB Processor should be latest series/generation for the server model being quoted.			
4	**Number of Cores**	2 Quad core.			
5	**Processor Architecture**	RISC or Equivalent.			
6	**RAM**	Min 32 GB FBD RAM with min 8 Nos. free slots for future expandability. Minimum Memory: 32 GB scalable to 128 GB per blade.			
7	**HDD**	2 X 146GB HDD or more hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks, or min.16 GB compact flash card to be			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		provided. It should be possible to hot swap the drives without shutting down the server.			
8	**Operating System**	Should support heterogeneous OS platforms.			
9	**Additional Features**	Blade can be half / full height with I/O connectivity to backplane 2x (1000BASE-T) Tx Gigabit LAN ports with TCP / IP offload engine support / dedicated chipset for network I/O on blade server VGA / Graphics Port / Controller.			

Database Server:

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	2.0 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB Processor should be latest series/generation for the server model being quoted.			
4	**Number of Cores**	2 Quad core.			
5	**Processor Architecture**	RISC or Equivalent.			
6	**RAM**	Min 32 GB FBD RAM with min 8 Nos. free slots for future expandability. Minimum Memory: 32 GB scalable to 128 GB per blade.			
7	**HDD**	2 X 146GB HDD or more hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks, or			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		min.16 GB compact flash card to be provided. It should be possible to hot swap the drives without shutting down the server.			
8	**Operating System**	Should support heterogeneous OS platforms.			
9	**Additional Features**	Blade can be half / full height with I/O connectivity to backplane 2x (1000BASE-T) Tx Gigabit LAN ports with TCP / IP offload engine support / dedicated chipset for network I/O on blade server VGA / Graphics Port / Controller.			

Backup Server:

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	2.0 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB Processor should be latest series/generation for the server model being quoted.			
4	**Number of Cores**	2 Quad core.			
5	**Processor Architecture**	RISC or Equivalent.			
6	**RAM**	Min 32 GB FBD RAM with min 8 Nos. free slots for future expandability. Minimum Memory: 32 GB scalable to 128 GB per blade.			
7	**HDD**	2 X 146GB HDD or more hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks, or			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		min.16 GB compact flash card to be provided. It should be possible to hot swap the drives without shutting down the server.			
8	**Operating System**	Should support heterogeneous OS platforms.			
9	**Additional Features**	Blade can be half / full height with I/O connectivity to backplane 2x (1000BASE-T) Tx Gigabit LAN ports with TCP / IP offload engine support / dedicated chipset for network I/O on blade server VGA / Graphics Port / Controller.			

EMS Server:

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	2.0 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		Processor should be latest series/generation for the server model being quoted.			
4	**Number of Cores**	2 Quad core.			
5	**Processor Architecture**	RISC or Equivalent.			
6	**RAM**	Min 32 GB FBD RAM with min 8 Nos. free slots for future expandability. Minimum Memory: 32 GB scalable to 128 GB per blade.			
7	**HDD**	2 X 146GB HDD or more hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks, or min.16 GB compact flash card to be provided. It should be possible to hot swap the drives without shutting down the server.			
8	**Operating System**	Should support heterogeneous OS platforms.			
9	**Additional Features**	Blade can be half / full height with I/O connectivity to backplane 2x (1000BASE-T) Tx			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		Gigabit LAN ports with TCP / IP offload engine support / dedicated chipset for network I/O on blade server VGA / Graphics Port / Controller.			

EMS Software Features:

Basic Requirements

- Solution should be inclusive with hardware, OS, patches, etc.
- Bidder should provide a centralized Management solution for all the IT assets spread across various units.
- Should be SNMP v1, v2, v3 and MIB-II compliant.
- Should support Web / Administration Interface.
- Should provide compatibility to standard RDBMS.
- Solution should be open, distributed, and scalable and open to third party integration.
- Should provide fault and performance management for multi-vendor TCP/IP networks.

Polling Cycle

- Support discriminated polling.
- Should be able to update device configuration changes such as re-indexing of ports.

Fault Management

- Should be able to get fault information in real time and present the same in alarm window with description, affected component, time stamp etc.
- Should be able to get fault information from heterogeneous devices — routers, switches, servers etc.
- Event related to servers should go to a common enterprise event console where a set of automated tasks can be defined based on the policy.
- Should have ability to correlate events across the entire infrastructure components.
- Should provide sufficient reports pertaining to asset and change management, alarms and availability of critical network resources as well as network response times for critical links.

- The tool shall integrate network, server and desktop performance information and alarms in a single console and provide a unified reporting interface for network and system components. The current performance state of the entire network and system infrastructure shall be visible in an integrated console.
- Should provide an integrated performance view for all the managed systems and networks along with the various threshold violations alarms in them. It should be possible to drill-down into the performance view to execute context specific reports.

Agents

- Should monitor various operating system parameters such as processors, memory, files, processes, file systems etc. where applicable using agents on the servers to be monitored.
- Provide performance threshold configuration for all the agents to be done from a central GUI based console that provide a common look and feel across various platforms in the enterprise. These agents could then dynamically reconfigure them to use these threshold profiles they receive.

System Monitoring

- Should be able to monitor/manage large heterogeneous systems environment continuously.
- Windows OS

  Should monitor / manage following:
  - Event log monitoring.
  - Virtual and physical memory statistics.
  - Paging and swap statistics.
  - Operating system.
  - Memory.
  - Logical disk.
  - Physical disk.
  - Process.
  - Processor.
  - Paging file.
  - IP statistics.
  - ICMP statistics.
  - Network interface traffic.
  - Cache.
  - Active Directory Services.
  - Should be capable of view/start/stop the services on windows servers.

Availability Reports

- Availability and Uptime – Daily, Weekly, Monthly and Yearly Basis.
- Trend Report.
- Custom report.

- MTBF and MTTR reports.

Performance Reports

- Device Performance – CPU and Memory utilized.
- Interface errors.
- Server and Infrastructure service statistics.
- Trend report based on Historical Information.
- Custom report.
- SLA Reporting.
- Computation of SLA for entire DC/DR Infrastructure.
- Automated Daily, Weekly, Monthly, Quarterly and Yearly SLA reports.

Integration

- Should be able to receive and process SNMP traps from infrastructure components such as router, switch, servers etc.
- Should be able integrate with Helpdesk system for incidents.
- Should be able to send e-mail or Mobile –SMS to pre-defined users for predefined faults.
- Should trigger automated actions based on incoming events / traps. These actions can be automated scripts/batch files.

Network Management

- The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.
- It should proactively analyze problems to improve network performance.
- The Network Management function should create a graphical display of all discovered resources.
- The Network Management function should have extensive reporting facility, providing the ability to format and present data in a graphical and tabular display.
- The Network Management function should collect and analyze the data.
- The Network Management function should also provide information on performance of Ethernet segments, WAN links and routers.
- Alerts should be shown on the Event Management map when thresholds are exceeded.
- It should be able to automatically generate a notification in the event of a link failure to ensure proper handling of link related issues.
- The Systems and Distributed Monitoring (Operating Systems) of EMS should be able to monitor:

    - **Processors**: Each processor in the system should be monitored for CPU utilization. Current utilization should be compared against user-specified warning and critical thresholds.
    - **File Systems**: Each file system should be monitored for the amount of file system space used, which is compared to user-defined warning and critical thresholds.

- **Log Files:** Logs should be monitored to detect faults in the operating system, the communication subsystem and in applications. The function should also analyze the files residing on the host for specified string patterns.
- **System Processes**: The System Management function should provide real-time collection of data from all system processes. This should identify whether or not an important process has stopped unexpectedly. Critical processes should be automatically restarted using the System Management function.
- **Memory:** The System Management function should monitor memory utilization and available swap space.
- **Event Log**: User-defined events in the security, system, and application event logs must be monitored.

SLA Monitoring

The SLA Monitoring component of EMS will have to possess the following capabilities:

- EMS should integrate with the application software component of portal software that measures performance of system against the following SLA parameters:
  - Uptime of Desktop;
  - Uptime of Server
  - Uptime of Networking Components
- EMS should compile the performance statistics from all the IT systems involved and compute the average of the parameters over a quarter, and compare it with the SLA metrics laid down in the RFP.
- The SLA monitoring component of the EMS should be under the control of the authority that is nominated to the mutual agreement of Director, the partner so as to ensure that it is in a trusted environment.
- The SLA monitoring component of the EMS should be subject to random third party audit to vouchsafe its accuracy, reliability and integrity.

Form C: Bill of Material (Infrastructure at Field Offices)

Sl. No	Description of Item	Quantity
1.	Desktop / PC	
A	With Proprietary Operating System	439
2.	Laptop	
A	With Proprietary Operating System	33
3.	Digital Web camera	325
4.	Scanners	372

5.	Network Printer cum scanner cum fax	0
6.	Laser Printer	394
7.	Other Printer	0
8.	UPS (10 KVA)	0
9.	9 U Rack	126
10.	24 Port Switch	126
11.	Leased Line Modem (pair)	0
12.	Router	126
13.	UPS (1 KVA)	205

Important Note for bidders:

(i) It is mandatory to furnish complete technical specifications of the hardware & peripherals being offered, strictly as per the format, provided here. Correct technical information of the product being offered must be filled in.

(ii) Filling the technical specifications/ information in the format using terms such as 'OK', 'Accepted', 'Noted', 'As given in Brochure/ Manual', 'Complied' is not acceptable. The offers not adhering to these guidelines are liable to be rejected.

(iii) All relevant product information such as user manuals, technical specifications sheet etc. should be submitted along with the offer. Failure to submit this information along with the offer could result in disqualification of the bid.

(iv) In case any technical variance is offered, the same must be specified under the "Deviation, if any" column.

(v) For each item listed below, the bidders should propose only one product.

(vi) These specifications should be considered as the minimum to be fulfilled.

1 A. Desktops /Personal Computer for each location (Proprietary Operating System)

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Tower Model Required. Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	Intel Core –i5 or			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		higher.			
4	**Motherboard**	OEM Motherboard.			
5	**Chipset**	Latest Generation compatible chipset to the supplied CPU.			
6	**RAM**	Memory2GB (1x2GB) expandable to 16GB Non-ECC DDR3 1333MHz SDRAM Memory, minimum Two DIMM slots.			
7	**Hard Disk Drive & controller**	HDD320 GB 7200 RPM 6GB/bps 3.5" SATA Hard Drive.			
8	**Optical Drive**	Optical Drive16X Max DVD+/ RW.			
9	**Graphics**	Integrated Graphics.			
10	**Audio**	High Definition Audio Card.			
11	**Ethernet**	NIC 10/100/1000.			
12	**Slots**	4 PCI / PCI Express slots, VGA (1), USB 2.0 (8).			
13	**Ports**	Rear I/O: (6) USB 2.0 ports, (1) serial port, (1) RJ-45, (1) VGA, (1) line out, (1) mic in,External SATAmicin,ExternalSATA Port Front I/O: (2) USB 2.0 ports.			
14	**Power Supply**	250-watt 450 watt ATX Power Supply – 92% PFC (Active Power Factor Correction (PFC) power supply). Surge protected.			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
15	**Keyboard**	USB 104 keys keyboard (Same make as PC) with bi-lingual keys (English and local language of the State/UT).			
16	**Monitor**	18.5" LED Monitor , Maximum resolution - 1366 x 768; Response time (typical)- 5ms ; TCO 5 certification for Monitor.			
17	**Mouse**	USB 2 Button Optical Scroll Mouse(Same make as PC).			
18	**Security**	TPM 1.2 Chip, TPM Chip Individual port BIOS locks for stronger security.			
19	**Operating System**	A proprietary Operating System Preloaded that is equivalent to Genuine Windows(R) 7 Professional SP1 (English) or above and office suite with updates / patches over the period of 5 years.			
20	**Compliance And Certification**	As per industry standard for PC and energy star for Monitor.			
21	**Drivers for different Operating systems**	Drivers should be freely available on OEM's web site and should be supplied			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		in media along with PC.			

2. A. LAPTOPS (Proprietary Operating System)

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified. All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	Intel Core –i5 second generation or higher.			
4	**Chipset**	Intel HM76 or higher intel chipset.			
5	**System Memory**	4GB DDR3 1066 Mhz expandable to 8GB with 2 DIMM Slots.			
6	**Hard Drive**	500GB 7200 RPM SATA or higher with hard disk protection system.			
7	**Optical Drive**	Integrated 8X DVD RW or higher.			
8	**Screen**	14/14.1"WXGA color LED-backlit display, Anti glare.			
9	**Audio /Visual**	Integrated High definition audio with integrated stereo speakers and volume control. Integrated 720P HD webcam with inbuilt microphone.			
10	**Ethernet**	Integrated 10/100/1000 Mbps ports.			
11	**Wireless**	ıted 802.11 a/b/g/n Wireless			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
		LAN, Bluetooth(2.1)			
12	**Keyboard**	Spill proof Keyboard with full size keys.			
13	**Mouse**	OEM USB Optical Travel Mouse.			
14	**Navigation**	Touchpad with Track points.			
15	**Battery**	Minimum 6-cell Lithium –ion rechargeable battery capable of providing 3.5 hours or more backup in standard business environment ,ACPI Compliant.			
16	**Ports**	Minimum 4 USB(Ver.2.0 including 1e SATA/USB Combo, VGA, Speaker, Microphone, Display Port.			
17	**Slots**	Express Card Slot, Multi-card Reader.			
18	**Power Supply**	OEM 90W AC Adaptor suitable for 230V supply.			
19	**Preloaded OS**	Windows 7 Professional 64 Windows 7 Professional64 bit with latest service pack, Restore/Recovery CD & with OS media CD with each laptop(in absence of OS media CD with each laptop(in absence of OS Media CD OEM pack of OS to be supplied),a software to provide data recovery to restore user data, settings, applications and Operating System in the event of a Software crash or virus infection. The latest system drivers should be available on OEM's website.			
20	**Preloaded**	OEM Supplied Comprehensive			

S. No.	Features	Specifications	Specifications offered	Compliance (Yes / No)	Deviations, if any
	Antivirus	Internet Security suite (Norton/MacAfee/Trend Micro) including antivirus, anti-spyware, anti-spam, personal firewall, identity protection etc. with 5 year patch and definition.			
21	**Construction**	Business series laptop with Scratch resistant hardened chassis.			
22	**Biometric Authentication**	Finger Print Reader.			
23	**Carry Bag**	Carry Bag from OEM.			
24	**Weight**	2.5 kg or less with batteries.			
25	**Certification**	OS Certification from Microsoft.			
		For OEM:ISO 9001:2008.			
		ERTL/FCC-EMC class B.			
		Latest version of IEC-60950-1/is 13252/UL-60950.			
		ACPI(Latest Version)compliant.			
		ROHS compliant.			
		EPEAT Gold compliant.			
		Energy Star 5.2 compliant.			
26	**Warranty**	3 years comprehensive OEM warranty including battery with Accidental damage projection cover for the laptop from OEM.			

3. Digital Web Camera (Webcam)

S. No	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	

S. No	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
2	**Model**	Must be specified.		NA	
3	**USB**	4 pin USB Type A.			
4	**Pixel**	5 MP.			
5	**Video Capture**	640X480 pixels.			
6	**USB cable**	5 ft.			

4. Scanner

S.No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	All the relevant product brochures and manuals must be submitted.		NA	
3	**Scanner type**	Legal Size Flatbed.			
4	**Scan technology**	Charge Coupled Device (CCD).			
5	**scan speed**	min 20 PPM.			
6	**ADF capacity**	50 sheets.			
7	**Duty cycle**	Min 800 pages per day.			
8	**Scan resolution:**	Min 600 dpi.			
9	**Output resolution dpi settings**	300, 600.			
10	**Color bit depth**	24-bit.			
11	**Grayscale levels**	256			
12	**Double-feed detection**	Yes			
13	**File formats**	BMP, JPG, TIFF, TIFF			

S.No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		(compressed), multi-page TIFF, PNG, PDF, RTF, TXT, UNICODE, HTM, DOC.			
14	**Connectivity**	Hi-Speed USB 2.0			
15	**Software**	ISIS and Twain driver.			
16	**Compatible operating systems**	Windows XP, Windows Vista, Windows 7, MAC OS 9.0, MAC OS X, Linux Kernel 2.4 or later.			

5. Laser Printers

S. No	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	All the relevant product brochures and manuals must be submitted.		NA	
3	**Processor**	800MHZ.			
4	**Speed (min.)**	min 33 PPM (A4).			
5	**Memory(min.)**	min 64 MB.			
6	**Resolution**	1200 x 1200 dpi.			
7	**Interface**	USB, parallel , Ethernet (UTP) with respective cables.			
8	**Monthly Duty Cycle**	min 10000 Pages.			
9	**Drivers**	Windows XP, Windows Vista, Windows 7, MAC OS			

S. No	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		9.0, MAC OS X, Linux Kernel 2.4 or later.			
10	**Duplex**	Automatic Duplex.			

6. UPS – 1 KVA online UPS

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.	NA		
2	**Model**	All the relevant product brochures and manuals must be submitted.	NA		
3	**Power Rating**	1000 VA / 700 W			
4	**Technology**	True On Line UPS with double conversion technology.			
		Rectifier and inverter should be based on IGBT.			
5	**Nominal input voltage (VAC)**	160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load.			
6	**Input voltage Range**	160-300 VAC.			
7	**Operating Frequency**	40 Hz ~ 70 Hz			
8	**Power Factor**	≥ 0.95			
9	**Nominal output Voltage**	220/230/240 VAC ± 3%.			
10	**Output voltage Distortion**	≤ 3% (Linear Load) ≤ 6% (non Linear			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		Load).			
11	**Power Factor**	0.7			
12	**Load Crest Factor**	3 : 1			
13	**Transient Response**	Less or equal to 3% for 100% nonlinear load (Battery mode).			
14	**LED**	LCD Display UPS Status, Load level, Battery level, Input / /Output voltage, Discharge Timer & Fault conditions.			
15	**SMART RS 232**	Supports Windows, Novell, Linux and FreeBSD.			
16	**Battery Type**	Sealed Maintenance Free, Valve Regulated Lead Acid.			
17	**Battery Runtime**	30 min VAH 936 ; 60 min 1512 VAH; 120 min 2340VAH ; 8 hrs approx 8640 .			
18	**Number of Battery Cells**	One set of 3 Batteries of 12V.			
19	**Rated Voltage**	36 VDC.			
20	**Backup Time**	30 min VAH 936 ; 60 min 1512 VAH; 120 min 2340VAH ; 8 hrs approx 8640.			
21	**Protection**	Inbuilt protection for surge suppression and			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		EMI/RFI filter provided as well as The unit shall have Surge Current Capacity of min. 10kA with two mode of protection &<0.5 ns Response time. UPS shall be provided with only externally connected SPD as per IEEE Standard 1100-2005.			
22	**Operating Temp and Humidity**	20 – 90%RH @ 0 – 40°C (non condensing)			
23	**Audible Noise**	Less than 45dB at 1 meter.			
24	**SNMP**	Power Management from SNMP manager and web browser option should be present.			
25	**Power Outlet**	Should have programmable power management outlet for independent control of load segment.			
26	**ECO Mode**	Should be capable of operating in ECO mode for			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		energy saving.			
27	**Credentials**	Manufacturer Should be ISO 9001:2000 certified.			
		Manufacturer Should be ISO 14001 certified.			

7. 9 U Rack

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.	NA		
2	**Model**	All the relevant product brochures and manuals must be submitted.	NA		
3	**Dimensions**	600(w)x 530(d)x 9U(h).			
4	**Weight Capacity**	132 lbs (60 kg).			
5	**Side doors**	Complete knockdown format for easy installation & later maintenance, with lock & key.			
6	**Ventilation**	Standard with one side exhaust fan.			

8. 42 U Rack

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.	NA		
2	**Model**	All the relevant	NA		

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		product brochures and manuals must be submitted.			
3	**Dimensions**	Height 2000 mm (min) & width 600 mm (min).			
4	**Weight Capacity**	2000 lbs (min).			
5	**Side doors**	Complete knockdown format for easy installation & later maintenance, with lock & key.			
6	**Ventilation**	Standard with one side exhaust fan.			

9. 24 Port Switch

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	All the relevant product brochures and manuals must be submitted.		NA	
3	**Standards**	1. IEEE 802.1D 2. IEEE 802.1p 3. IEEE 802.1Q 4. IEEE 802.1s 5. IEEE 802.1w 6. IEEE 802.1x 7. IEEE 802.1ab 8. IEEE 802.3ad3ad 9. IEEE 802.3 10.IEEE 802.3u 11.IEEE 802.3ab 12.IEEE 802.3z 13.RFC 854 14.RFC 951			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations , if any
		15.RFC 1305 / RFC2030			
4	**Protocol**	CSMA/CD.			
5	**Throughput**	Min 8 Gbps			
6	**Data Transfer Rates**	Non Blocking Architecture.			
7	**Network Cables**	10BASE-T: UTP Cat. 3, 4, 5 (100 m) EIA/TIA-586 100-ohm STP (100 m) 100BASE-TX: UTP Cat.5 (100 m) EIA/TIA-568 100-ohm STP (100m max.)			
8	**Number of Ports**	10/100Mbps port x 24			
9	**Twisted-pair Rx Reverse Polarity**	Auto-correction for each port.			
10	**MAC Address Learning**	Automatic update.			
11	**RAM**	64 MB.			
12	**Power Supply**	100 - 240 VAC, 50/60 Hz.			
13	**Security**	Should support a) 802.1x . b) AAA . c) SSH v1, v2. d) SSL. e) Host to Host and Switch to Switch authentication.			
14	**Management**	Should have: a. IPv6 management capability. b. SNMP v1, v2, v3.			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations , if any
		c. RMON. d. RADIUS. e. CLI via console. f. Web interface. g. Provision of software and firmware upgrades with latest version releases through admin login.			
15	**Uplink Ports**	Switch should have SFP based uplink ports.			

10. Router

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
1	**Make**	Must be specified.		NA	
2	**Model**	Must be specified.		NA	
3	**Architecture**	a) Should be chassis based & modular architecture for scalability and should be a single box configuration for ease of management. b) Should have support for IPSEC VPN. c) Should have minimum of 256MB of RAM and 32 MB of Flash Memory.			
4	**Interface**	a) 2 x 10/100 Base interface protocols. b) At least 2 free additional slots			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		for future. Note: These additional slots should support both the following interfaces: • V.35 (2 Mbps) interface including necessary cables. • 10/100 Ethernet Base interface.			
5	**Performance**	a) Should support high performance traffic forwarding with concurrent features like Security, Voice enabled. b) Should support variety of interfaces like V.35 Sync Serial (2 Mbps), E1, ADSL for remote office aggregation. c) Should support 3G USB modem for connectivity or support external 3G modem. d) Should have USB 2.0 ports for storing OS images.			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
6	**High Availability**	a) Should support redundant connection to LAN. b) Should support Non-Stop forwarding for fast re-convergence of routing protocols. c) Should support boot options like booting from TFTP server, Network node. d) Should support VRRP or equivalent.			
7	**Protocols**	a) Should support Routing protocols like RIP ver1 (RFC1058)&2, (RFC 1722 and 1723), OSPF ver2 (RFC2328), BGP4 (RFC1771), IS-IS (RFC1195), Telnet (RFC854). b) Multicast routing protocols support : IGMPv1,v2, v3 (RFC 2236), PIM-SM (RFC2362), PIM-SSM and PIM-DM, M-			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		BGP/ MSDP. c) Should have full IPv6 features from day 1. d) Should have RIPng and OSPFv3 for IPv6.			
8	**QoS Features**	a) Classification and Marking: Policy based routing, IEEE 802.1p. b) Congestion Management: WRED, Priority queuing, Class based queuing. c) Traffic Conditioning: Committed Access Rate/Rate limiting. d) Bandwidth guarantee. e) Signalling: RSVP. f) Link efficiency mechanisms: cRTP, LFI, MLPPP. g) Per VLAN QoS. Time Based Shaping and Policing for QoS. h) Port			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		mirroring.			
9	**Security Features**	a) Support for GRE Tunneling, NAT. b) Support for MD-5 / SHA-1/SHA-2 route authentication for RIP, OSPF and BGP. c) Shall support multi-level of access. d) Support for SNMPv3 authentication, SSHv2. e) AAA support using Radius and/or TACACS+. f) Support for PAP and CHAP authentication for P-to-P links. g) Multiple privilege level authentications for console and telnet access through Local database or through an external AAA Server. h) Time based & Dynamic ACLs for controlled			

S. No.	Feature	Specification	Specifications offered	Compliance (Yes / No)	Deviations, if any
		forwarding based on time of day for offices. i)IEEE 802.1x support for MAC address authentication.			
10	**Management**	a) Shall have support for Web based management, CLI, Telnet and SNMPv3. b) Shall support Secure Shell for secure connectivity. c) Shall support Out of band management through Console and external modem for remote management.			
11	**Certification**	a) Common Criteria Certified EAL3CertifiedEAL3 or higher. b) FCC. c) Safety EMI/EMC.			
12	**Power**	AC 200 – 240V.			

6.8 Site Preparation Requirement

For efficient management of service delivery under e-district project, Site preparation activity need to be completed across the concerned offices. This requires making the office space prepared for deployment of ICT infrastructure. Site preparation is not restricted to only Electrical work and LAN connectivity but also Civil and Mechanical works to safe guard the hardware supplied. However such expenses will be made judiciously. The success of the citizen service delivery system depends on how robust the ICT infrastructure is and how well it is protected and maintained. Adequate safety measures have to be taken at all the locations. Appropriate earthing, adequate insulation and Fire Proofing, Rodent and Pest control measures have to be taken in to account at each site. Following tasks need to be taken into consideration under the scope of Site Preparation.

1. Civil Work
2. Setting up of electrical board
3. Electrical Wiring & Earthing
4. LAN points
5. Furniture (Computer Tables and Chairs)
6. Installation of electrical equipment
7. Installation of lightning arrester

S no.	Particular	Numbers required
1	Computer table (branded).	608
2	Steel custard wheel revolving chairs Framed Computer with Arm and cushion seat and back (Standard size).	608
3	Printer points with 2 X 2.5 sqm +1 sq. m Copper wire and 5pin1X5/15 Amp switch socket with board upto 10 m length.	379
4	Computer points with 2X2.5 sqm +1 sq.m Copper wire and 3X6A Flash Type socket and switch with board upto 10 m length.	608
5	Copper plate earthing 600 mm x600 mm X 4 mm and 20 mm X 3 mm copper strip, earthing - neutral voltage < = 5 volts & earth resistance < 2 ohms complete with necessary salt, charcoal etc as required.	As per system study by SI.
6	Setting up of LAN points (branded company) for Desktop/Laptop.	608
7	civil works.	As per system study by SI.
8	Installation of Lightning Arrester.	As per system study by SI.

6.9 Non-Functional Requirements

The non-functional requirements relating to performance, availability, deployment, implementation, operations and others are listed in the subsequent subsection. Based on

the assessment of the requirements listed below, SI shall prepare a final & detailed Functional Requirements Specification, System Requirement Specifications (SRS) and obtain a formal sign-off before proceeding with the design and implementation of the solution.

S.no	Non-functional Requirements
Technical Solution Architecture Requirements	
1.	The e-District solution needs to be architected using robust and proven software and hardware technologies like Service-Oriented Architecture (SOA) and open industry standards.
2.	The solution architecture should be built on sound architectural principles enabling fault-tolerance, high-performance, and scalability both on the software and hardware levels.
Software Architecture Requirements	
1.	Software architecture must support web services standards including XML, SOAP, UDDI and Web Services Definition Language (WSDL).
2.	Software architecture must support appropriate load balancing for scalability and performance.
3.	Software architecture must support flexibility in adding functionalities or applications.
4.	Software architecture components should utilize the high availability, clustering, and load balancing features available in the proposed hardware architecture to increase system performance and scalability features.
5.	Software architecture must support trace logging, error notification, issue resolution and exception handling.
Hardware Architecture Requirements	
1.	Hardware architecture at SDC must provide redundancy and high availability capabilities at the hardware level; this includes servers, etc. However, the hardware infrastructure for the DRC can be as per the SDC specifications.
2.	All servers and systems must be configured with no single point of failure.
3.	Hardware architecture should be capable of consolidating several applications / workloads in a number of servers as required.
4.	Servers must be placed within proper security infrastructure for the Solution.
5.	Hardware architecture must support existing Storage Area Network (SAN) & backup solution (at SDC).
6.	The technical solution architecture for e-District should be sound and complete with high performance, redundancy, and scalability.
Development, Testing, Staging, and Production Requirements	
1.	Appropriate development, test, and staging hardware environments should be provided and explained how they are related to production environment. This must be supported by explanations on how the development, test, and staging environment support the implementation activities of e-District Solution.
2.	Development and test environment should include configuration management capabilities and tools for system configuration, versioning scheme, documentation,

	change control processes and procedures to manage deployment of solution deployment.
3.	The test, development, and staging environment should include required workstations, desktops, and tools appropriate to support development, testing, and staging, and deployment tasks.
4.	The development, test, and staging hardware environments must include similar operating systems, software components, products, and tools to those of production environment.
5.	The development, test, and staging environments should be independent logically and physically from the production environment and of each other.
6.	The development environment should be used for development and should be configured to allow access for developers' workstations.
7.	The staging environment should be used for functional and user acceptance testing, stress testing, and performance benchmarking.
8.	The test environment should be used as a testing environment of e-District Solution and its software components and products. The test environment should be a scaled-down configuration of the production environment.
Security Requirements	
1.	A secure solution should be provided at the hardware infrastructure level, software level, and access level.
2.	Authentication, Authorization & Access Control 3 factors (User ID & Password, Biometric, and Digital Signature) security mechanisms should be implemented to enable secure login and authorized access to portal information and services.
3.	Encryption Confidentiality of sensitive information and data of users and portal information should be ensured.
4.	Appropriate mechanisms, protocols, and algorithms necessary to protect sensitive and confirmation data and information both during communication and storage should be implemented.

Monitoring and Management Requirements	
1.	The e-District Solution should provide monitoring and management of the entire Solution including all software components and application.
2.	The monitoring and management should monitor health of software and hardware infrastructure running the e-District Solution covering operating system, database, software components, applications, servers, and other related software and hardware components. It should provide proactive monitoring, alerting and reporting.
Performance and Scalability Requirements	
1.	The design of the e-District Solution should be scalable to handle increasing number of users.
2.	e-District Solution should provide measurable and acceptable performance requirements for users, for different connectivity bandwidths.
3.	The e-District solution should provide optimal and high performance Portal Solution satisfying response time for slow Internet connections and different browsers.
Implementation Requirements	
1.	The SI will be required to deploy manpower and other project resources as per the terms & conditions of the Contract.
2.	The SI will be required to work closely with MSITS, Manipur and perform detailed functional requirements and analysis of e-District Solution to confirm and document functional / system requirement specifications for the portal and its applications to fulfil its objectives.
3.	The SI will be expected to carry the complete implementation and deployment of the e-District within the timelines specified in the RFP.
4.	The SI is expected to develop, test, stage, and deploy all functional modules of the e-District software and any hardware components of technical & functional requirements.
Project Management	
1.	Selected bidder is required to provide an implementation plan illustrating all functional analysis, development, testing, staging, and deployment activities.
2.	Selected bidder is required to specify and describe the different phases and activities of the project. It is very important for MSITS, Manipur that the Selected bidder provide a quality implementation plan covering all aspects of the project. The plan shall clearly specify the start and end dates (relative to contract signing) of each of the project phases specifying key milestones allowing visibility of project progress.
3.	Selected bidder is required to use standard project management tools such as precedence diagrams, critical path charts, etc. to create and manage implementation plan and schedule. The table below shows the minimum stages and deliverables:

Stage	Activities	Deliverables

	Functional & Requirements Analysis	Define Functional Requirements, Requirements management, Prototyping, Documentation, Data Migration Preparation.	Functional Requirements Specification Document, Software Requirements and Specifications Document, Detailed Scope of Work , Work Breakdown Structure, Detailed Project Schedule, Data Migration Plan.
	Design	Detailed Software Solution, Architecture design, Detailed Hardware Solution, Architecture Design, Data Schema design, User Interface Design, Integration & Interfaces Design, Prototyping design, Validation Documentation.	Design Specifications Documents of Software solutions, Design Specifications Documents of Hardware solutions, User Interface Design Specifications, Integration Design Specifications, Data design and migration.
	Development	Software installation, configuration, customization Hardware installation and configuration, Development, Unit Testing Documentation.	Development Plan, Updated Design Document, Installed software and hardware Functional modules & Portal Solution, Problem reporting.
	Testing	System Testing, Integration Testing, Stress Testing, User Acceptance Test Results, Completed Test Cases, Data Migration tests Documentation.	Complete Test Cases, Test Plan, User Acceptance Criteria, Problem reporting, Problem resolution testing, Data Migration Testing.
	Deployment	Training courses and sessions, Operations Planning, User Manual , Operations Manuals .	Knowledge Transfer and training plan, Operations Plan, Operations Policies and Procedures.
4.	Selected bidder is required to describe in detail project management processes, methodologies and procedures.		
5.	Describe what MSITS, MANIPUR resources will be necessary for the project to		

	succeed.
6.	Describe how MSITS, MANIPUR management will receive up-to-date reports on project status.
7.	Describe the change management procedures to handle such things as "out-of-scope" requests or changing business needs of MSITS, MANIPUR while the project is underway.
8.	Describe what procedures will be used to keep the project on track, and what escalation procedures will be employed to address any problems with project progress.
9.	Describe what quality assurance processes, procedures, formal reviews, etc. will be in place.
10.	Describe the proposed conflict resolution / escalation process between the Bidder and MSITS, MANIPUR to handle project or contractual disputes.
11.	Selected bidder is required to describe the proposed project structure identifying all project individuals including project manager, business analysts, software developers, QA engineers, hardware / network engineers, administrators, Change Management experts, and others.
12.	Selected bidder shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance of e-District. The warranty should cover all materials, licenses, services, and support for both hardware and software. Selected bidder shall administer warranties with serial number and warranty period. Upon final acceptance of the MSITS, MANIPUR, all OEM warranties will be transferred to the MSITS, MANIPUR at no additional charge. All warranty documentation (whether expired or not) will be delivered to MSITS, MANIPUR at the issuance of the final acceptance certificate.
13.	Selected bidder is required to provide Premium Level warranty and support through the vendor for all hardware and software used for e-District. Selected bidder' warranty must cover all equipment and work activities contained in the contract against all design, manufacturing, and environment faults until the issuance of the final acceptance.
14.	Selected bidder is required to commit to the following warranty terms: All products / components / parts shall be covered under OEM warranty up to the Implementation Phase and AMC support shall commence after successful implementation. The warranty shall include the repair or replacement of the products / components / parts during the warranty period by the bidder. The replacement products / components shall meet the related specifications without further repair or modification. Selected bidder shall be liable for all costs including, but not limited to, the costs of material, labour, travel, transport and living expenses associated with the collection and return of the units covered by the warranty. The date of manufacture or assembly of any equipment, parts or consumables, shall not be more than six months before delivery. Selected bidder shall state the location of his repair Centre(s) for all items not

	being repaired onsite. MSITS, MANIPUR has the right to require a replacement if the repair is deemed to be impractical. Selected bidder ensures that replacement components shall be available for any failed component during the warranty period. Selected bidder shall guarantee the availability of spare parts and technical assistance for all components (or appropriate alternatives) to ensure the equipment would run for at least five (5) years, without major changes, at the completion of final acceptance. Six months advance notice is required on any discontinued part(s) with a suggestion for alternatives. Selected bidder need to define the process & methodology in their proposal, for achieving the response time of engineers to respond to an incident and also for resolving such incidents as per the SLA. Selected bidder is required to provide additional training if the satisfaction levels/ learning does not reach 80% in evaluation/feedback from trainees, and expected to provide additional training, if required. The e-District application & infrastructure being provisioned by the bidder shall be insured. The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery for the entire project term. Selected bidder is required to explain their warranty, maintenance procedures, and support to meet the terms and requirements outlined above.

Operations Requirements	
1.	The selected bidder is expected to provide the following in support of e-District operations: Selected bidder shall provide procedure documentation for all operations procedures, and SLA's (based on ITIL best practices) for all the hardware and applications provided including backup procedures, system update procedures, security procedures, failure recovery procedures, upgrade procedures, remote access procedures, user manual, SOP's, etc. All such procedures and documents must be submitted for review and approval by the MSITS, MANIPUR prior to adoption. Such documentation shall be updated by the during the project term by the bidder as and when required along with the necessary approval. Selected bidder will be required to provide MSITS, MANIPUR with weekly statistics reports on the various services provided to users a mechanism as well as track and log all related statistical reports on the various delivery channels and access patterns. Selected bidder will be required to provide MSITS, MANIPUR with weekly portal performance reports showing health of system operations. Selected bidder will be required to provide MSITS, MANIPUR with Helpdesk for recording all the day to day problems and other technical incidents occur during the O&M phase. This shall also record the resolution of such incidents &

	problems. Selected bidder will be required to commit to Service Level Agreements (SLAs) that show, among other metrics, appropriate escalation procedures and guarantee corrective actions within a pre-determined time. Selected bidder is required to respond to required levels of accuracy, quality, completeness, timeliness, responsiveness, cost-effectiveness, productivity and user satisfaction that are equal to or higher than the SLA system requirements.
Quality Assurance & Acceptance Requirements	
1.	Selected bidder is required to develop and implement quality assurance processes and procedures to ensure that the e-District development and operations are performed to meet the quality standards that are relevant to each area in all project phases.
2.	Selected bidder is required to use various tools and techniques that can make tests run easily and the results are automatically measured. In this way, testing tools provide a more cost-effective and efficient solution than their manual counterparts. Plus, they minimize the risk of human error during testing.
3.	In order to ensure that such a QA mechanism is effective and acceptance of e-District, the following tests are required for acceptance: Unit Testing: Basic validation of developed components by developers. Functional / Internal Integration Testing: Validation of developed components against functional requirements and design specifications. System Testing: Validation of both functional and technical requirements for the integrated Solution. This could include external integration if required or it can be separated into testing phases. UAT: User Acceptance Testing (UAT) validation of the Portal Solution and assurance that it meets both functional and technical requirements Stress and Performance Testing: Load testing enabling understanding of performance and behaviour of Portal Solution under large number of users and high-load conditions.
4.	Selected bidder is required to describe their QA and testing approaches and procedures as well as testing tools for conducting various tests in support of the acceptance of the Portal Solution. Selected bidder is expected to follow CMMi level 3 processes.
5.	Furthermore, Selected bidder to describe their documentation standards e.g. Documentation description, documentation identification, content, nomenclature etc. as well. Sample documents to be enclosed as part of the technical proposal.

6.10 Template for Risk Mitigation

Risks	Probability High/Medium/Low	Impact High/Medium/Low	Mitigation Strategies	Implementation Responsibility

Additional Points for Bidders' Consideration

1. Additional Localisation Requirement for the Application

To realize this vision, 31 Central, State and Integrated Mission Mode projects (MMPs) along with 8 support components were identified and approved under NeGP. NeGP also envisages creation of the core IT infrastructure in the form of SWANs, SDCs and one lakh front ends namely CSCs in rural areas across the country to deliver public services electronically in the local language.

To realize this objective, the bidders are requested to carefully study and incorporate the following while designing the solution pertaining the RFP No. 34/1/2011-MSITS (Pt-1) dated 8/05/2013;

- ✓ The selected Bidder shall perform 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 list of additional features that shall result in further improvement in the overall application performance for consideration of the local language.
- ✓ The overall technology solution shall be based upon most relevant and suitable architecture standards including standards for Service Oriented Architecture (SOA), XML services & necessary protocols for internet applications, Data Center standards, Localization (Unicode, Inscript, etc.) standards, W3C standards & GIGW guidelines, etc.
- ✓ Database architecture, including defining data structure, data dictionary as per requirements of data storage in English and the local language with compliance to standards defined by DeitY, GoI
- ✓ Compliance to latest Unicode standard (current version is 6.0) for local language content/data encoding is also mandatory
- ✓ Integration of existing applications being used in the state shall not be possible unless the legacy data in the local language is compliant to Unicode version 6.0 or above. In some cases, this legacy data therefore will need to be converted to Unicode 6.0 (or latest version)
- ✓ Integration across state shall be enabled, through mandatory adherence to technical Specifications, e-Governance and localization standards
- ✓ Digitization of data in English and the local language
- ✓ The agencies undertaking the digitization work may need to be trained on local language data entry through use of applications/tools that have full compliance to the latest Unicode (version 6.0 or above) for character encoding and use of enhanced Inscript keyboard layout
- ✓ Data Entry through Web Portal & related:

The user should be given a choice to interact with the system in local language in addition to English. The application should provision for uniform user experience across the multilingual functionality covering following aspects:

- Front end web portal in local language
- E-forms (Labels & Data entry in local languages). Data entry should be provided preferably using the Enhanced Inscript standard (based on Unicode version 6.0 or later) keyboard layout with option for floating keyboard.
- Storage of entered data in local language using UNICODE (version 6.0 or later) encoding standard.
- Retrieval & display in local language across all user interfaces, forms and reports with all browsers compliant with Unicode version 6.0 and above.

- Facility for bilingual printing (English and the local language)
- Sakal Bharti font (compliant to UNICODE version 6.0) to be used for local language data and content. Latest version of the font is available on www.ildc.in

2. Resources for Support to the project:

2.1. Education Qualification & relevant work experience

Sl. No.	Proposed Position	Indicative Minimum Qualification
1	State Level Project Manager	– BE/B-Tech with MBA / MCA with PMP or similar certification – Minimum 10 years of experience in managing similar kinds of projects – Having experience of managing a work force of more than 100 people over a period minimum 3 years – Languages known must – English, Hindi
2	System Administrator	– B. E. / B. Tech / MCA – Relevant Certifications like RHCE, LPIC, etc. – Min Work Exp. – 4 years in similar capacity
3	Network Administrator	– B. E. / B. Tech /MCA – Relevant Certifications like CCNA, CCNP, etc. – Min Work Exp. – 4 years in similar capacity
4	Database Administrator	– B. E. / B. Tech / MCA – Working knowledge of database configuration / administration on open source platform – Min Work Exp. – 4 years
5	Change Management expert on capacity building	– MBA (HR/Personnel) – Experience in designing , conducting, and evaluating large scale Training program of not less than 1000 Participants for multiple locations . – Minimum Work Exp. – 4 years
6	District Manager for each DHQ	– Graduate in any discipline with working knowledge of computer – Minimum working experience of 2 years in IT field – Knowledge of computer operations
7	District Technical Support staff	– 10 + 2 and Diploma in IT – Minimum of One year of working experience in IT field.

Note: The above manpower requirement is minimum and indicative. However, it will be vendor's obligation to augment manpower to ensure e-District functionality along with its components. Vendor shall provide for the increased need of increased manpower requirement whenever size of the network is increased for any reasons. For all position - reading and writing skill in: English, Hindi.

3. Summarized list of the amendments to the RFP No. **34/1/2011-MSITS (Pt-1) dated 8/05/2013 as already mentioned above:**

Reference No & Page	Content of RFP requiring Clarification(s)	Points of clarification	Amendment
Manipur-e-district vol 2 -- Section 6.5, Page 76/78/80/82/84 -	Blade can be half / full height with I/O connectivity to backplane	Request considering redundant I/O bays for better availability & to consider 8 I/O	Bidders who would like to propose Blade Servers, the minimum specifications for Blade

- web server/application server/database server/Backup server/EMS server - HDD		Bays in the chassis (including 4 high speed I/O bays)	Servers and Blade Enclosure is provided at Point No: 6, Page No:35 of the Corrigendum Document.
None in tender doc - Chassis	No Chassis specifications	Request to mention the specs for Chassis to ensure proper redundancy for I/O & Power. Also request to specify number of blade bays to be offered as 14 full height or 16 half height (to ensure scalability/ investment protection for future)	Chassis Specification is provided at Point No: 6, Page No: 34 of the Corrigendum Document.
Manipur-e-district vol 2 -- Section 6.5, Architecture - Page 108 and Page 109	c) Should have minimum of 256MB of RAM and 32 MB of Flash Memory.	For better performance, it is recommended to have minimum 512MB RAM and 64 MB Flash. Request to kindly consider the same.	Should have minimum of 512MB of RAM and 64 MB of Flash Memory.
Manipur-e-district vol 2 -- Section 6.5, Performance - Page 109	a) Should support high performance traffic forwarding with concurrent features like Security, Voice enabled.	Voice is not supported on Routers by all OEM's, hence request to kindly consider voice traffic in place for voice enabled and allow all leading OEM's to participate.	Should support high performance traffic forwarding with concurrent features like Security, Voice traffic etc.
Manipur-e-district vol 2 -- Section 6.5, Page 90(Desktops specs)	250-watt 450 watt ATX Power Supply – 92% PFC (Active Power Factor Correction (PFC) power supply). Surge protected.	It should be 240Watt only with 90% power efficiency supported by Gold Epeat certification. There is no 92% power efficiency, 90% is the highest score. Gold Epeat certification means that the product really meets these criteria.	240 watt with ATX Power Supply of 90% Active power factor and surge protection
Manipur-e-district vol 2 -- Section 6.5, Page 76/78/80/82/84 -- web server/	4 MB shared L2 cache	L2 cache is very old technology and request to make the same as atleast 10mb L3 cache	Minimum of 2.4 GHz, 10MB L3 cache, 8GT/s, 1066Mhz FSB, Quad core

application server/ database server/ Backup server/ EMS server - Processor			
Manipur-e-district vol 2 -- Section 6.5, Page 76/78/80/82/84 -- web server/application server/database server/ Backup server/EMS server -RAM	Min 32 GB FBD RAM	Request to rename the same as 32 GB DDR3 RAM	Minimum 32 GB DDR3 RAM
Web Server (Page 76), Application server (Page 78), Database server (Page 80), Backup server (Page 82), EMS server (Page 83)	2.2Ghz or above 4MB shared L2 cache, 1066MHz / 2000MT/s FSB. Processor should be latest series / generation for the server model being quoted.	Required CPU is now EOL. Proposed to change this as follows: E5-2609, 10M L3 cache, 8GT/s, 1066Mhz FSB, Quad core.	Minimum of 2.4 GHz, 10MB L3 cache, 8GT/s, 1066Mhz FSB, Quad core
6.5 – Form B, page 76, 82, 83, 85 Web Server, Application Server, Database Server, Backup Server, EMS server.	2.2 GHz or above with 4 MB shared L2 cache, 1066 MHz / 2000 MT/s FSB Processor should be latest series/ generation for the server model being quoted.	Normally L3 cache is shared. Please change L2 cache to L3 cache.	Minimum of 2.4 GHz, 10MB L3 cache, 8GT/s, 1066Mhz FSB, Quad core
Section 6.5, Vol 2 of RFP, Management - Page 114	c) Shall support Out of band management through Console and external modem for remote management.	Different OEM's have different management options, hence request to kindly remove external modem for remote management.	Shall support out of band management through console and other suitable solution for remote management.
RFP Vol 2 Page No 31 Section Offline Capability	The Offline capability should be developed only for those locations where there is acute shortage of electricity or connectivity.	Kindly share the details of such location where offline connectivity is required	The Offline solution is meant for all locations.
Vol II Page 90 (Desktop specs)	Memory 2GB upgradable to 16GB , 2 DIMM Slots	It should be with 4DIMM slots, 2 DIMM slots does not support 16GB In Desktops	Memory 2GB upgradable to 16GB , 4 DIMM Slots

Point no 5, Section 6.5, Page no: 98, Vol 2 of RFP	160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load	160 VAC – 280 VAC @ 100% Load, 110 VAC – 280 VAC @ 50% Load	160 VAC – 280 VAC @ 100% Load, 110 VAC – 280 VAC @ 50% Load
Point no 4, Section 6.5, Page no: 101, Vol 2 of RFP	5.The UPS should be compatible for single and three phase input supply.	Single in single out	The UPS should be compatible for single in single out Supply.
RFP Vol-2, Pg-115, Section- 6.6	Copper plate earthing 600 mm x600 mm X 4 mm and 20 mm X 3 mm copper strip, earthing - neutral voltage < = 5 volts & earth resistance < 2 ohms complete with necessary salt, charcoal etc as required.	Considering the soil conditions, request to consider if we can propose chemical earthing?	Chemical Gel Earthing including copper strip, Copper Plate, Chemical Gel, Pipe, installation with pit, optional cabling (upto 20 meters) etc. to provide 0.5Ω earth resistance in worst case at instrument site and 0 to 0.5 Volt AC between earth and neutral in all season throughout the year.
manipur E-District vol-1.pdf - Schedule of Bid process Page-6	Last date, Time and Place (deadline) for submission of Technical bids - 5 PM on 13th June 2013	Request to kindly extend the submission date atleast by 3 Weeks after the publication of Pre-Bid	Revised Dates for Submission of Technical & Financial Bids and further proceedings are mentioned at Point No: 7, Page No: 36 of the corrigendum document.
Manipur-e-district-vol-ii, Serial no. 6.7, Non-Functional Requirements, "Security Requirements"	Encryption Confidentiality of sensitive information and data of users and portal information should be ensured.	Data Confidentiality is a major part of this RFP and it is clearly mentioned in the RFP at many places (check Reference column). Confidentiality will be achieved using Encryption. Encryption means involvement of Cryptographic keys and security of these keys should be paramount. Still there is no inclusion of Hardware based encryption in the tender. Not having hardware crypto modules, will make the solution weaker	Bidders are advised to include and provide additional security feature at the hardware level at SDC for enhancing the Encryption Confidentiality of sensitive information and data of users and portal information. This is required to be achieved by deploying a hardware based data encryption device at Manipur SDC. The Quantity and Minimum Specifications and compliance required for the device to be proposed are provided at Point No: 8, Page No:

		and will make the data vulnerable to attack. Also it will impact the performance of the servers which can create a bottleneck i.e. availability of the services will also be affected.	37 as part of the corrigendum document.
Manipur-e-district-vol-ii, Serial no. 4.2.11, Others , "Information Security Management "	Security of Application and the data contained therein is paramount for the success of this Project. Hence, the selected Bidder should take adequate security measures to ensure confidentiality, integrity and availability of the information.	Data Integrity is also mentioned at many places in the RFP and it is also important for secured architecture. But again Data integrity is being achieved using Digital Signing (mentioned in the RFP).Security of the digital certificates (keys) is very important and for this CCA guidelines mandates the use of FIPS certified hardware's. But there has not been any FIPS certified Hardware modules, mentioned in the RFP which makes the Digital signing keys vulnerable to attack. Software based digital signing will make the solution non-compliant to CCA guidelines.	Bidders are advised to include and provide additional security feature at the hardware level at SDC for enhancing the Encryption Confidentiality of sensitive information and data of users and portal information. This is required to be achieved by deploying a hardware based data encryption device at Manipur SDC. The Quantity and Minimum Specifications required to be proposed are provided at Point No: 8, Page No: 37 as part of the corrigendum document.

4. Details of make/model of hardware existing in the State Data Center:

Sl. No	Component	Make/Model
1	Back Up Software	IBM TIVOLI
2	MAIL SECURITY	DELL 8380
3	Web Gateway	DELL 8450
4	Switch	Cisco 4510R-E
5	LAN Switch	Catalyst 3560
6	Internet Router	Cisco 2911
7	Internet Firewall	ASA 5550
8	Intrusion Prevention System	IPS 4260

9	IP KVM	KVM 2124V
10	Storage Sub System - SAN Storage -Tape library	IBM TS3310
11	SAN Switch	Cisco MDS 9134 FC Switch
12	Storage Sub System, Disk Storage System	IBM DS5100 (expandable upto 960 TB) Scalable upto 448 drives using EXP5000 enclosure and upto 960Tb of high density storage with EXP5060 enclosure)
13	Storage Sub System - Virtualization engine	IBM X3250

5. List of the services in the State Service Delivery Gateway:

Sl. No	SERVICE NAME
[1]	Department of Consumer Affairs, Food and Public Distribution
1	Application for Issue of New Ration Card
2	Application for Change of Name in Ration Card
3	Application for the Addition of name in the Ration card
4	Application for Deletion of name in the Ration card
5	Application for Duplicate Ration card grant/renewal
6	Application from the citizen for Inclusion under AAY, AP, etc.
7	Issuance of Certificate for Inclusion under different schemes
[2]	Employment Exchange
1	Registration in Employment Exchange
2	Renewal of Registration
3	Transfer of Registration
4	Repeat Registration
5	Updating Qualification, Experience
6	Cancellation of Registration
7	Submission of Application against Vacancy
[3]	Registration Office (Revenue Department)
1	Application for Registration under Hindu Marriage Act
2	Application for Registration of Marriage celebrated (Form V)- Special Marriage Act
3	Application for Notice of Intended Marriage (Special Marriage Act)
4	Application for Issue of Non Encumbrance Certificate
5	Application for Issue of Certified/True Copy of registered Deeds
[4]	Settlement and Land Records
1	Application for Certified Copy of RoR
[5]	Election Department
1	FORM 6, Application for inclusion of name in Electoral Roll for Indian citizens
2	FORM 6A, Application for inclusion of name in Electoral Roll for NRIs
3	FORM 7, Application for Exclusion / Deletion of name from Electoral Roll
4	FORM 8, Application for correction to particulars in Electoral Roll
5	FORM 8A, Application for transposition of electors within an Assembly Constituency
[6]	Revenue Department
1	Application for Mutation of Land Record
2	Application for Partition of Land Holding(s)

3	Application for Valuation or Ownership of Land Record(s)
4	Application for Certified Copy of Records of Rights(RoR)
5	Application for Issue of Certified/True Copy of registered Deeds.
[7]	Social Welfare
1	Application for Balika Samridhi Yojna (BSY)
2	Application for Providing Financial Assistance to School going Dependent Children
3	Application for National Social Assistance Programme (NSAP) - Indira Gandhi National Widow Pension Scheme
4	Application for National Social Assistance Programme (NSAP) - Indira Gandhi National Disability Pension Scheme
5	Application for Registration for Unemployment Allowances to person with disabilities
6	Application for National Social Assistance Programme (NSAP) - Indira Gandhi National Old Age Pension Scheme
7	Application for National Social Assistance Programme (NSAP) - National Family Benefit Scheme (NFBS)
8	Application for Registration for pension under Manipur Old Age Pension Scheme
9	Application for Financial assistance to poor and needy widow
10	Application form for Scholarship of the Disabled students for Fresh or Renewal

6. Specifications for Blade Enclosure, Blade Server for Database & Blade Server for Application, Web, etc.

Specification of Blade Enclosure

Feature	Specifications
Form Factor	Latest generation up-to 10 U Form factor per enclosure with all redundancy features (Hard Drives, Power, and Cable Management). The requisite number of Enclosures to be configured to populate the Servers and Storage/Expansion Units. The blade enclosure should support Intel/AMD and RISC/EPIC
Blade Bays	Blade Chassis to accommodate minimum of 14 hot pluggable blade servers with SAS HDDs.
enclosure Feature	▪ Backplane should be completely passive device. If it is active, dual backplane should be provided for redundancy ▪ Single console for all blades in the enclosure or KVM Module ▪ DVD ROM can be internal or external or virtual, which can be shared by all the blades allowing remote installation of S/W and OS ▪ Minimum 2 external USB connections functionality
Ethernet Switch Modules	Two hot-plug, redundant 1Gbps Ethernet switch module which enable connectivity to Ethernet via switch with minimum 4 uplink ports per switch.
SAN Switch	Two hot-plugs, redundant 4/8 Gbps Fiber Channel switch for connectivity to the storage device. Minimum 4 uplink ports populated with SFP and cables per switch. All connectivity licenses should be integrated.

Redundancy	Mechanical Devices such as Hard Disks, Fans and Power Units should be completely Hot Swappable and Redundant to ensure High Availability
Blade Management	▪ Systems Management and deployment tools to aid in Blade Server configuration and OS deployment, ▪ Remote management capabilities through internet browser ▪ Blade enclosure should have provision to connect to display console / central console for local management like trouble shooting, configuration, system status / health display
Power	▪ Hot Swap redundant power supplies to be provided ▪ Power supplies should have N+1 and N+N. All Power Supplies modules should be populated in the chassis/enclosure
KVM	To be enabled Virtually over IP for Remote Access or Provided Locally.

Specification of Blade Server for Database Servers

Features	Specifications Required
CPU	Two numbers X86 based Processor. Processor Core Per CPU should be Minimum Six. The Frequency should be minimum 2.4 GHz. Processor should be latest series/generation for the server model being quoted
Chipset	Suitable Processor OEM motherboard/chipset
Memory	128 GB ECC DDR3-SDRAM DIMMs
Memory Expandability	Minimum 256 GB
Controllers	Integrated SAS Raid Controller with RAID 0, 1
Bays	Dual 2.5" SAS Hard Disk bays
Hard Disk Drives	Two 300 GB 2.5" SAS Hard Disk Drive hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks
Ethernet Adapter	Dual Port 1000BASE-T Gigabit Ethernet Adapter
SAN Connectivity	Redundant 4/8 Gbps Fiber Channel HBA Port
I/O Expansions	Minimum two PCI slots
Power Supply	From the Blade Chassis
System Management and Diagnostics	System management via remote management port. Virtual KVM and Remote CDROM drive mapping functionality should be included.
Software	Server Management software with the device drivers
OS Compatibility	Microsoft Windows Server latest version Standard and datacenter Edition (32 bit and 64 bit) Red Hat Enterprise Linux latest version (32 bit and 64 bit) SUSE LINUX Enterprise Server latest version (32 bit and 64 bit) SUSE LINUX Enterprise Server latest version (32 bit and 64 bit)
Warranty	year comprehensive warranty

Specification of Blade Server for Application, WEB, Directory etc.

Features	Specifications Required
CPU	Two numbers X86 based Processor. Processor Core Per CPU should be Minimum Six. The Frequency should be minimum 2.4 GHz. Processor should

Features	Specifications Required
	be latest series/generation for the server model being quoted
Chipset	Suitable Processor OEM motherboard/chipset
Memory	64 GB ECC DDR3-SDRAM DIMMs
Memory Expandability	Minimum 128 GB
Controllers	Integrated SAS Raid Controller with RAID 0, 1
Bays	Dual 2.5" SAS Hard Disk bays
Hard Disk Drives	Two 300 GB 2.5" SAS Hard Disk Drive hot swappable system disk with mirroring using integrated RAID 0,1 on internal disks
Ethernet Adapter	Dual Port 1000BASE-T Gigabit Ethernet Adapter
SAN Connectivity	Redundant 4/8 Gbps Fiber Channel HBA Port (as per the connectivity requirement)
I/O Expansions	Minimum two PCI slots
Power Supply	From the Blade Chassis
System Management and Diagnostics	System management via remote management port. Virtual KVM and Remote CDROM drive mapping functionality should be included.
Software	Server Management software with the device drivers
OS Compatibility	Microsoft Windows Server latest version Standard and datacenter Edition (32 bit and 64 bit) Red Hat Enterprise Linux latest version (32 bit and 64 bit) SUSE LINUX Enterprise Server latest version (32 bit and 64 bit) SUSE LINUX Enterprise Server latest version (32 bit and 64 bit)
Warranty	5 year comprehensive warranty