M P STATE ELECTRONICS DEVELOPMENT CORPORATION LTD
(A Govt. of M.P Undertaking.)

Tender Document

For

Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre under e-District Project

(Tender no. MPSEDC/MKT/2009/171)

(All pages of this document except for Commercial-bid to be submitted in original duly signed on each page along with the technical bid envelope. The Commercial bid in original is to be enclosed in a separate sealed envelope)

M.P. State Electronics Development Corporation Ltd.
147, Zone-I, M.P. Nagar, Bhopal-462011 (M.P.)
Ph.0755-2769816, 2769823
Fax: 0755-2769824

INVITATION FOR BIDS

Addl. Chief General manager, MPSEDC Ltd., Bhopal invites sealed bids, under two envelopes system, from bidders for Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre under e-District Project Interested bidders may obtain further information from the office of MPSEDC ltd., Bhopal Bids are invited for the work mentioned hereunder:

Sn	Items	Description
A	Scope of Work	Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre under e-District Project
B	Cost of bid document	Rs.2500.00 (non-refundable) by Demand Draft/Cash
C	Postal charges	Rs.100.00(MPSEDC LTD. shall not be responsible for any postal delay)
D	Sale of bid documents	Date 30.9.09 to 22.10.09 (Between 10.30 AM to 5.30 PM)
E	Last date of submission of bid	Date 23.10.09 up to 3.00 PM.
F	Date of opening of technical bid	Date 23.10.09 at 4.00 PM.
G	EMD	Rs.1,25,000/- in the form of Demand Draft payable to MPSEDC Ltd at Bhopal
I	Place of opening of bids:	Office of MPSEDC LTD., 147, Zone-1, Maharana Pratap Nagar, BHOPAL (M.P.)
J	Address for communication:	MPSEDC LTD., 147, Zone-1, Maharana Pratap Nagar, BHOPAL (M.P.)

 Note; Tender can be downloaded from the website www.mpsedc.com. In case tender form has been downloaded from the website, the tenderer will have to enclose a Demand Draft of Rs.2500/- (Rupees Two thousand Five Hundred only) of any scheduled bank in favor of MPSEDC Ltd. payable at Bhopal along with the tender.

 *Any future Corrigenda/Information shall be posted only on our website www.mpsedc.com

1. BACKGROUND

The National e-Governance plan (NeGP) is a major initiative of the Government of India (GOI) for ushering e-Governance at a national scale. NeGP is one of the most ambitious programs of the Government of India aimed at improving the quality, accessibility and effectiveness of government services to citizens and businesses with the help of Information and Communication Technology. One of the key focus areas of NeGP is the stress on citizen-centric services as against merely computerization of the departments.

e-District has been envisaged by Government of Madhya Pradesh (GoMP) as automation of workflow and internal processes of District Administration with the possibility of seamless integration of various departments for providing services to the citizens. This project is of paramount importance to the State as it would help in creating an electronic workflow system for the district administration and help in providing efficient individual department services through Common Service Centers (CSCs), Samadhan Ek Din centers, MP-Online kiosks and internet, which would be the primary front end channels as envisaged in the project.

Madhya Pradesh Government has chosen five districts to pilot the e-District project and provide integrated citizen centric services in the district. The identified districts are:

- Guna

- Gwalior

- Indore

- Sagar

- Shivpuri

Purpose of e-District Project

The main purpose of the e-district project is to computerize the workflow system and internal processes of the district administration of the pilot districts with the help of Information & Communications Technologies (ICT). The state envisages meeting the following objectives with the implementation of e -Districts project:

- Implementation of an efficient electronic workflow system for District Administration.
- To create an efficient IT enabled delivery mechanism for citizen services / information being delivered from District Administration and its subordinate offices
- Infusion of transparency and accountability in operations
- Reduction of workload of department personnel
- Ensuring longevity of the data / protection from damage from moisture and other climatic factors
- Electronic security and control of confidential data
- Fast processing of public cases/appeals/grievances dissemination of information as per public requirement
- To proactively provide an efficient system of disseminating information on the Government schemes planned developmental activities and status of current activities

2 SCOPE OF WORK

1. Following is the scope of work to be performed by the selected vendor:

S. no.	Scope of Work Area	Description of Scope of Work/ Deliverables for the Activity
1.	General	1. The selected vendor must sign SLA at the time of agreement with MPSEDC. 2. The selected vendor must Deliver, install, configure and provide necessary support for Servers, Storage Unit, Tape Library Unit and related equipments 3. The selected vendor must Deliver, install, configure and provide necessary support for any other hardware (including servers) that is required for the project 4. The selected vendor must provide necessary support for Datacenter and Disaster Recovery Site to their respective vendor(s). 5. The selected vendor must Install, configure and provide necessary support for software on servers and/or desktops 6. The selected vendor must provide the Support staff/Administrators for Data Center operations. 7. The selected vendor must providing necessary support and coordinate with LAN/WAN vendors.
2.	Analysis	The selected vendor MUST clearly demonstrate in an effective and efficient manner the overall understanding of MPSEDC's requirements and the ability to meet the specific hardware requirements. The bidder MUST study the IT infrastructure needs of MPSEDC.
3.	Solution Implementation	Following activities (but not limited to) needs to be performed by the selected vendor: i. Integration with Existing /Coming Infrastructure ii. Deployment of required Servers, Storage, Desktops, Peripherals and Data Network at specified locations. iii. Create Logical IP Schemes with Routing Tables and ACL for Intranet and deploy the same with proper documentation. iv. Creation of logical and physical Security Plans for Data Center, Data Networks v. Security Policy Implementation etc
4.	Testing and Acceptance	The selected vendor must build up an overall plan for testing and acceptance of system, in which specific methods and steps should be clearly indicated. The acceptance test plan will be defined by the selected vendor, agreed and approved by MPSEDC and include all the necessary steps to ensure complete functionality, operation and performance of the system. i. All levels of testing will be conducted at the installation sites. ii. Testing must demonstrate that the new system satisfies the operational and technical performance criteria. iii. It is vendor's responsibility during the tests to evaluate and recommend any further changes to the infrastructure. Any recommendations for change will be discussed with MPSEDC. iv. The selected vendor must outline the methodology that will be used for testing. v. The selected vendor must define the various levels or types of testing that will be performed. vi. The selected vendor must provide necessary checklist/documentation that will be required for testing.

		vii. The selected vendor must describe how the testing methodologies will conform to requirements.
5.	External Tie Ups & Certification Support	The selected vendor will support and provide necessary inputs for Integrating the IT Infrastructure by coordinating with Application Developer for commissioning and smooth maintenance of the system.
6.	Operational Support and Maintenance (O and M)	The selected vendor shall provide operational support and maintenance services for a period of 3 years for overall system stabilization, solution maintenance, system administration, security administration, database administration, and end-user problem resolution, etc. The operational support shall ensure that the solution is functioning as intended and attending to all the problems associated in operation of the deployed system.
7.	Solution Warranty	The selected vendor MUST warrant that the systems and overall solution supplied shall have no defects arising from design or workmanship or any act or omission of the service provider. The warranty shall remain valid for a period of 3 years

8.	Comprehensive Training and Change Management	The selected vendor is required to train/retrain if required the designated technical and end-user staff to enable them to effectively operate the system and shall undertake Change Management interventions as necessary to achieve project objectives.
		
		The selected vendor shall also be responsible for re-training the operators whenever changes are made in the solution.
		Deliverables:
		  i. Change Management interventions
		  ii. Advance Administration training for Data Center Administrators for 10 Days to perform required tasks.
		  iii. User Training for officers/employees / vendors for project, in batch sizes not exceeding 30 for deployed system
		  iv. Syllabus and Manual for Training plan for the departmental users to be approved by Competent Authority beforehand.
		  v. Issue supporting documentation such as Training material, User Manuals, Maintenance Manuals, etc on 1:1 basis.
		  vi. Sign-off from MPSEDC on Training.

9.	Solution Documentation	The selected vendor shall also include preparation of documents including Technical and User Manuals, Operational Manual, Maintenance Manuals, etc. vendor shall obtain the sign-off from Competent Authority for all the documents submitted for the solution.
		Deliverables:
		  i. Technical, Operational and User Manuals for operation of the deployed solution.
		  ii. Maintenance manuals for Data Center Equipments.
		  iii. Network Diagrams for Data Center
		  iv. Documentation of IP and Subnet Scheme, Routing Tables and ACL etc. deployed for Intranet.
		  v. Documentation of all device configurations such as firewall, Router, Servers, SAN etc.

Facility Management and Administration

2. Service Support Requirements

i. The service support contact point to be established at Bhopal headquarter city.

ii. The call status report indicating the call received, call attended, call rectified and closed, call pending (with in /beyond limit) shall be required from the successful vendor on fortnightly basis. The details of components replaced during the period will also be made available by successful bidder.

iii. Successful vendor should ensure the proper monitoring and timely call attending.

iv. The successful vendor should ensure that problem in the supplied item be handled and rectified within 24 hours from the issuance of complaint.

v. In order to avoid delay in work the defective item should be replaced with new one, before taking away the defective one.

vi. The delay in rectification of call will result in penalty; prolonged and regular delays will be considered as poor after sales support and may result in vendor disqualification from participating in future MPSEDC purchases.

3. System Management, Administration, and Security Requirement

i. **General Requirements**: In addition to the management, administration, and security requirements specified in each sections covering the various hardware and software components of the System, the System must also provide for the following management, administration, and security features at the overall system level.

System installation procedures should be self explanatory, menu driven and should require minimum user interaction. A detail on-line help for installation should also be provided. Installation procedure should set all the required system parameters for successful installation of the system. The bidder should take into account ease of deployment for while proposing a solution.

The Bidder shall preferably follow best practices for security.

ii. **Facility Management and Administration**

The Facility Management operations shall include the following tasks –

- Configuration of server parameters, operating systems administration and tuning

- Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of upgrades including migration to higher versions and patches to ensure that the system is properly updated..

- Re-installation in the event of system crash/failures

- Maintenance of a log of the performance monitoring of servers including but not limited to monitoring CPU, disk space, memory utilization, I/O utilization, etc.

- Event log analysis generated in all the sub systems including but not limited to servers, operating systems, databases, applications, security devices, messaging, etc.

- Ensuring that the logs are backed up and truncated at regular intervals

- Periodic health check of the systems, troubleshooting problems, analyzing and implementing rectification measure

- Ensuring the upkeep of existing systems that would be reused and also incorporate necessary changes for new applications if any during the tenure of the contract

- Troubleshooting issues in the infrastructure, network and application to determine the areas where fixes are

required and ensuring resolution of the same.

- Identification, diagnosis and resolution of problem areas pertaining to the Server farm infrastructure and application and maintenance of assured SLA levels.

- Implementation and maintenance of standard operating procedures for maintenance of the infrastructure.

- Management of the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, applications, devices, etc.

System administration activities shall include the following tasks but not limited to the following -

- Configuring and apportioning storage space

- Setting up of working e-mail accounts and mailing lists

- Management and integration of databases

- Implementing security on the Internet / Intranet

- Setting up of firewalls and authorization systems

- Performing periodic backup of data and automating reporting tasks

- Executing hardware and software updates when necessary.

iii. Storage and Database Administration

The vendor shall administer the databases which have been setup in the server farm and provide a repository of information for Business Critical applications. Database Administration involves data backups & restores and monitoring the database server.

Storage and Database administration activities shall include the following –

- Installation and configuration of the storage system.

- Management of storage environment to maintain performance at desired optimum levels.

- Development of storage management policy, configuration and management of disk array, SAN fabric / switches, tape library, etc.

- Configuration of SAN whenever a new application is hosted at the server farm. This shall include activities such as management of storage space, volume, RAID configuration, zone, security, business continuity volumes, NAS, performance, etc.

- End-to-end management of database on continuous basis to ensure smooth functioning of the same

- Management of any changes to database schema, disk space, storage, user roles

- Review of Code of Conduct and configuration to improve performance of the application or to resolve bottlenecks if any.

- Performance monitoring and Databases on a regular basis including, preventive maintenance of the database as required.

- Applying patches and database upgrades as and when required with minimal downtime.

- Regular backups for all databases in accordance with the backup and archive policies and conduct recovery whenever required with appropriate permissions.

- Use of DBA tools related to performing database creation, maintenance, and database monitoring tasks

iv. Security Administration

The system should allow user to change his/her password based on a given time frame as well as give the User the option to change his password at any time. The system should disable the User profile after three unsuccessful log-on attempts. The system should be able to log successful and failed attempts to the system.

The bidder MUST clearly state the measures, equipment and software for security functions in order to prevent system from risks. The bidders will have the prime responsibility of the risk control.

- Information, hardware and software MUST be secured to both internal and external parties (such as through password encryption).

- The security measures adopted MUST be of wide range and of high quality, to create confidence in the systems security and integrity. The system MUST be protected against deliberate or accidental misuse that might cause a loss of confidence in it or loss or inconvenience to one or more of its users.

- System level and application level authentication between sites and between applications within sites, if any, to ensure against security attacks

Security administration activities shall include the following –

- Monitoring of various devices / tools such as firewall, intrusion detection, content filtering and blocking, virus protection, and vulnerability protection through implementation of proper patches and rules.

- Root domain administration by creating the root and sub-domains and setting the root level security policies such as authentication mechanisms (single/multi factor), password policies such as password length, password complexity, password expiry, account lockout policy, certificate policies, IPSEC policies etc.

- Periodic reviews of domain level rights and privileges.

- Maintenance of an updated knowledge base of all the published security vulnerabilities and virus threats for related software, including, but not limited to, operating systems, application servers, web servers, databases, security solutions, messaging solutions, etc.

- Ensuring that patches / workarounds for identified vulnerabilities are patched / blocked immediately.

- Responding to security breaches or other security incidents and coordinate with respective OEM in case of a new threat is observed to ensure that workaround / patch is made available for the same.

- Undertake maintenance and management of security devices, including, but not limited to maintaining firewall services to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, firewalls, servers, desktops from viruses.

- Implementation and periodic updating of the security policy.

- Operating system hardening through appropriate configuration and patch updates.

The vendor shall also provide the following anti-virus administration services –

- Monitor the Anti-Virus tool installed on daily basis and ensure that the latest patches are updated in all the systems.

- Monitor the security console and clean the virus from the systems, which are affected and if necessary, isolate those systems to avoid further spreading of viruses.

- Alert users on new virus breakouts based on the info received from the MPSEDC IT team.

- Install, configure and test latest security patches.

- Troubleshoot and rectify all virus related problems reported and also escalate if not rectified by the AV tool.

- Monitor the client security tools and adhere to the security policies of MPSEDC.

- Monitoring the efficiency and effectiveness of the Anti-Virus tool.

- Registering and updating the Anti-Virus tool on the server and the clients periodically

- Providing feedback on any new viruses detected and alarm the protection systems

v. Backup and restore

The backup and restore functions will comprise of the following activities –

- Backup of operating system, database and application as per stipulated policies at the Server Farm.

- Monitoring and enhancement of the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies.

- Ensuring prompt execution of on-demand backups of volumes, files and database applications whenever required by User Departments or in case of upgrades and configuration changes to the system.

- Real-time monitoring, log maintenance and reporting of backup status on a regular basis. Prompt problem resolution in case of failures in the backup processes.

- Media management including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fire proof cabinets.

- Physical security of the media stored in cabinets.

- Ongoing support for file and volume restoration requests at the Server Farm.

vi. Server Management

The vendor shall perform all system administration tasks like server management and operating system administration, user management, device management etc. The vendor shall ensure high availability of System resources to the users and to maximize the uptime of the system by diagnosing, detecting and rectifying the faults in time.

The Server Administration for any platform will comprise of the following activities –

- Starting/Shutdown servers or services at Server Farm

- Monitoring performance of server resources (CPU Usage, Memory, disks)

- Monitoring access logs and application logs

- Purging of files and logs

- Taking data backup and restoration

- Applying service packs, fixes, updates and security patches

- Providing helpdesk related administrative support

- Server Management operations will comprise of the following –

- Monitoring of software licenses and identification of software license procurement or up-gradation

- Providing and maintaining user access controls – creation, modification or deletion of access/authentication and administrative rights on servers as per defined access policy.

- Maintaining data access security

- Deployment, Monitoring and updating of Anti-virus software on servers

- Coordinating with Anti-virus service provider for support for virus attacks and resolution.

The bidders will provide the backup frequency and recovery plan. A combination of full (on Tape Media) and incremental (Day-time) backups should be employed to ensure disaster tolerance. The bidder MUST provide an Industry Standard BCP/Disaster Recovery plan.

vii. Installation and maintenance of E-District Application software

State has developed state-of-the-art e-District application for managing citizen centric services delivered by the District administration and the same is being rolled out to 5 districts in the pilot phase and shall be rolled out to rest of the districts in coming months.

Salient features of the Application are

- 44 services for the district administration
- Portal for the citizen with e-District forms, content and status tracking of pending applications
- Independent workbenches for CSC, District Administration roles and e-District Society
- Rule based workflow with manual over ride
- Forms management
- Document management
- Document delivery
- Digital signatures
- Biometric Fingerprint identification
- Citizen registration and Photograph capture
- Integration with third party databases
- Integration with SSDG
- Integration with MP online payment gateway
- Multi level security
- Configuration based development and scalability
- Multi-tier web based architecture
- SoA compliant architecture
- Organization and audit management
- Multi lingual interface
- Extensive SLA tracking and service delivery statistics
- Reporting, views, and MIS

The application uses following technology stack

- Microsoft XRM 4.0
- Microsoft Share point Server
- Microsoft .NET 3.5
- Microsoft SQL 2008
- Microsoft SQL reporting services
- Microsoft SQL IS and AS packs
- Microsoft Active Directory
- Microsoft Windows Workflow Framework
- Https, http, SOAP, XML interfaces
- Custom plug-ins for security, digital certificates, digital signatures, Biometric API, Payment gateway

List of services

- Issuance of Certificates
- Domicile Certificate
- Caste Certificate
- Income Certificate
- Birth and Death Certificate
- Solvency Certificate
- Disability Certificate
- Social Welfare
- Pension
- Tribal Development Department
- Janamshri Insurance Scheme
- Rahat Sahyata Yojna
- Sahariya Development Abhikaran
- Ladli Laxmi Yojana
- Freedom Fighter Honorarium

- Scholarship – Tribal and SC / ST
- Revenue Court Services
- Govt. Dues & Recovery
- Public Distribution System
- RTI / Grievances
- Right to Information (RTI)
- Grievance Redressal
- Licensing
- Arms License
- Agriculture
- Small Savings Agency License
- Issuance / Renewal of Stamp Vendor License
- Businesses
- Issuance and Renewal for Cinema / Video Parlor
- Permissions
- Permission to organize fair / use loud speakers
- Transport
- Mining
- Quarry Lease
- Auction Quarry (Temporary Permission for Government Mining)
- Temporary Permission for Mining
- Excise (NOC for Foreign Liquor Shop)
- Education - Vyapam
- Land Record – Copy of B1/Khasra Nakal
- Utility Services
- Booking of Railway Tickets
- Payment of Electricity/Telephone Bill
- Marriage Registration

Scope of Software Maintenance

It is expected that the software maintenance shall cover following activities

- Diagnose issues related to software operations or security breach
- Resolve any software bugs reported by field operations or help desk
- Develop new services as and when required
- Modify existing service as and when required
- Integrate with SSDG when it becomes available
- Maintain application uptime
- Manage data/user privileges and user administration
- Manage backup activities
- Manage SQL dba activities
- Manage application performance
- Manage Audit trails, system, db and application access logs

Deliverables for Software maintenance

It is expected that the software maintenance shall include the following tasks:
- Issue tracking and reports of maintenance on monthly basis
- Alerts on security operations on event basis
- Documentation of code altered or enhanced
- Documentation of test cases used for code change
- Documentation of operations plans and execution
- Documentation of maintenance activities on monthly basis
- Documentation of Sys Admin, Ops, DBA functions on monthly basis
- Documentation of performance issues

- Documentation of Code and db changes to the production version
- On going updation of user manual, maintenance manual, technical manual, code, design and other software artifacts
- On going updation of VSS with latest code and documentation

SLA compliance

- TAT for code change from request to production (for bug fix situation) of 5 business days or less
- TAT for code change from request to production (for new code situation) of 10 business days or less
- TAT for document completion for all deliverables of 5 business days or less

Expected maintenance environment

- Independent code development area with server and workstations
- Independent test area with server and test tools (required for above technology stack)
- Independent staging area with server and test data

Expected Staffing (for 1 year when pilot districts go live)

- 2 full time development engineers with at least 4 years experience in the technology stack above and a minimum of MCA or BTech/BE in Computer science. Certification on Microsoft XRM is a must.
- 1 Full time tester/documentation person with minimum of BCA or BIT degree and 3 years experience in testing
- 1 full time Sys/DB administrator with 5 years experience in SQL, Win, .net, IIS related operations support and a minimum of MCA or BTech/BE in Computer science. Certification of MCSA is a must.

Expected Staffing (for next 4 years when all districts go live)

- Same as above
- Additional Full time Sys/DB administrator (with same qualifications as above)

The tenderer is advised to make his own assessment of the manpower requirement and quote accordingly. The customization Code of the Application Software shall be provided by MPSEDC.

The Facility management will include the cost of repair & maintenance of all Hardware.

The selected vendor will be required to maintain an uptime of 99.5% during Prime Business Hours (10 AM to 6 PM) and 99% during the rest of the period.

The facility management services can be provided either by deploying manpower at Bhopal on full time basis or through remote monitoring & management mechanism wherein manpower may be deployed as & when required. In case of remote monitoring & management the additional cost of software required and the cost of connectivity to remote site shall be born by the bidder.

The facility management services shall be quoted for a period of three years, which can be extended be extended for further two years.

3 ELIGIBILITY CRITERIA

The following are the conditions, which are to be necessarily fulfilled, to be eligible for evaluation of the proposed solution. Only those interested bidders who satisfy the following eligibility criteria should respond to this Tender:

1. The products offered must be of high quality and manufactured by nationally / internationally reputed manufacturer having a minimum turnover of Rs.500 Crore (Attach copy of the audited balance sheet) and ISO 9001 (Services and Manufacturing) and ISO 14001 certifications.

2. In case of the representative/ dealer, the representative/dealer must attach tender specific authorization letter (in the enclosed format in the tender form) from respective manufacturer for all the products quoted by him.

3. In case of dealer the bidder must have turnover more than Rs. 5 crore, for the year 2006 or 2007 or 2008. Attach copy of the audited balance sheet.

4. Bidder or manufacturer must have successfully executed at least 1 project (in the last three years) for the Supply, Installation, Maintenance, Facility management and Integration of the project for a minimum value of Rs 50 lakhs in the government sector (attach satisfactory completion from the authorized representatives of the client along with the work order).

5. The Bidder must have working office and service center in the state of Madhya Pradesh for at least three years (attach copy of MPST / CST / TIN issued by M.P

4 INSTRUCTIONS TO BIDDERS

a. Amendments To Tender

Any changes, additions or deletions to the tender will be available on the website www.mpsedc.com . No written communication will be circulated.

b. Tender Evaluation & Contract Award

Any changes, additions or deletions to the tender will be available on the website issued by the Additional Chief General Manager, MPSEDC, Bhopal. No written communication will be circulated.

c. Sealing and Marking of Bids

The bidders shall submit EMD, technical bid (containing the technical specifications offered, literature leaflets etc and the technical and commercial deviation if any) and one original copy of commercial bid in separate, envelopes should be sealed in one main envelope. All the envelopes should be distinctly marked EMD, technical bid, and commercial bid.

The bid will consist of the following:

  i. The bidder should have service support network in Madhya Pradesh for after sales services. (Details of which to be submitted along with the bid).

 ii. Technical deviations if any, from the terms, conditions and specifications as specified in the bid document.

iii. Bid form duly filled in, signed and complete in all respects

 iv. The price should be firm, inclusive of all taxes and local levies if any. On FOR destination basis.

  v. The rates should be free from all escalation. However, all Tax and duty benefits if applicable should be passed on to us.

 vi. The inner and outer envelopes shall be addressed to the competent authority at the following address:
      THE Additional Chief General Manager (P)
      M.P. STATE ELECTRONICS DEVELOPMENT CORPORATION LTD.
      147, Zone-I, Maharana Pratap Nagar, BHOPAL-462011

vii. The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late."

viii. If the outer envelope is not sealed and marked, the competent authority will assume no responsibility for the bids, misplacement or premature opening.

ix. Telex; cable facsimile or fax bids will be rejected.

x. Conditional bids are liable to be rejected.

d. Deadline for Submission of Bid

Bids must reach to the competent authority at the address specified but not later than the time and date specified in the invitation of Bids. In the event of the specified date for the submission of bids being declared a holiday for the office of the competent authority, the bids will be received up to the appointed time on the next working day.

e. Late Bid

Any bid received after the deadline for submission of bids prescribed by the competent authority, will not be accepted and returned unopened to the bidder.

f. Modifications and Withdrawal of Bid

The bidder may modify or withdraw its bid after bid's submission, provided that written notice of the modification or withdrawal is received by the competent authority prior to the deadline prescribed for submission of bids.

g. Bid Process

i. Opening of Bids

Since it is a Two-bid system, Technical and EMD envelope will be opened first by the Committee constituted for this purpose. If the technical bid specifications offered, EMD and deviations asked (if any) are found in order, the Committee will open commercial bid only for the eligible bidders.

The Committee will open the bids, in the presence of Bidders' representatives who choose to attend on the date specified at the following location:

Addl. CGM (P)
M.P. STATE ELECTRONICS DEVELOPMENT CORPORATION LTD.
147, Zone-I, Maharana Pratap Nagar, BHOPAL-462011

Prospective Bidder representatives shall sign a register evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for the office the Competent Authority, the bids shall be opened at the specified time and location on the next working day.

In case, the commercial bid is not opened on the same or next day of opening of technical bid the Committee may decide to open the commercial bid on subsequent dates. In such case the date, time and place of opening of commercial bid will be intimated to the bidders or their representatives.

Attach below is a diagram that represents the way the entire bidding process will take place.

ii. Preliminary Examination

Before starting evaluation, the bids will be examined to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order. In case of computational error the basic price will prevail. In case of error in totals and grand total, the sub total will prevail.

If bid is determined as not substantially responsive, the competent authority will reject it and only the

substantially responsive commercial bids will be considered.

The process of evaluation of commercial bid is as follows:

- The Committee, appointed by the Corporation, will first verify that the Bank Draft for Bid Security is in order and as per requirement of the bid. The Committee will examine the bid on Eligibility Criteria as specified. The scrutiny of technical proposals will be based on the Evaluation Criteria determined.
- The Commercial bid will be opened only for the proposals, which are found eligible and technically acceptable by the Committee and approved. On the day specification for the opening of bid, the Committee, appointed by the Corporation, will open the commercial bids of eligible bidders and scrutinize the same minutely.
- The bidder is required to quote for all the items mentioned in price schedule. Therefore any bid, which does not indicate price for all the items, and any item have been left blank, it will be considered that the cost of item has been included in the other items and the total of the price quoted include for all the required items. In case complete product is left blank it will be considered as non-responsive bid and thus liable for rejection.
- After scrutiny, the Corporation after having examined the proposal may accept the same or accept the bid price of any other bidder found suitable or reject all or any proposal. The decision of the Corporation in this regard shall be final and binding.
- The corporation reserves the right to negotiate the prices with bidder/ bidders.
- The quantity mentioned in the tender document is as per our estimate only however, Corporation reserves the right to place order for the less/higher quantity or segregated delivery schedule depending on the actual requirement.

Rejection of Bids

The Competent Authority reserves the right to reject bids which are non responsive, including without limitation, bids which contain or involve the following:

i. Late or incomplete Tenders

ii. Failure to conform to the rules or requirements contained in the Tender

iii. Failure to sign the Tender as an authorized representative

iv. Proof of collusion among bidders, in which case all Tenders involved in the collusive action will be rejected

v. Non compliance with applicable law, unauthorized additions or deletions, conditional bids, incomplete bids or irregularities of any kind which may tend to make the bid incomplete, indefinite or ambiguous as to its meaning.

vi. Any exclusion of requirement within the Tender.

h. Contacting the Competent Authority

No Bidder shall contact on its own, the Competent Authority on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded.

Any effort on part of a Bidder to influence the Competent Authority or members or Technical/Monitoring committee, in its decisions on bid evaluation; bid comparison or contact award may result in rejection of the bidder's bid.

The Bid Security may be Forfeited

If a Bidder withdraws its bid during the period of bid validity specified by the bidder on the bid Form or In case of a successful Bidder, if the Bidder fails:

i. To accept the order

ii.   To furnish performance security

iii. If the Vendor, after accepting the purchase order fails to deliver the material/services as per the order.

i.   Bid Price

i.   The bidders shall indicate on the prescribed Price Schedule, including item-wise and final Bid Price of the items listed

ii.   Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and shall not be subject to variation on any account.

iii. A bid submitted with an adjustable price will be treated as non-responsive and rejected.

Terms and Conditions

1. Performance Security:

The project will carry a performance guarantee for three year. This guarantee may be invoked on violation of any of the condition (s) given below:

If any of hardware or services, which shall be given by you, does not perform satisfactorily

The observed output/deliverables of the project is not in accordance with the approved specification.

The security system is not foolproof, with unauthorized person being able to access/infiltrate into the system.

The corporation suffers losses by way of some of the module generating illegal/ incorrect reports/output.

In order to take care of the concerns outlined above, the tenderer is required to furnish Performance Guarantee worth of 10% of the value of project, valid up to a period of three years. Performance security should be submitted within 7 days of receiving the work order.

2. Project Time line and Payment Milestone: Total period for Supply, Installation and Commissioning of Servers, SAN and other hardware components at Data Centre will be 90 days.

Payment shall be released by MPSEDC as per the following terms:
Payment for 80% of the value of goods supplied shall be released against proof of delivery of consignment on submission of bills in triplicate. Balance 20% shall be released in 12 Quarterly Instalments along with payment of the Facility management charges.

The Facility management charges as mentioned in the scope of work shall be released in 12 Quarterly Instalments against proof of satisfactory performance of Management Services. The bills for the purpose of release shall be submitted to MPSEDC, Bhopal. Interest on delayed payment shall not be payable.

3. Installation Verification & Quality Check: Checking will be conducted by the officer/agency appointed by the Competent Authority.

4. Penalty

i. Delay in time line – A delay in supply, installation & commissioning of Hardware & Software would invite a penalty of 0.5 % of the hardware & software cost per week. A delay of more than 4 weeks may result in cancellation of contract & forfeiture of Performance Guarantee.

ii. Non performance of Facility management Services – The penalty for downtime for Facility management Services shall be 5 % of the facility management charges for a downtime time of every 0.5 % (or part) beyond the permissible limits (i.e. 0.5 % % during PBH and 1 % during Non PBH). Downtime will be calculated on Quarterly basis. The downtime during Non PBH shall be calculated as half of the actual downtime. For example a downtime of 2 hours during Non PBH shall be considered as 1 hour. If the uptime falls below 95 % may result in cancellation of contract & forfeiture of Performance Guarantee.

6 GENERAL INFORMATION AND EMD DETAILS

1	EMD Details DD No and date: Amount in Rs. Name of the Bank:	
2	Name and Address of the Tenderer:	
3	Contacts:	
4	Telephones:	
5	Fax:	
6	E-mail:	
7	Mobile No:	
8	Category of the tenderer (Whether company, partnership firm or Proprietary concern)	
9	Name of Chief Executive Officer and Telephone No.	
10	Year of Establishment	
11	Sales Tax/Commercial Tax/ CST nos.	
12	Income Tax PAN/GIR No.	
13	Yearly Turn over of the Last 2 years.	
14	Name and Address of the Banker	
15	List of major Clients and the size of orders executed	

Note: Separate sheets may be attached wherever necessary.

Signature of the Tenderer

With stamp and date

Letter for Submission of tender

The _____
MPSEDC
Bhopal,
Madhya Pradesh
Reference. Tender No. …………………Dated……………….

Sir,

Having examined the tender document relating to the Selection of Vendor for Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre for the e-District project as detailed in your tender, Conditions and Scope of Work etc, and having understood the provision & requirement relating to the preparation and all other factors governing the tender , We hereby submit our offer to carry out the Selection of Vendor for Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre for the e-District project in accordance with the terms & conditions and confirm our acceptance to execute the order within the time period specified in the tender document, at the rates quoted by us in the accompanying Technical & Commercial bid.

If after the tender document is accepted, we fail to complete the Selection of Vendor for Supply, Installation and Maintenance of Servers, SAN and other hardware components at Data Centre for the e-District project as per the order, we agree that, MPSEDC Ltd, Bhopal shall have full authority to forfeit the earnest money and cancel our order with no obligation on their part.

We further confirm that,

1. We have successfully executed orders of similar nature and have sufficient experience & financial strength in handling orders of this value.

2. We have sufficient qualified manpower & necessary materials to execute the order efficiently in the specified time schedule. The quoted rates shall be valid till the completion of the order.

3. We further confirm that all chapters of the tender have been read & understood & signed & there is no deviation/discrepancy.

We do hereby undertake, that, until a formal contract is prepared and executed, this bid, together with your written acceptance thereof or placement of letter of intent awarding the contract, shall constitute a binding contract between us.

We confirm that we have not been blacklisted by any Government/ Government organization in India.

The information given along with the Bid is true and we understand that if the information provided by us is found to be wrong at any point of time during the Bid Process or Contract period our Bid/Contract may be cancelled and the BidSecurity/Performance Guarantee may be forfeited.

Signature of the Tenderer
With stamp and date

Annexure - **<u>Manufacturers Authorization Form</u>**

Ref No: ………………….
Dated: …………………..

To,
The Additional Chief General Manager
M.P. State Electronics Development Corporation Limited
147, Zone-I, Maharana Pratap Nagar, Bhopal-462011

Tender No:…………………………………………… Due Date: ……………………….

Dear Sir,

We_____who are established and reputed Manufacturers of
_____ having factories at
_____ (address of the factory) do hereby authorize
M/s _____(Name & Address of the Bidder) to submit a bid, and subsequently
negotiate and sign the contract with you against the above tender.

We hereby extend our full guarantee, warranty and support and also in meeting warranty obligations by providing
necessary spares in time for the goods & services offered by the above firm against this tender, as per standard as
well as MPSEDC warranty terms.

Yours faithfully

(Name)
(Name of the manufacturer)

Note: This letter of authority should be on the letterhead of the manufacturer be signed by a person competent and
having a power of attorney to bind the manufacturer. The bidder in its bid should include it.

Technical Specification

Note: Bidder has to provide the following items as required.

1. Server (Blade) Type I

Features	Specifications Required
Processor	Server class chipset featuring Nehalem processors to be configured with One No. of 2.93 GHz, 8MB L3 cache - Quad-core processor, servers should be capable of having two processors.
Memory	Server should be supplied with 12 GB memory. The server should have Twelve (12) DDR3 Registered or Unbuffered DIMM Memory Slots
	Should support Advanced memory protection technologies like AECC,memory mirroring and memory lockstep mode.
Hard Disk	Should be supplied with 2 x 146GB @ 15k rpm SAS drives. The internal storage should be configured in RAID 1 for OS.
	Hard drives to be hot-pluggable and of small form factor.
	Storage controller capable of providing RAID 0, 1 configurations with option for upgradeability to 256 MB Battery Backed Up Write Cache
Expansion Slots	Should have a minimum of 2 PCIe based mezzanine slot and simultaneously host interconnects of Ethernet,FC fabrics.
Network	Server to provide two 10G network ports for connectivity to Ethernet switch.
	Ports to be available for USB,Network and management
FC Card	Dual Port Fiber channel Mezzanine card to connect to shared storage
Management	Should provide remote management software capable of providing graphical interface, virtual media and multi-factor authentication.
	Server management software should be of the same brand as the supplier.
	Server management software capable of providing role-based security, alerts of critical component failure (Hard drive, memory, CPU) and notify the same using email, pager, SMS.
OS	Servers should support Industry-led operating system platforms including Windows Server 2003,2008, Red Hat Enterprise Linux, , Virtualization software like VMware
Network	Server to provide two 10G network ports for connectivity to Ethernet switch.
	Should have Lan-on-Motherboard feature providing 10Gb speeds in the design supporting technologies in TOE,iSCSI and RDMA
	Ports to be available for USB,Network and management
Management	Should provide remote management software capable of providing graphical interface, virtual media and multi-factor authentication.
	Server management software should be of the same brand as the supplier.
	Server management software capable of providing role-based security, alerts of critical component failure (Hard drive, memory, CPU) and notify the same using email, pager, SMS.
OS	Servers should support Industry-led operating system platforms including Windows Server 2003,2008, Red Hat Enterprise Linux, , Virtualization software like VMware

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Management	Should provide remote management software capable of providing graphical interface, virtual media and multi-factor authentication.
	Server management software should be of the same brand as the supplier.
	Server management software capable of providing role-based security, alerts of critical component failure (Hard drive, memory, CPU) and notify the same using email, pager, SMS.
OS	Servers should support Industry-led operating system platforms including Windows Server 2003,2008, Red Hat Enterprise Linux, , Virtualization software like VMware

2. Server (Blade) Type II : Same as Type I given above but with 16 GB RAM in place of 12 GB RAM

3. Server (Blade) Type III : Same as Type I given above but with 24 GB RAM in place of 12 GB RAM

4. Specification for blade chassis

Feature	Specifications
Chassis	The Blade Chassis should be configured with minimum 14 Nos. of Blades. Accordingly the No. of Chassis to be quote with interoperability
	Support for Quad CPU and Dual CPU blades in the same enclosure
	Same enclosure should support Intel Xeon/AMD Opteron/RISC/EPIC based blades
	Same enclosure should support server, storage and expansion blades to enable consolidation of hardware
	Should support simultaneous housing of Ethernet,FC, iSCSI, IB interconnect fabrics offering Hot Pluggable & Redundancy as a feature for the mentioned I/O devices
Ethernet Switch	2 No.s 10G Ethernet Switching Modules to be provided in redundant configuration for Connecting to all the blade servers to external Switch. Configuration should help minimize the Ethernet Cables
Fiber Channel Modules	The Blade Chassis should be configured with redundant Fibre Channel SAN Switches. Each SAN Switch should be minimum 20 Port capable, providing connectivity to each blade server slot and providing at least 4Gbps Uplink ports for connectivity to External Storage
Management Module	System Management Port to allow simultaneous management access of multiple Blade Servers in the Chassis. GUI, console-based deployment server to set up multiple OS and application configurations
Power Modules	The enclosure should be populated fully with suitable power supplies for the full capacity. Power supplies should support N+N or N+1 redundancy configuration, where N is greater than 1.
	Should offer choice of a single phase or 3 phase power subsystem for flexibility in connecting to datacenter power enabled with technologies for lower power consumption
	Guaranteeing complete availability even on failure of any 2 power units across the enclosure.
Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics

Management Software	Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Software should save the Reports for further analysis.
	Should provision for a single console to monitor multiple enclosures
	Should support simultaneous remote access for different servers in the enclosure
	The management/controlling software's must be from the OEM itself
	Management Software Licenses for a fully populated Blade Enclosure should be given
	The software should provide Role-based (admin, user, operator, etc) security which allows effective delegation of management responsibilities by giving systems administrator's granular control.
	The management software should provide proactive notification of actual or impending component failure alerts. Should support automatic event handling that allows notification of failures via e-mail.
	Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Software should save the Reports in some format for further analysis.
	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.
	The server performance monitoring software should be able to detect, analyzes, and explain hardware bottlenecks. Also it should be able to log the data over time and allow it to replay the same in a short time frame for performance analysis.
	The Deployment software should provide for User friendly GUI/ console-based deployment to set up and install multiple OS and application configurations in individual blade server.
	Should be able to move, add, or change server network connections on the fly
	The blade system should have the capability of managing all the blades in the Enclosures simultaneously capable of monitoring both physical and virtualized environments with single signon capability for all devices in the enclosure

5. Storage Area Network-SAN
   - The storage array should support industry-leading Operating System platforms & clustering including: Windows Server 2008 (Enterprise Edition), Sun Solaris, HP-UX, IBM-AIX, Linux and Novell NetWare.
   - Offered Array should have usable 5 TB capacities with RAID 5 protection on 146 GB FC drives and should be scalable to at-least minimum of 96 numbers of Drives.
   - The storage array should support dual, redundant, hot-pluggable; active-active array controllers with high performance RISC/ASIC based CPUs.
   - Storage array shall be based on latest PCI-e technology to ensure that there is no IO bottleneck.
   - Controllers shall be true active-active and should support automatic changeover in case of controller failure.
   - Offered Storage Array shall be configurable in a No Single Point of failure including Array Controller card, Cache memory, FAN, Power supply etc.
   - Cache shall be mirrored across both controllers using dedicated PCI-e bus instead of disk data path.
   - The storage array should have a minimum of 4GB mirrored cache which should be automatically be managed for Read/write operations.
   - Storage box shall have more than 130,000 cache IOPS.
   - Storage box shall support more than 1200MB/sec sequential bandwidth.
   - Offered Storage shall have minimum of 4 host ports and 4 device ports for Servers and disk connectivity.
   - Offered storage shall be end to end 4Gbps.
   - The storage array should support hardware based RAID 0, 0+1, 1, 5 levels.

- The storage array should support 4Gbps dual-ported 146 / 300/ 400GB / 450GB hot-pluggable Enterprise FC and S-ATA / F-ATA (1TB) drives in the same disk shelfs.
- Offered storage shall have Switching support for disk drives for better performance and lower arbitration.
- In case of power failure, storage subsystem shall have the Capability to keep the uncommitted information inside cache for at-least 96 hours or in a de-staged fashion. Bidder shall ensure that in case of de-stage mode, Dual redundant Standby power supplies are configured.
- The Storage Array should support incremental resynchronization between Primary and Snapshot / clone volume.
- Incase of Disk failure inside the storage subsystem, Disk re-building time shall have any relation with the number of disk drives in the disk group for better recovery time and to avoid performance issues.
- Offered storage shall support non-disruptive online firmware upgrade for both Controllers and disk drives.

6. Tape Library

- Offered Tape Library shall support Native data capacity of 6TB (uncompressed) expandable to 12 TB (compressed).
- Tape Library shall provide web based remote monitoring capability.
- The Tape Library unit shall be configured with FC LTO Gen4 Tape Drives.
- Tape Drive Architecture in the Library shall conform to Ultra3 SCSI standards.
- Offered LTO4 drive in the Library shall conform to the Continuous and Data rate matching technique for higher reliability.
- Offered LTO4 drive in the library shall offer optional WORM support and embedded AES 256 bit Encryption support.
- Offered LTO4 drive shall have native speed of 120MB/sec and a compressed speed of 240 MB/sec for 2:1 compression.
- Tape Library shall provide Fiber connectivity to SAN Environment.
- For optimal Performance. Tape Library shall provide 4Gbps Native FC interface connectivity to SAN switches.
- Tape Library shall be offered with minimum of 24 slots and barcode reader.
- Tape library shall support removable magazine and mail slot.
- 10 nos of tapes to be provided with the tape library

7. SAN Switch

For connectivity of Servers, SAN and Tape Library, 4Gbps Fiber channel SAN Switches with adequate number of active ports should be provided. SAN Switch should be scalable to minimum 24 ports & relevant S/w with Licenses for integration of Servers with Storage

8. Backup Software

- The proposed Backup Solution should be available on various OS platforms such as Windows and UNIX platforms and be capable of supporting SAN based backup / restore from various platforms including TRU64 UNIX, HP-UX, Linux, Open VMS, NetWare and Windows.
- Proposed backup solution should be offered with 4 no. of online agents for taking backup of the running Database on Windows and necessary license of taking backup from disk to tape library.

- Proposed backup solution shall support industry leading cluster solution.

- Proposed backup solution shall have same GUI across heterogeneous platform to ensure easy administration.

- The proposed Backup Solution should support tape Mirroring with primary backup. e.g. With the primary volume Backup 4 additional tape copies can be created.

- The proposed backup solution should allow creation of additional backup copies, run concurrently with primary backup, within the same Library or over the network to another tape library/stand alone drive of different format medium (e.g. Ultrium to SDLT etc..) to allow easy valuating operation.

- The proposed Backup Solution supports the capability to write up to 32 data streams to a single tape device or multiple tape devices in parallel from multiple clients to leverage the throughput of the Drives using Multiplexing technology.

- The proposed backup solution support de-multiplexing of data cartridge to another set of cartridge for selective set of data for faster restores operation to client/servers.

- The proposed backup solution should allow creating tape clone facility after the backup process.

- The proposed Backup Solution has in-built calendar based scheduling system and supports Clustering the Backup Server and Media Server on Windows and Linux.

- Backup solution shall be configured in such a fashion that licenses for LAN and SAN based backup should be provided.

- The proposed backup solution shall be offered with client licenses for SAN based backup and LAN based backup.

- The proposed Backup Solution Software has inbuilt Java / Web based GUI for centralized management of backup domain.

- Backup Software shall support encryption and all encryption keys shall be stored on to backup server for effective management.

- Backup software shall provide import and export facility of encryption keys for protection.

- The proposed solution also supports advanced Disk staging.

- The proposed Backup Solution has in-built media management and supports cross platform Device & Media sharing in SAN environment. It provides a centralized scratched pool thus ensuring backups never fail for media.

- Backup Software shall support Synthetic backup so that Full backup can be constructed directly from the disk based incremental backups.

- Backup software shall also support disk based Incremental Forever or Virtual full backup whereas every incremental backup shall be equivalent to Full backup without actually copying the actual data blocks of previous full backup.

- Backup Software is able to rebuild the Backup Database/Catalog from tapes in the event of catalog loss/corruption.

- The proposed Backup Software shall offer OPEN File Support for windows.

- The proposed Backup Solution has certified "Hot-Online" backup solution for different type of Databases such as Oracle, MS SQL, Sybase etc

- Backup software shall also support Microsoft Share point Portal server.

- The solution shall provide with the unlimited or at-least 100 licenses for Bare Metal restore for windows servers.

- The Proposed backup solution shall provide granularity of single file restore.
- The Proposed backup solution shall be designed in such a fashion so that every client/server in a SAN can

share the robotic.
- Backup Solution shall be able to copy data across firewall.
- Backup Solution shall support automatic skipping of backup during holidays.

9. Disk to Disk Backup

- Offered Disk to disk backup device shall be Modular design to allow configuration, add capacity increase performance.
- Offered device shall be offered with Minimum of 3TB of usable space in Raid 6 scalable to 7TB usable space in Raid 6.
- Offered device shall have the ability to configure at-least 16 tape drives, 700 or more Cartridge slots in the single appliance.
- Offered Solution shall have capability to deliver selective restore from disk Library itself.
- Solution shall integrate and utilize customer's current tape backup infrastructure in the following aspects
    - Compatibility with the existing backup server / media servers at customer.
    - Compatibility with existing tape library and tape drives
    - Compatibility with existing backup software
    - Compatibility with existing SAN switch hardware
    - Compatibility with all the leading backup software products and CUSTOMER BACKUP SOFTWARE specifically.

- Offered solution shall have de-duplication in-built engine.
- Ability to flexibly emulate tape drive/ tape formats LTO-Gen2, LTO-Gen3, LTO-Gen4, etc.
- Offered device shall have Minimum of 2 x 4Gbps Fibre Channel connections or 1 x 2Gbps ISCSI connection.
- Fault tolerance in the offered Virtual tape library shall be achieved by active disk redundancy technology like RAID.
- Offered device shall support and offered with de-duplication license. De-duplication shall not have any dependency on the backup software.
- Offered device shall offer inbuilt Data compression feature without using from Backup software.
- Offered device shall support throughput of 300GB/hr.
- Offered device shall have capability to attach direct LTO drives for auto-migration facility.

10. Router for DataCenter

Features	Specifications Required
Hardware Architecture	Multiple services (Data, voice, video)
	Technologies like IP, MPLS etc
	Modular Chassis
	Shall support variety of interfaces like ▪ V.35 Serial ▪ E1 Port ▪ ISDN BRI ▪ Fast Ethernet
Interface / Slots	Ethernet Ports 2 x 10/100/1000 Mbps
	E1 Interfaces 2 ports
	BRI 1 Ports
	Console port 1 numbers
	RAM 128 MB upgradeable to 256 MB or more
Memory	Inbuilt / Flash Memory 32 MB, upgradeable to 64 MB or more
	GRE and IP Sec 3DES/AES VPN for configuration of VPN tunnels.
Security	Encryptions IP Sec 3DES/AES
	NAT, PAT

Features	Specifications Required
	Access control Multilevel
	Support for Standard Access Lists to provide supervision and control.
	Controlled SNMP Access using ACL on router to ensure SNMP access only to identified NMS/EMS
	Controlled SNMP access through the use of SNMP with MD5 authentication.
	Multiple Privilege Levels for managing & monitoring
	Support for RMON 1 & 2 groups as and when required
	Support for Remote Authentication User Service (RADIUS) and AAA
	PPP CHAP support. PAP (optional)
	Static Routes
Routing Protocols	RIPv1, RIPv2
	OSPFv2 and v3.
	BGP4, IS-IS
	Route redistribution between any of the above protocols
	PPP, Multi-link PPP
Protocols	HDLC
	IPv4, IPv6
	MPLS
	VRRP / HSRP
	Using external Hardware/software infrastructure
IP Accounting	Packet & Byte Counts
	Start & End Time Stamp
	Network Time Protocol
	Input & Output interface ports.
	Type of service, TCP Flags & Protocol
	Source & Destination IP addresses
	Source & Destination TCP/UDP ports
	Accessibility using Telnet, SSH, Console access.
Management	Easier Software upgrades through network, using FTP, TFTP, etc.
	SNMPv1, snmpv2/v3
	Configuration management through CLI, GUI based software utility and using web interfaces. GUI tools shall be provided.
	Event and system history logging functions shall be available.
	Support for Syslog Server required
	Support pre-planned timed reboot to upgrade Hardware to a new software feature and plan the rebooting as an off-peak time.
	Shall support boot options booting from remote Network node.
	ToS, CoS, Queuing, prioritizing
QoS	IP Precedence, Policy based routing
	Display of input and output error status on all interfaces
Debug & Diagnostics	Display of Dynamic ARP table
	Display of physical layer line status signals like DCD, DSR, DTR, RTS, CTS on all interfaces
	Display of Routing table
	Trace-route, Ping, extended PING
	Router should be mountable on 19" Rack

Features	Specifications Required
Physical	All necessary power cords, adapters, data cables, connectors, CDs, manuals, brackets accessories, wire managers, etc. should be provided
	minimum 0.2mpps
Performance	1 x Channelised STM-1 2 x Gigabit Ethernet Interfaces
Interface Requirements	

11. Firewall

Features	Specifications Required
Users/Nodes	Unlimited
Firewall Throughput	Up to 300 Mbps
Maximum Firewall and IPS Throughput	Up to 150 Mbps with AIP-SSM-10
3DES/AES VPN Throughput	Up to 170 Mbps
IPsec VPN Peers	250
SSL VPN Peers(Included/ Maximum)	2/250
Concurrent Connections	Minimum 50,000
New Connections/ Second	9000
Integrated Network Ports	2 Gigabit Ethernet + 3 Fast Ethernet ports
Virtual Interfaces (VLANs)	Min 100
Expansion Slot	1
User-Accessible Flash slot	1
USB 2.0 Ports	2
Serial Ports	2 console and auxiliary
Rack-Mountable	Yes
Memory	256 MB
Minimum System Flash	64 MB
System Bus	Multi-bus architecture
Application Security Support	The Firewall should have Integrated specialized inspection engines for protocols like HTTP, FTP, ESMTP, DNS, SNMP, ICMP, SQL*Net, NFS, H.323 Versions 1-4, SIP, MGCP, RTSP and TAPI over CTIQBE protocol, GTP, LDAP, ILS, RPC and many more The Firewall should provide advanced inspection services to detect and optionally block instant messaging, peer-to-peer file sharing, and other applications tunneling through Web application ports It should block popular instant messaging applications such as AOL Instant Messenger, Microsoft Messenger, and Yahoo Messenger

12. Switch for Data Centre

Features	Specifications Required
Interface /Slots	1 x 24 ports 10x100 FE
	2 x 1000 Mbps ports base single mode or GE
VLAN features	IEEE 802.1Q VLAN encapsulation
	Dynamic Trunking Protocol (DTP) or equivalent
	Minimum 255 VLAN
Management	RS-232 Console port
	Accessibility using Telnet, SSH, Console access.
	SNMPv1, snmpv2/v3
Standards	IEEE 802.1x support
	IEEE 802.3x full duplex on 10BASE-T and 100BASE-TX ports
	IEEE 802.1d Spanning-Tree Protocol
Power Supply	Internal power supply 230 Volt 50Hz input
Miscellaneous	All necessary power cords, adapters, data cables, connectors, CDs, manuals, brackets accessories, wire managers, etc. should be provided

13. 42U Server Rack

- 19" 42U racks shall be used in the Data Centre for hosting the department applications of Government of Madhya Pradesh. All the racks should be mounted on the floor with castor wheels with brakes (set of 4 per rack)

- Floor Standing Server Rack - 42U with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Heavy Duty Top and Bottom frame of MS. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. with an overall weight carrying Capacity of 500Kgs.

- The racks should conform to EIA-310 Standard for Cabinets, Racks, Panels and Associated Equipment and accommodate industry standard 19" rack mount equipment.

- Cabinets shall have a provision for baying so as to suitable for both network & server applications.

- Front and Back doors should be perforated with atleast 70% or higher perforations

- Dual hinged front and quad hinged rear doors open from either left or right and are easily removable.

- Cabinets shall have provision to mount patch panels vertically between bayed position of the cabinets using vertical sliding bracket

- All racks should be OEM racks with Adjustable mounting depth, Multi-operator component compatibility, Numbered U positions, Powder coat paint finish and Protective grounding provisions.

- All racks should have mounting hardware 2 Packs, Blanking Panel (1) varying from 4 U to 5 U size.

- Keyboard Tray with BB Slides (Rotary Type) (1 no. per Rack)

- Stationery Shelf 627mm Network (2 sets per Rack)

- All racks must be lockable on all sides with unique key for each rack

- Racks should be compatible with floor-throw as well as top-throw data centre cooling systems.

- Server Racks should have the following things in addition to the above mentioned hardware
  - o PS/2 Interface adapter
  - o USB Interface adapter

- Racks should have Sliding vertical patch panel, vertical cable management finger, vertical cable management tray, sliding vertical bracket to mount patch panels.
- Wire managers
  - Two vertical and four horizontal
- Power distribution Unit
  - Power Distribution Unit - Vertically Mounted, 32AMPs with 25 Power Outputs. (20 Power outs of IEC 320 C13 Sockets & 5 Power outs of 5/13 Amp Sockets), Electronically controlled circuits for Surge & Spike protection, LED readout for the total current being drawn from the channel, 32AMPS MCB, 5 KVA isolated input to Ground & Output to Ground (1 No per Rack)
- Door
  - The racks must have steel (solid / grill / mesh) front / rear doors and side panels. Racks should NOT have glass doors / panels.
  - Both front and rear doors must have the ability to open from the left and right without the need for any field modifications or tools
- Fan trays
  - Fan 90CFM 230V AC, 4" dia (4 Nos. per Rack)
  - Fan Housing Unit 4 Fan Position (Top Mounted) (1 no. per Rack) - Monitored - Thermostat based - The Fans should switch on based on the Temperature within the rack. The temperature setting should be factory settable. This unit should also include - humidity & temperature sensor

- Depth
  - 1000 mm
- Metal
  - Aluminium extruded profile
- Side panel
  - Detachable side panels (set of 2 per Rack)
- Width

  760mm

Network Racks

- Should be available in 2-Post Configurations
- Option of 84" height
- Should be available with an option of Rail Widths: 3", 6", 12", 14.5" (2-Post)
- EIA-310-E Compliant
- UL Listed, Certification - Information Technology and Communications equipment
- Load Capacity: 1000 lb (2 and 4-Post Al)
- EIA Standard Hole Pattern: 12-24 Threads @ 5/8" (127mm), 1/2" (25.4mm) centers
- Material: Al: 6061-T6 Aluminum Extrusion (3" Rail), Al: 6061-T6 0.125" Thick, (6" and 12" Rail), Steel: 14 Gauge (0.075 Thick), CRS
- Finish: Durable black epoxy powder-coat
- Easily assembled, hardware included
- Cable Management
  - Ergonomically designed and aesthetically pleasing, Lightweight, but sturdy
  - Should have dual hinge latching door & can be opened right or left.
  - Cable fingers spaced at 1RMU increments for exact alignment with EIA standard
  - Rack spacing
  - Cable fingers support up to 48 cables per RMU
  - Should be available in 6", 12" vertical trough widths double sided.

- o In case of Horizontal cable management the cover should hinges up or down and locks into position with cylindrical finger ends for easy snap on installation
- o Horizontal cable management troughs should be available in 1, 2 RMU
- o Open back on 2U horizontal troughs for easy pass through of cables
- o Easy one point removal and installation process for door
- o Handle should be recessed to eliminate snag potential for clothes and arms
- o Should have C Channel bracket allowing for easy access to the cable trough
- o Provision for Tool-less installation of Cable Spool

14. UTP Cable

- Type
  UTP, Cat 6, ANSI/TIA/EIA 568-B.2-1
  The cable jacket shall comply with Article 800 NEC for use as a non-plenum cable. The 4 pair UTP cable shall be UL® and c (UL®) Listed Type CM.
- Conductors
  4 pair 23 / 24 AWG Copper with pair separator for uniform characteristic impedance
- Insulation
  Polyethylene/Polyolefin
       Thickness 0.22 ± 0.03mm
- Operating temperature
  -20 to +60 Deg. C
- Jacket
  Flame Retardant PVC
- Approvals
  UL Listed
- Frequency tested up to
  550 MHz
- Delay Skew
  $\leq$ 35ns
- Impedance
  1-100MHz : 100 Ω $\pm$ 15%
  100-550MHz : 100 Ω $\pm$ 22%
- Performance characteristics to be provided along with bid
- Attenuation, Pair-to-pair and Powersum NEXT, ELFEXT and PS ELFEXT, Return Loss and Delay skew tested for 100m channel as well as 90m Permanent Link

Cable Laying

- Cabling
  Structured Cabling as per industry Standards
  UL * R certified for complete channel for both Fibre and UTP (CAT 5e/ CAT6) cables.
  20/ 25 years' standard performance warranty should be given on passive components
- Documentation & Lay-outs
  UTP or OFC Cable route, with detailed diagram and plan for laying of UTP and OFC for approval.
  Termination of cabling component, UTP cable and OFC with labels & marking as per approved labeling plan & documentation.
  Documentation for all POPs (Hard and Soft Copy) to be maintained for entire 5 years of Projects.
- Conduits and Channels

PVC pipe or Casing type

    Should be 1" diameter, with ISI mark.

    At least 4 cable can laid in one casing

    Using clamp or gulli channel should be fix on wall and distance between two gulli or clamp not more then 6 inches.

GI pipe

    Should be 2" inch diameter class B standard

    At least 2 cable can laid in one pipe only

- UTP cable laying

    Should follow approved plan

    OFC laying on wall or under ground

    OFC laying on wall or underground in GI pipe, vendor should follow as approved plan

15. Jack Panel

Should be a 24 port modular / discrete patch panel.

Ports should be individually replaceable and consistent port-to-port performance

Should confirm or exceed TIA/EIA-568-B.2-1 and IEC 60603-7-4 standards requirements for CAT 6

Quadrant pair isolation and a Pyramid wire entry system
Metallic high strength and 1U height
Should be UL Listed

16. IO

Should confirm or exceed TIA/EIA-568-B.2-1 and IEC 60603-7-4 standards requirements for CAT 6

Usable bandwidth 550MHz

Utilizes TRI-BALANCE technology with optimized pair balance design
Have rear protective strain relief caps
Allow installation from the front or rear of the faceplate
Durability: 750 mating cycles on modular jack and 200 termination cycles on 110 block

17. Multimode OM3 Fiber Patch Chords

Patch Cords 550 metres channel @ 10 Gb/s

The fiber-optic patch cord shall be configurable with standard LC, SC, terminations, and shall be available in either 1.6 mm or 3.0 mm duplex zipcord.

The 1.6 mm cordage shall exceed the requirements for larger diameter cordage and allows at least twice as many fibers to be installed in a cabinet.

Feature premium fiber that meets IEEE 802.3ae 10 Gigabit Ethernet requirements as well as IEC 60793-2-10 and TIA 492AAAC specifications for laser bandwidth Differential Modal Delay (DMD) specifications

The duplex cordage shall be 1.6 mm by 3.5 mm and have two single fiber cords joined together with a web.

The connector shall have a pull-proof design that helps prevent accidental disconnects and helps to assure optimal performance of equipment.

Be 100% optically tested to meet the following performance specifications:

Parameter	50/125μm		
	850nm	1300nm	850nm*
Min. Cable Bandwidth (MHz•km)	1500	500	2000
Max. Insertion Loss (dB)	0.50 (0.10 Typical)		
Min. Return Loss (dB)	30 (35 Typical)		

Laser bandwidth

18. Mounting Cords

- o Length
  10, 20, 30 and 40 feet
- o Conductor
  23 / 24 AWG 7 / 32, stranded copper
- o Cable Type
  UTP CAT 6 ANSI/TIA/EIA 568-B.2-1
- o Plug Protection
  Anti-snag feature
  Modular plugs, which exceed FCC CFR 47 part 68 subpart F and IEC 60603-7 specifications
- o Warranty
  20-year component warranty
- o Cable Type
  Cat 6
- o Terminals
  50 micro-inches minimum of gold plating over nickel contacts
- o Jacket
  PVC
  The cable jacket shall comply with Article 800 NEC for use as a non-plenum cable. The 4 pair UTP cable shall be UL® and c (UL®) Listed Type CM (non-plenum).
- o End point connector
  Factory fitted RJ-45 plugs at both ends with Push-Pull latching design
  Metallic isolator inside plug for optimum NEXT performance
- o Insulation
  Flame Retardant

Annexure 7- Bill of Material

S.no.	Component	Quantity
1	Server	8
3	SAN Storage	1
4	SAN Switch	2
5	Tape Library	1
6	Router for DC	2
7	Switches for DC	2
8	Firewall-Hardware	1
9	42-U Rack	2
10	Backup Software	1
11	Disk to Disk Backup	1
12	Monitor 19" LCD for blade server console	1
13	42-U Rack	2
14	UTP Cable (as required)	-
15	Jack Panel (as required)	-
16	PVC Pipe/ Casing Capping/ GI Pipe (as required)	-
17	IO, Patch Cord, Mounting Cords (as required)	-
18	Cabling (as required)	-

Annexure 8– Details of Financial Rate

S.no.	Component	Unit	Qty	Rate	Amount (inclusive of taxes and three year Warranty)
1	Server	Nos	8		
2	SAN Storage	Nos	1		
3	SAN Switch	Nos	2		
4	Tape Library	Nos	1		
5	Router for DC	Nos	2		
6	Switches for DC	Nos	2		
7	Firewall-Hardware	Nos	1		
8	42-U Rack	Nos	2		
9	Backup Software	Nos	1		
10	Disk to Disk Backup	Nos	1		
11	Monitor 19" LCD for blade server console	Nos	1		
12	42-U Rack	Nos	2		
13	UTP Cable (as required)	LS	-		
14	Jack Panel (as required)	LS	-		
15	PVC Pipe/ Casing Capping/ GI Pipe (as required)	LS	-		
	IO, Patch Cord, Mounting Cords (as required)	LS	-		
16	Cabling (as required)	LS	-		
17	Additional RAM for the server specified In the tender in 4 GB Modules	Per 4 GB modules	16 modules or 64 GB		
18	Additional 146GB @ 15k rpm SAS hot pluggable HDD for the server specified In the tender	Nos	10		
19	Additional processor for the server specified In the tender	Nos	6		
20	Total Cost of Hardware (1 to 19)				
21	Facility Management Services charges as per details specified in scope of work as a percentage of total Hardware cost per quarter. (Three months)	% of Sr No 20 per Quarter	12 Quarters		
	Total Bid cost (Sr no 20 + 21)				

The quantity of hardware may be changed as per requirement. Payment shall be made as per actual quantity installed. Charges for facility management shall be calculated accordingly.