



V.O.CHIDAMBARANAR PORT TRUST

E.D.P. CENTRE

TUTICORIN-628 004.

TENDER FOR

**SUPPLY, INSTALLATION AND COMMISSIONING OF DATA
COMMUNICATION NETWORK WITH FIBER OPTIC BACK BONE AND UTP
ETHERNET STRUCTURED CABLING NETWORK WITH ALL ACTIVE AND
PASSIVE COMPONENTS ON TURN KEY BASIS**

FOR

V.O.CHIDAMBARANAR PORT TRUST

TUTICORIN-628 004.

TENDER NO : EDP-8/1/2012

February, 2013

V.O.Chidambaranar Port Trust

Tuticorin -628 004

FAX : +91-461-2352201

Email: info@vocport.gov.in

[www:vocport.gov.in](http://www.vocport.gov.in)

ISSUE LETTER TO TENDER DOCUMENTS FOR SUPPLY, INSTALLATION AND COMMISSIONING OF DATA COMMUNICATION NETWORK WITH FIBER OPTIC BACK BONE AND UTP ETHERNET STRUCTURED CABLING NETWORK WITH ALL ACTIVE AND PASSIVE COMPONENTS ON TURN KEY BASIS IN V.O.CHIDAMBARANAR PORT TRUST.

Number of Sections making up this Tender Documents are shown in the contents.
The tender documents including a set of Pre-qualification Documents are issued to:

Name of applicant:

Address of applicant:

.

.

Date of Issue of Tender Document:

DEPUTY CHAIRMAN
V.O.CHIDAMBARANAR PORT TRUST

Signature of the Officer
Issuing the Tender Document:

Signature of the applicant:

Signature of the Officer
Opening the Tender Document:

V.O.CHIDAMBARANAR PORT TRUST

CONTENTS

<i>Sl.No.</i>	<i>Title</i>	<i>Page No.</i>
	Cover Page	1
	Issue letter to Tender document	2
	Contents	3
1	Notice Inviting Tender	4
2	Scope of Tender & Definitions	5-7
3	Instructions to Tenderers	8-18
4	General conditions of Contract	19-20
5	Technical specification and compliance report	21-24
6	Diagram - Existing Data Communication Network	25
7.	Diagram - Proposed Data Communication Network	26
8	Letter of Application (Form-I)	27
9	Profile of the Applicant (Form -II)	28-29
10	List of Clients (Form -III)	30
11	Form of eligibility criteria (Form -IV)	31
12	Support capability of firm (Form -V)	32
13	Authorisation of Certificate of OEM (Form -VI)	33
14	Specimenformat of e-payment (Form -VII)	34
15	Operational Acceptance Certificate (Form -VIII)	35
16	Form of agreement – (Form -IX)	36-37
17	Speciment form of Bank Guarantee Performance security(Form_X)	38-39
18	Technical specification and conformance list (Unpriced BOQ)	40-50
19	Price schedule (Bill of Quantity) in Cover-II	51-54

**V.O.CHIDAMBARANAR PORT TRUST
E.D.P.CENTRE
TUTICORIN-628 004.**

EDP-8/1/2012/D24

Dated: 18-02-2013

1. Notice Inviting Tender

- (a) Sealed tenders under "Two cover" system comprising of a "Technical bid" and a "Price bid" in the prescribed forms are invited from reputed firms for the work "Supply, installation and commissioning of Data communication network with Fiber optic back bone and UTP Ethernet structured cabling network with all active and passive components on a turn key basis for V.O.Chidambaranar Port Trust, Tuticorin at an estimated cost of Rs.1,21,45,837/-.
- (b) The tender documents can be downloaded from the web site www.vocport.gov.in from **19-02-2013 to 16-03-2013** - 17:00 hrs. The filled in tender documents in sealed cover superscribing tender number and due date will be received by the Deputy Chairman, V.O.Chidambaranar Port Trust, Tuticorin-628 004 upto 15:00 hours on **18-03-2013** along with a demand draft for Rs.1050/- (VAT 5% included) for the cost of tender documents on any Nationalised /Scheduled Bank drawn in favour of the Financial Adviser and Chief Accounts Officer, V.O.Chidambaranar Port Trust, payable at Tuticorin.
- (c) Tender documents can also be had from the office of the Sr.Deputy Director(edp),V.O.Chidambaranar Port Trust on all working days during working hours from **19-02-2013 to 16-03-2013** on application and on production of cash receipt for Rs.1050/- obtained from the Financial Adviser and Chief Accounts Officer, Tuticorin Port Trust, Tuticorin-628 004 towards cost of tender documents (Non-refundable). Request submitted by mail should include a demand draft for Rs.1150/- on any Nationalised / Scheduled Bank drawn in favour of the Financial Adviser and Chief Accounts Officer, V.O.Chidambaranar Port Trust, payable at Tuticorin. The Port will not be responsible for late delivery or loss of the documents sent to the applicant through post/ courier. Telegraphic/ Fax/ e-mail request for Tender document will not be entertained.
- (d) An amount of Rs.2,42,917/-- (Rupees Two lakhs Fourty two thousand Nine hundred and seventeen only) is to be paid by the tenderers along with tenders towards E.M.D. The mode of payment will be either by demand draft or Pay order issued by Nationalised/Scheduled bank drawn in favour of Financial Adviser and Chief Accounts Officer, V.O.Chidambaranar Port Trust, Tuticorin-628 004. No other mode of payment will be accepted. Tender documents shall be purchased in the name of the party who actually submits the tender.
- (e) Tenders will be received upto 15.00 hours on **18-03-2013** and will be opened on the same day at 16.00 hrs.Tenders received after the due date and time will be summarily rejected.

Sd...

Chairman
V.O.Chidambaranar Port Trust

2. Scope of the Tender

- 2.1. Offers are invited for the “Supply, installation and commissioning of Data communication network with Fiber optic back bone and UTP Ethernet structured cabling network with all active and passive components for V.O.Chidambaranar Port Trust on a turn-key basis as per the detailed specifications and diagram enclosed in Section-5, 6 and 7 respectively.

2.2. Definitions and Interpretation

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires

2.2.1 Definitions

(a) Contract elements

- i. “**Contract**” means the Contract /Agreement for the supply of goods and provision of services entered into between the Employer and the Contractor, as recorded in the Contract Form signed by the parties together with the Contract Documents and appendices referred to therein.
- ii. “**Contract Documents**” means the documents specified in the Form of Contract/ Agreement (including any amendments to these Documents).
- iii. “**Contract Agreement**” means the agreement entered into between the Employer and the Contractor using the Form of Contract Agreement contained in the Tender Documents and any modifications to this form agreed to by the Employer and the Contractor.
- iv. “**Contract Price**” means the sum named in the tender subject to additions thereto or deductions there from as may be made under the provisions here in after contained.
- v. “**Tender Documents**” means to the collection of documents issued by the Employer to instruct and inform potential Contractors of the processes for Tendering, selection of the winning Tenderer, and contract formation, as well as the contractual conditions governing the relationship between the Employer and the Contractor.

- vi. **"Tender"** means the Contractor's priced offer to the Employer for the execution and completion of the Works and the remedying of any defects therein in all accordance with the provisions of the Contract, as accepted by the Letter of Acceptance - Work Order.
- vii. **"Bill of Quantities"** means the priced and completed Bill of Quantities", forming part of the Tender.
- viii. **"Specification"** means the specification of the Works included in the Contract and any modification thereof or addition thereto made or submitted by the Contractor and approved by the Employer.
- ix. **"Letter of Acceptance"-"Work Order"** means the formal acceptance by the Employer of the Tender.

(b) Entities

- i. **"Employer"** means the Board of Trustees of V.O.Chidambaranar Port Trust or their successors and assigns, acting through its Chairman or any other officer so nominated by the Board.
- ii. **"Project Manager"** means the person appointed by the Employer to perform the duties delegated by the Employer,(Senior Deputy Director, Electronic Data Processing), V.O.Chidambaranar Port Trust
- iii. **"Contractor"** means the person, firms or company whose Tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person.
- iv. **"Contractor's Representative"** means any person nominated by the Contractor and named as such in the Contract /Agreement and approved by the Employer to perform the duties delegated by the Contractor.
- v. **"Subcontractor,"** including vendors, means any person to whom any of the obligations of the Contractor, including preparation of any design or supply of any Information Technologies or other Goods or Services, is subcontracted directly or indirectly by the Contractor with the consent of the Employer and the legal successors in title to such person.
- vi. **"Board"** :- The Board means the Board of Trustees of the Port of V.O.Chidambaranar, a body Corporate under the Major Port Trusts Act 38 of 1963 represented by the Chairman, and as amended from time to time also Employer herein after called "Board"

(c) Scope

- i. **"Data Communication Network,"** means the Information Technologies, Materials, and other Goods to be supplied, installed, integrated, and made operational for data communication, together with the Services to be carried out by the Contractor under the Contract.

- ii. **“Goods”** means all hardware, cables, software, tools, equipment, machinery, and / or other materials, and other tangible or intangible items that the Contractor is required to supply or supply and install under the Contract.
- iii. **“Services”** means all technical, logistical, management, and any other Services to be provided by the Contractor under the Contract to supply, install, customize, integrate, and make operational the System.
- iv. **“Software”** means that part of the System, which are instructions that cause information processing Subsystems to perform in a specific manner or execute specific operations.
- v. **“Materials”** means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Employer under the Contract.
- vi. **“Works”** means the development and implementation of Port Operations Management System and the related Works or either of them as appropriate.

(d) Activities

- i. **“Delivery”** means the transfer of the Goods / the submission of Deliverables from the Contractor to the Employer.
- ii. **“Installation”** means that the System or a Subsystem as specified in the Contract is ready for Commissioning.
- iii. **“Pre-commissioning”** means the testing, checking, and any other required activity that are to be carried out by the Contractor in preparation for Commissioning of the System.
- iv. **“Commissioning”** means operation of the System or any Subsystem by the Contractor following Installation, which operation is to be carried out by the Contractor, for the purpose of carrying out Operational Acceptance Test(s).
- vi. **“Operational Acceptance”** means the acceptance by the Employer of the System (or any Subsystem(s) where the Contract provides for acceptance of the System in parts).

(e) Place and time

- i. **“Project Site(s)”** means the place(s) for the supply and installation of the System at V.O.Chidambaranar Port Trust Offices and other sub divisions.
- ii. **“Commencement Date”** means the 15th day of issue of work order.
- iii. **“Time for Completion”** means the time for completing the execution and complying with and fulfilling the requirements on Completion of the Works or as extended calculated from the Commencement Date.
- iv. **“Contract Period”** is the time period during which this Contract governs the relations and obligations of the Employer and Contractor in relation to the implementation of the proposed Information System.
- v. **“Warranty Period”** means the period of warranty given by the Contractor commencing at date of the Operational Acceptance Certificate of the System

during which the Contractor is responsible for defects with respect to the System and for remedying it at the cost and risk of the Contractor.

- vi. **“The Post-Warranty Services Period”** means the period following the expiration of the Warranty Period during which the Contractor is obligated to provide Software licenses, maintenance, and/or technical support services for the System, either under this Contract or under separate contract(s).

3. Instructions to Tenderers

3.1. Sale of Tender document:

Tender documents can be had from the office of the Sr.Deputy Director(edp), V.O.Chidambaranar Port Trust, Tuticorin on all working days during working hours from **19-02-2013 to 16-03-2013** on application and on production of cash receipt for Rs.1050/- (inclusive of 5% VAT) obtained from the Financial Adviser and Chief Accounts Officer, V.O.Chidambaranar Port Trust or submission of a Demand Draft of Rs.1050/- drawn in favour of Financial Adviser and Chief Accounts Officer. Applicant can also download the tender document from the Port website www.vocport.gov.in and the cost of tender document in the form of Demand Draft should be enclosed while submission of tender document. The tender document shall be sold to the tenderer who are having VAT TIN registration under TN VAT ACT. The tenderer shall furnish the TIN registration under TN VAT ACT, failing which the tender will be summarily rejected.

3.2. Submission of Tender Document:

The tenderers are required to submit their offer complete in one main sealed cover containing two separate sealed covers and these two covers shall be superscribed as COVER-I and COVER -II respectively. All the covers shall be addressed to the Deputy Chairman, V.O.Chidambaranar Port Trust and sealed properly.

Covers shall be superscribed as follows:

- | | |
|------------------|---|
| Cover-I: | Tenderer's profile and expertise in “Supply, installation and commissioning of Data communication network with Fiber optic back bone and UTP Ethernet structured cabling network with all active and passive components on a turn key basis for V.O.Chidambaranar Port Trust”(Technical Bid). |
| Cover-II: | The Price details as per Price Schedule(completely filled in) Price Bid. |

Main Cover: The Main Cover containing Cover-I(Technical) and Cover-II (Price) shall reach the Deputy Chairman, V.O.C. Port Trust on or before 15:00 hrs on **18-03-2013**.

The contents of Cover-I, Cover-II and Main Cover are as follows:

Cover I :

- (a) Cost of tender document amount of Rs.1050/- and EMD of Rs.2,42,917/- by way of Demand Draft/ Pay Order drawn in favour of Financial Adviser & Chief Accounts officer, V.O.Chidambaranar Port Trust payable at Tuticorin;
- (b) Copy of Certificate of registration of the company;
- (c) Copy of registration certificate of VAT TIN under TN VAT ACT.
- (d) List of similar supply, installation and commissioning of Data communication network with fibre optic, active & passive components works undertaken in the last seven years ending **November 2012** with documentary proof for work successfully carried out in Govt. / Public Sector organizations / Banks / MNCs / Public Ltd / Pvt firms etc.
- (e) Copies of audited financial statements highlighting income for the last three years (i.e.) 2009-10, 2010-11 and 2011-12 should be enclosed
- (f) Proof for having a local office at Tirunelveli/Madurai with telephone, support personnel and facility for storage of essential spares for providing 24 x 7 support with a response time of 2 hrs.; or an undertaking that an office with telephone, support personnel etc. will be opened immediately on award of contract.
- (g) The above copies of the supporting documents should be attested by Notary Public with seal.

All the above required for assessing the eligibility of the bidder shall be put in the first cover which shall be sealed superscribed as “Supply, installation and commissioning of Data communication network with Fiber optic back bone and UTP Ethernet structured cabling network with all active and passive components on a turn key basis for V.O.Chidambaranar Port Trust” on the bottom left corner of the cover, the name and full address of the tenderer with his official rubber stamp.

Cover-II :

Rates quoted in the Price Schedule for the work as per enclosed schedule shall be put in Cover-II which shall also be sealed and superscribed as indicated above and bear on the bottom left corner of the cover the name and address of the tenderer with his official rubber stamp. **No other documents or conditions may be added in Cover-II.**

Main Cover:

Both the sealed covers shall be enclosed in the main cover and submitted on or before the stipulated time and date. Tenders not received in time will not be considered. Tenders, when not sent by post, and when presented personally or through their authorised agents may be dropped into the tender box earmarked for this tender. V.O.Chidambaranar Port Trust will not be responsible for postal or transit delays. The full name and address of the tenderer shall be written on the bottom left hand corner of the sealed cover.

COVER-I containing the documents to prequalify the eligible tenderers and technical specifications will be opened on the scheduled date and time in the presence of such tenderers who wish to be present at the time of opening.

After opening the first cover and getting required technical/commercial clarifications if necessary, based on the information given, Port Trust will prequalify the eligible tenders based on the criteria given in Sec.,3.4.

- 3.3** On receipt of this tender document, the tenderers are advised to study the technical details, commercial terms and conditions and the criteria for qualification of tenderers. Vendors may choose to visit V.O.Chidambaranar Port Trust for collecting more information as needed, at their own cost. Requests for prior appointments for site visits, clarifications, if any, required can be sent to the Contact Person at V.O.Chidambaranar Port Trust.

Senior Deputy Director, EDP.

V.O.Chidambaranar Port Trust, Tuticorin – 628 004.

Phone – 0461 2352091. Fax 0461- 2352301. E-mail: info@vocport.gov.in

The tenderer shall be deemed to have full knowledge of the scope of the work, local conditions etc.,whether he has inspected the site or not. The submission of tender by the tenderer implies that he has read the notice and other conditions contained in the tender documents and has made himself aware of the scope and specifications and other factors bearing on the tender.

3.4 Criteria for pre-qualification:

i)Experience: The tenderer should have a minimum of 7 years of experience in the field of IT, data communication networking and hardware supply, commissioning & installation. The tenderers should enclose the certificate of registration and a list of works undertaken by them in the last seven years ending November 2012 as noted below:

a)Three similar works like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed each costing not less than Rs.48,58,335/-.

(OR)

b) Two similar work like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed each costing not less than Rs.60,72,918/-.

(OR)

c) One similar work like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed costing not less than Rs.97,16,670/--.

ii)Financial Position: Average annual turnover during the last 3 years ending 31st March, 2012 should be at least Rs.36,43,751/-. Copies of audited financial statements highlighting income from supply and installation of data communication network components should be enclosed.

iii)Capability for providing support:

Proof for having a local office at Tirunelveli/Madurai with telephone, support personnel and facility for storage of essential spares for providing 24 x 7 support with a response time of 2 hrs.; or an undertaking that an office with telephone, support personnel etc. will be opened immediately on award of contract..

The bids will be evaluated and bidders who fulfill the above criteria will be shortlisted.

- 3.5 The first Cover will be opened at 16:00 hrs. on **18-03-2013**, in the presence of the tenderers who choose to be present. Tenderers should send a “Letter of Authorisation” with an attested specimen signature of their representatives who are deputed by them to be present at the time of opening.

3.6 Earnest Money Deposit (EMD):

The tendered shall remit Rs.2,42,917/-- (Rupees Two lakhs fourty two thousand Nine hundred and seventeen only) as earnest money deposit in cash in the office of the Financial Adviser & Chief Accounts Officer, V.O.Chidambaranar Port Trust and attach the official receipt (original) with the tender. The earnest money may also be remitted by a crossed demand draft issued by a Schedule Bank / Nationalised bank payable at Tuticorin drawn in favour of Financial Adviser and Chief Accounts Officer, V.O.Chidambaranar Port Trust to be attached along with the tender. No other form of deposit towards Earnest Money shall be accepted. Cheques or currency notes enclosed in the cover containing the tender will not be accepted towards the earnest money. If the earnest money deposit is not furnished in the manner prescribed above will entail the rejection of the tender.

The Earnest Money deposited by the unsuccessful tenderers will be refunded within fifteen days, without interest, on finalisation of the contract and issue of work order. The EMD paid by the tenderer will be forfeited if the tenderer

- (i) withdraws the tender after acceptance or before commencement of work;
- (ii) revises any of the terms after presentation of the tender;
- (iii)violates any of the provisions after acceptance of the tender specifications;

3.7 (a)Performance Security:

The contractor shall deposit an amount equal to **5%** of the accepted tender value as Performance Security in the form of Demand Draft/Banker's Cheque or irrevocable Bank Guarantee obtained from the Nationalised/Scheduled Bank in the form as per specimen in the Schedule. A letter from the Bank shall also be sent along with the Bank guarantee, to the Employer within 15 days of placement of work order or before the commencement of work whichever is earlier. However, the Deputy Chairman may relax the time limit of 15 days and extend it by further period of 10 days in extraordinary circumstances for the reasons recorded by him. If the Performance Security is not deposited in time as prescribed above, the work order shall stand cancelled automatically and the Earnest Money Deposit will be forfeited. The Performance Security will remain in force throughout the period of contract including warranty period and will be refunded thereafter.

3.8 (b) Security Deposit:

Security Deposit at **10%** will be deducted from each running bill, after adjusting the amount already deposited by the contractor as EMD, subject to a maximum accumulation of **5%** of the contract price. Half of the above sum will be refunded to Contractor, if he so desires, on substantial completion and / or handing over of the work to the satisfaction of the Senior Deputy Director(EDP). The balance being held in deposit as security for satisfactorily maintaining the works free from defects for a period of 12 months after the date of completion of works. If during this period of 12 months any defects are notified which in the opinion of the Deputy Chairman are due to bad materials used and / or defective workmanship, the contractor shall be required to carry out at the contractors cost such repairs as the Deputy Chairman considers necessary or in the event of contractor failing to do this within a notified rectification of the defects from the amount retained without prejudice to the recovery of amount that may have been spent in excess of the deposit. For purpose of this clause, the period of 12 months shall count from the date of handing over of the work by the contractor.. This amount as stated above will not bear any interest.

3.9 Correction / Variations etc.,

All corrections and alterations in entries of the tender documents shall be attested with full signature of the tenderer with date. No erasures or over writings are permissible.

3.10 All Pages to be signed:

All signatures in the tender documents shall be dated. All pages of all sections of the original tender documents shall be signed with date and seal at the lower right hand corner and wherever required in the tender documents by the tenderer or by a person holding power of attorney to sign on behalf of the tenderer before submission of the tender.

3.11 Transfer of Tender Documents:

Transfer of tender documents purchased by one intending tenderer to another is not permissible.

3.12 Subletting Works:

The tenderer shall not sublet the whole or part of the works, except where otherwise provided in the contract without the prior written consent of the Sr.Deputy Director(edp), V.O.Chidambaranar Port Trust. Such consent if given shall not relieve the tenderer from any liability or obligation under the contract and he shall be responsible for the acts, defaults, and neglects of any agents, his agents' servants or workmen as fully as if they were the acts, defaults or neglects of the tenderer.

3.13 Splitting up Work:

The entire work may be entrusted to a single tenderer or may be split up and the work under the schedules may be entrusted to two or more different parties. In such events, the tenderer carrying out the relevant work entrusted to them shall work in close co-ordination without causing any delay or hindrance to other agencies.

3.14 Indemnity:

The tenderer shall fully indemnify the Board and users of the materials supplied, against the action claim or demand, costs and expenses, arising from or incurred by reasons of any infringement or alleged infringement of any letters Patent, Registered Design, Trademark or name, Copyright or any other protected rights in respect of any materials supplied or any arrangements, system or methods of using, fixing or working used by the tenderer.

3.15 Validity:

The tenderer should keep open the validity of the tender normally for 120 days from the date fixed for its opening. The tenderer will not be allowed during the declared period of validity, to revoke or cancel his tender or to vary any terms thereof without the consent in writing of the Deputy Chairnan, V.O.Chidambaranar Port Trust. Should any tenderer withdraw his tender before this period the Earnest Money deposited by the tenderer shall be forfeited.

3.16 Price:

The tenderer shall quote specific rates for each item in Section- 19 – Price Schedule in Cover II and the rates should be in Indian Rupees. The rates shall be legibly written in ink both in figures as well as in words for each item and in such a way that interpolation is not possible. The tendered amount for the work shall be entered in the tender form and duly signed by the tenderer. In case of any discrepancy between the figures and written words the rates in words shall be taken as the quoted price. Corrections wherever unavoidable shall be made by scoring out the original entry and rewriting shall be made. All corrections and alternations in entries in the tender documents shall be attested with full signature of the tenderer with date. No erasures or overwriting are permissible.

The rates quoted shall be for completed works and shall be firm. It shall include all the costs including labour, tools, materials, local transport, accommodation etc. and other incidental charges. It shall also include charges for Royalties payable in respect of the use of any software, letters patent, registered design,

trade mark of name, drawing or technical information which may be involved in the performance of this tender.

Tenderer shall not send any revised or amended offers after opening of the tender. No such documents will be entertained.

The rates and amounts entered in the schedule shall represent the tenderer's offer for the services generally in accordance with the specifications annexed hereto and also for all such work as is necessary for the proper completion of the contract although specific mention thereof may not have been made.

The price bid should be enclosed only in Cover II.

3.17. Taxes and Levies:

Sales Tax and any other tax and duties on materials and components for the work or the work as a whole in accordance with the provisions of VAT Act shall be payable by the tenderer. The Board will not be responsible for or entertain any claim whatsoever in this respect.

The Permanent Account Number (PAN) allotted by Income Tax Department for the tenderer should be furnished invariably alongwith the tender enabling the Port to issue Form 16.A for the Income Tax, payable on the contract amount at the appropriate rates levied from time to time in accordance with the provisions of the IT Act 1961, and recovered from the bills of the successful tenderer. Copy of the income tax return filed for the last year should be enclosed.

Service Tax and Vat are reimbursable subject to production of documentary evidences for payment, Service Tax Registration Number and Registration certificate. The rate of taxes applicable shall be indicated separately. All other taxes and duties payable to the Central and State government on the materials and components for the work, either in part or as a whole shall be payable by the operator. The port will not be responsible for or entertain any claim whatsoever in this regard. However, any new Taxes pertaining to the work payable by the Port will be reimbursed by the Port on production of documentary evidences.

3.18 Time Schedule:

The time allowed for completion of the work shall be FOUR months from the date of issue of work order. The tenderer shall submit with his tender a time schedule showing the target dates of the various stage of the work and how he proposes to achieve the completion of the work within the prescribed time. Time is the essence of the contract. The tenderer should work out and quote the shortest completion period for the contract after satisfying himself that he is capable of effecting the handing over of the project within the time stipulated in the tender.

3.19 Commencement of work:

The time allowed for commencement of the work "Supply, installation and commissioning of Data communication network with Fiber optic back bone and

UTP Ethernet structured cabling network with all active and passive components in VOC Port Trust” shall be 15 days from the date of issue of work order.

3.20 Formation of a Contract:

The work order on its acceptance by the tenderer will form a contract. The selected tenderer should enter into an agreement in the specific Format on Rs.100/- non judicial stamp paper at the cost of the tenderer.

3.21 Payment Terms:

On testing, commissioning and issue of operational acceptance certificate, 100% of payment of the value of work order would be made within a week's time on actual measurement of supply and laying. However, variations allowed plus or minus 2% in respect of cable work.

3.22 Liquidated Damages:

If the tenderer fails to complete the work in all respects within the time specified period or within the extended time that may be allowed by the Port the tenderer shall pay to the Port a sum equivalent to 1 % per week or part thereof the total value of the contract subject to a maximum of 10% of the total value of contract as liquidated and ascertained damages and not by way of penalty which may also be deducted from any moneys due to the tenderer. The payment of such damages does not relieve the tenderer of his obligations to complete the works or from any other obligations to complete the works or from any other obligations or liabilities under the contract.

3.23 Extension of time:

Delivery of the services / goods shall be made by the tenderer in accordance with the work schedule. However, The tenderer may claim extension of time limits as set forth in the work schedule in case of –

- a) Changes ordered by the V.O.Chidambaranar Port Trust.
- b) Delay in providing any material, drawing or services, which are to be provided by the V.O.Chidambaranar Port Trust.
- c) Force Majeure and
- d) Delay in performance of work caused by orders issued by the V.O.Chidambaranar Port Trust relevant to but not included in the contract.

The Contractor shall submit to the Sr.Deputy Director(EDP) a notice of a claim for an extension of the time for achieving Operational Acceptance, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. After receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree in writing upon the period of such extension.

3.24 Force Majeure :

In the event of the contractor is delayed in performing its obligations in the contract, and such delay is caused by force majeure including war, civil

resurrection, strikes(other than the strike solely by the Contractor's men), fire, flood, epidemics, earthquakes, extremely adverse climatic conditions, such delay may be excused and the period of such delay may be added to the time of performance of the obligations without any addition to the contract price.

3.25 Issue of Operational Acceptance Certificate:

After consultation with the Employer, and within fourteen (14) days after receipt of the Contractor's notice, the Sr.Deputy Director(EDP) shall issue an Operational Acceptance Certificate as per Form-VIII or notify the Contractor in writing of any defect or deficiencies or other reason for the failure of the Operational Acceptance Tests;

The Contractor shall remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test notified by the Sr.Deputy Director(edp). Once such remedies have been made by the Contractor, the Employer shall retest and issue Operational Acceptance Certificate or shall notify the Contractor of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.

3.26 Warranty Period:

The warranty period will be THREE years for Active and Passive components from the date of Operational Acceptance of the entire data communication network system. During the warranty period, the Contractor shall station adequate number of persons in V.O.Chidambaranar Port premises to take care of the data communication network so that the down time for the applications is kept to a minimum. The Contractor shall indicate the terms of such support during warranty period in the Technical Bid.

In the event of any defect being discovered in any part of the active components during the warranty period of THREE years from the date of operational acceptance of the work, the contractor at their own cost shall repair, supply, replace in the soonest time practicable, in any case not later than 2 hours. In the event of a failure of the contractor to execute such repairs during the notified guarantee period, to the satisfaction of the Port or within the reasonable time limit after being duly notified, the Port shall be at liberty to have the said guarantee repair completed by any appropriate measures and recover the reasonable cost thereof from any sum due to the contractor or from the Performance Security or in any other manner deemed appropriate by the Port Trust. Such failure shall also entail a penalty of Rs.500/- per day of delay beyond the prescribed time limit.

3.27 Annual Maintenance Contract:

The firm should also quote the price for annual maintenance contract for the items covered in this tender for a period of FIVE years after expiry of the warranty period in the Price Bid. However, the Port reserves the right to award the Post Implementation Support to the successful tenderer.

During AMC, the Contractor shall post adequate support personnel in V.O.Chidambaranar Port premises to ensure an availability of 99% for the entire data communication network system. The availability will be computed every year and a penalty of 1% of the AMC value shall be payable to V.O.Chidambaranar Port Trust for every hour or part thereof falling short of 99% subject to a maximum of 10% of the AMC value for each year. If the down time exceeds beyond that, the Post warranty period will be extended correspondingly. Annual Maintenance Contract payment will be made after successful completion of maintenance contract in every quarter/half year/annual basis on submission of bills/invoice by the contractor.

3.28 Termination of Contract:

(a) V.O.Chidambaranar Port shall have the right to terminate the contract without assigning any reason by giving 30 days notice in writing. In such cases, the Performance Security/Security Deposit will be refunded.

(b) In the event of continued unsatisfactory performance or non-compliance with any of the provisions of this contract, this Port reserves the right to cancel the contract and forfeit the Performance Security/Security Deposit without giving any notice.

3.29 Legal Jurisdiction:

No suits for any proceeding in regard to any matter arising in any respect under this contract shall be instituted in any court save in the city civil courts of Tuticorin. It is agreed to that no other court shall have jurisdiction to entertain any suit or proceedings, even though part of the cause of action might arise within their jurisdiction. In case of any dispute, the decision of the Chairman, V.O.Chidambaranar Port Trust is final.

3.30 Contract Labour Act:

The contractor shall comply with all necessary regulations of the Contract Labour (Regulation and Abolition) Act 1970 & 1971.

3.31 Compliance with Rules and Regulations:

The Contractor shall at all time during currency of contract confirm to and comply with the regulations and by laws of the State of Central Government or of the Board and of all other local authorities, the provisions contained in the various labour acts enacted by the State Legislature and Central Parliament in force and the rules made there under including those under Minimum Wages Act. Factories Act, the Indian Electricity Act, and Rules framed under it, workmen compensation act, Provident Fund Regulations Act, Employees Provident Fund Act 1981 and scheme made under the said act Health and Sanitary arrangements for workers safety code, and contract Labour (Regulation and Abolition) Act 1970 and the contract (Regulation and Abolition) Central Rules 1971 etc., for welfare and protection of works workers or for the safety of the public and other insurance provisions.

The Board shall not be liable for the failure of the contractor in conforming to the provisions of the acts Rules and Regulations etc., referred to in the above para and

in case of any contravention of the provisions of the Act, Rules Regulations etc., the contractor shall keep the Board indemnified against any loss cost and damage in the event of any action being taken for contravention.

3.32 Acceptance of terms & conditions:

It shall be deemed that excepting those conditions stipulated by the tenderer which vary from the conditional laid down by the Port in all the above schedule, the tenderer is agreeable to and abide by all the other conditions, specifications etc, stipulated in the tender documents even though no specific mention thereof made in the tender. The conditions stipulated by tenderer will be considered as deviations and may or may not be accepted.

3.33 Right of the Board to accept or reject the tender:

The acceptance of the tender rests with the V.O.Chidambaranar Port Trust and it is not binding ~~to~~ on the Port to accept the lowest tender. The Port reserves the right to reject any or all or the tenders received without assigning any reason. Tenders which do not fulfill all or any of the conditions or are incomplete in any respect shall be liable to be rejected. Canvassing in any form by the tenderer will result in their tender being rejected.

3.34 Employees State Insurance:

Contractor to adhere the Employees State Insurance act 1948, (34 of 1948):

(i) If the contractor is likely to employ more than 20 employees, the contractor should have obtained ESI code. Further the contractor should submit the ESI code number and confirm the payments made by them.

(ii) If the contractor employs less than 20 employees, the contractor has to give the list of employees to be deployed by them. The said contractor should have to pay them employer and employee ontribution to ,ESI in the code of VOCPT otherwise payment to contractors will be withheld.

(iii) If the contractors failed to comply with the above directions, the principal employer i.e PORT TRUST will recover the amount from the contractors bill and make payment to ESI.

THE CONTRACTOR SHOULD ADHERE TO EPF ACT, 1952

1. The contractor has to comply with all provision contained in EPF & MP Act,1952.
2. Rate quoted in BOQ (Price Bid)shall not include EPF Component. The claim for EPF component shall be admitted as per actual on submission of documentary proof of payment made to EPF Authorities along with full details of manpower deployed and calculation of contribution.

3.35 Buyback offer for old components:

The tenderer should indicate their acceptance in Schedule-18 Technical conformance check list of Sl.No.VII(Buyback offer for old components) and also indicate the Price in Schedule-19 of Sl.No.IV (Buyback offer for old components).

4. General conditions of contract

4.1. Bidders Responsibility:

Equipments and accessories to be furnished by bidder in accordance with this specification shall include the following :-

- i) Supply of hardware, software, Drawings, CD ROMs, Software Licenses and Operation Manuals.
- ii) Providing Configuration and Installation details
- iii) Test certificates for UTP and OFC cables & Performance Tests after completion of commissioning.
- iv) Transit Insurance and handling of material at site.
- v) Installation & commissioning
- vi) The bidder shall give an undertaking as a part of this contract to provide technical consultancy as required at no extra cost to V.O.Chidambaranar Port Trust and guidance for successful operation of the data communication network with fiber optic back bone and active and passive components UTP cabling work..
- vii) All Tools, Testing Instruments, Consumables etc. as required during installation, commissioning, testing and operations etc., shall be brought by the Bidders at no extra cost for completing the scope of work as per this specification.

4.2 Authorization from Principals:

- i) Bidder shall submit an undertaking from the manufacturers / OEM towards successful performance of contract including Warranty such as Active and passive components and networking management software.
- ii) Minimum THREE years warranty support commitment has to be given for Active components by OEM and passive components.
- iii) The bidder's scope also include any other services specified in the specification complete with all accessories, and associated equipment, The bidder's scope also includes Site Survey, Liaison with Statutory Bodies to obtain mandatory license / clearances, as required for this work.
- iv) The bidder shall also provide all required equipment which may not be specifically stated herein but are required to meet the intent of ensuring completeness, maintainability and reliability of the total data communication network system covered under this specification.

4.3 Site Survey:

The bidders must conduct a site visit and get familiarized with the locations where data communication network with fibre optic back bone, active and passive components, UTP cabling are to be commissioned. The site survey shall be conducted at the bidders own cost. Based on the site survey, schematic diagrams shall be drawn and produced for approval..

4.4 Schematic Diagram :

The bidder should provide a detailed schematic diagram of the proposed configuration and describe in detail all the systems. Detailed schematic of the data communication network with fibre optic back bone should be provided giving details of cables and all active and passive devices. The installation should start only after getting the drawings approved by the Sr.Deputy Director / EDP or authorized personnel. The schematic diagram shall include the following:

Detailed Network diagram

- i. Details of components of the network including all types of extra or unspecified items to be executed or installed.
- ii. Details of all unoccupied / unused slots or cores in all devices/modules
- iii. Details of all tagging to be done .

4.5 Training:

Free training to the officials nominated by V.O.Chidambaranar Port shall be provided by the Tenderer for a minimum period of five days on the operation, administration and Configuration of the system and charges if any shall be borne by the tenderer.

5. Technical Specification & Compliance Report

Data Communication Network

I. Fiber Components:

General Specifications for Passive Cabling

The fiber optic cable shall be of any one of the following make:

AMP, Molex, Systemax

1. Fiber Cable – OM3 - Multimode Indoor Cable

- Multimode OM3 Fiber Cable should fulfill the requirements Gigabit, 10Gigabit, 40Gigabit (40GBASE-SR4) and 100Gigabit (100GBASE-SR10) Ethernet applications
- Cable Type : 6 core Indoor OM3 Fiber Cable
- Specifications: ISO/IEC 11801:2002 - 2nd Edition, Type OM3; AS/ACIF S008; AS/NZS 3080:2003, IEE 802.3ba
- **Physical Properties**
- Core Diameter: $50 \pm 2.5 \mu\text{m}$
- Cladding Diameter: $125 \pm 2.0 \mu\text{m}$
- Max. Tensile Strength-Short Term: 0.6KN
- Crush Resistance-Short Term: 1.0 kN/100mm
- Temperature: -10°C to $+60^{\circ}\text{C}$
- Maximum value of fiber (for reference only) at 850 nm : 2.5 dB/km
- Maximum value of fiber (for reference only) at 1300 nm : 0.7 dB/km

Bandwidth

- OFL value at 850 nm : 2000 MHz • km
- OFL value at 1300 nm : 500 MHz • km

Construction Details

- Fibre Identification: Colour Coded
- Fibre Insulation: Coloured Nylon
- Reinforcing: Aramid Yarns
- Sheath: LSZH Black

2. 12/24 Port Rack Mount Fiber LIU

- Rack Mount: Lockable 19" rack mounted with 1U height, Sliding Drawer Type with 6 Cable entry/exit points.
- Material: Fully Powder Coated Steel Body / CRS
- Accommodation: 12/24 Port for SC Coupler

- Compatibility: Labelling for port identification, Fiber Management rings to accommodate excess fiber cordage behind the trough adapters and maintain fiber bend radius
- Certification: ROHS Compliant

3. Fiber Splice Holder

- Supports 45mm and 61mm Splice Protector
Material: ABS - Halogen Free
- Base with Self adhesive Pads of securing on a flat surface and a lid

4. Adapter Plate with Coupler

- Type: Should be compatible with unloaded LIUs (ordered separately) Snap Rivet mountable
- Coupler: SC Duplex Type with ROHS Compliant
- Colour Coded: Asper EIA/TIA Standard Single Mode - Blue and Multimode - Biege

5. Pigtail – Multimode OM3 – 1.5mtrs

- Type of connectors: SC LSOH Jacket - Reduces toxic / corrosive
- Length: 1.5 Mtrs
- Polishing: 100% Factory polished, tested and Guaranteed Performance
- Standards: ROHS Compliant

6. SC-LC Multimode OFC Patch Cords OM3

- Type of connectors: SC / LC
- Length: Minimum 3 meters
- Polishing: 100% Factory polished, tested and Guaranteed Performance
- Jacket colour: Industry Standard Colour
- Standards: ROHS Compliant

7. FC-LC Single Mode OFC Patch Cords 9/125 Micron

- Type of connectors: FC / LC
- Length: Minimum 3 meters
- Polishing: 100% Factory polished, tested and Guaranteed Performance
- Jacket colour: Industry Standard Colour

8. FC-LC Single Mode OFC Patch Cords 9/125 Micron

- Type of connectors: FC / LC
- Length: Minimum 10 meters
- Polishing: 100% Factory polished, tested and Guaranteed Performance
- Jacket colour: Industry Standard Colour

9. SC-LC Singlemode OFC Patch Cords OM3

- Type of connectors: SC / LC
- Length: Minimum 3 meters
- Polishing: 100% Factory polished, tested and Guaranteed Performance
- Jacket colour: Industry Standard Colour
- Standards: ROHS Compliant

II. Copper Components:

Copper cable: UTP cabling Solution should be ETL verified for CAT6 component compliance certified and zero bit error compliant

The UTP cable shall be of any one of the following make:

AMP, Molex, Systemax

1. Cat 6 UTP 23 AWG UTP Cable

- Cat 6: Should meet minimum Category 6 requirements
- Type of Conductors and Grade: 4 Pair 23 AWG Solid Conductors with FR Grade
- Frequency: Characterised to 400MHZ
- Standards: TIA/EIA 568B, ISO Class E 11801-2002
- Gigabit Requirements: Should meet or exceed Gigabit Ethernet Requirements at 100 meters
- Separator; Cross / Star Spine to separate 4Pairs UTP Cable
Pull Thread / Strip Thread: Should have Cable Pull Tension Thread inside the UTP Cable
- Certification: UL Listed, ETL Tested and Verified and ROHS Compliant
Weight (Kg/Km): 14
Outer Dia (+ or - 0.15mm): 6.2 mm
Meter Marking: Printed with every Feet Lengths of the UTP Cable

2.Cat6 Information Outlet

- Cat 6:Should meet minimum Category 6 requirements
- Jack Connector: Contact Material - Copper Alloy and Contact Plating 50Micron Gold/100Micron Nickel
- IDC Contact Material :Copper Alloy
- IDC Contact Plating :Tin/Lead Plate
- Dust Cover : Shd cover the RJ45 interface to avoid dust & Contaminants
- Compatibility :Should be compatible with 24 port jack panel (ordered separately)
- Standards :EIA/TIA 568-C.2, ETL Verified CAT6 Component, UL Listed and ROHS Compliant
- Gigabit Requirements Should meet or exceed Gigabit Ethernet Requirements at 100 meters

3. Cat 6 4-Pair UTP Patch Cords

- Cat 6:4 Pair 24AWG stranded copper wire
- Boots :Slim clear, anti-snag slip on boots
- Sheath :LSOH - Low Smoke Zero Halogen which reduces toxic / corrosive with RoHS Compliant
- Standards :ISO/IEC 11801:2002/Amd 2:2010 CAT6 TIA-568-C.2 and RJ45 Plug Compliant with ISO/IEC 60603-7-4 and FCC 47 Part 68

4. 24 Port Unloaded UTP Patch Panel 1U Height

- RJ45 I/O Compatibility :Should be compatible with RJ45 I/Os (ordered separately), Should be able to accept 24 Nos. I/Os
- Material :CRS - Cold Rolled Steel (Thickness - 1.52mm) with ROHS Compliant
- Dimension:19" Width, 1U Height
- Labels :Should include labels and clear label covers

5. Single Face Plate

- Size :Universal Size of 86 x 86 mm
- Colour :White
- Grade :Fire Retardant
- Made of :PS / ABS Rugged plastic with ROHS Compliant

6 Datacom Rack:

MAKE :APW/VALRACK/RITTAL

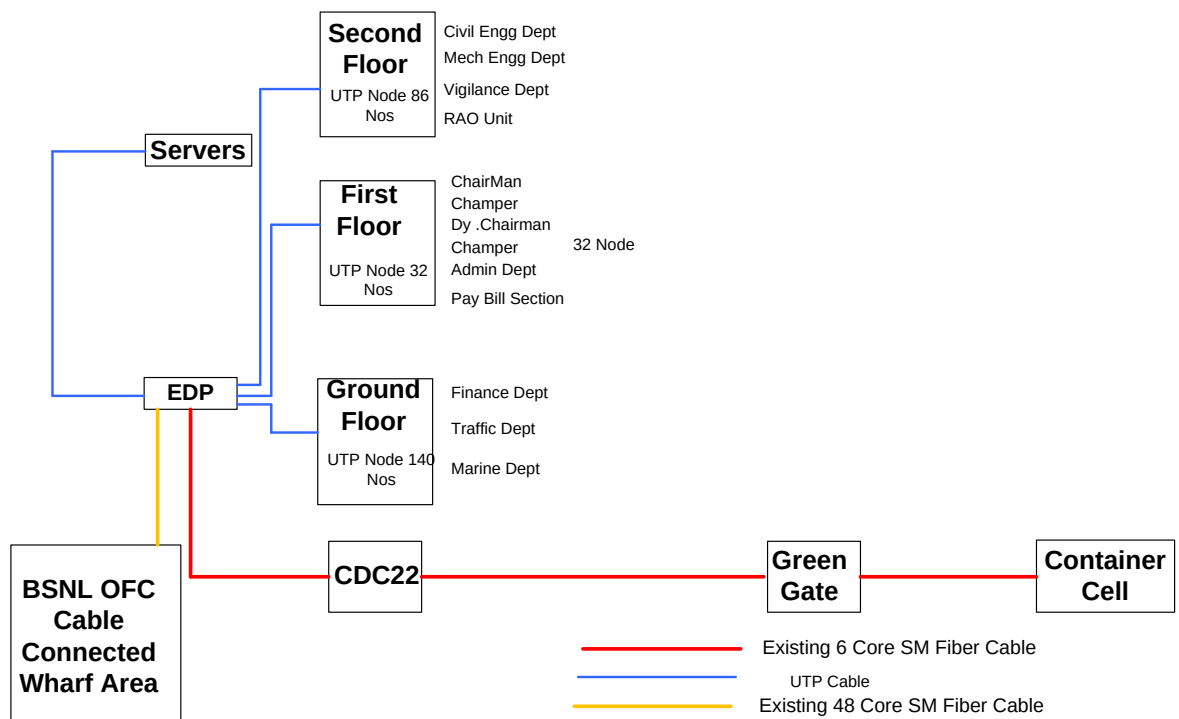
- Type: Wall mount Single Section Rack
- U Size: 19" 12U
- Depth: It Should Have 500MM Depth
- Front Door: Glass Door
- Color: Grey
- Safety: Lock & Key.
- Fan: 2 Nos of Roof Top Mounted 230v AC Fans 90 CFM
- Nuts and Bolts: Hardware Fasteners (pack of 20's)
- Power Distribution: 1 No of Horizontal Power Manager (6 X 5Amp)

Cable Manager: 1 Nos of MS Horizontal Cable Manager 1U7.

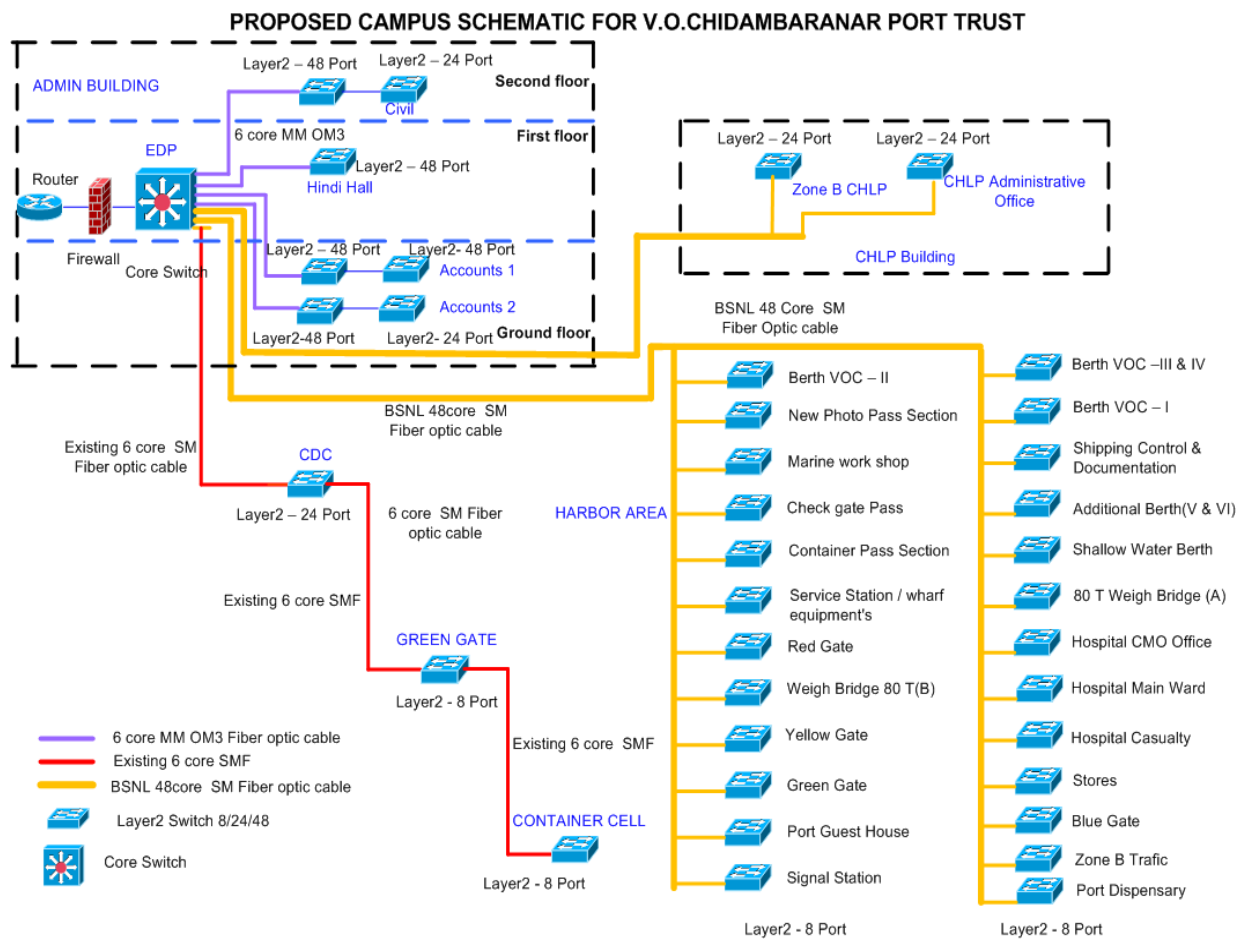
- 1.The cable laying works shall include incidental works such as jumpering, making holes, connection etc. complete.
- 2.The quantity given in the schedule are estimated values and payment will be made based on the actual work carried out.
- 3.A cable route diagram showing the lay out of the cable as installed shall be given after the completion of work.
- 4.The entire installation shall be planned so that performance certification could be obtained from reputed certifying bodies.
- 5.Test certificates in respect of OFC, UTP cables & accessories and active components shall be produced along with the invoice at the time of making delivery.
- 6.Any item of work specifically not included in this schedule but required for the successful completion of the work shall be indicated by the tenderer in this schedule and the rate quoted in the Rate Schedule in Cover II:-
- 7.All materials used in this work shall conform to the technical specifications given above and shall be got approved from the Sr.Deputy Director/EDP before using them in the work.

6. Diagram - Existing Data communication Network in V.O.Chidambaranar Port Trust

Diagram - Existing Data communication Network UTP and OFC in V.O.Chidambaranar Port Trust



7. DIAGRAM - PROPOSED SCHEMATIC LAYOUT OF DATA COMMUNICATION NETWORK IN VOC PORT TRUST



8. Letter of Application

Registered Business Name:

Registered Business Address:

To

The Sr.Deputy Director(edp)
V.O.Chidambaranar Port Trust
Tuticorin-628 004.

Sir,

- We hereby apply to be qualified with the V.O.Chidambaranar Port Trust as a bidder for "Supply, installation and commissioning of Data communication network with UTP cabling and active & passive components in VOC Port Trust"..
- We authorise V.O.Chidambaranar Port Trust or its authorised representatives to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this purpose, we hereby authorise(any public official, engineer, bank depository, manufacturer, distributor etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by Tuticorin Port Trust to verify statements and information provided in this application or regarding our competence and standing.
- The names and positions of persons who may be contacted for further information if required, are as follows:
 - i.Product details -
 - ii.Support service -
 - iii.Financial position -
- i.We declare that the statements made and the information provided in the filled in application are complete, true and correct in every detail.
- ii.We understand that V.O.Chidambaranar Port Trust reserves the right to reject any application without assigning any reasons.

Yours faithfully,

(Authorised representative of applicant)

Date:

**9. Profile of the applicant
(to be enclosed in Cover-I)**

Sl.No	Required details	Firms offer
1.	Name of the Firm	
2.	Full address	
3.	Contact Phone No./Fax No./E-mail Ids	
4.	Service Support Availability (Specify Locality)	

9. Profile of the applicant (continued)
(to be enclosed in Cover-I)

<i>Sl.No</i>	<i>Required details</i>	<i>Firms offer</i>
5	No. of Years of Experience in Supply, installation and Commissioning of Data communication network switches.	
6	List of installations for the Supply, installation and Commissioning of Data communication network switches for the last seven years.	

10. List of Clients

LIST OF CLIENTS FOR WITH SIMILAR INSTALLATIONS

SI No.	Organization	
1	Details of the job	
	Year of completion	
	Value of contract	
	Contact Person	
	Address	
	Tel & Fax	
	E - Mail	
SI No.	Organization	
2	Details of the job	
	Year of completion	
	Value of contract	
	Contact Person	
	Address	
	Tel & Fax	
	E - Mail	
SI No.	Organization	
3	Details of the job	
	Year of completion	
	Value of contract	
	Contact Person	
	Address	
	Tel & Fax	
	E - Mail	

11. Form of eligibility criteria

3.5 Criteria for pre-qualification:

Description	Filled in by the tenderer
i) Experience: The tenderer should have a minimum of 7 years of experience in the field of IT, data communication networking and hardware supply, commissioning & installation. The tenderers should enclose the certificate of registration and a list of works undertaken by them in the last seven years ending November, 2012 as noted below:	
a) Three similar work like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed by the firm at the total value not less than Rs.48,58,335/-. OR	
b) Two similar work like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed by the firm at the total value not less than Rs.60,72,918/-. OR	
c) One similar work like supply, installation and commissioning of data communication network comprising laying fibre optic cable, UTP cable and required accessories like active and passive components completed by the firm at the total value not less than Rs.97,16,670/-.	
ii) Financial Position: Average annual turnover during the last 3 years ending 31 st March, 2012 should be at least Rs.36,43,751/-- Copies of audited financial statements highlighting income from hardware supply and networking development contracts should be enclosed.	
iii) Capability for providing support: Proof for having a local office at Tuticorin or nearest district head quarters with telephone, support personnel and facility for storage of essential spares for providing 24 x 7 support with a response time of 2 hrs.; or an undertaking that an office with telephone, support personnel etc. will be opened immediately on award of contract.	

12. Support capability of firm

To be enclosed in Cover- 1

Sl.No.	Required details	Firm s offer
1.	Location from which support will be provided:	
2.	Full address	
3.	Contact Phone No. /Fax No. /E-mail Ids	
5.	No. of (Cisco Certified Network Associates)Trained Engineers available with Certifications in	

13 Authorisation of Original Equipment Manufacturer (OEM)

To be enclosed in Cover- 1

Note :- The certificate obtained from OEM shall comprise the following.

1.	Name of the Firm
2.	Official address of the firm
3.	Date of issue the certificate
4.	Validity of the certificate
5.	Status of the firm
6.	Confirmation of availability of spares and providing support for the products supplied.

14. Specimen Format for E-payment

The tenderers are requested to submit the following format duly filled in so as to enable to make the payment through electronic mode.

To

The Financial Advisor & Chief Accounts Officer, VOC Port Trust, Tuticorin.

Sl.No.	Particulars	
1.	Name of the contractor /Supplier	
2.	Address of the contractor /Supplier	
3.	Name of the work for which payment is made	
4.	Estimate No/Agreement No./Work order No.	
5.	Name of the Bank in which contractor/Supplier is operating account Either with IOB or Syndicate Bank or any other bank (If it is otherthan IOB or Syndicate Bank bank commission plus postage will be deduced)	
6.	Address of the Bank	
7.	Branch code No.	
8.	Type of account (Whether SB a/c or current a/c)	
9.	Account No.	
10.	PAN no.	
11.	Service Tax Registration No.	
12.	VAT TIN No.	
13.	Tax payer Identification Number(TIN)	
14.	IFSC Code No.	

Yours sincerely,

Signature of Contractor)

15. Operational Acceptance certificate

To:

Sir,

Pursuant to the provisions of the Contract entered into between VOC Port Trust and dated, relating to the Integrated Port Information System we hereby notify that you have successfully completed the Operational Acceptance Tests specified in the Contract for the following systems.

1. Description of the System
2. Date of Operational Acceptance:

This letter shall not relieve you of your obligations to take care of the system and the risks attached thereto and remaining performance obligations under the Contract nor of your obligations during the Warranty / Post Warranty Support Period.

For and on behalf of the Employer

Sr.Deputy Director/EDP
Date

16. FORM OF AGREEMENT

Rs.100/- Non Judicial stamp paper

The Agreement made this day Two Thousand Eleven between the Board of Trustees of V.O.Chidambaranar Port Trust, Tuticorin, a body corporate under Major Port Trusts Act, 1963, (herein after called the “Board”, which expression shall, unless excluded by or repugnant to the context, be deemed to include the successors in office) on the one part and (hereinafter called the “Contractor” which expression shall, unless excluded by or repugnant to the context be deemed to include his heirs, executors, administrators, representatives and assigns or successors in office) on the other part.

Whereas the Board of Trustees of V.O.Chidambaranar Port Trust, Tuticorin is desirous of.....
 “.....

 “(name of work)” hereinafter called the “Works”,

Whereas the contractor has offered to execute, complete and maintain such Works and whereas the Board has accepted the tender of the contractor and Whereas the contractor has furnished a sum of Rs...../-(Rupees only) as Earnest Money Deposit at the time of tendering, which will be adjusted against Performance Security Deposit for due fulfillment of all the conditions of this contract.

Now this Agreement witnesseth as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this agreement. Viz.

(a) Form of tender, instruction to tenderer, Form of agreement, General terms and conditions, Special terms and conditions, Annexure 1 to 4.

(b) The bill of quantities

(c) The letter of acceptance – work order

(d) Correspondence with contract firm before the letter of acceptance.

3. The Contractor hereby covenants with the Board of Trustees of V.O.Chidambaranar Port Trust, Tuticorin to execute the 'works' in conformity, in all respects with the provision of the agreement.

4. The Board of Trustees of V.O.Chidambaranar Port Trust, Tuticorin hereby covenants to pay the contractor in consideration of such execution, completion of the 'Works', the 'Contractor price' at the time and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties hereunto have set their hands and seals, the day and year first written.

The common seal of the Trustees of V.O.Chidambaranar Port Trust, Tuticorin was hereunto affixed and the Financial Adviser & Chief Accounts Officer thereof, has set his hand.

Deputy Chairman

Board of Trustees, V.O.C. Port Trust

in the presence of
(witness with address)

Signed and sealed by

CONTRACTOR

in the presence of
(witness with address)

Specimen formt of Form of Agreement

17. SPECIMEN FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY

1. In consideration of the Chairman representing the Board of Trustees of V.O.Chidambaranar Port (hereinafter called "the port") having agreed to exempt.....(hereinafter called the "said contractor(s)") from the demand, under the terms and conditions of contract awarded in No.....dated.....made betweenand for(hereinafter called the "said Agreement") of Performance Security for the due fulfillment by the said contractor(s) of the terms and conditions contained in the said agreement, on production of Bank Guarantee for Rs./- (Rupeesonly).

2. We,* (hereinafter referred to as the Bank) at the request of the Contractor(s)..... do hereby undertake to pay to the port an amount not exceeding Rs...../- (Rupeesonly) against any loss or damage caused to or suffered or would be caused to or suffered by the Port by reason of any breach by the said contractor(s) of any of the terms and conditions contained in the said agreement.

3. We,*, do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Port stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Port by reason of any breach by the said contractor(s) of any of the terms and conditions contained in the said Agreement or by reason of the contractor(s) failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....

4. We undertake to pay to the Port any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceedings before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

5. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.

6. We,* further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Port under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till the Tuticorin Port Trust certified that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing within three months from the date of expiry of the validity of the guarantee period we shall be discharged from all liability under this guarantee thereafter provided further that the Bank shall at the request of the Port but at the cost of contractor(s) renew or extend this guarantee for such further period or periods as the Port may require.

7. We,* further agree with the Port, that the Port shall have the fullest liberty without our consent and without affecting in any manner our obligations here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Port against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the Port, or any indulgence by the Port to said contractor(s) or by any such manner or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

8. This guarantee will not be discharged due to the change in the constitution of the bank or the contractor(s)

9. We,* lastly undertake not to revoke this guarantee during its currency except with the previous consent of the port in writing.

This guarantee is valid upto(date).

Dated the ----- day of -----(* **Indicate the name of the Bank**)

18. Technical Specification and conformance list (Unpriced BOQ)

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Make/ type	Qty.	Conformance by the tenderer
I	Specification of Core Switch	CISCO/H P /AVAYA	1 No.	
1	Hardware Architecture:			
1.1	The Core Switch should be modular chassis based with minimum 11 payload slots .These Slots should support line/payload cards with redundant CPU/switch fabric support			
1.2	Should have distributed switching architecture, where switch forwarding decisions will be taken out of each module. Each module should be provisioned with adequate hardware/software to support the same.			
1.3	Shall have CPU/ Switch Fabric and power supply redundancy from day one.			
1.4	Shall support Hot-swappable power supplies and all the switching modules.			
1.5	The core switch should support new technologies like MPLS, EoMPLS/Metro Ethernet in hardware with firmware upgrade only without upgrading the switching fabric and line modules.			
1.6	Shall have hardware based unicast, multicast and broadcast suppression.			
2	Performance Parameters:			
2.1	Dual Redundant Switch Fabric/CPU should offer minimum 2 Tbps switch fabric capacity per switch. There should not be any performance degradation in case of any switching/routing engine failure.			
2.2	In the event of failure of one switching/routing engine, forwarding should not stop and failover from one engine to other should be statefull.			
2.3	The proposed switch should support simply the changes through In-Service OS upgrade mechanism with a minimal disruption of traffic through upgrade process.			
2.4	Should have in built capability of IP SLA initiator and response functionality.			
2.5	The proposed switch should support Netflow or Sflow or equivalent. If it is given as services on a module, at least two of those modules shall be quoted to ensure redundancy of the solution.			
2.6	Minimum 700 Mpps forwarding rate should be supported.			
2.7	Chassis Should be capable of 80 Gbps of switching capacity per slot.. There should not be any performance degradation in slot throughput in case of any switching/routing engine failure.			
2.8	Shall support multi-layer switching, Layer 2 (MAC), Layer 3 (IP address) and Layer 4 (TCP UDP port) switching and application classification and redirection			
3	Layer 1 Features:			

3.1	Should support 1 Gbps, 10Gbps, 40 Gbps interfaces			
3.2	Support for 10/100/1000 BASE-T, 1000 BASE-SX, LX, LH ,ZX GBIC/SFP and 10-Gig SR,LR,ZR,ER, CX4, LX4, LRM			
3.3	Chassis shall support minimum 500 Gigabit ports or 88 Nos. Of 10-Gig ports non blocking ports.			
3.4	Chassis should be capable of supporting min 22 numbers of 40Gbps Ports			
4	Layer 2 Features:			
4.1	Shall have Layer 2 switch ports and VLAN trunks.			
4.2	Shall have IEEE 802.3 ad Link aggregation and port Trunking across line cards.			
4.3	Should support Secure Vlan based Trunking protocols with MD5 or equivalent protocol to reduce administrative burden of configuring VLANs on multiple switches in turn eliminating the configuration errors & troubleshooting in secure manner.			

Schedule-18 Technical Conformance check list (Un priced Bill of Q ty.)

I. No	Technical Description	Make/ type	Qty.	Conformance by the tenderer
4.4	Should be able to discover the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems or equivalent.			
4.5	Should support a mechanism to detect connectivity issues with both fiber and copper cabling to ensure that a partially failed link is shut down on both sides, to avoid L2/L3 protocol convergence issues.			
4.6	Should support Layer 2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination.			
4.7	Should support extensive debugging including layer 2 debugging for troubleshooting.			
4.8	Should support display and clear MAC address information in MAC Address Table.			
4.9	Shall have IEEE compliance for 802.1Q VLAN, 801.2p, 802.1d STP, 802.1ad, 802.1w RSTP, 802.1s MSTP, 802.3ad LACP, 802.1ab Link Layer Discovery Protocol, 802.3, 802.3u,802.3z, 802.3ab, 802.3ae.			
4.1	Shall have 128,000 MAC addresses.			
4.1	Shall have minimum 4000 active VLAN support.			
5	Layer 3 Features:			
5.1	Shall have basic Routing-Static IP routing, RIP v1/v2, RIPvng, equal cost routing and policy based routing			
5.2	Shall have hardware enabled advance IP routing protocols OSPF, OSPFv3, IS-IS and BGPv4. Should support minimum 128K Ipv4 and 128K Ipv6 route entries.			

5.3	Should support multicast features like PIM , PIM -SM , PIM-DM , PIM-SSM, PIM-RP accept filter, PIM neighbour filter, multicast route limit, Bidir PIM , multicast multipath. Should support minimum 128K Ipv4 and 128K Ipv6 multicast entries.			
5.4	Shall have VRRP or equivalent for redundancy.			
5.5	Shall have IGMP v1, v2, v3.			
5.6	Should support MPLS Provider/Provider Edge functionality.			
5.7	Should support MPLS VPN, MPLS mVPN (Multicast VPN), MPLS Class of Service (CoS), VRF-Aware Services (Telnet, ICMP, DHCP, Ipsec, Syslog),MPLS TE (Fast re-route), DiffServ-Aware TE, Inter-AS VPNs), MPLS Traceroute.			
5.8	Should support VRF-Lite for L3 virtualization.			
5.9	Should support MLD Snooping for Ipv6 in hardware.			
6	QoS Features:			
6.1	Shall have sophisticated QoS and Traffic Management and minimum 64K access control entries (ACEs) for QOS / Security			
6.2	Shall have Per-port QoS configuration.			
6.3	Support for IEEE 802.1p QoS policies.			
6.4	Support for Diff Serv QoS on all ports.			
6.5	Shall support minimum eight queues per port in hardware.			
6.7	Shall have priority queuing, IP differentiated service code point (DSCP) and IP precedence			
6.8	Shall have classification and marking based on full Layer 3, 4 headers			
6.9	Shall have input and output policing based on Layer 3, 4 headers.			

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Make/ type	Qty.	Conformance by the tenderer
6.10	Shall support Congestion Avoidance feature			
6.11	Shall have hardware based unicast, multicast and broadcast suppression.			
7	Availability Features:			
7.1	Should be provided with Dual Switching Fabric and any failure of one CPU/Fabric should not result in loss of capacity of the current 2 Tbps and 700 Mpps per switch			
7.2	Shall have N+1 / 1+1 Redundant Power Supply with capability of powering on fully loaded switch from day one			
7.3	Should support hot swap ability on all modules, supervisors/CPUs, Fan Tray and Power Supply			

7.4	Single Logical Switching Support (in future by adding one more Core Switch)- The Switch should support combining of two separate physical switch in a single logical unit. switch data planes of both the physical switches should be active			
8	Security Features:			
8.1	Shall have Advance security like DoS and DDoS.			
8.2	Shall have Advance security like NAT and VPN aware NAT.			
8.3	The Switch should support VLAN ACLs, port based ACLs, Role-Based ACL			
8.4	Should support Filters/Access-List on all ports and hitless changes in ACLs.			
8.5	Shall have 802.1x user authentication and accounting.			
8.6	Should support Port Mirroring on port basis / vlan basis to support intrusion prevention system deployment in different VLANs. Should support port mirroring across the switches to remotely monitor ports in a Layer 2 switch network from any other switch in the same network.			
8.7	The Switch should support a permit list of the ports that are valid for use as port mirroring destination ports to avoid accidental configuration of destination ports			
8.8	Should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses.			
8.9	Should prevent IP spoofing by forwarding only packets that have a source address consistent with the DHCP Snooping table.			
8.10	Should be able to shut down Spanning Tree Protocol PortFast-enabled interfaces when BPDUs are received to avoid accidental topology loops.			
8.11	Should be able to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.			
8.12	Shall support TACACS+ and RADIUS.			
8.13	The Switch should support Ipv4 and IPv6 uRPF			
8.14	IPv6 ACL's should support ICMPv6 packets with source or destination address and ICMP type			
8.15	The Switch should support secured communication on the links between devices in the network with a combination of encryption, message integrity check, and data-path replay protection mechanisms. The switch CPU/Switching Fabric Module Should support IEEE 802.1AE Media Access Control (MAC) Security			
9	Management Features:			
9.1	Should support configuration through the CLI, console, Telnet, Web Management			
9.2	Should support configuration and file management via FTP and TFTP.			
9.3	Shall have SSHv1 and SSHv2 support.			

9.4	Shall have SNMPv1, SNMPv2 and SNMPv3 support.			
9.5	Shall have NTP support.			
9.6	Shall have RMON support.			
9.7	Shall have Management Access Filter (Access Policies) support.			
10	Services Modules Support			

10.1	The Switch should support following Services module integration for future scalability - Firewall Module and Wireless LAN controller module			
11	Port Requirement:			
11.1	Should have 2 Nos of 48 port 10/100/1000 RJ 45 Line card			
11.2	Should have 2 Nos of 24 port 1000Base-X Line card			
11.3	All of above mentioned ports should be non-blocking ports on wire rate.			
11.4	The above modules should support Distributed forwarding support			
11.5	The above module should be compatible with the 2 Tbps supported CPU/Switchfabric			
II	Specification of Access layer Switch	CISCO/HP/A VAYA		
2.1	Switch should be 1 RU , rack mountable			
2.2	24 nos. 10/100/1000 Base-T ports and additionally 4 nos. of 1 Gb SFP ports. (Total 28 Ports)		5 No	
	Should have minimum Forwarding Bandwidth of 85 Gbps.			
	Should have minimum switching bandwidth capacity 170 Gbps.			
	Should have minimum of 41 Mpps throughput.			
	Should be stackable in nature and should provide at least 20 Gbps stacking bandwidth with dedicated stacking port whenever required. Switches in a stack should be manageable with single IP. Stacking Modules can be procured at later stage if needed.			
2.3	48 nos. 10/100/1000 Base-T ports and additionally 4 nos. of 1 Gb SFP ports. (Total 52 Ports)		5 No	
	Should have minimum Forwarding Bandwidth of 85 Gbps.			
	Should have minimum switching bandwidth capacity 170 Gbps.			
	Should have minimum of 77 Mpps throughput.			
	Should be stackable in nature and should provide at least 20 Gbps stacking bandwidth with dedicated stacking port whenever required. Switches in a stack should be manageable with single IP. Stacking Modules can be procured at later stage if needed.			
2.4	8 nos. 10/100/1000 Base-T ports and additionally 2 nos. of 1 Gb SFP Uplink ports. (Total 10 Ports)		27 No	
	Should have minimum Forwarding Bandwidth of 10 Gbps.			
	Should have minimum of 13 Mpps throughput.			

	Specifications common for all the Access Switches			
2.5	Should support IEEE 802.1Q VLAN encapsulation and minimum 250 VLANs and 4000 VLAN IDs per switch			
2.6	Should support minimum 8000 MAC Addresses			
2.7	Should have minimum 64 MB of Flash memory and 128 MB of DRAM memory			
2.8	Should support Jumbo frames of 9018 bytes			
2.9	The switch should support MTBF of over 300000 hours			
2.10	Should support hot swappable 1000 Base-SX, 1000 Base-LX/LH modules			
2.11	Should support IEEE Standards of Ethernet: IEEE 802.1d, 802.1s, 802.1w, 802.3af, 802.3at, 802.3ad, 802.3x, 802.1D, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z			
2.12	Should support static routing			
2.13	Should support secure mechanism with MD5 for automatic configurations of VLANs to reduce administrative burden of configuring VLANs on multiple switches in turn eliminating the configuration errors & troubleshooting in secure manner			
2.14	Should be able to discover the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.			

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Make/ type	Qty.	Conformance by the tenderer
2.15	Should support automatic adjustment of transmit and receive pairs if an incorrect cable type (crossover or straight-through) is installed.			
2.16	Should support Time Domain Reflectometry (TDR) for detecting cable breaks and shorts			
2.17	Should support a mechanism to detect connectivity issues with both fiber and copper cabling. Ensures that a partially failed link is shut down on both sides, to avoid L2/L3 protocol convergence issues			
2.18	Should support Layer 2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination			
2.19	Should support layer 2 debugging for troubleshooting			
2.20	Should have capability to response IP SLA request to determine network performance and monitoring			
2.21	Switch ports should automatically detects the type of device connected and offers a best-practices configuration to the ports, for example Laptop, printer, PoE Devices, voice/video end points etc			

2.22	Should support detection of Voice over IP device and automatic configuration to classify traffic and prioritize VoIP traffic			
2.23	Should support DiffServ / ToS Marking & Policing			
2.24	Should support ingress and egress Strict Priority Queuing			
2.25	Should support at least 4 Queues to differentiate and prioritize different applications (Voice / Video / Data)			
2.26	Should support IGMP v1, v2 and v3, IGMP Snooping and MLD v1 and v2 snooping			
2.27	Should support Multicast VLAN Registration (MVR) feature			
2.28	Should support MAC Address Based Security on per port basis and MAC aging			
2.29	Should have the capability to display and clear MAC address information in MAC address table			
2.30	Should support unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address			
2.31	Should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication			
2.32	Should support IEEE 802.1x with ACLs, Dynamic VLAN assignment, Web Authentication, multi domain authentication and MAC authentication bypass			
2.33	Should support VLAN-based, Port-based and Time-based ACLs			
2.34	Should support SSHv2 and SNMPv3 to provide network security			
2.35	Should support TACACS+ and RADIUS authentication			
2.36	Should support L2 convergence features like MSTP, RSTP, PVST, PVST+, STP portfast, STP uplinkfast, STP backbone fast etc.			
2.37	Should be able to shut down Spanning Tree Protocol portfast-enabled interfaces when BPDU s are received to avoid accidental topology loops			
2.38	Should be able to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes			
2.39	Should support unicast, multicast and broadcast storm control			
2.40	Should support DHCP, DHCP snooping, Dynamic ARP Inspection and IP Source guard			
2.41	Should support multilevel security on console access to prevent unauthorized users from altering the switch configuration			

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl.No.	Technical Description	Make/Type	Qty.	Conform ance by the tenderer
2.42	Should support IPv6 addressing, ICMPv6, TCP/UDP over IPv6, HTTP over IPv6, HTTPS over IPv6, SNMP over IPv6, Syslog over IPv6 etc.			
2.43	Should support 4 Groups of RMON I and Alarms			
2.44	Should support port mirroring based on port basis / vlan basis to support intrusion prevention system deployment in different VLANs. Should support port mirroring to remotely monitor ports in a Layer 2 switch network from any other switch in the same network.			
2.45	Should support accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface.			
III	NMS	CISCO/HP/ AVAYA		
3.1	NMS should have sufficient license to manage up to 100 network devices.		100 Device license/(1 No)	
3.2	NMS should offer intelligent, automatic discovery of network devices to create topology views of the network.			
3.3	The NMS should be able to provide details on utilization, performance and statistics at the port level			
3.4	The NMS should be capable of managing individual ports of manageable switches			
3.5	NMS should be capable of measuring uptime of individual network components required for SLA reporting			
3.6	NMS should intelligently analyze fault conditions, detecting problems before they become network disruptions.			
3.7	NMS should provide network response and availability information for LAN network.			
3.8	Historical reporting facility that will allow for the generation of on demand and scheduled reports of Business Service related metrics with capabilities for customization of the report presentation.			
3.9	All the devices and the associated links should be continuously monitored by the NMS and the alarms/alerts will be provided in case of failure of any device/link			
3.10	Network monitoring shall be based on SNMP			
3.11	Additionally whenever there is any network component failure, the NMS should log all the faults in the event window with a timestamp, event description or event details, component affected, etc.			

3.12	The reporting engine should generate the reports based on the data collected, and help user in accessing these graphical reports using standard Web browser or any standard browser etc. such as Internet Explorer			
3.13	The system must be capable of automatically discovering manageable elements connected to the network and mapping the connectivity between elements, including port-level connectivity			
3.14	The solution should have the capability to discover Layer2 & Layer3 devices and connectivity.			
3.15	The NMS should be able to detect the number of active and faulty links and other devices on the network at any time.			
3.16	NMS should be able to accept traps and alarms from the devices & display appropriate message on NMS console.			
3.17	Real-time link Status, performance monitoring, configuration management and reporting			
3.18	Must include ability to manage VALN and QoS.			

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Make/ type	Qty.	Conformance by the tenderer
3.19	The NMS should have the capability to notify status change, an event, or a problem on a network equipment by sending a message as an e-mail.			
3.20	The NMS shall have suitable mechanism to ensure the integrity of the data stored			
IV	Fiber Module			
1.1	1000 Base-LX Single Mode Fiber Module		60 No.	
1.2	1000 Base-SX Multi Mode Fiber Module		8 No.	
V	Passive Components			
1.1	6 Core Multi Mode Corrugated Steel Tape Armoured Cable OM3		340 Mtr..	
1.2	SC-Style Pigtail - Multi mode, OM3		48 No.	
1.3	Rack Mount 24way fiber Termination Box, base Unit		5 No.	
1.4	Splice Holder		5 No.	
1.5	SC Duplex Coupler, Multi Mode		24 No.	
1.6	SC - LC Patch Cord, Multi Mode, OM3 3 Meters		8 No.	
1.7	FC - LC Patch Cord, Single Mode 3 Meters for existing Fiber		30 No.	
1.8	FC - LC Patch Cord, Single Mode 10 Meters for existing Fiber		30 No.	
1.9	SC - LC Patch Cord, Single Mode 3 Meters for existing Fiber		4 No.	
1.10	CAT6 UTP Cable(One Box = 305 Meters)		20740 mtr.	
1.11	CAT6 24 port UnLoaded Patch panel		17 No.	
1.12	CAT6 Information outlet (Field)		288 No.	
1.13	CAT6 Information outlet (Panel)		288 No.	
1.14	Face Plate Dual Port		288 No.	

1.15	Gang Box (PVC)		288 No.	
1.16	CAT6 1 mtr patch cord		288 No.	
1.17	CAT6 2 mtr patch cord		288 No.	
1.18	12U Wall Rack x 600W x 500D with Standard Accessories as per the specification	APW/VALR ACK/RITTAL	9 No.	
1.19	Supply of ISI make 1" PVC Conduits		8000 Mtr.	
1.20	Supply of ISI make 1.5" PVC Conduits		500 Mtr.	
Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)				
Sl. No	Technical Description	Make/ type	Qty.	Conformance by the tenderer
VI	Laying, fixing and testing charges for active & passive Components			
1.1	Fixing and Laying 6 core multi mode corrugated steel tape armoured cable OM3 (as per specification)		340 mtr	
1.2	Fixing the LIU suitable for terminating the incoming and outgoing fibre optic cable		5 No	
1.3	OFC Splicing Charges		48 No	
1.4	Laying of PVC Conduits (as per specification)		8500 Mtr	
1.5	Laying Cat6 UTP cable (as per specification)		20740 mtr	
1.6	Removing of existing UTP Cable and PVC pipes		13500 mtr	
1.7	Rack Fixing charges		9 No	
1.8	Fixing Jack panel including termination as per specification		17 No	
1.9	Fixing Information outlet with surface mount box		288 No	
1.10	Testing, Scanning, Labeling and Documentation for UTP Nodes		288 No	
1.11	Testing, Scanning, Labeling and Documentation for Fiber Cores		24 No	
1.12	Any other Charges for project Execution		Lump Sum	

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Make /type	Qty.	Conformance by the tenderer
VII	Buyback offer for old components			
1.1	Cisco score switch-5809	cisco	1 No	
1.2	24 Port Cisco Switch 2900 Series	cisco	2 No	
1.3	12 Port Cisco Switch 2900 Series	cisco	5 No	
1.4	3 COM 24 port Switch	3com	4 No	
1.5	Dlink 3010G switch with fiber module	dlink	10 No.	
1.6	UTP cables		10000 M tr.	
1.7	PVC conduits		3500 M tr.	

Schedule-18- Technical Conformance check list (Un priced Bill of Qty.)

Sl. No.	Technical Description	Annual Maintenance Charges					
		1st year	2nd year	3rd year	4th year	5th year	
VIII	Annual Maintenance Contract charges (after completing the warranty period of three years)						conformance by the tenderer
	The entire Active & Passive components with networking software system						

19. Price Schedule (Bill Of Quantity)

(to be enclosed in Cover-II)

Schedule-19- Price Schedule-(I) Core switches, Access switches & (II) Passive components

(The supply of active & passive components should be as per specification in Sec.5-Technical specification & Schedule 18-Technical specification conformance list)

Sl. No.	Technical Description	Unit	Qty.	Rate (Rs.)	Amount(Rs.)
I	Specification of Core Switch				
1	Core Switch (with redundant CPU/Switch fabric, 2 x 48 port 10/100/1000 RJ 45 Line card, 2 x 24 port 1000Base-X Line card) as per the Specification	No	1		
2	Access Switch (48 Port) as per the Specification	No	5		
3	Access Switch (24 Port) as per the Specification	No	5		
4	Access Switch (8 Port) as per the Specification	No	27		
5	1000 Base-LX Single Mode Fiber Module	No	60		
6	1000 Base-SX Multi Mode Fiber Module	NO	8		
7	NMS with 100 Devices Support	No	1		
II	Passive Components				
1	6 Core Multi Mode Corrugated Steel Tape Armoured Cable OM3	Mtr	340		
2	SC-Style Pigtail - Multi mode, OM3	No	48		
3	Rack Mount 24way fiber Termination Box, base Unit	No	5		
4	Splice Holder	No	5		
5	SC Duplex Coupler, Multi Mode	No	24		
6	SC - LC Patch Cord, Multi Mode, OM3 3 Meters	No	8		
7	FC - LC Patch Cord, Single Mode 3 Meters for exisitng Fiber	No	30		
8	FC - LC Patch Cord, Single Mode 10 Meters for exisitng Fiber	No	30		
9	SC - LC Patch Cord, Single Mode 3 Meters for exisitng Fiber	No	4		
10	CAT6 UTP Cable	Mtr.	20740		
11	CAT6 24 port UnLoaded Patch panel	No	17		
12	CAT6 Information outlet (Field)	No	288		
13	CAT6 Information outlet (Panel)	No	288		
14	Face Plate Dual Port	No	288		
15	Gang Box (PVC)	No	288		
16	CAT6 1 mtr patch cord	No	288		
17	CAT6 2 mtr patch cord	No	288		
18	12U Wall Rack x 600W x 500D with Standard Accessries as per the specification	No	9		
19	Supply of ISI make 1" PVC Conduits	Mtr	8000		
20	Supply of ISI make 1.5" PVC Conduits	Mtr	500		

19. Price Schedule (Bill Of Quantity)
(to be enclosed in Cover-II)

Schedule-19- Price Schedule-(III) laying, fixing and testing charges -active & Passive components

Sl. No.	Technical Description	Unit	Qty.	Rate (Rs.)	Amount(Rs.)
III	Laying, fixing and testing charges for active & Passive components				
1	Fixing and Laying 6 core multi mode corrugated steel tape armoured cable OM3 (as per specification)	Mtr	340		
2	Fixing the LIU suitable for terminating the incoming and outgoing fibre optic cable	No	5		
3	OFC Splicing Charges	No	48		
4	Laying of PVC Conduits (as per specification)	Mtr	8500		
5	Laying Cat6 UTP cable (as per specification)	Mtr	20740		
6	Removing of existing UTP Cable and PVC pipes	Mtr	13500		
7	Rack Fixing charges	No	9		
8	Fixing Jack panel including termination as per specification	No	17		
9	Fixing Information outlet with surface mount box	No	288		
10	Testing, Scanning, Labeling and Documentation for UTP Nodes	No	288		
11	Testing, Scanning, Labeling and Documentation for Fiber Cores	No	24		
12	Any other Charges for project Execution		Lump Sum		

19. Price Schedule (Bill Of Quantity)
(to be enclosed in Cover-II)

Schedule-19- Price Schedule - (IV) Buyback offer of old components

Sl. No.	Technical Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
IV	Buyback offer for old components				
1	Cisco score switch-5809	No	1		
2	24 Port Cisco Switch 2900 Series	No	2		
3	12 Port Cisco Switch 2900 Series	No	5		
4	3 COM 24 port Switch	No	4		
5	Dlink 3010G switch with fiber module	No	10		
6	UTP cables	Meters	10000		
7	PVC conduits	Meters	3500		

Schedule-19- Price Schedule - (V) Buyback offer of old components

Sl. No.	Technical Description	Annual Maintenance Charges					
V	Annual Maintenance Contract charges (after completing the warranty period of three years)	1st year Amount in Rs.	2nd year Amount in Rs.	3rd year Amount in Rs.	4th year Amount in Rs.	5th year Amount in Rs.	Total Amount (Rs.)
	The entire Active & Passive components with networking software system						

Schedule-19- Price Schedule - (VI) Abstract of Price schedule

Sl. No.	Technical Description	Unit	Qty.	Total Amount (Rs.)
I	Core Switch & Access switches			
II	Passive components			
III	Laying, fixing and testing charges for Active & Passive components			
IV	Buyback offer for old components			
V	Annual maintenance charges for 5 years			
	Total amount			